What is a Promise from the Government Worth?

Measuring and Assessing the Implications of Political Risk in State and

Personal Pension Schemes in the United Kingdom

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Abstract

There are three key types of political risk facing state and personal pension schemes: those induced by demographic, economic and pure political considerations. The state scheme in the UK has been susceptible to all three types of political risk with the result that the annual real internal rate of return (IRR) on the second-pillar state pension (SERPS) for the average male worker has fallen from 5% to 1.5% over the last quarter century. The New Labour government replaced SERPS with the Second State Pension (S2P) Scheme which was designed to benefit its natural supporters, low-paid workers, at the expense of middle- and higher-paid workers. S2P which assumes that all workers earn at least the Lower Earnings Threshold, regardless of their actual earnings, combined with the Minimum Income Guarantee and Pension Credit, has raised the prospective IRR to low-paid workers to 6.2%. Given the generosity of the MIG, which is uprated in line with earnings, most pensioners, including the well off, will become eligible for this means-tested benefit: we therefore question whether the MIG can survive in its present form. The flat-rate, first-pillar Basic State Pension has also experienced a fall in its IRR of 3 percentage points as a result of the indexation basis changing from earnings to prices. Personal pensions are not immune from political risk either, although to date they have been less susceptible than the state scheme: the abolition of the tax credit on UK dividends in 1997 lowered the IRR on personal pensions by 0.6 of a percentage point, for example. Given that company final-salary schemes in the UK have all but closed to new members, leaving state and personal (or company) defined contribution pension schemes as the only alternatives available for building up pension entitlements, it is hard to see where British workers can turn in future to guarantee their retirement income security.

1. Introduction

By June 2003, 70% of company defined benefit pension schemes in the UK had closed to new members and 10% had closed to additional contributions from existing members[2]. Workers in future must therefore increasingly look to the state or to a personal (or company) defined contribution pension scheme to provide them with a retirement income. However, the state scheme offers only a very minimal pension intended to keep pensioners out of extreme poverty and a personal scheme involves a large range of financial risks (such as investment risk, reinvestment risk, interest rate risk, and mortality risk) that in occupational schemes are borne directly by the employer.

These factors have been widely discussed (see, e.g., Blake (2000, 2003)), but what has been less widely considered is the political risk attached to state and personal pension schemes. Governments can change the structure of the state scheme at any time. They might over-promise benefits in an immature pay-as-you-go scheme, leading to financing problems and future cutbacks when the scheme matures (see Diamond (1997)). Workers face significant uncertainty about how future policy makers will change future taxes and benefits in order to return the state scheme to long-run solvency. Similarly, personal schemes can have the tax reliefs they enjoy on contributions and investment returns or the terms on which annuities are purchased changed at any time.

This paper provides a theoretical framework for measuring the political risk in state and personal pension schemes in the UK (section 2). It then empirically quantifies that risk over the period 1978 to 2003. In particular, it addresses the question of the extent to which this political risk is driven by pure politics or by underlying economic and demographic factors (section 3).

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[2] FT.com, 12 June 2003

The implications of political risk for assessing the value of the promise from different forms of pension scheme are discussed in the Conclusion.

2. A Theoretical Framework for Measuring Political Risk in State and Personal Pension Schemes

One of the first studies of the political risk in a state pension scheme (SPS) was McHale (2001). He measured the political risk in the US Social Security System as the reduction for an average worker in gross social security wealth (the discounted value of future benefits) resulting from various reforms introduced by the US Congress. He compared this measure of political risk across the G7 countries for the period of the mid-1980s to the mid-1990s. He noted that *ex ante* political risk was difficult to measure for reasons similar to problems in measuring credit or default risk on fixed-income assets: history is a poor guide to the probabilities and size of infrequent discrete adjustments. He focused on changes in social security benefit rules, so the extent of political risk in his measurement thus depends on the effect of rule changes on the stream of benefits, and the probabilities of those changes.

