

## Is there a Pensions Crisis in the U.K.?

by E. Philip Davis\*

The U.K. pension system is traditionally seen as offering a good example to other countries, having features such as low social security pension expenditure and a high coverage of well-financed voluntary private schemes. But recent developments suggest that the model has shown weaknesses. The most pressing current issue is underfunding of defined benefit occupational schemes following the bear market; but there is also the ongoing crisis of mis-selling of personal pensions and the failure of the Equitable Life insurance company. In this paper we seek to investigate whether there is indeed a crisis and what the locus of the difficulty is. We find that there are important longer-term weaknesses of the U.K. system as well as these current difficulties, focusing on social security and private pensions. Pitfalls faced by U.K. policymakers offer important lessons to other countries seeking to set up or expand private pension provision.

### 1. Introduction

The U.K. pension system is traditionally seen as offering a good example to other countries, having features such as low social security pension expenditures and a high coverage of well-financed voluntary private schemes. But recent developments suggest that the model has shown weaknesses. The most pressing current issue is underfunding of defined benefit occupational schemes following the bear market; but there is also the ongoing crisis of mis-selling of personal pensions and the failure of Equitable Life insurance company. In this article we shall seek to investigate whether there is indeed a crisis and what the locus of the true crisis is. We find that there are important longer-term weaknesses of the U.K. system as well as the current difficulties, focusing on social security and private pensions. Pitfalls faced by U.K. policymakers offer important lessons to other countries seeking to set up or expand private pension provision.

The paper is structured as follows. In section 2 we briefly note criteria for a sound pension system, while in section 3 we give key background information on the U.K. regarding demography, public and private pensions. In section 4 we provide further background on current retirement incomes. Sections 5 to 11, the core of the paper, examine successively the evidence for a crisis in social security, occupational defined benefit funds, occupational defined contribution funds, personal pensions, annuities, overall saving and asset returns. In section 12 we look at some additional regulatory issues which are not strictly related to the current crisis. In section 13 we re-examine the U.K. system briefly in

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the light of the criteria set out in section 2 and section 14 re-evaluates the evidence for a crisis and highlights some potential reforms that could ameliorate the current situation. Note that while we touch on aspects of pension regulation in the U.K., this paper is not comprehensive in this respect. For more detail on regulatory issues, see Blake (2003) and Davis (2001).<sup>1</sup>

## **2. Criteria for a sound pension system**

Before commencing analysis of the U.K., we consider it useful to outline certain criteria for an effective pension system, which can be used to judge both the funded and the pay-as-you-go components (see Davis, 1998). The most important is clearly retirement-income security: whether the system can indeed generate incomes sufficient to provide a socially acceptable standard of living for those no longer working. But equally important are financing issues linked to sustainability. If a system provides generous retirement incomes but is likely to become insolvent, it is unsound. A more subordinate aspect that may still be of importance is the impact of the system on labour markets and on capital markets. A pension system that can allow for greater economic efficiency, for example by reducing labour market distortions or capital market risk, will help to generate increased economic growth, which will itself provide resources for future pension incomes. We shall return to these in evaluating U.K. private and public pensions in section 13.

## **3. Overview of the U.K. pension system**

Before assessing whether there is a crisis and where it lies, it is essential to provide background information on the U.K. pension system. Inevitably, such an overview has to be selective; the reader is referred to the extensive data on private pensions in Government Actuary (2003a), as well as on pensioner incomes in Department of Work and Pensions (2003) and the overview of the pension landscape in Pensions Policy Institute (2003) for more detailed information.

### *3.1 Demography and labour markets*

The U.K. is unusual among OECD countries in having had a relatively old population at an early stage. In 1990, it had the highest ratio of pensioners to those of working age in the G-7. The latest government projection (Government Actuary, 2003b) shows considerable population ageing, as the population of 65 and over is forecast to rise from 9.4 million (16 per cent of the total) in 2002 to 16.6 million (25 per cent of the total) in 2041. Ageing is, however, less marked than for other OECD countries; in 2041 the same ratio for Japan is expected to be 31 per cent, Germany 29 per cent and Italy 35 per cent according to the U.N. (1998). The U.K. will nevertheless, in common with other countries, see a marked shift towards the very old. There is set to be more than a doubling of the number of very old individuals (over 80) from 2.5 million to 5.8 million over the same period. Given the better

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<sup>1</sup> For example, one general issue is that pensions are regulated by a number of bodies: the Financial Services Authority, the Occupational Pension Regulatory Authority, the Pensions Ombudsman and the Pensions Advisory Service, which leads to potential inefficiencies.

survival chances of women, a large proportion of the very old are female, and also living alone.

The reason for slow ageing in the U.K., besides the relatively high level already reached, is a relatively high fertility rate for an OECD country of around 1.75, as well as net immigration, partly offsetting the rise in longevity. The latter is nonetheless expected to be marked, with life expectancy set to rise from 76 (men) and 81 (women) in 2000 to 81 and 85 in 2031.<sup>2</sup>

The challenge posed to the economy by such a large proportion of older people, in terms of the generation and distribution of Gross Domestic Product, depends also on the level of labour force participation. In this context, the U.K. has seen a rise in participation over recent decades as women have tended to enter the labour force while unemployment has tended to decline. For example, in 1984, 66.6 per cent of women were active in the labour market whereas in 2003 it was 73 per cent.

On the other hand, there has been a marked and long-standing tendency to early retirement for men. As shown in Disney *et al.* (2003), the labour force participation rate of men aged 55–59 fell from a stable 80 per cent in 1980 to around 45 per cent in 1992, at which level it has stabilized. Meanwhile, for men aged 60–64 it has fallen from around 65 per cent to below 30 per cent over the same period.<sup>3</sup> To some extent this reflects social preferences to retire early by those with occupational pension funds and the relative generosity of the public scheme of disability benefits. But it also reflects long-term restructuring of manufacturing, where closure of firms has left many older workers with inappropriate skills, lack of demand in the local labour market, and/or unwillingness to accept lower pay than younger workers, even if they are less productive. These aspects interact with early retirement provisions of occupational pension schemes.<sup>4</sup> House of Lords (2003) also suggests there is explicit or implicit age discrimination in the labour market.

The trend to early retirement for men has offset the growing participation of women. Indeed, overall inactivity of those of working age has risen from 19.5 per cent in 1990 to 21.3 per cent in 2003. Continuation of this trend would reinforce the rise in overall dependency as the population ages, which would also impact on economic growth necessary to pay pensions, unless productivity accelerates to offset it. Overall dependency would also be aggravated by any increase in unemployment from current low levels.

### 3.2 *Pay-as-you-go social security*

Further essential background for evaluating private pensions is provided by the structure of social security pensions. As in all countries, the scope for developing funded private pensions in the U.K. is conditional on the nature of compulsory, pay-as-you-go social security pension provisions. Broadly speaking, the development of social security in the U.K. has been favourable to private schemes, particularly as a consequence of the rather

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<sup>2</sup> Indeed, we note that the latest Government Actuary 2003 forecast reported here showed a marked rise in projected longevity (1.5 years more than projected in 2001), which itself implies major adjustment of actuarial assumptions and consequent liabilities for pension funds and life insurers.

<sup>3</sup> Over the same period, participation of older women has been relatively stable.

<sup>4</sup> In some cases firms were seeking to avoid the large accrual of benefits in defined benefit funds close to retirement, but most commonly early retirement is used simply to deal with redundancy via voluntary severance, often on actuarially generous terms.

limited scope of social security on offer and the ability of employees to opt out of earnings-related social security pensions.

Since the introduction of the compulsory social insurance scheme in 1948, the U.K. has offered a basic state pension (“BSP”), intended to provide a means of subsistence, i.e. largely intended as a form of poverty alleviation. This is a pay-as-you-go pension, provided to all those making contributions, at a full rate of around 16 per cent of average earnings at present. Recently, coverage has been extended to those caring for children and the old via the introduction of “home responsibilities protection” credits.

