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IS THERE A PENSIONS CRISIS IN THE UK?[1]

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Abstract: The UK pension system is traditionally seen as offering a good example to other countries, having features such as low social security pension expenditure as well as 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 are also the ongoing crises of mis-selling of personal pensions and the failure of 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 UK system as well as these current difficulties, focusing on social security as well as private pensions. Pitfalls faced by UK policymakers offer important lessons to other countries seeking to set up or expand private pension provision.

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1 Introduction

The UK pension system is traditionally seen as offering a good example to other countries, having features such as low social security pension expenditures as well as 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 are also the ongoing crises 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 UK system as well as the current difficulties, focusing on social security as well as private pensions. Pitfalls faced by UK 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 on the UK regarding demography, public and private pensions. In Section 4 we provide further background on current retirement incomes. Sections 5-11, 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 UK system briefly in the light of the criteria set out in Section 2, 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 UK, this paper is not comprehensive in this respect – for more detail on regulatory issues, see Blake (2003) and Davis (2001)[2].

2 Criteria for a sound pension system

Before commencing analysis of the UK, 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. More subordinate aspects that may still be of importance are 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

[2] 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.

growth, which will itself provide resources for future pension incomes. We shall return to these in evaluating UK private and public pensions in Section 13.

3 Overview of the UK pension system

Before assessing whether there is a crisis and where it lies, it is essential to provide background information on the UK 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 UK 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% of the total) in 2002 to 16.6 million (25% 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%, Germany 29% and Italy 35% according to UN (1998). The UK 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 same period. Given the better survival chances of women, a large proportion of the very old are female, and also living alone.

The reason for slow ageing in the UK, 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[3].

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 UK 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% of women were active in the labour market whereas in 2003 it was 73%.

[3] Indeed, we note that the latest Government Actuary's 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.

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 participation rate of men aged 55-59 fell from a stable 80% in 1980 to around 45% in 1992, at which level it has stabilised. Meanwhile, for men 60-64 it has fallen from around 65% to below 30% over the same period[4]. 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 of they are less productive. These aspects interact with early retirement provisions of occupational pension schemes[5]. House of Lords (2003) also suggest 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% in 1990 to 21.3% 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 UK is conditional on the nature of compulsory, pay-as-you-go social security pension provisions. Broadly speaking, the development of social security in the UK has been favourable to private schemes, particularly as a consequence of the rather 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 UK 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% 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% of average earnings to those making a full set of contributions. However,

[4] Over the same period, participation of older women has been relatively stable.

[5] 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.

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 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% of the workforce are in contracted out schemes, only a minority of the workforce are accruing rights in the S2P[6].

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% 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% of 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% of those over 90 entitled to them compared with only 12% of those 65-69. The take up is not, however, universal, with only 74-86% 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 equalised at 65 in 2020 (till 2010 women retire at 60)[7], 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% of GDP according to projections up to 2050 such as those by the EU 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 EU-average pension expenditure in mid-century of over 13% of GDP. Pensions Policy Institute (2003) note that the costs of tax exemptions for private pensions add another 2.5% of GDP to this cost at present. But this is recouped by the exchequer when taxing pensions, other than the tax-free lump sum.

3.3 Private pensions

[6] 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.

[7] 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.

We now turn to a broad assessment of the current state of private pensions in the UK. 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 2, 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% of employees are accruing funded pensions, 42% occupational and 22% 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%, giving a total coverage rate of an estimated 61.1%.

Table 1: Estimated funded pension coverage in 2000

	Millions	% of employees in employment	% of self employed	% of 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

Sources: 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.

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 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 utilise 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% of employers with over 1000 employees provide a form of occupational pension, while only 24% of those with 5 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. 90% (9.1 million) of occupational pension members in 2000 were still in defined benefit schemes (usually offering a guaranteed 66% 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% 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 organised 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% of employees were in group schemes and around 12% 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% have personal pensions.

All UK pension funds must be annuitised (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 UK pension funds are very large – accounting for over 80% of GDP in 2001, although the 2002 figure was probably closer to 65% owing to the 25% fall in share prices that year. Pension funds account for just under 25% of UK households' gross financial assets, and together with life insurance assets account for over 50% 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 UK pension funds on average over 1970-95 were correspondingly high. This 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 UK 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.