Political risk has also been discussed by Diamond (1997), who distinguished between 'good' and 'bad' political interventions. 'Good' interventions affect benefits or taxes in a way that reduces risk, while 'bad' interventions increase it. He measured political risk as a change in social security benefits or taxes that increases the risk to per capita income or per capita consumption.

To be consistent with the measurement of risk in financial markets, we define political risk in terms of reductions in the internal rate of return workers receive on their social security (i.e., National Insurance) contributions. Alternatively, recognising that the ultimate concern for

risk-averse workers is their expected utility, we also define it in terms of reductions in the expected-utility-adjusted internal rate of return.

The internal rate of return on a defined benefit state pension scheme can be defined in different ways. It can be defined as the rate of return that is implicit in the current structure of contributions and benefits, assuming that structure continues indefinitely. Alternatively, it can be defined as the rate of return consistent with the financial solvency of the system, which yields a lower internal rate of return than the previous definition for countries that have systems that do not have sufficient funding for long-term solvency. A third alternative would be the internal rate of return that workers expect to receive. Because we are focusing on the risk associated with changes in laws, we define the internal rate of return using the first definition.

Personal pension schemes (PPSs) are also subject to political risk and the internal rate of return can be used to quantify this. The internal rate of return on PPSs is a weighted average of the geometric mean rate of return on the accounts during the accumulation phase and the interest rate used to convert the account balance to an annuity during the payout phase.

2.1 Sources of political risk

Political risk has at least three sources that may result in reductions in benefits or increases in contributions:

- demographically-induced political risk: e.g., arising from financial pressures on the SPS caused by changes in the old-age dependency rate or life expectancy;
- economically-induced political risk: e.g., arising from changes in the unemployment rate or in the rate of growth in wages, or from changes in economic policy, such as
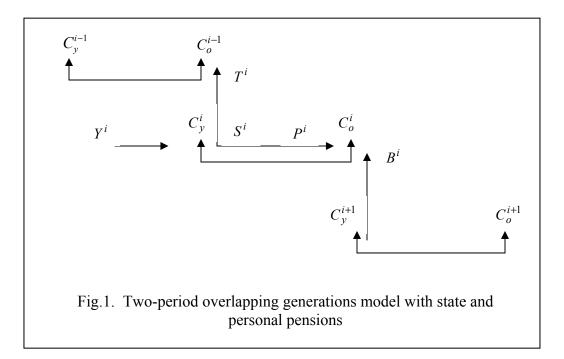
      increased incentives to work harder or save more, or from the government reducing

      the tax reliefs on contributions into PPSs to help lower a government budget deficit;

- pure political risk: e.g., arising from redistribution of SPS benefits or changing tax breaks in PPSs in favour of supporters of the political party in power, such as left-wing governments switching resources away from the rich to the poor.

Changes in SPS benefits and contributions are not necessarily due entirely to one source of political risk, and may generally involve more than one source. In the empirical work, however, we subjectively attempt to categorise changes as to the dominant source of the risk.

2.2 A two-period model

Consider the two-period overlapping generations model in Figure 1 motivated by the simple model in Diamond (1997). In its first (young) period, each generation i receives income (Y^i), consumes (C_y^i), pays social security tax (T^i) that is used to pay SPS benefits to the previous generation i-1 and saves (S^i) in a PPS. In its second (old) period, each generation receives SPS benefits (B^i) from the next generation i+1 and the pension from the PPS (P^i) and consumes these (C_o^i), leaving no bequests. The objective of each generation is to choose consumption in each period (C_y^i and C_o^i) to maximise expected utility across the lifecycle.

Fig.1. Two-period overlapping generations model with state and
personal pensions

2.3 A multi-period model

In reality, the young and old periods of life are divided into sub-periods that are of variable length on account of the uncertainty attached to employment and mortality. Uncertainty is also attached to returns on savings and the rate of change in the old-age dependency ratio (of retired to active members of the population) over time. Taking these factors into account requires the use of a multi-period stochastic life-cycle model of consumption that can be solved using dynamic programming techniques. However, in order to concentrate on issues related to political risk, we simplify the model in the following ways. We assume that: the length of the working life is fixed; each generation survives at least until retirement; the PPS holds risky assets that cannot be accessed during the working life; and non-pension savings are held in a deposit account paying a risk-free rate.