In addition to the BSP, there is a state second pension (“S2P”) for those without a private pension, which currently offers 19 per cent of average earnings to those making a full set of contributions. However, the number of individuals accruing rights in the S2P is limited, owing to scope for contracting out. As in Japan, this implies that employees with company pensions that “contract out” have corresponding reductions in employers’ social security contributions, which are equivalent to the estimated cost of providing the liability of the earnings-related pension via funding. Or for personal pensions, the state rebates a proportion of contributions and pays them into the personal scheme. Since over 50 per cent of the workforce is in contracted-out schemes, only a minority of the workforce are accruing rights in the S2P.<sup>5</sup>

A key aspect is that since 1981, both forms of social security pension have been indexed to prices and not wages (although there have been some discretionary increases). This means that social security pensions have fallen steadily as a proportion of average earnings, since the latter rise faster than prices. For example, in 1977 the BSP was 20 per cent of average earnings. There are means-tested benefits to keep pensioners above the poverty line, the so-called minimum income guarantee (“MIG”), now being replaced by the pension credit, levels of which rise in line with earnings (they currently guarantee 20 per cent of average earnings). A growing proportion of pensioners are entitled to such additional benefits: around 1.8 million in 2002. The very old, with lower pension accruals, are notably dependent on means-tested benefits, with 40 per cent of those over 90 entitled to them compared with only 12 per cent of those aged 65–69. The take-up is not, however, universal, with only 74 to 86 per cent of pensioner entitlements to means-tested benefits actually claimed (Clark, 2003). As discussed below, there are important current and future difficulties in this area.

A reform already implemented means that the pension age of men and women will be equalized at 65 in 2020 (till 2010 women retire at 60),<sup>6</sup> thus generating further savings on top of the price indexation and future cuts in the S2P (discussed below). It will also slow the rise in old age dependency for a time. Accordingly, projected social security pension expenditures are very low; pension payments (including means-tested benefits) will remain around 5 per cent of GDP according to projections up to 2050 such as those by the E.U. Economic Policy Committee (2002), with no increase during ageing. This implies a marked reduction in public expenditure per head of the elderly, relative to living standards of the population as a whole, as their numbers increase. This compares with E.U.-average pension expenditure in mid-century of over 13 per cent of GDP. Pensions Policy Institute (2003)

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<sup>5</sup> The self-employed were initially excluded from S2P: it is proposed in the Pensions Green Paper (Department for Work and Pensions 2002) that they be allowed to opt in to it.

<sup>6</sup> The Pensions Green Paper (Department for Work and Pensions 2002) proposes to abolish compulsory retirement at 65 and allow flexible retirement so individuals can draw pensions and work. This will be done actuarially fairly so cost projections are unaffected.

notes that the costs of tax exemptions for private pensions add another 2.5 per cent of GDP to this cost at present. But this is largely recouped by the exchequer when taxing pensions, other than the tax-free lump sum.

3.3 *Private pensions*

We now turn to a broad assessment of the current state of private pensions in the U.K. There are two types of pension fund: occupational (run by a firm for its employees) and personal (based on an individual contract with an insurance company). The system has grown markedly since World War II, despite provision being voluntary for firms and individuals, owing to the generous tax relief on contributions, the obligation to fund benefits and the above-mentioned facility to contract out of earnings-related social security. According to our estimates, 64 per cent of employees are accruing funded pensions, 42 per cent occupational and 22 per cent personal (see Table 1), but coverage of occupational pensions is declining, generally reflecting declines in such coverage in the private sector. Meanwhile overall coverage of the self-employed is lower at 41 per cent, giving a total coverage rate of an estimated 61.1 per cent.

The key legal feature of occupational funds is that funds should be set up as irrevocable trusts, where a trust is a legal arrangement between persons for the disposal of assets. Assets

*Table 1:  
Estimated funded pension coverage in 2000*

	Millions	Employees in employment (%)	Self-employed (%)	Employed (%)
Defined benefit pension (private)	4.6	19.2		16.9
Defined benefit pension (public)	4.5	18.8		16.5
Total defined benefit	9.1	38.1		33.5
Defined contribution pension	0.9	3.8		3.3
Hybrid funds	0.1	0.4		0.4
Total occupational pensions	10.1	42.3		37.1
Group personal pensions	2.4	10.0		8.8
Individual personal pensions	2.9	12.0		10.5
Total employees in employment	15.4	64.3		56.5
Self-employed (personal pensions)	1.3		41.0	4.6
Total employed	16.6			61.1

*Source:* Government Actuary (2003a), PPI (2003), Department of Employment. Note that there were 27.2 million “employed” in 2000 of whom 3.1 million were self-employed and 24 million in “employees in employment”. The remainder are on training schemes, etc.

are provided by one person (the settlor) and held by a group of persons (the trustees) for the benefit of another group (the beneficiaries). Thus, administration and financial management of assets provided by the employer (settlor) is in the hands of trustees responsible to the beneficiaries, i.e. the members. The trustees must preserve the trust capital and utilize it and its income according to the trust deed. As noted, external funding is obligatory to obtain fiscal benefits; the only unfunded occupational schemes are for certain public sector employees (such as civil servants, teachers and the police) (Daykin, 2002).

As reported by Government Actuary (2003a), in 2000 there were 10.1 million employees in occupational pension schemes, of whom 5.7 million were in the private sector and 4.5 million in the public sector. This is well down from the peak of members in 1967 (12.2 million) when the workforce was smaller. As in other countries, it is large employers which are most likely to provide occupational pensions; 95 per cent of employers with over 1000 employees provide a form of occupational pension, while only 24 per cent of those with five or fewer employees provide one (Smith and McKay, 2002).

The vast majority of occupational pension scheme members, a total of 9.2 million, are contracted out of the S2P in the manner defined above. In 2000, 90 per cent (9.1 million) of occupational pension members were still in defined benefit schemes (usually offering a guaranteed 66 per cent of final salary for a 40-year career) with correspondingly large employer contributions (when funding status warrants such contributions). Defined contribution occupational funds accounted for 900,000 employees (under 10 per cent of total members) in 2000. The membership of defined contribution funds has undoubtedly risen since then, while defined benefit membership has fallen.

All personal pensions are defined contribution. There are two distinct types, group schemes organized on a company basis, thus benefiting from low commissions and some pooling of annuity risk, and individual arrangements with life insurance companies. In 2000, around 10 per cent of employees were in group schemes and around 12 per cent of employees were in personal schemes. Coverage of personal pensions is much higher for the self-employed, who have no alternative means of provision: around 41 per cent have personal pensions.

All U.K. pension funds must be annuitized (except for a tax-free lump sum). For defined benefit plans this is usually undertaken directly from within the fund (except for insured funds). For defined contribution funds, both occupational and personal, it occurs via annuity purchase. Staggered annuity purchase is permitted up to age 75 for those in defined contribution plans.

The overall assets of U.K. pension funds are very large, accounting for over 80 per cent of GDP in 2001, although the 2002 figure was probably closer to 65 per cent owing to the 25 per cent fall in share prices that year. Pension funds account for just under 25 per cent of U.K. households' gross financial assets, and together with life insurance assets account for over 50 per cent of gross financial assets.

There is a prudent-person rule for asset allocation. Building on earlier court cases, the 1995 Pensions Act explicitly gives trustees powers to invest as if they were absolutely entitled to the assets of the scheme, and requires them to have regard to the need for diversification of investments and to the suitability of investments, as well as taking proper advice. The prudent-person rule has allowed funds to adopt a long-term strategic asset allocation which is skewed to equities, giving high long-term returns.

As shown in Table 2, the allocation to equities is higher than elsewhere in the G-7 (foreign assets are mainly equities), while Table 3 shows that the estimated real returns obtained by U.K. pension funds on average over 1970–1995 were correspondingly high. This

Table 2:  
Asset allocation of G-7 pension funds, 1998

	Liquidity	Loans	Domestic bonds	Domestic equities	Property	Foreign assets
United Kingdom	4	0	14	52	3	18
United States	4	1	21	53E	0	11E
Germany	0	33	43	10	7	7
Japan	5	14	34	23	0	18
Canada	5	3	38	27	3	15
France	0	18	65	10	2	5
Italy	0	1	35	16	48	0

Source: Davis and Steil (2001).

Table 3:  
Real returns and risks on pension fund sector portfolios 1970–1995

Mean (standard deviation)	Real returns/ risk	50–50 bond equity	Global portfolio	Real average earnings growth
Australia	1.8 (11.4)	3.5 (17.5)	6.1 (18.2)	1.0 (3.4)
Canada	4.8 (10.0)	4.0 (12.1)	7.1 (14.7)	1.3 (2.4)
Denmark	5.0 (11.1)	6.1 (19.0)	3.7 (18.5)	2.4 (3.5)
Germany	6.0 (5.9)	6.4 (17.7)	3.9 (18.4)	2.7 (2.7)
Japan	4.4 (10.2)	6.1 (16.9)	6.9 (16.0)	2.4 (3.0)
Netherlands	4.6 (6.0)	5.5 (18.3)	4.8 (14.7)	1.4 (2.6)
Sweden	2.0 (13.1)	8.0 (20.1)	6.3 (14.8)	1.4 (3.5)
Switzerland	1.7 (7.5)	2.4 (18.1)	3.7 (17.0)	1.5 (2.1)
United Kingdom	5.9 (12.8)	4.7 (15.4)	5.9 (15.0)	2.8 (2.3)
United States	4.5 (11.8)	4.4 (13.3)	7.5 (15.2)	-0.2 (1.9)

Source: Davis and Steil (2001).