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 1970-95

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

Source: Davis and Steil (2001). The 50-50 bond equity column shows returns on a domestic portfolio with 50% bonds and 50% equities, while the global portfolio shows a similar asset allocation diversified across OECD markets.

4 Current pensioner incomes

Before turning to aspects of the current "crisis", we also consider it relevant to assess pensioner incomes, see 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% of average earnings (or 43% for a single pensioner). This is higher than in 1979 (when a single pensioner received only 39% of average earnings). Currently, the main source of income is the state, accounting for 63% (mainly the BSP and means tested benefits); nevertheless, over half of pensioners receive income from occupational pensions, which accounts on average for 23% of income.

There is growing inequality among pensioners – the top 20% (who generally receive sizeable occupational pensions) receive on average 82% of average earnings, while the bottom 20% only obtains the equivalent of 21% 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[8].

Table 4 Income sources for single pensioner, 2001/2

	£	Percent
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)

We now turn to an assessment as to whether there is a crisis in various areas of the UK 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?

Viewed 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

[8] In 1979 47% of pensioners were in the bottom fifth of the income distribution while in 2001/2 the proportion is 27%.

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% of pensioners but in 2050 it is projected to rise to between 65% and 82% of pensioners[9]. 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[10].

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% withdrawal of benefit after an increase in income. Under the pension credit, there is still a marginal tax rate of 40% of investment income from benefits. This rises to 53% if the pensioner pays basic rate income tax, and can be as high as 93% if other means tested benefits are withdrawn. House of Lords (2003) comment that even the standard rate of deduction, incurred by pensioners on 30% of average earnings, is the equivalent of the higher rate of tax, paid by workers only on income in excess of 140% 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 2/3 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 annuitised 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 annuitised value of £92,000 now and £282,000 in 2050.

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

[9] The differences are 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% versus 2%) and use of population 60 and over versus 65 and over.

[10] House of Lords (2003) note that a deeper problem of the UK social security pension system is that there appear to be three objectives – income related insurance, poverty reduction and as a minimal foundation for private pensions – none of which has clear primacy.

(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 less years in the labour force than men due to childbearing and other caring responsibilities. Hence at present 50% 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 less years of contributions, less access to occupational funds for women given types of employment, and more retirement years as a 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% today to 25% in 2040, and with the proposed shift of S2P from an earnings related basis to flat rate, it would fall further to 20% (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

% of average earnings	2000	2040
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 £160-300 billion (CBI 2003), relative to the accrued benefit obligation. Some firms, such as the grocery chain Sainsbury, had funding ratios as low as 65%. The Economist (2003a) reports estimates that suggest average funding levels for the top 100 UK companies fell from 120% in 2001 to 80% at end-2002. Many companies had deficits of over 40% of their market capitalisation. The overall deficits were equivalent to 2-3% of GDP or 3-5% of estimated pension fund assets at the end of 2002. Estimates from Watson Wyatt suggest that deficits for the largest UK 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 UK, given their large holdings in equities (Table 2). The UK market at end-2002 was some 50% 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% inflation of current and deferred pensions[11] and compulsory survivor benefits[12]. 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 socials security pensions – unlike for example in the US where more generous social security offers relatively generous indexed benefits. Furthermore, tax policies, notably limits on overfunding to 5%, 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[13], 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 bn 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

[11] The new Pensions Bill introduced in 2004 plans to reduce the rate of so-called limited price indexation to 2.5% for pensions accrued after 2005. This will have a minor effect on liabilities, since they are dominated by the accrued benefit obligation.
[12] House of Lords (2003) suggest these together raised the cost of final salary pensions by 40%.
[13] This point can be overstressed, as actuarial assumptions are sufficiently flexible to allow a high level of funding.

based on a sustainable income basis for assets and 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 component 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.

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 UK government bonds and equities, with the proportion of government bonds in the benchmark increasing as the scheme matures. The system requires shortfalls be corrected in 3-10 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 UK government was in surplus), driving down yields and raising liabilities.