Assuming further that utility is additively separable over time and that there is no bequest motive, each generation's optimisation problem is to find the lifetime consumption stream that satisfies the value function V_t (dropping the i superscript where this does not cause confusion):

$$V_t(W_t) \equiv \underset{\{C_t\}}{Max} \ E_t\left[\sum_{s=t}^{N} U(C_s)(1+\rho)^{t-s-1}\right], \qquad t=1,N \qquad (1)$$

subject to:

$$\begin{aligned}
W_t &\equiv E_t\left[\sum_{s=t}^{M} Y_s(1+y)^{t-s-1} + \sum_{s=M+1}^{N}(P_s + B_s)(1+y)^{t-s-1}\right] \\
&\equiv \sum_{s=t}^{M} Y_s(1+y)^{t-s-1} + \sum_{s=M+1}^{N}(1-q_s)(P_s + B_s)(1+y)^{t-s-1} \\
&= E_t\left[\sum_{s=t}^{M}(T_s + S_s)(1+y)^{t-s-1} + \sum_{s=M+1}^{N}C_s(1+y)^{t-s-1}\right] \\
&\equiv \sum_{s=t}^{M}(T_s + S_s)(1+y)^{t-s-1} + \sum_{s=M+1}^{N}(1-q_s)C_s(1+y)^{t-s-1}, \qquad t=1,N
\end{aligned} \qquad (2)$$

where:

$U(C_t) =$ the one-period utility function defined over real consumption C_t at time t with expectations given by $E_t[.]$

$N =$ maximum lifespan (so $0 \le t \le N$)

$M =$ maximum length of working life

$\rho =$ marginal rate of time preference

$W_t =$ expected discounted value of gross lifetime wealth at time t

$Y_t =$ labour income at time t (assumed to be predetermined)

$S_t =$ contributions to a PPS at time t (assumed to be predetermined)

$T_t =$ social security taxes at time t (assumed to be predetermined)

$P =$ pension benefits expected from the PPS at time t (assumed to be constant over time in real terms)

$B_t =$ SPS benefits at time t (assumed to be predetermined)

$q_t =$ probability of dying at time t (i.e., the force of mortality) (assumed to be zero for $t = 1,M$)

$y =$ risk-free rate of interest (assumed to be constant).

The PPS pension expected at retirement is determined as follows:

$$P = \sum_{s=1}^{M} S_s \left(1+r\right)^{M-s} \left(\ddot{a}\right)^{-1}$$ (3)

where:

$$\ddot{a} = \sum_{s=M+1}^{N} \left(\prod_{v=M+1}^{s} (1-q_v) \right)(1+y)^{M-s} =$$ annuity factor (expected present value of £1 per year for life,

using risk-free discount rate y)

$r =$ expected return on risky assets in the PPS (assumed to be constant).

The internal rate of return on the PPS, r_{PP}, satisfies the following equation:

$$\sum_{s=1}^{M} S_s \left(1+r_{PP}\right)^{M-s} = \sum_{s=M+1}^{N} P\left(\prod_{v=M+1}^{s} (1-q_v) \right)(1+r_{PP})^{M-s}$$ (4)

The internal rate of return, r_{SP}, on the SPS satisfies the following equation:

$$\sum_{s=1}^{M} T_s \left(1+r_{SP}\right)^{M-s} = \sum_{s=M+1}^{N} B_s\left(\prod_{v=M+1}^{s} (1-q_v) \right)(1+r_{SP})^{M-s}$$ (5)