The 50-50 bond equity column shows returns on a domestic portfolio with 50 per cent bonds and 50 per cent equities, while the global portfolio shows a similar asset allocation diversified across OECD markets.



is the case absolutely, relative to benchmarks such as a portfolio evenly divided between domestic bonds and equities, a global portfolio and the ultimate benchmark for funded pensions, the growth rate of average earnings. This has not been the case for many of the other advanced industrial countries, many of whose pension funds are or were subject to quantitative asset restrictions over this period (Davis, 2002d). On the other hand, it is not clear whether the high level of equity allocations over the late 1990s was due to calculations of portfolio optimality or a combination of asset managers “herding” into similar allocations so as not to lose mandates and inertia as higher asset returns in equities than other assets drove up the portfolio share. The risks posed by the asset allocation adopted in the U.K. have become apparent more recently, in that it has exposed companies (defined benefit) or individuals (defined contribution) to high levels of shortfall risk, as discussed later.

#### 4. Current pensioner incomes

Before turning to aspects of the current “crisis”, we also consider it relevant to assess pensioner incomes (Table 4). The output of a pension system must ultimately be measured in this way. In 2001/2, pensioner incomes for a couple averaged 67 per cent of average earnings (or 43 per cent for a single pensioner). This is higher than in 1979 (when a single pensioner received only 39 per cent of average earnings). Currently, the main source of income is the state, accounting for 63 per cent (mainly the BSP and means-tested benefits); nevertheless, over half of pensioners receive income from occupational pensions, which accounts on average for 23 per cent of income.

There is growing inequality among pensioners: the top 20 per cent (who generally receive sizeable occupational pensions) receive on average 82 per cent of average earnings, while the bottom 20 per cent only obtain the equivalent of 21 per cent of average earnings. Such inequality may increase in coming years, since a declining proportion of new retirees are getting occupational pensions. The very old, women, ethnic minorities and the self-employed are often still in relative poverty owing to low levels of pension provision, although owing to improvements in coverage this is much less marked than in 1979.<sup>7</sup>

*Table 4:  
Income sources for single pensioner, 2001/2*

	£	Per cent
State benefits	119	63
Occupational pension	43	23
Investment income	16	8
Earnings	8	4
Personal pension	2	1
Other income	2	1

*Source:* DWP (2003).

<sup>7</sup> In 1979, 47 per cent of pensioners were in the bottom one-fifth of the income distribution while in 2001/2 the proportion was 27 per cent.



We now turn to an assessment as to whether there is a crisis in various areas of the U.K. pension system. While our main focus is on provision, it is useful to first assess whether there is a crisis in social security.

### 5. Is there a crisis in social security?

Seen from a purely fiscal point of view, there are no financing problems either now or on the horizon if the current social security pension system is maintained. There will in future be some increase in the proportion qualifying for BSP (owing to home responsibility protection), but, as we have noted, the BSP is declining relative to average earnings. Indeed, the level of the BSP is already below the official poverty line, so even those on full BSP pensions are entitled to income support (the minimum income guarantee or MIG, which in October 2003 was replaced by the pension credit). There will be considerable increases in future in the proportion of pensioners entitled to such means-tested benefits, if the level continues to rise in line with average earnings. At present, entitlement is confined to around 50 per cent of pensioners, but in 2050 it is projected to rise to between 65 per cent and 82 per cent of pensioners.<sup>8</sup> The growing level of income support is taken into account in the calculations noted above that pension expenditure/GDP ratios will remain stable. Rather than raising fiscal problems, there are incentive and distributional difficulties.<sup>9</sup>

A systemic incentive problem is that income support has a non-pension income test, such that benefits are withdrawn when incomes accrue, which discourages saving by low-income workers, and may also discourage membership of pension schemes (Work and Pensions Committee, 2003). Under the MIG, this entailed 100 per cent withdrawal of benefit after an increase in income. Under the pension credit, there is still a marginal tax rate of 40 per cent of investment income from benefits. This rises to 53 per cent if the pensioner pays basic rate income tax, and can be as high as 93 per cent if other means-tested benefits are withdrawn. House of Lords (2003) comments that even the standard rate of deduction, incurred by pensioners on 30 per cent of average earnings, is the equivalent of the higher rate of tax, paid by workers only on income in excess of 140 per cent of average earnings. Given the political commitment for the level of means-tested benefits to rise faster than state pensions, financial institutions are already reticent in selling pension products to those lower down the income distribution, in case they are accused in future of mis-selling, as means-tested benefit levels rise above the individual's retirement income. As noted above, income support will cover more than two-thirds of pensioners by 2050, suggesting the problem could go much wider in future. Illustrating the growing divergence between the state pension and the guaranteed means-tested level, calculations quoted by Work and Pensions Committee (2003) suggest that the annuitized value of the gap is currently £37,000 but it will rise to £95,000 in 2050, while the total income provided by the state has an annuitized value of £92,000 now and £282,000 in 2050.

As noted, a further issue is that income support is not taken up by 14 to 26 per cent or more of pensioners, leaving some pensioners in relative poverty. The amounts involved were

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<sup>8</sup> The differences between the low (Department of Work and Pensions) and high (Institute for Fiscal Studies) estimates are due to differing average earnings growth assumptions (1.5 per cent versus 2 per cent) and use of population 60 and over versus 65 and over.

<sup>9</sup> House of Lords (2003) notes that a deeper problem of the U.K. social security pension system is that there appear to be three objectives, income-related insurance, poverty reduction and to provide a minimal foundation for private pensions, none of which has clear primacy.

estimated in 1999 to be up to £2 billion. One reason is that the MIG was subject to a weekly means test. Another is the complexity of multiple benefits with differing rules, as pensioners are also entitled to claim housing benefit and council tax benefit. The exercise of form-filling is seen as a major disincentive, to add to resistance to what is seen as “charity” by some pensioners. As described by Comptroller and Auditor General (2002), relatively unsuccessful attempts have been made to raise take-up by providing telephone claim lines (when pensioners most prone to non-take-up would prefer a face-to-face approach). Also, more public information dissemination was undertaken, again without reaching the low-income pensioners (who rely on friends and relatives rather than official sources). More positively, the government reduced the length of the form to be completed for receipt of MIG from 46 pages to 12; but the pension credit, while raising the evaluation period to five yearly, does again involve complex form-filling. The Comptroller comments that the government needs to engage with the voluntary sector to radically increase take-up.

There are major inequalities in terms of gender coverage of social security (and private) pensions, where, as noted above, the preponderance of pensioners are and will be female. Social security pensions for women are typically low, notably due to the contributory principle, where women spend fewer years in the labour force than men due to childbearing and other caring responsibilities. Hence at present 50 per cent of women do not qualify for the full BSP. Carers’ credits (home responsibility protection) will improve the situation, but other than for young children the qualifications are strict and unlikely to cover much of the caring for older or infirm relatives. This inadequacy of state pensions is compounded by factors reducing private pensions such as again fewer years of contributions, less access to occupational funds for women (given types of employment), and more retirement years as single pensioners (when some private pensions may lack survivor benefits).

Viewed in the light of the issues above, a crisis over the longer term will in our view arise from the ongoing decline in replacement rate (of BSP and S2P) due to price indexation. These will be compounded by effects of earlier reforms dating from 1986, which reduced the accrual factor of SERPS, the predecessor of S2P (Davis, 1997). As shown in Table 5, the combined replacement ratio at average earnings of state pensions is set to fall from 35 per cent today to 25 per cent in 2040; and with the proposed shift of S2P from an earnings-related basis to flat rate it would fall further to 20 per cent (PPI, 2003). This implies a multiple future crisis: a growing cost to the state of means-tested benefits, with their ongoing disincentives for saving, and possible pensioner poverty among those who do not take up means-tested benefits, notably affecting women. A foreseeable political reaction to this could lead to pressure to raise universal pensions sharply, raising fiscal costs in the future.

*Table 5:*  
*Social security replacement ratios*

<b>% of average earnings</b>	<b>2000</b>	<b>2040</b>
Basic state pension	16	9
S2P (current)	19	16
S2P (proposed flat rate reform)	19	11

*Source:* PPI (2003).