Whereas MFR is due to be abolished in its current form, its effects seems 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[14]. Firms with defined benefit funds face a burden of topping-up assets to match increased liabilities. (The UK employer organisation the CBI (2003) project 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 UK 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 of 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% of private defined benefit funds had

[14] Under the new Basel capital adequacy accord (UK Treasury 2003), credit ratings will in turn play a major role in determining the cost of bank as well as market financing for firms.

closed to new members, 41% 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 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 generalised 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. 10,000 plans have been wound up since 1997, affecting 300,000 members. As noted, even the full MFR 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 realisation that under current law, pensioners' interests during a wind-up have absolute priority over 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 UK 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% 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 implications of volatility of assets for risks of under funding, 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. that 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 the incentive structure itself. In the US, 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 proved correct; the US pension insurer the "Pension Benefit Guarantee Corporation" had a sizeable deficit of $11 bn in 2003. Fears of a similar poor performance by the new UK system could lead to a further flight from defined benefit funds, as solvent funds fear being "taxed" to pay for insolvent ones[15]. These fears will be partly mitigated as at least half of the levy in the UK 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 penalise 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% of schemes had no trustees qualified or recently trained in investment matters, although for large schemes with over 10,000 members only 21% were in this category. As noted in 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

[15] Truell (2004) notes a Goldman Sachs estimate that 2% of funds (by value) account for 50% of the total default risk for corporate pension funds.

Blake and Orszag (1997), changing jobs 6 times in a career with a typical defined benefit fund loses 25% 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.

Other difficulties of occupational defined contribution schemes are lower incentives by employers to optimise investment, given 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 annuitisation is compulsory, the problems in that market (Section 9) affect defined contribution fund members – and personal pension holders - by definition.

Table 6 Average contributions for occupational pensions

Percent of salary	Employer	Employee	Total
Defined benefit	11.1	5	16.1
Defined contribution	5.1	3.4	8.5

Source: Government Actuary (2003a)

8 A crisis in personal pensions?

For personal pensions, there is the ongoing issue of the resolution of mis-selling of personal pensions in 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. 500,000 individuals were persuaded by commission-driven salesmen to leave occupational funds, of whom 90% received inappropriate advice (owing to high transfer costs and no employer contribution). The response has

been massive fines on insurance companies and tightening of regulations on selling. This issue continues to affect confidence in personal pensions, compounded by comparable concerns over misselling of endowment insurance policies to back mortgage loans for house purchase.

But there are deeper issues which vitiate personal pensions in the UK 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% 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% of contributions and 1.5% 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 10-20% of contributions, compared to a typical 5-7% for occupational funds. He notes that the high commissions are partly a reflection of inefficiently small scale by a multitude of providers[16].

Furthermore, there are high costs of switching between personal pension providers, owing to transfer fees and new upfront fees, amounting to 25%-33% 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.

Recently, belatedly, there has been some government response to these issues, notably the launch of stakeholder pensions with charges (including commissions) limited to 1% with no initial commissions[17]. 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 public, especially the low paid for whom stakeholders were designed. The UK insurance body ABI suggest that advice is uneconomic for 11 million people at 1% commission. As noted, sellers are also

[16] UK personal pension administrative costs are said to be four times those in a typical large defined benefit scheme, and sixteen 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% (Work and Pensions Committee 2003) owing to economic scale being reached.

[17] The Sandler Review (HM Treasury 2002) proposed a wider range of such simple products at low commissions. The financial services industry, notably insurance companies, are lobbying for higher charges to motivate commission-oriented salesmen.

concerned that the existence and possible future shifts in means testing 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 UK there is mandatory annuitisation - justified in turn by tax privileges and possible moral hazard as lump sums are dissipated leaving a 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% 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 annuitisation, 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 who 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 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 Equitable itself was the oldest life company, dating back to 1762.

Over 1957-88, 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 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; 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) comment 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% 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[18] 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% 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

[18] 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.

regime is so severe 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[19], 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% compared to 80% 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% of average earnings, and 42% of workers are only occasional members of schemes – mainly lower income earners. Younger workers are the cohort who are 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% of earnings is all that is needed for a replacement ratio of 2/3 beginning at age 20 on reasonable return and earnings projections, while at 35 the required contribution rate is 17%. 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.