The value function in (1) satisfies the recursive Bellman equation (see Intriligator (1971: Chapter 13)):

$$V_t(W_t) = \underset{\{C_t\}}{Max} \left[(1+\rho)^{-1} U(C_t) + (1-q_{t+1})(1+\rho)^{-2} \left[U(C_{t+1}) + V_{t+2}(W_{t+2}) \right] \right] \qquad (6)$$

with $q_t = 0$ for $t = 1, M$. Equation (6) simplifies the life-time maximisation problem into a series of two-period problems which can be solved numerically by working backwards from the final period N, subject to the constraint in (2). Note that the expectations operator has been dropped from the right hand side of (6). This is rationalised as follows: survival probabilities are taken explicitly into account, the expected amount of PPS pension (3) is incorporated in the lifetime wealth constraint (2), and any borrowing or lending takes place at the risk-free rate y, which justifies the use of a risk-free discount rate in (2). There are no other sources of uncertainty in the model.

Suppose that each generation has power utility with constant relative risk aversion parameter γ:

$$U(C_t) = \begin{cases} \dfrac{(C_t)^{1-\gamma}}{1-\gamma}, & \forall \gamma \neq 1 \\ ln(C_t), & \gamma = 1 \end{cases} \qquad (7)$$

From equations (5)-(7), the first order conditions for a maximum indicate that the following relationship holds between optimal consumption in consecutive periods:

$$C_{t+1}^* = \left(\frac{1+y}{1+\rho} \right)^{\frac{1}{\gamma}} C_t^* \equiv \phi C_t^* \qquad (8)$$

Repeatedly substituting (8) into (2) and rearranging gives optimal consumption as a function of net lifetime wealth:

$$C_t^* = \left(\sum_{s=t}^{N} \phi^{s-t} (1-q_s)(1+y)^{t-s-1} \right)^{-1} W_t^N \equiv \theta(t) W_t^N \tag{9}$$

where W_t^N is net lifetime wealth (defined as gross lifetime wealth (W_t) less the discounted value of social security taxes and contributions to the PPS, i.e., the first term on the fourth line of (2)). The value function is evaluated by substituting (9) and (8) into (7) and then (7) into (1).

We are now in a position to assess the impact of the three main types of political risk both in financial terms and in utility-adjusted terms. In the first case, we examine the impact on the internal rate of return from participation in the SPS and the PPS. In the second case, we calculate the percentage reduction in expected discounted utility at different levels of relative risk aversion.

3. Quantifying the Political Risk in State and Personal Pension Schemes

The empirical analysis involves three steps. First, the changes in law are described. While changes are not necessarily due entirely to one source of political risk, and may generally involve more than one source, we attempt to categorise changes as to the dominant source of the risk. Second, the extent to which the changes affect SPS benefits are measured in terms of their effects on internal rates of return (IRRs). Third, expected-utility-adjusted internal rates of return (EUA-IRRs) are calculated. The same analysis is then conducted for PPSs. The IRR calculation is an expected value measure that ignores risk. It does not take into account the insurance value that individuals receive from the elimination of longevity risk due to annuitisation. To assess the

welfare effect of a change in policy, it is necessary to embed the policy change into a utility-based model: the EUA-IRR is the unadjusted IRR as calculated above, scaled by the ratio of the value function after the policy change to the value function before the policy change, where the value function in (1) is evaluated at $t = 1$[3].

Reforms to the SPS since 1980[4], have resulted in the following cases of political risk:

- Demographically-induced political risk:

    — Switching the indexation of the flat-rate, first-pillar Basic State Pension (BSP) in payment from national average earnings to retail prices, saving around 2% p.a. (Social Security Act 1980);

    — Switching the indexation of the second-pillar State Earnings-Related Pension Scheme (SERPS) pension in payment from national average earnings to retail prices, saving around 2% p.a. (Social Security Act 1980);

    — Reducing the benefit accrual rate on the SERPS pension from 25% of average revalued band earnings over the best 20 years to 20% of average revalued band earnings over the full career (Social Security Act 1986);

    — Reducing the annual revaluation factor for band earnings for SERPS by the product of the Lower Earnings Limit (LEL) and the difference between the rate of change in national average earnings and retail prices (Pensions Act 1995);

    — Reducing the surviving spouse's pension from 100% of the member's pension to 50% over an eight-year transitional period beginning in October 2002 (Social Security Act 1986);

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[3] This particular measure is easy to compare with the IRR measure of political risk, since the EUA-IRR equals the IRR for the original scheme prior to any policy change being made.