## 6. Is there a crisis in defined benefit occupational pensions?

In occupational defined benefit funds, the key current issue is underfunding. At end-2002, estimates suggested there were pension fund deficits of £160 billion to £300 billion (CBI, 2003), relative to the accrued benefit obligation. Some firms, such as the grocery chain Sainsbury, had funding ratios as low as 65 per cent. *The Economist* (2003a) reports estimates that suggest average funding levels for the top 100 U.K. companies fell from 120 per cent in 2001 to 80 per cent at end-2002. Many companies had deficits of over 40 per cent of their market capitalization. The overall deficits were equivalent to 2 to 3 per cent of GDP or 3 to 5 per cent of estimated pension fund assets at the end of 2002. Estimates from Watson Wyatt suggest that deficits for the largest U.K. firms were virtually unchanged at end-2003 (*Financial Times*, 2004) despite the stock market recovery which began in March 2003.

There are a number of factors underlying the deficits: most fundamentally, there was the bear market which hit pension funds in the U.K., given their large holdings in equities (Table 2). The U.K. market at end-2002 was some 50 per cent below its peak in 2000 (Davis, 2003a). The degree of underfunding was, however, aggravated by earlier government policies that had raised the accrued benefit obligation, notably compulsory indexation for up to 5 per cent inflation of current and deferred pensions<sup>10</sup> and compulsory survivor benefits.<sup>11</sup> This policy was not independent of the issues of social security, in that it can be argued that indexation was essential, given the very low levels of social security pensions, unlike for example in the U.S. where more generous social security offers relatively generous indexed benefits. Furthermore, tax policies, notably limits on overfunding to 5 per cent, encouraged “holidays” from contributions by employers in the previous bull phase, when they should have been building up reserves during a period of historically abnormal asset returns<sup>12</sup> (see section 11). The value of assets was reduced sharply by the reduction of dividend income to pension funds caused by the abolition of the rebate of advanced corporation tax in 1997. Dividend receipts, which fell by £5 billion per annum, are the key determinant of actuarial projections of future asset values. More recently, declining bond yields and rising longevity have also been raising liabilities. Indeed the lack of progress in removing deficits over 2003 reflects declines in corporate bond yields by which liabilities are discounted (*Financial Times*, 2004), offsetting recoveries in equity prices, while, as noted, Government Actuary (2003b) sharply revised up projected longevity. Watson Wyatt suggest that three more years of share price increases are needed to remove the deficits.

A strong influence of bond yields on funding levels is a relatively recent phenomenon. Until 1997, an actuarial basis of funding calculation was used both for regulatory and accounting purposes. This was based on a sustainable income basis for assets and a partly equity-based discount rate for liabilities. Under this system, a bear market would influence funding levels mainly via the impact on prospective dividends; as noted, these are the key components of “sustainable income” and they are much less volatile than share prices. There has since been a switch to use of a current market value basis for assets (plus prospective asset yields) and a corporate bond yield-based discount for liabilities.

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<sup>10</sup> The new Pensions Bill introduced in 2004 plans to reduce the rate of so-called limited price indexation to 2.5 per cent for pensions accrued after 2005. This will have a minor effect on liabilities, since they are dominated by the accrued benefit obligation.

<sup>11</sup> House of Lords (2003) suggests that these together raised the cost of final salary pensions by 40 per cent.

<sup>12</sup> This point can be overstressed, as actuarial assumptions are sufficiently flexible to allow a high level of funding.

This shift was reflected initially in the uniform Minimum Funding Requirement (“MFR”) introduced in the 1995 Pensions Act, before which there were no regulatory funding requirements. The calculations under the MFR are made with the objective of ensuring sufficient assets are available if the scheme is wound up, to buy out pensioners’ benefits with an insurance company and provide non-pensioners with a fair actuarial value of their accrued rights that may be transferred to an alternative pension vehicle. As noted by Blake (2003), the funding level still tends to fall short of the full cost of buying deferred annuities to cover obligations. Valuations are made every three years, and liabilities (the accumulated benefit obligation) are valued by reference to a “benchmark portfolio” of U.K. government bonds and equities, with the proportion of government bonds in the benchmark increasing as the scheme matures. The system initially required shortfalls to be corrected in one to three years (now three to ten years), depending on severity. The requirement to match government bonds had the paradoxical effect of leading to excess demand for these securities by pension funds (while the U.K. Government was in surplus), driving down yields and raising liabilities.

Whereas MFR is due to be abolished in its current form, its effects seem likely to be reproduced from 2005 by the accounting standard FRS17, which will require pension deficits to be declared on the balance sheet at current market prices, with liabilities (the accrued benefit obligation) valued according to an AA corporate bond-based benchmark. Firms are already declaring their FRS17-based deficits, while rating agencies declare that such deficits count as debt, which implies a marked impact of deficits on credit ratings.<sup>13</sup> Firms with defined benefit funds face a burden of topping up assets to match increased liabilities. (The U.K. employer organization, the CBI, projects (2003) that a doubling of 2000 contributions will be needed by 2005.) This in turn will limit dividends and fixed investment, and hence could affect overall U.K. economic growth. Note that in some cases, such as Rolls Royce, the pension fund is worth more than the company itself.

Deficits have brought a broader awareness of risks from defined benefit obligations to company managers and analysts. They also highlight the fact that the overall burden of regulation has increased since the mid-1980s. The consequence has been closure of most private defined benefit schemes to new entrants, although the effect of such a policy on the accrued benefit obligation is minimal (as existing employees continue to accrue rights). By 2003, 80 per cent of private defined benefit funds had closed to new members, 41 per cent being closed in 2002–3. There is a paradox in that similar shortfalls were seen in the 1970s and made up in the early 1980s without a structural shift in the form of pension provision.

The bear market has ignited a debate on whether pension liabilities are better covered with bonds (the pharmaceutical company Boots made a successful switch when bond yields were relatively high), but costs are seen as likely to be higher. Nevertheless, a shift to bonds is underway, reflecting scheme maturity and enhanced shortfall risk under MFR/FRS17, see Davis (2001).

The crisis in occupational pensions has had a wider effect than on new entrants to defined benefit funds, who are those directly affected. At the time of writing there appears to be a generalized loss of confidence in company pensions. A further reason for this, and a problem for retirement income security in itself, is the conduct of wind-ups. Since 1997, 10,000 plans have been wound up, affecting 300,000 members. As noted, even the full MFR

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<sup>13</sup> Under the new Basel capital adequacy accord (U.K. Treasury, 2003) credit ratings will in turn play a major role in determining the cost of bank and market financing for firms.

funding level is insufficient to buy deferred annuities, and hence wound-up funds, even if they are fully funded, will not provide sufficient assets to fulfil all obligations, and many are underfunded. A loophole in the law has meant that until recently even solvent employers were entitled to wind up schemes with only the benefits that MFR funding provides. In this context, a further concern has also arisen from realization that under current law, pensioners' interests during a wind-up have absolute priority over those of workers. So a wound-up pension scheme may provide full ongoing pensions but very little for workers on the point of retirement. A case that brought these problems to public attention is that of the U.K. subsidiary of the Danish shipping group Maersk. Although solvent, it sought to wind up its fund with only MFR minimum assets. Some workers would have been deprived of 60 per cent of their rights, given pensioner priority. In November 2003 Maersk decided to fully fund all obligations, following adverse publicity and appointment of an employee trustee at the behest of the regulator OPRA.

There has been a regulatory response to the problems highlighted above, but its appropriateness is questionable. The MFR is now being replaced, as announced in the Pensions Green Paper (Department for Work and Pensions, 2002). The proposed replacement is to be a long-term scheme-specific approach based on transparency and disclosure, with no reference assets. Funds will have to disclose the value of assets, portfolio distributions, planned future contributions and asset allocation, assumptions on asset returns and valuation of assets, and justification of asset allocation and investment return assumptions in the light of sponsors and the funds' situation. There will also need to be explanation of the implications of volatility of assets for risks of underfunding, justifying why this is acceptable. Mercer (2003) comments that the details are left to be resolved by the actuarial profession, implying uncertainty regarding its effects, and there is no guarantee it will lead to improved funding.