Table 7: Coverage of private pensions by age

age group	percent
16-24	21%
25-34	56%
35-44	65%
45-54	68%
55-59	58%
60-64	44%

Source: PPI (2003)

Non-pension saving is also low; the overall UK personal saving ratio has been low since financial deregulation in the early 1980s (see Table 8), partly as a consequence of the 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% have negative net financial wealth and 50% have net wealth below £1,500. It is notable that average non

[19] 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 6 different components of annuities with different levels of indexation and gender specificity. Costs of this complexity are likely to reduce payouts.

pension wealth is only £5,357 for those without an occupational pension; and 48% of those without a pension have negative net financial wealth. Hence they do not have substitute sources of funds for retirement. Over 2000-3, gross financial wealth of the household sector fell by 17% and net financial assets by 32%, 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

	Percent of personal disposable income
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 10 years ahead of retirement (FSA 2002b). Oliver, Wyman (2001) calculate that 13 million individuals will get a pension equivalent to less than 2/3 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% 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 5-10 million further individuals need to save more or work longer to a lesser degree. More recent work by JP Morgan quoted in Financial Times (2003) suggests that as many as 50% of the workforce could get a pension of less than 40% 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 pensions, while financial institutions are also concerned that they may be accused of misselling if individuals fall under means testing when they retire. Meanwhile, consumers are on the one hand convinced that commission based advice is biased but unwilling to pay flat fees for advice. House of Lords (2003) also suggest that when pensions are provided, individuals will often either not value them in choosing employment (for defined benefit) or will have unrealistic expectations of 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) recommend 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[20] 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[21]. 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 liquification of housing wealth for retirement income, as 80% of 45-64s 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 UK 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 UK are generally offered on a fixed rate of interest - currently circa 7% pa – 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%' against an asset, namely housing, the value of which over the longer term has increased broadly in line with labour earnings. Perhaps in a UK context the main financial argument for such products is mitigation of inheritance tax on assets remaining at death at a rate of 40% 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% or more) on such purchases, there is a danger of negative equity if

[20] 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).

[21] 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.

prices fall or at least negative cash flow if 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 UK 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 reignites, see Table 9. In the UK, real equity prices recovered their previous peak in 1987 – and for the US and Canada in the 1990s. If repeated, such performance would imply a prolonged delay – or huge expense - before deficits are eliminated.

Table 9 Share price behaviour following the 1972-4 economic and financial crisis

	UK	US	Germany	Japan	Canada	France	Italy
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	Jun-85	Feb-85	Oct-96	Aug-86	Aug-86

Source: Davis (2003a)

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) argue 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 stylised 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 US and France showed particularly low risk premia, although in all the countries shown it was at or below 1%.

Table 10 Estimated equity risk premia

	Germany	US	UK	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)

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 were even as late as 1999 permitted to be 9% (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.

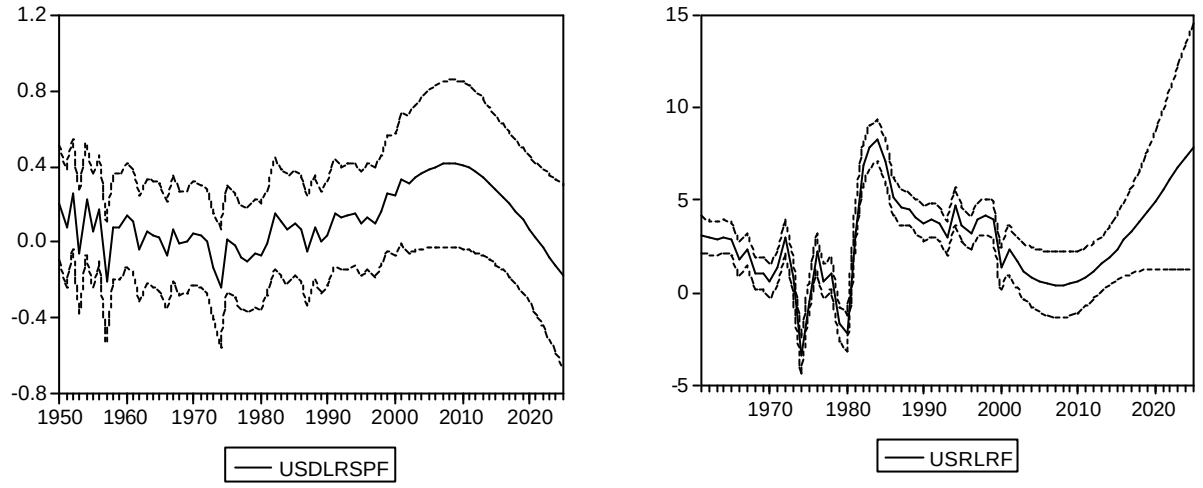
Table 11: UK real equity and bond yields

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

In the longer term, future asset prices could come under downward pressure as the OECD population ages (affecting the UK 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).