[4] Background on the reforms in the United Kingdom is provided in Appendix.

— Raising the state pension age from 60 to 65 for women over a 10-year period beginning in 2010, thereby reducing the cost of state pensions by £3bn p.a. (Pensions Act 1995).

- Economically-induced political risk:

— Raising the effective contribution rate into SERPS (as measured by the total contracted-out National Insurance contribution (NIC) rebate) by introducing: an extra 2% NIC rebate for all PPSs contracting out of SERPS between April 1988 and April 1993 (Social Security Act 1986), a 1% age-related NIC rebate to members of contracted-out PPSs aged 30 or more to discourage them from recontracting back into SERPS between April 1993 and April 1997, with age-related NIC rebates that increase heavily with age from April 1997 (Social Security Act 1993) and with the age-related rebates further separated into three bands from April 2002 (Child Support, Pensions and Social Security Act 2000).

- Pure political risk:

— Replacing the earnings-related SERPS pension in April 2002 with the State Second Pension (S2P), which from April 2007 becomes a flat-rate pension for all members despite having earnings-related contributions, a feature designed to encourage high-income individuals to contract out of the scheme (Welfare Reform and Pensions Act 1999 and Child Support, Pensions and Social Security Act 2000).

— A Minimum Income Guarantee from April 1999 and a Pension Credit from October 2003 favouring poorer people (Welfare Reform and Pensions Act 1999 and Child Support, Pensions and Social Security Act 2000).

The principal examples of political risk to PPSs are:

- Demographically-induced political risk:

  — None[5]

- Economically-induced political risk:

  — Delaying the requirement to purchase an annuity from age 65 to age 75 (Pensions Act 1995);

  — Removing the 20% tax credit on UK dividends at a cost of £5bn p.a. (Finance Act 1997);

  — Allowing part of the pension fund to be taken as a tax-free lump sum (Superannuation Act 1909, Finance Acts 1921 and 1947).

- Pure political risk:

  — No current examples, but suggestions that the lump sum might be taxed in future.

We quantify the 'cost' of political risk principally using the case of three male workers who initiated their pension arrangements in 1978 (the year SERPS started) at the age of 25 and will live at least until the age of 65 when they will retire. The men are assumed to have starting salaries equal, respectively, to the Low Earnings Threshold (LET, £10,800 in 2002/03), the Second Earnings Threshold (SET, £24,600, approximately equal to average earnings in 2002/03) and the Upper Earnings Limit (UEL, £30,420 in 2002/03): these salaries are uprated annually in line with national average earnings. Each man is assumed to be married to a woman of the same

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[5] Nevertheless, there is demographic risk with PPSs. The improvement in longevity between English Life Tables 14 (based on mortality experience in England and Wales between 1980 and 1982) and English Life Tables 15 (based on mortality experience in England and Wales between 1990 and 1992) shaves around 10 basis points off all the IRRs reported in Table 3 below.

age.   We also briefly examine the cases of three single women who also start their pension arrangements in 1978 on the same starting salaries as the men.

We begin with SPS pensions. Table 1 shows that the IRR, r_{SP} (see eqn. (5)), on the original Basic State Pension (BSP) Scheme was nearly 13.9% in real terms for married men (row 1) and 13.6% for single women (row 11). These very high rates of return, which are the same across all income ranges, are explained by the facts that the flat-rate contributions into the BSP Scheme were very low, just 2% of the LEL[6] (which equaled £3,900 in 2002/03, making the cost of membership of the BSP just £78 in 2002/03), and that the resulting flat-rate pensions (£3,926 for a single person and £6,276.40 for a married couple in 2002/03) were payable for life (from age 60 for women and 65 for men) and uprated annually in line with national average earnings. The original SERPS pension, which was also uprated annually in line with earnings, generated a lower, but nevertheless still high real rate of return which varied between 5.1% and 5.6% for married men (row 3) and between 4.4% and 5.1% for single women (row 13).