Furthermore, in the Pensions Bill 2004 the government has announced the introduction of pension insurance (a "Pension Protection Fund") to cover benefits in insolvency and not just fraud as hitherto, financed by an *ex ante* levy. Such a system is likely to face the difficulty of moral hazard, i.e. it may create incentive structures leading honest recipients to undertake excessively risky investments, which in turn give the risk of large shortfall losses to the insurer. In other words, losses may not arise merely from fraud or incompetence but from the incentive structure itself. In the U.S., a major crisis of underfunding for the pension insurance system was foreseen in the early 1990s, with costs similar to that for Savings and Loans associations in the 1980s (Bodie and Merton, 1992). Bodie and Merton have been proved correct; the U.S. pension insurer the "Pension Benefit Guarantee Corporation" had a sizeable deficit of U.S.\$ 11 billion in 2003. Fears of a similar poor performance by the new U.K. system could lead to a further flight from defined benefit funds, as solvent funds fear being "taxed" to pay for insolvent ones.<sup>14</sup> These fears will be partly mitigated as at least half of the levy in the U.K. is to be assessed by risk-related fees (calibrated on insolvency risk and asset/liability mismatch).

A tax simplification from the current 20 regimes will aid pension transparency and seems a positive measure (Inland Revenue, 2002). But it has also been announced that there will be a limit of £1.5 million in the value of a pension fund, either for defined benefit or defined contribution plans. Since this will be indexed to prices, it will increasingly penalize

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<sup>14</sup> Truell (2004) notes a Goldman Sachs estimate that 2 per cent of funds (by value) account for 50 per cent of the total default risk for corporate pension funds.

senior or even middle management. Once a pension scheme becomes unattractive to senior employees, its demise may well be accelerated.

One key area where improvement is needed is education of pension trustees. It is widely suggested that trustees are inadequately educated on investment matters and hence become dependent on the large consultants for decisions on asset allocation. This was confirmed by Government Actuary (2003a), who showed that on average 75 per cent of schemes had no trustees qualified or recently trained in investment matters, although for large schemes with over 10,000 members only 21 per cent were in this category. As noted in *The Economist* (2003b), the consultants in turn were advocates of the high equity exposures from which funds now suffer, as well as costly but unremunerative active management instead of passive (Blake, 2003). In his recent report for the government on shortcomings in institutional investment, Paul Myners (2001) pointed to the lack of investment skills among trustees of most pension funds, which was seen as contrary to satisfactory scheme governance. Notably, taking advice without ability to evaluate it was seen as contrary to effective decision-making by trustees. Myners recommended that trustees should be paid and should acquire appropriate investment skills, albeit without proposing legislation at this stage.

In probing the difficulties of defined benefit funds, it must be noted that defined contribution funds are in principle better for a mobile workforce since there are losses from changing jobs. As shown by Blake and Orszag (1997), changing jobs six times in a career with a typical defined benefit fund loses 25 per cent of benefits, despite indexation of deferred benefits. It is to issues for defined contribution funds that we now turn.

## 7. A crisis in occupational defined contribution funds?

Whereas there are by definition no deficits in defined contribution funds, asset risk to the employee is greatly increased compared with defined benefit funds. In principle, with identical contributions to defined benefit, such risks are offset by reduced losses in changing jobs. But there is not a level playing field, owing to lower contributions to defined contribution schemes. Average contributions, as shown in Table 6, are much lower for defined contribution funds, both by employer and employee. And indeed, when employers close defined benefit funds, contributions often fall. This points to the risk of a future crisis of low future retirement incomes, especially given rising longevity, to add to the heightened investment risk and uncertainty for members.

Table 6:  
*Average contributions for occupational pensions*

<b>Per cent of salary</b>	<b>Employer</b>	<b>Employee</b>	<b>Total</b>
Defined benefit	11.1	5	16.1
Defined contribution	5.1	3.4	8.5

*Source:* Government Actuary (2003a).

Other difficulties of occupational defined contribution schemes are lower incentives by employers to optimize investment, given that they do not bear risks (as witness for example the low returns for funds in Switzerland and Australia in Table 3). Non-pension benefits



such as life and disability insurance are generally less generous than with defined benefit funds, typically being based only on accrued contributions (Government Actuary, 2003a). And since annuitization is compulsory, the problems in that market (section 9) affect defined contribution fund members, and personal pension holders, by definition.

## 8. A crisis in personal pensions?

For personal pensions, there is the ongoing issue of the resolution of mis-selling of personal pensions in the 1980s and early 1990s. The crisis occurred after the then government had offered incentives for their purchase with an extra rebate of national insurance contributions, to reduce future social security expenditures. The government also legislated to end compulsory membership of occupational funds, abrogating freely agreed collective bargains between employers and employees, and thereby left members of occupational funds prey to personal pension salespersons. Commission-driven salesmen persuaded 500,000 individuals to leave occupational funds, of whom 90 per cent received inappropriate advice (owing to high transfer costs and no employer contribution). The response has been massive fines on insurance companies and tightened regulations on selling. This issue continues to affect confidence in personal pensions, compounded by comparable concerns over mis-selling of endowment insurance policies to back mortgage loans for house purchase.

But there are deeper issues which vitiate personal pensions in the U.K. as a vehicle for retirement income. One is excessively low contributions: many only pay in the so-called contracted-out rebate from social security (4.6 per cent of earnings). Even more than for occupational defined contribution funds, there is a total lack of non-pension benefits such as life and disability insurance which are usually included in occupational defined benefit funds. Commission charges are so high as to offset much of the return, especially for small funds: in traditional personal pensions they account for 2.5 per cent of contributions and 1.5 per cent of assets. Although fees have fallen recently (Alfon, 2002), low inflation and consequent low nominal returns make them more prominent. The fees are frontloaded, making them particularly deleterious to returns. Blake (2000) suggests that they are equivalent to 10 to 20 per cent of contributions, compared to a typical 5 to 7 per cent for occupational funds. He notes that the high commissions are partly a reflection of inefficiently small scale attained by a multitude of providers.<sup>15</sup>

Furthermore, there are high costs in switching between personal pension providers, owing to transfer fees and new upfront fees, amounting to 25 to 33 per cent according to Blake (2000). These are particularly problematic given that poor performance among funds tends to be persistent, and funds take time to close (Lunde, Blake and Timmerman, 1999). Meanwhile, where there is a company scheme, employers will not contribute to personal pensions of their staff who have left that scheme. So personal pensions may aggravate the overall issue of low retirement income in future.

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<sup>15</sup> U.K. personal pension administrative costs are said to be four times those in a typical large defined benefit scheme, and 16 times those of the social security system. And the latter are high in international comparison due to means testing. In Australia expense ratios for "retail" pensions are only 1.32 per cent (Work and Pensions Committee, 2003) owing to economic scale being reached.



Recently, belatedly, there has been some government response to these issues, notably the launch of stakeholder pensions with charges (including commissions) limited to 1 per cent with no initial commissions.<sup>16</sup> As argued by Cook and Johnson (2000) of the FSA, only with such limits will personal pensions be more advantageous than non-pension savings vehicles (so-called investment savings accounts) which do not offer tax relief upfront. Stakeholders will also lead to an increase in portfolio indexation of pension assets, which, given the lower charges and poor performance of active managers (Blake, 2000), will be of benefit to beneficiaries. But there has been marked resistance by sellers, who claim that low fees make advice uneconomic and hence entail a poor take-up by the public, especially the low paid for whom stakeholder were designed. The U.K. insurance body ABI suggest that advice is uneconomic for 11 million people at 1 per cent commission. As noted, sellers are also concerned that the existence and possible future shifts in means testing for social security implies sale of stakeholder might not be “best advice”, exposing them to further fines for mis-selling in the future.

## 9. A crisis in annuities?

In the U.K. there is mandatory annuitization, justified in turn by tax privileges and possible moral hazard as lump sums are dissipated, leaving the state to prevent individuals falling into poverty. Issues relating to annuities are of particular relevance given the ongoing shift to defined contribution funds as the key pillar of retirement incomes (see Neale, 2000).

There is currently public concern over the low level of annuities from defined contribution funds, particularly when government bond yields fell close to 3 per cent in early 2003. As noted, such low interest rates were themselves partly a consequence of hedging by pension funds against shortfall risk in face of the MFR/FRS17. The recent slight recovery in yields may reduce concerns arising from this source. Of course there is a degree of money illusion in that real long-term interest rates are most relevant to long-term income. Furthermore, we note that the degree of interest rate risk in annuities is dependent on the portfolio held prior to retirement; if it was long-term bonds, interest-rate risk would be minor (Valdes Prieto, 1998). So again inappropriate asset allocation to equities close to retirement may be part of the problem.