Chart 1 Projected US asset prices

Change in real equity prices **Real bond yields**



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

The charts show projections for changes in US equity prices and levels of US bond yields, varying only the demographics composition of the population in line with UN (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 UK. 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 UK 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 UK, while in the US, 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 UK. A survey of the literature on the effects of "corporate governance activity" on equity returns (Davis and Steil 2001) suggest 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 UK capital markets. One is unwillingness to invest in small firms – on the grounds they are illiquid and costly to research. Indeed, in early 2003 UK life insurers and pension funds invested only £5.6 bn in UK unquoted shares compared to £367.6 bn in quoted UK shares. This may distort the UK 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 penalise 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 UK pension system

We can now briefly evaluate the UK 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 financially 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, as well as 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 UK 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 UK pensions crisis?

Coming to a conclusion, we have seen that in some areas the UK 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; 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. 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 UK 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 US Federal Thrift Plan. House of Lords (2003) suggest the government should offer a pension bond for those on lower income with a real rate of return linked to economic growth.

Misselling 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 UK 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[22], 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, unionised and white collar workers etc.) that tend to occur when schemes are voluntary, and would improve job mobility by standardising 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).

References

[22] On the other hand the current UK government consider this would bear unduly on low income workers relying on state benefits and with a low life expectancy.

Alfon I (2002), “To switch or not to switch, that is the question”, Occasional Paper No 18, Financial Services Authority

Barrell R and Davis E P (2003), "Shocks and Shock Absorbers: The International Propagation of Equity Market Shocks and the Design of Appropriate Policy Responses", presented at NIESR conference "Macroeconomics and the Policy Process", 14/5/03

Blake D (2000), “”Does it matter what type of pension scheme you have?”, Economic Journal, 110, F45-F81

Blake D (2003), “The UK pension system; key issues”, Pensions, 8, 330-375

Blake D and Orszag J M (1997), “Portability and preservation of pension rights in the UK”, Report of the Director-General’s Inquiry into Pensions, Volume 3, Office of Fair Trading, London

Bodie Z and Merton R C (1992), "Pension benefit guarantees in the United States; a functional analysis", in ed. R Schmitt "The future of pensions in the United States", University of Pennsylvania Press.

Bosworth B and Burtless G (2003), “Pension reform and saving”, mimeo, Brookings Institute

Brown K (2004), “Complex quest for pension simplicity”, Financial Times, 28 February 2004

Cardinale M, Findlater A and Orszag M (2002), “Paying out pensions; a review of international annuities markets”, Research Report 2002-RU07, Watson Wyatt, Reigate.

CBI (2003), “Focus on investment; the impact of pension deficits”, Economic Brief, July 2003, Confederation of British Industry

Clark T (2003), “Rewarding saving and alleviating poverty? The final pension credit proposals”, Briefing Note No 22, Institute for Fiscal Studies, London

Comptroller and Auditor General (2002), “Tackling pensioner poverty; encouraging take-up of entitlements”, Report by the Comptroller and Auditor General, House of Commons, 13 November 2002

Cook M and Johnson P (2000), “Saving for retirement – how taxes and charges affect choice”, Occasional Paper No 8, Financial Services Authority

Davis E P (1997), "Private pensions in OECD countries; the United Kingdom", Labour Market and Social Policy Occasional Paper No. 21, OECD, Paris

Davis E P (1998), "Policy and implementation issues in reforming pension systems", Working Paper No. 31, European Bank for Reconstruction and Development, London

Davis E P (2001), "Regulation of Private Pensions - A Case Study of the United Kingdom", Occasional Paper No OP15, Financial Services Authority, London

Davis E P (2002a), "Issues in the regulation of annuities markets", Working Paper, Center for Research on Pensions and Welfare Policies, Turin

Davis E P (2002b), “Ageing and financial stability”, in eds Auerbach A and Herrmann H, “Ageing, monetary policy and financial markets”, Springer, Berlin

Davis E P (2002c), "Institutional investors, corporate governance, and the performance of the corporate sector", Economic Systems, 26, 203-229