As indicated above, most of the political risk since 1980 has fallen on the SPS, rather than on PPSs, and most of this has been demographically induced. The change in the uprating of the BSP and SERPS from earnings to prices reduced the IRR by nearly 3 and 0.75 percentages points respectively (rows 2 and 4). The combined effect of reducing the SERPS accrual rate, revaluation factor and spouse's pension was to lower the IRR on SERPS to just 2%, which is less than 40 percent of the original IRR (rows 5-7, cf. row 3). Raising the state pension age for women from 60 to 65 reduces their IRR on the BSP and SERPS by about 1.9 and 0.9 percentage points respectively (rows 12 and 14).

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[6] Blake and Orszag (1999, p.402)

There has been one case of economically induced political risk involving the SPS, and this has been the strong financial incentives to contract out of SERPS into private sector schemes. The financial incentives have come in the form of age-related rebates on NICs for contracting out of SERPS. Further the rebates have increased substantially over time. When SERPS first started in 1978, the combined employee and employer contracted out rebate was 7% for all workers with earnings between the LEL and UEL. In 2002, men aged above 51 with earnings between the LEL and LET had a combined contracted out rebate of 21%. These increases in the contracted-out rebate have raised the effective contribution rate for SERPS membership and, in the case of low-paid workers, have resulted in a negative IRR for SERPS membership, while, for higher paid workers, the IRR for SERPS membership has been reduced to only 1.3% (row 8).

An example of pure political risk came with the replacement of the earnings-related SERPS with the (ultimately) flat-rate State Second Pension (S2P) by the New Labour Government in 2002. Although the pension is flat rate (at best only 40% of the LET), the contributions are still earnings related. For high-paid workers the real IRR on the S2P is just 0.5%. Low-paid workers on the other hand, natural supporters of New Labour, have their IRR from S2P membership raised to 4.3%.

At the same time, New Labour can be accused of political naiveté. In 1999, it introduced a Minimum Income Guarantee (MIG) for pensioners: by April 2003 the MIG was £100 a week for individuals and £154 for couples. In October 2003, it introduced an additional Pension Credit which enhances the pension of single pensioners up to £135 per week and couples up to £201 per week if they have additional income from other sources such as private pensions and savings. The plan is to uprate all these limits in line with national average earnings. This promise has to

be regarded as unsustainable since all pensions in payment are uprated in line with prices (capped at 5% p.a. for private sector pensions[7]), and therefore over time larger and larger proportions of the retired population would become eligible for the MIG and Pension Credit. Row 10 of Table 2 shows why: the effect of the promise is to raise the real return on the state pension scheme to 6.2% for low-paid workers and to 2.4% for high-paid workers.

One of the attractions of PPSs is the argument that they are not susceptible to demographically-induced political risk. Without any change in legislation, however, increases in life expectancy reduce the amount of annual benefits they can provide.

In recent years, PPSs have become susceptible to economically-induced political risk. The first example of this was the right granted in 1995 to delay the requirement to purchase an annuity from age 65 to age 75, while keeping the fund invested for up to 10 years longer in riskier, but on average higher yielding assets. This measure was intended to improve the attractiveness of PPSs, but, as Table 2 shows, such concessions can back-fire. Assuming a real return on contributions into the PPS of 4% (in comparison with a 2% yield assumed on annuities), the IRR on the PPS comes to 5% across all income groups when the annuity is purchased at 65 (row 1), but this is reduced to around 4.8% if the purchase of the annuity is delayed to age 75 (row 2). This is explained by the effect of increasing longevity in raising the price of an annuity purchased 10 years later and is sufficient to counter the 2 percentage point higher return on the fund in comparison with that on annuities.