Among analysts, there were more justifiable concerns over solvency risks to insurance companies from the rush into high-risk, high-yield bonds as government bond yields fell, herding into credit derivatives, and underestimation of longevity (Davis, 2002a). Also despite mandatory annuitization, there remain problems of adverse selection to annuitants owing to the voluntary nature of private pensions (those choosing to have defined contribution pensions may be those who know they will be long-lived). This means that insurance companies charge extra for annuities compared with an actuarially fair rate for the whole population.

Then there has been the Equitable Life crisis, leading to loss of confidence in annuities and also in life insurance companies which are largely responsible for running personal pensions. The problems of the Equitable Life mutual life insurance company are comparable to those suffered recently by Japanese life insurance companies (Fukao,

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<sup>16</sup> The Sandler Review (HM Treasury, 2002) proposed a wider range of such simple products at low rates of commission. The financial services industry, notably insurance companies, are lobbying for higher charges to motivate commission-oriented salesmen.

2002), in terms of failure of reserving and pricing of annuities. It would appear that the company gave the option of deferred guaranteed annuities (promising a minimum return on retirement) during the period 1957–1988 to a large number of personal pension savers. This was apparently done without extra charge and with no specific reserves held to cover the cost of the guarantees. It also disregarded the history of the long-term bond market, when bond yields were often below the rates promised – a particular paradox given that Equitable itself was the oldest life company, dating back to 1762.

Over 1957–1988, the embedded option was never “in the money” since market rates were always above the guaranteed rates. However, in 1993 the market rate fell below the guaranteed rate, and the guarantees began to have an intrinsic value. Other insurance companies that had sold such policies dealt with the implicit mortality and interest rate risks in the guarantees in various relatively prudent ways. For example, they reserved for them, reinsured them, bought them out, capped them or put them in an orphan fund to run off. Instead, Equitable sought to manage them by discretion, by paying a smaller final bonus to those with-profits investors who sought to retain their guarantee, as compared to those willing to give it up. The attempt to pay a lower bonus to guarantee holders was quashed in court, leading to an attempt to place the burden on the whole with-profits fund (as Equitable was a mutual, these are in effect the shareholders). There are policy lessons for reserving (taking account of option values) and fund separation. Again, confidence in saving has been affected by the Equitable debacle far beyond its immediate financial consequences.

Problems of information-provision to consumers regarding annuities are meanwhile worsening retirement-income security. Consumers with defined contribution funds face a plethora of choices at retirement. These include the term of the annuity, the type of annuity, whether level or inflation-linked, and the timing of payment. There is also a choice of company, since defined contribution funds have the “open market option” to buy annuities from any company, instead of solely the firm with which the pension was accumulated. In this context, FSA (2002a) comments that consumer understanding of annuities is very low and people do not fully understand the risks of the decisions they are taking. The open market option is rarely exercised, although shopping around could gain a 35 per cent increase in income. Second, there is money illusion whereby individuals prefer nominal-fixed (level) annuities given the higher initial income, whereas inflation-protected (index-linked) would give better protection<sup>17</sup> over the long term. Often individuals delay purchase of an annuity, although such a strategy is vulnerable to “mortality drag” where lower aggregate mortality at a later date implies lower annuity rates, as well as high commission rates. Individuals often buy single-life annuities leaving survivors open to poverty when the annuitant dies. Finally, very few individuals were buying impaired life annuities, which could offer a higher income, although 40 per cent were eligible (due to health conditions, smoking history, etc.).

In response to these concerns, the FSA is introducing consumer advice literature and also obliging firms selling annuities to inform consumers of their “open market” rights. Stringent qualifications and disclosure are required of salesmen, in the light of earlier mis-selling scandals in the personal pensions field. Best advice must be offered for the circumstances of the individual, and cooling-off periods during which the individual may change their mind. As noted by Cardinale *et al.* (2002), the regulatory regime is so severe

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<sup>17</sup> Note that individuals are obliged to buy indexed annuities with the so-called protected rights element of pensions, roughly equivalent to the contracted-out rebate from national insurance contributions.

that many annuities are sold execution-only, with individuals receiving little or no financial advice. Given the tough regime and low commissions arising from the small size of maturing personal pensions,<sup>18</sup> the level of interest among advisers in getting such business is low. Again this helps to explain why most individuals take annuities from their pension saving provider. And a larger proportion of these go for level annuities (90 per cent compared to 80 per cent who buy in the open market), which may not, as noted, be the best option.

## 10. A crisis in personal saving?

Rising longevity, the low public pension and declining employer provision together put the onus on individuals to save for retirement. But in fact overall contributions to private pensions in 2001 were only 7.7 per cent of average earnings, and 42 per cent of workers are only occasional members of schemes, mainly lower income earners. Younger workers are the cohort most likely not to contribute, as shown in Table 7, although especially in defined contribution schemes, returns are highest on such contributions given the time they have to cumulate. For example, Blake (2000) shows that contributions equivalent to 10 per cent of earnings is all that is needed for a replacement ratio of two-thirds beginning at age 20 on reasonable return and earnings projections, while at 35 the required contribution rate is 17 per cent. One reason for low coverage in the early part of working life is the growing burden of student debt, which is crowding out the most remunerative early pension contributions (Davis, 2003b). This will be aggravated by increases in student fees in 2006. Equally, costs of setting up a family and buying a first home may crowd out pension contributions.

Non-pension saving is also low; the overall U.K. personal saving ratio has been low since financial deregulation in the early 1980s (see Table 8), partly as a consequence of the

*Table 7:  
Coverage of private pensions  
by age*

<b>Age group</b>	<b>Percentage</b>
16–24	21%
25–34	56%
35–44	65%
45–54	68%
55–59	58%
60–64	44%

*Source:* PPI (2003).

<sup>18</sup> As noted by Jackson (2004), this problem of small annuities is being aggravated by the changes in regime for different contributions as the law is changed. He suggests that if the Pensions Bill becomes law it will require six different components of annuities with different levels of indexation and gender specificity. Costs of this complexity are likely to reduce payouts.

high level of mortgage borrowing. This is reflected in non-pension assets. The non-pension balance sheet of the average household has net financial assets of £13,649, of which £7,786 are in securities. But 25 per cent have negative net financial wealth and 50 per cent have net wealth below £1,500. It is notable that average non-pension wealth is only £5,357 for those without an occupational pension; and 48 per cent of those without a pension have negative net financial wealth. Hence they do not have substitute sources of funds for retirement. Over 2000–2003, gross financial wealth of the household sector fell by 17 per cent and net financial assets by 32 per cent, suggesting these figures have worsened. Meanwhile, the burden of debt has increased, with the FSA suggesting that 6.1 million families have difficulty in meeting debt repayments.

*Table 8:  
Personal saving ratio*

<b>Percentage of personal disposable income</b>	
1963–1972	6.2
1973–1982	9.8
1983–1992	8.5
1993–2002	7.5
2000	4.3
2001	5.7
2002	4.7

*Source:* www.statistics.gov.uk.

Surveys suggest there is a major underestimation of saving needs for retirement, and most individuals focus on pensions only ten years ahead of retirement (FSA, 2002b). Oliver, Wyman (2001) calculate that 13 million individuals will get a pension equivalent to less than two-thirds of their final earnings, and 3 million less than half, implying a “savings gap” of £27 billion a year. At plausible rates of return, closing the gap would entail a 54 per cent increase in current accumulation rates. In the Pensions Green Paper (2002) the government suggest that 3 million people are “seriously undersaving” or planning to retire too soon, while 5 to 10 million further individuals need to save more or work longer to a lesser degree. More recent work by JP Morgan quoted in *The Financial Times* (2003) suggests that as many as 50 per cent of the workforce could get a pension of less than 40 per cent of their salary. Of course, such estimates are sensitive to assumptions on earnings growth and asset returns, but the overall shortfall in pension saving is undeniable.

The saving problem may partly be linked to poor information. Oliver, Wyman (2001) argue that financial advice is crucial in encouraging individuals to save, especially those at lower incomes. As noted elsewhere, advice provision is seen as uneconomic by many providers for poorer individuals, while financial institutions are also concerned that they may be accused of mis-selling if individuals fall under means testing when they retire. Meanwhile, consumers are on the one hand convinced that commission-based advice is biased but on the other hand are unwilling to pay flat fees for advice. House of Lords (2003) also suggests that when pensions are provided, individuals will often either not value them in

choosing employment (for defined benefit) or will have unrealistic expectations of the pensions likely to arise (for defined contribution). Neither of these errors in respect of valuation of pensions will encourage saving. Work and Pensions Committee (2003) recommends that a yearly statement of projected benefits be produced for both state and private pensions.