Davis E P (2002d), "Prudent person rules or quantitative restrictions? The regulation of long term institutional investors' portfolios", Journal of Pension Economics and Finance, 1, 157-191

Davis E P (2003a), "Comparing bear markets, 1973 and 2000", National Institute Economic Review, 183, 78-89

Davis E P (2003b), “Fees worsen worker-student relations”, Letter to Financial Times; Feb 08, 2003

Davis E P and Li C (2003), "Demographics and asset prices in the major industrial economies", Brunel University Working Paper

Davis E P and Steil B (2001), "Institutional investors", MIT Press, Cambridge, Mass

Daykin C (2002), “Pension systems; the EU and accession countries, lessons for the UK”, Politeia, London

Department of Work and Pensions (2002), “Simplicity, security and choice (the UK Pensions Green Paper)”, DWP, London

Department of Work and Pensions (2003), “Pensioners’ income series 2001/2”, DWP, London

Disney R, Emmerson C and Smith S (2003), “Pension reform and economic performance in Britain in the 1980s and 1990s”, NBER Working Paper No. 9556

Economist (2003a), "Retirement blues", The Economist, 30 July 2003

Economist (2003b), "Pension pain; who is to blame for the big hole in many pension funds?", The Economist, 3 July 2003

EPC (2002), "Budgetary challenges posed by ageing populations", Economic Policy Committee, European Commission

Financial Times (2003), "Labour under fire over pensions", FT Fund Management Supplement, 29 September 2003

Financial Times (2004), "Share rises fail to fill pensions black hole", FT, 17 January 2004

FSA (2002a), "The future regulation of insurance", Financial Services Authority, London

FSA (2002b), "Financing the future: Mind the gap!", Financial Services Authority, London

Fukao M (2002), "Barriers to financial restructuring; Japanese banking and life insurance industries", paper presented at the NBER conference on "Structural impediments to growth in Japan", Tokyo, March 18-19 2002

Government Actuary (2003a), "Occupational pension schemes 2000, eleventh survey by the Government Actuary", Government Actuary's Department, London

Government Actuary (2003b), "United Kingdom population projections 2003", Government Actuary's Department, London

HM Treasury (2002), "The Sandler Review; medium and long term retail saving in the UK", HM Treasury

House of Lords (2003), "Aspects of the economics of an ageing population", House of Lords Select Committee on Economic Affairs, 4th Report of Session 2002-3.

Inland Revenue, (2002), "Simplifying the taxation of pensions; increasing choice and flexibility for all", Inland Revenue, London

International Monetary Fund (IMF), (2001), "Asset Prices and the Business Cycle," in *World Economic Outlook*, April, 101-149.

Jagannathan R, McGrattan E and Scherbina A (2000), "The declining US risk premium", *Federal Reserve Bank of Minneapolis Quarterly Review*, 24/4, 3-19

Lunde A, Blake D and Timmermann A (1999), "The Hazards of Mutual Fund Underperformance: A Cox Regression Analysis", Journal of Empirical Finance, 6, 121-152

Mercer (2003), "Update – simplicity, security and choice (comment on the Pensions Green Paper)", Mercer Human Resources Consulting

Miles D (1993), "Testing for short termism in the UK stock market", Bank of England Working Paper No. 4

Myners P (2001), "Report on Institutional Investment" HM Treasury, London

Neale I (2000), "Reframing the annuity problem – can we afford retirement?", Journal of Pensions Management, 5, 285-291

Oliver, Wyman (2001), "The future regulation of UK savings and investment", Oliver, Wyman and Co, London

Pensions Policy Institute (2003), "The pensions landscape", PPI, London

Smith S and McKay S (2002), "Employers' pension provision 2000", Research Report No 163, Department of Work and Pensions

Treasury Select Committee (2004), "Restoring confidence in long term saving", UK House of Commons Treasury Select Committee Report

Truell D (2004), "Pensioners' shield should not be too weighty", Financial Times, 28 February 2004

UK Treasury (2003), "The new Capital Adequacy Directive, CAD 3", Consultation Document, HM Treasury

United Nations (1998), "Demographic data 1998", UN, New York

Valdes Prieto S (1998), "Risks in pensions and annuities; efficient designs", Human Development Network, The World Bank

Work and Pensions Committee (2003), "The future of UK pensions", UK House of Commons Work and Pensions Select Committee Report