The abolition of the 20% tax credit on UK dividends shaves 10 basis points off the IRR on PPSs (row 3). Another concession designed to enhance the attractiveness of PPSs is the entitlement to take 25% of the accumulated fund as a tax-free lump sum in return for a lower

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[7] In June 2003, it was announced that this cap would be reduced to 2.5%.

annuity. This has the effect of shaving another 13 basis points off the IRR if the lump sum is consumed immediately (row 4).

At present there are no current examples of pure political risk with PPSs, but there have been press reports that the New Labour government was considering taxing the lump sum, an act that would impact most strongly on those individuals who are not the most natural supporters of the government. If implemented, this would have the effect of lowering the IRR of low-paid workers by 18 basis points and of high-paid workers by 27 basis points (row 5).

The analysis so far has quantified political risk in terms of reduced IRRs, a procedure that is strictly valid only if individuals are risk neutral. If, as is likely to be the case, individuals are risk averse, political risk should be quantified in terms of reduced EUA-IRRs (using eqns (1) and (7)). This is done in Tables 3 and 4 for the SPS and PPSs, respectively. The degree of relative risk aversion is assumed to be 2 and the rate of time preference is assumed to be 3%, and, to ease comparison with Tables 1 and 2, the EUA-IRRs for the original schemes prior to reform have been scaled to equal the corresponding IRRs.

It is clear that when risk aversion is taken into account, the reduction in EUA-IRRs as a result of the various types of political risk is much less than with risk-neutral IRRs. For example, the combined effect of the changes in the second-pillar state system is to reduce the EUA-IRR from 5.1% to 4.4% for a high-paid individual (column 3: rows 3 and 9 of Table 3), compared to a reduction from 5.1% to 0.5% for the unadjusted IRR (column 3: rows 3 and 9 of Table 1). If the same individual had a PPS, the EUA-IRR would fall from 4.9% to 4.7% (column 3: rows 1 and 4 of Table 4), compared to a fall for unadjusted IRRs of 4.9% to 4.5% (column3: rows 1 and 4 of Table 3). The reason that the reductions in the EUA-IRRs are lower than the reductions in the standard IRRs is that the latter are simple expected return measures and ignore risk, namely the

insurance value that individuals derive from being a member of a pension plan that eliminates longevity risk, even if the benefits are being progressively eroded (a similar finding has been observed by Brown (2003)).

It is even possible for the IRR and the EUA-IRR to move in opposite directions. This is the case for the 25-year old single female whose state pensions are delayed from 60 to 65. Although this has the effect of reducing the IRR for both the BSP and SERPS, it raises the EUA-IRR (cf. rows 11-14 of Tables 2 and 4). This is explained as follows. The delay in retirement lengthens the period over which contributions are made and correspondingly reduces the period over which the pension is drawn and this lowers the IRR. However, the longer working life raises life-time earnings and hence consumption and this, in turn, raises expected utility, since any disutility from working is not incorporated into the utility function in (7). So the costs of political risk depend on the extent to which individuals take into account their own attitude to risk.

4. Conclusions

When William Beveridge laid the foundations for the welfare state after World War II, he hoped to depoliticise state pensions. He attempted to do this in two ways: first the pensions were set at a level that provided just a minimal safety net and second the pensions were to be fully funded through a system of National Insurance.

We have seen how Beveridge's hopes have been dashed. Over the last quarter century, there have been numerous policy changes that have affected the level of state pension benefits and contributions. The real internal rate of return on the Basic State Pension has fallen by 3 percentage points over the period, but still remains very high at 11% because the contribution

rate into the scheme is very low. Although the BSP is currently just 17% of average male earnings (and will fall to 10% by 2030), it is still a very good deal. By contrast, the second-pillar state pension scheme (SERPS and its replacement S2P) has turned out to be a very poor investment for a male on average earnings, with the internal rate of return reduced from 5% to 1.5% between 1978 and 2002 as a result of a combination of reduced benefits and higher contributions. It has been an even poorer investment for higher earners who face an internal rate of return of just 0.5%. The main reason for this cut has been demographic risk, as manifested in the recognition by governments over the last quarter century that the combination of increasing longevity and declining fertility would be fatal for the long-term viability of a pay-as-you-go state pension system without serious cutbacks in its generosity. At the same time, governments have used the tax and social security system to provide incentives for individuals to contract out of the second-pillar state scheme into private pension schemes. This has further reduced the attractiveness of state pensions and been the key example of the economically induced political risk that such schemes face.