We would suggest that the savings gap is aggravated by some of the “crises” outlined above, including the deficits and closure of defined benefit funds, loss of confidence in personal pensions, and also in life insurance generally following mis-selling of personal pensions<sup>19</sup> and Equitable Life. Poor returns on financial assets (section 11) are also a disincentive. Furthermore, means testing, which continues with the pension credit, is reducing incentives to save for those of lower income and generating uncertainty for those with higher incomes who may later become subject to means testing.<sup>20</sup> More generally, the number of tax and policy changes in the pension field in the past, the lack of political consensus in this field, and the pervasive complexity of the system have generated major uncertainty which is not conducive to saving (House of Lords, 2003).

One option to improve the situation is to facilitate liquidation of housing wealth for retirement income, as 80 per cent of 45s to 64s are owner occupiers. While trading down to a smaller house to release equity is feasible, it incurs substantial costs, while the reverse mortgage market is poorly developed. According to Mike Wadsworth of Watson Wyatt (personal correspondence), reverse mortgage products available in the U.K. typically pay out a lump sum and not an annuity. To the extent that this money is invested, returns are subject to tax, but there is no corresponding tax relief on the interest payable to the lender. Reverse mortgage products in the U.K. are generally offered on a fixed rate of interest, currently around 7 per cent per annum, which is above mortgage rates. One safeguard is that the products typically carry a “no negative equity” guarantee (thus there is no possibility of eviction, but a higher rate as a risk premium). Nevertheless, there is a “value for money” question about borrowing at, say, the “labour earnings increase + 3 per cent” against an asset, namely housing, the value of which over the longer term has increased broadly in line with labour earnings. Perhaps in a U.K. context the main financial argument for such products is mitigation of inheritance tax on assets remaining at death at a rate of 40 per cent above a threshold of currently £255,000. But most sales appear to date to be related to alleviation of hardship. Another reason for such a low return is that the incentives for old people to continue to maintain their houses may not be great, if the selling price has already been established. This may argue for an equity-sharing arrangement. There is also concern that regulation of equity release through home reversion remains outside the remit of the Financial Services Authority.

We note that many individuals have in the period since 2000 purchased so-called buy-to-let houses as a form of investment, which may contribute to retirement income. On the other hand, it is widely suggested that house prices are strongly overvalued, while supply of rental homes exceeds demand. With high leverage (often 90 per cent or more) on such purchases, there is a danger of negative equity if prices fall or at least negative cash flow if

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<sup>19</sup> A further “scandal” in the public eye in early 2004 is mis-selling of endowment mortgages which use life insurance products to repay mortgages and which have fallen below promised returns due to the unanticipated fall in inflation, see Treasury Select Committee (2004).

<sup>20</sup> There is both uncertainty over the indexation of the future pensions credit threshold and also over the income that a given (defined contribution) pension fund will generate.

interest rates rise. There are also taxes on rents and on sale of second properties. Hence, such investments are in our view highly inferior to pension fund investment.

In sum, most commentators suggest that there is also a need to prevent means testing for social benefits from discouraging private saving, and to stop frequent change in government policy from generating uncertainty, discouraging saving overall. More generally, resolution of the current “crises” will help to rebuild public confidence in the savings industry generally.

## 11. A crisis of asset returns?

We have seen that U.K. funded pensions, invested largely in equities, are strongly affected by the level of asset prices. The current issue of underfunding will be resolved if share prices continue to recover for a number of years, while higher share prices also boost the potential annuity that can be purchased with defined contribution funds. But the experience of 1974 showed that real equity prices can take a protracted period to recover, notably if inflation re-ignites (see Table 9). In the U.K., real equity prices recovered their previous peak in 1987, and in the U.S. and Canada in the 1990s. If repeated, such performance would imply a prolonged delay, or huge expense, before deficits are eliminated.

The time taken to recover earlier levels depends partly on how overvalued the market was in the late 1990s. As shown by Jagannathan *et al.* (2000), the risk premium of equities over bonds can be proxied by the dividend yield plus expected dividend growth less the real bond yield. IMF (2001) argues that the growth in potential output can be used to proxy expected earnings and dividend growth.

Accordingly, Table 10 shows a measure of the risk premium using a Hodrick-Prescott filter on GDP growth to proxy dividend growth. The stylized fact that premia declined in the 1980s and virtually disappeared in the 1990s is confirmed. The sizeable estimated risk premium in the low-inflation 1960s shows that the decline is not merely a consequence of the impact of disinflation on real bond yields. The peaks of the bull markets in 1972 and 1999 show vast differences in estimated risk premia, albeit in each case generally below the decade average, underpinning the suggesting of a bubble in 1999–2000. The U.S. and France showed particularly low risk premia, although in all the countries shown it was at or below 1 per cent.

It is clear that underfunding in the 1980s and 1990s is partly related to overestimates of sustainable asset returns. This is a problem that also affects personal pensions, projected returns from which even as late as 1999 were permitted to be 9 per cent (Alfon, 2002). Table 11 shows that asset returns over the longer period fell far short of those available over 1975–99, which appear nevertheless to have been regarded as normal by pension providers in recent years.

In the longer term, future asset prices could come under downward pressure as the OECD population ages (affecting the U.K. via integrated global capital markets). Underlying factors include lower real returns on capital as economic growth declines and the capital/labour ratio rises; lower saving (in the “baby bust”) affecting real interest rates or risk premium, and a switch from equities to bonds as the population ages. In Davis and Li (2003) we have estimated equations for equity prices and bond yields which demonstrate the role over 1950–99 of the shares in the population of 20–39 (low saving), 40–64 (high saving) and 65+ (zero or negative saving).

Figure 1 shows projections for changes in U.S. equity prices and levels of U.S. bond yields, varying only the demographics composition of the population in line with U.N.

*Table 9:  
Share price behaviour following the 1972–74 economic and financial crisis*

	<b>U.K.</b>	<b>U.S.</b>	<b>Germany</b>	<b>Japan</b>	<b>Canada</b>	<b>France</b>	<b>Italy</b>
Peak of share prices	Aug. 72	Dec. 72	Jul. 72	Jan. 73	Dec. 72	Apr. 73	Jun. 73
Fall to trough in nominal terms (date of trough)	68.5% (Dec. 74)	48.4% (Sep. 74)	34.4% (Sep. 74)	40.2% (Oct. 74)	35.5% (Sep. 74)	52.7% (Sep.74)	42.9% (Dec. 74)
Return to original nominal level	Sep. 77	Nov. 80	Mar. 76	Jan. 79	Jan. 79	Sep. 79	Oct. 80
Fall to trough in real terms (date of trough)	77.2% (Dec. 74)	56.1% (Sep. 74)	43.0% (Sep. 74)	56.2% (Oct. 74)	46.7% (Dec. 74)	68.1% (Apr. 77)	82.4% (Dec. 77)
Return to original real level	May 87	Aug. 93	June 85	Feb. 85	Oct. 96	Aug. 86	Aug. 86

*Source:* Davis (2003a).



Table 10:  
Estimated equity risk premia

	Germany	U.S.	U.K.	France	Canada
1960–69	7.6	4.4	4.5	6.6	5.1
1970–79	5.8	7.5	9.4	11.4	7.6
1980–89	2.3	1.8	3.2	4.1	1.1
1990–94	0.8	1.7	1.9	-0.3	-1.2
1995–99	0.4	0.4	1.6	-0.1	-0.6
Memo: 1972	5.9	3.5	4.3	8.9	5.3
Memo: 1999	0.0	-0.4	1.0	-0.4	-0.1

Source: Barrell and Davis (2003).

Table 11:  
U.K. real equity and bond yields  
(%)

	Bonds	Equities
1871–1974	1.9	6.7
1975–1999	3.3	11.8
1871–1999	2.2	7.6

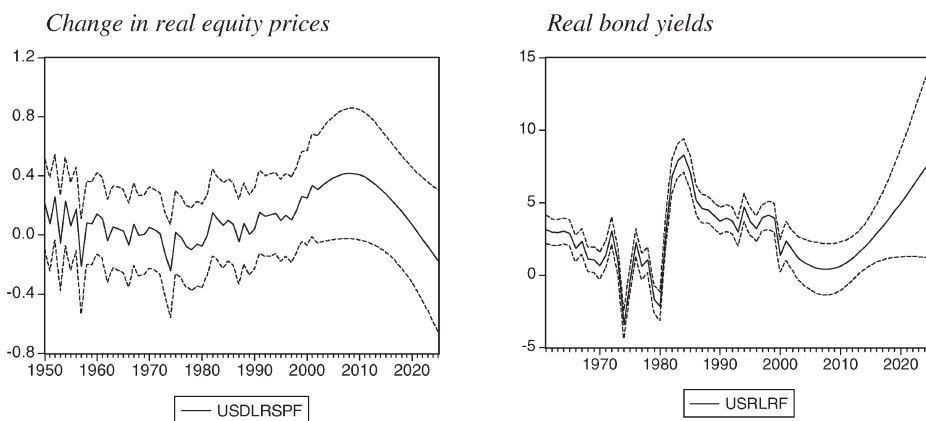


Figure 1: Projected U.S. asset prices

Source: Davis and Li (2003). Dotted lines are 95 per cent confidence bands.

(1998) projections. It can be seen that equity prices come under strong downward pressure, as in due course do bond prices (driving up bond yields). There are various offsetting factors (issuance, demand from EMEs) that mean the scenarios shown are unlikely to be precisely reproduced. But the risk underlines the need for sufficient private saving – and more public provision than at present in the U.K. It also shows that bonds may be risky in the future as well as equities.

## 12. Other issues

There are a number of additional issues in U.K. pensions which, while not warranting coverage as a “crisis” at present, can affect the efficiency of the system and hence an overall evaluation (see Davis, 2001). Most relevant at present are capital market issues. There is, for example, the issue of whether pension funds are or should be obliged to take a position on issues on which they have a right to vote as shareholders. This has historically not been regulated in the U.K., while in the U.S. the Department of Labor has set out guidelines making it obligatory for pension funds to vote so-called proxy motions and hence exert “voice” in the affairs of the companies they own. Myners proposes similar legislation on corporate governance in the U.K. A survey of the literature on the effects of “corporate governance activity” on equity returns (Davis and Steil, 2001) suggests that the effects, if positive, are not large. There may, of course, be wider economic benefits as suggested in Davis (2002b), who showed that a high institutional share of corporate equity can accompany increased productivity growth in an economy.

Three aspects of the capital market behaviour of pension funds are widely seen as deleterious for operation of U.K. capital markets. One is unwillingness to invest in small firms, on the grounds they are illiquid and costly to research. Indeed, in early 2003 U.K. life insurers and pension funds invested only £5.6 billion in U.K. unquoted shares compared to £367.6 billion in quoted U.K. shares. This may distort the U.K. economy away from small firms, which often generate employment and new products. Second, there is the charge that pension funds cause capital market volatility as they “herd” in and out of markets, both domestically and internationally, leading to price volatility and/or liquidity failure (Davis, 2002c). Third, there is the issue of “short termism”: pension funds only aim for profits in the short run and penalize long-term investment (e.g. by selling to takeover raiders). Miles (1993) provides some empirical evidence that favours this hypothesis.

## 13. The optimality of the U.K. pension system

We can now briefly evaluate the U.K. pension system according to the criteria set out at the start. In terms of retirement-income security, the system is showing increasingly poor performance, owing to low levels of private pension saving, underfunding and issues in regulation of defined benefit funds, the switch to defined contribution with reduced employer contributions, the crisis of confidence affecting saving, low social security provision and disincentives due to means testing. In terms of financing issues and sustainability, public pensions are arguably fiscally but not politically sustainable, while private funds are proving unsustainable in the current market and regulatory situation.

Meanwhile, there is less strong evidence of labour market distortion, except for portability losses in defined benefit funds, and here a switch to defined contribution and inflation indexation of benefits for early leavers are beneficial. Defined contribution funds will also reduce incentives to early retirement. Finally for capital markets, pension funds

help to generate high equity inflows to U.K. markets but pension funds also arguably fail to invest in small firms and in long-term projects, and aggravate volatility. And the system as a whole, including means-tested social security, may be responsible for contributing to low overall saving, affecting the cost of capital.

#### 14. Is there a U.K. pensions crisis?

In conclusion, we have seen that in some areas the U.K. system remains satisfactory, but there are both current and prospective difficulties that suggest that the system is either not sustainable or will not provide adequate retirement incomes in its current form. These vary from the current funding problems of defined benefit funds and their ongoing abandonment to difficulties in social security, annuities, contributions and overall saving.

In our view, many of the problems link to the high level of reliance on voluntary funding, combined with low public pensions and reliance on means-tested benefits for those without pension funds. Underlying aspects include *inter alia* low pensions for those dependent on social security; exposure of funded schemes to asset price volatility now; an excessive burden of indexed defined benefit pensions to firms; low contributions to defined contribution and personal funds; and exposure to market failures and risks in annuities, all potentially worsening in the future as the OECD population ages. Many of these offer lessons to other countries seeking to develop funded systems.

Meanwhile, we have suggested that reforms to date are either insufficient (e.g. stakeholder pensions and scheme specific funding requirements) or even counter-productive (e.g. benefit insurance and tax ceilings). Various reforms may be suggested to improve the situation. To be successful any such reforms would need bipartisan support and stability, thus reducing uncertainty and disincentives, which have been lacking in the U.K. context to date.

Beginning with parametric reforms, to limit the decline of defined benefit funds there could be unbundling of the guarantees that defined benefit funds offer (against longevity risk, inflation risk, investment risk), with individuals focusing on a subset that is most important to them, thus reducing costs to companies. Or defined benefit schemes could offer guarantees only up to a certain real salary, above which returns would be on a defined contribution basis. The issue of commission costs for defined contribution schemes could be addressed via a government clearing house for contributions as in Sweden, offering economies of scale. Or alternatively there could be low-cost industry-wide schemes as in the Netherlands or like the U.S. Federal Thrift Plan. House of Lords (2003) suggests the government should offer a pension bond for those on lower income with a real rate of return linked to economic growth.

Mis-selling could be reduced by shifting from front-end commissions to commissions distributed over the life of the product, in line with the product's performance. This would better align incentives of the salesman and consumer. We would recommend further development of the reverse mortgage market in the U.K. to ease liquidation of housing equity. Furthermore, there is a need for better public education and access to advice in retirement planning. Given the market failures that pervade the market for education and advice, a government subsidy for such activity may even be needed, which could usefully take place in schools and the workplace. At present, FSA rules appear to discourage workplace financial advice.

There is a need to take an overall view of the impact of government policies on pensions, as for example high student fees now being introduced, and consequent debts, may

deter individuals from making the most remunerative pension contributions for defined contribution schemes early in the working life. All changes to state benefits may affect private pensions but this impact is rarely considered. Notably, means testing of the pension credit discourages saving, and even pension fund membership, by low-income households.

Following on from the assessment of crisis above, there are at least two systemic shifts that could be considered. One is a boost in the level of basic social security to levels typical of countries such as the Netherlands and the United States, thus providing an income for all in excess of current levels of means-tested benefits. This would accordingly be combined with an elimination of means testing, which would boost voluntary pension saving and eliminate the uncertainty for lower income workers as to whether saving is worthwhile. It could be combined with an abolition of the contributory basis (“citizenship pension”), which would benefit women. Although the overall cost of universal provision would be higher, the income tax system would return much of the benefit from higher income earners to the exchequer and there would be large reductions in administrative costs. Also, retirement ages could justifiably be linked to longevity,<sup>21</sup> reducing fiscal costs. With a more generous basic pension, the pressure on private pension schemes to provide very large and indexed pensions would be lessened.

A possible alternative is compulsory contributions to private pensions, including compulsory employer contributions to private pensions. Switzerland and Australia are among OECD countries adopting this approach. This would, *inter alia*, ameliorate adverse selection in annuities and ensure sufficient retirement saving takes place. Compulsion is needed if the view that individuals are myopic in their pension saving is taken seriously; and the evidence seems quite strong (for example, the number of individuals accumulating clearly inadequate personal pensions). Besides mandating saving, compulsion would also avoid the biases in coverage (towards men, high earners, unionized and white collar workers, etc.) that tend to occur when schemes are voluntary, and would improve job mobility by standardizing terms and conditions. Notably for personal pensions, compulsory participation should help to avoid adverse selection problems that typify free markets in annuities, since the risk pool is the entire population. It could be argued that if pension funds are compulsory, then relative tax advantages are not needed, and all forms of saving should ideally receive expenditure-tax treatment. On the other hand it would disadvantage low-income individuals if means testing is not abolished. Furthermore, the effect on overall saving would not be one-to-one as voluntary saving would fall to partly offset compulsion (Bosworth and Burtless, 2003). Compared to a moderate expansion of social security, this approach would also offer less diversification between risks of funding (asset returns) and pay-as-you-go (political and demographic risk).

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<sup>21</sup> On the other hand the current U.K. government considers this would bear unduly on low-income workers relying on state benefits and with a low life expectancy.

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