However, the lower-paid have ended up being better off than when the second-pillar scheme first started. S2P treats all workers, whatever their actual earnings, as though they earned at least the Low Earnings Threshold. This, together with the Minimum Income Guarantee and Pension Credit, has resulted in a low-paid male having his internal rate of return from second-pillar state pension scheme membership raised from 5.6% to 6.2% between 1978 and 2002. The generosity of the indexation of the MIG (to average earnings rather than to prices) also raises the prospective internal rates of return for average and high-paid male workers from 1.5% to 3.3% and from 0.5% to 2.4%, respectively. S2P is an example of pure political risk in the sense of the political party in power favouring its own supporters. Nevertheless, it must be questioned

whether the policy of indexing the MIG to earnings is politically credible, since it will eventually lead to the majority of pensioners (some estimates go as high as two-thirds) becoming eligible for this means-tested benefit!

Most workers are risk averse and so will value membership of a pension plan that eliminates longevity risk even if there is a systematic decline in the plan's benefits. The cuts in state pension benefits do lead to reductions in expected utilities, but the reductions are, as expected, lower in percentage terms than in the case of internal rates of return.

Despite the significant government incentives offered to set up personal pension schemes, these have also been subject to political risk involving consequential reductions of approximately 0.6 of a percentage point in their internal rates of return. Nevertheless, political risk has been considerably lower with personal pension schemes than with state pension schemes. The difference is explained largely by the differential impacts that demographic changes have had on the two schemes: funded schemes are much less susceptible to adverse demographic shocks than pay-as-you-go schemes.

Our analysis has a number of important lessons:

- British workers now face a range of very stark choices when it comes to their future pensions. Over a period of just five years, they have seen the end of a system of final salary pensions that took a century or more to establish. Such workers will find that, in line with Beveridgean principles, the state will provide only minimal support in old age (the present generosity of the MIG cannot be expected to last). Further, they will find that they have little alternative but to establish personal pension schemes (even if this is done via their company's new defined contribution schemes) and assume all the attendant financial, mortality and, indeed, political risks.

- The UK might well have addressed its aging problem and so not have a large unfunded liability in its social security system, but means-tested poverty assistance, which is unfunded, is likely to grow. This will help to turn honest citizens into dishonest ones as they attempt to conceal their assets from the state.

- Continental European workers have become used to the high unfunded state pensions that are a hallmark of the Bismarckian model of social welfare that underlies the European Union. However, the continental population is aging even more rapidly and the fertility rate is even lower than in the UK (United Nations (2000), McMorrow and Röger (2003)). Yet every proposal by continental governments to reduce state pensions, however minor, is met with political unrest (usually in the form of street protest) that leads to the proposal being withdrawn. At the same time, there is great hostility on the continent to the pre-funding of pensions. Our analysis suggests that continental European workers face enormous political risk in respect of their pension entitlements, and they are likely to find in the near future that a government pension promise is worth as little on the Continent as it is in the UK.

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Table 1 Political risk with the state pension scheme: Real internal rates of return (%)				
	Type of member	Low-paid	Average	High-paid
	Earnings 2002/03 (£)	10800	24600	30420
	Male: 25 year old, married			
1	*Original Basic State Pension Scheme: linked to earnings*	*13.857*	*13.857*	*13.857*
2	Revised Basic State Pension Scheme: linked to prices	10.900	10.900	10.900
3	*Original SERPS: linked to earnings*	*5.646*	*5.143*	*5.082*
4	Revised SERPS: linked to prices	4.931	4.401	4.337
5	Revised SERPS: accrual rate reduced to 20% of band earnings	4.259	3.728	3.663
6	Revised SERPS: lowering revaluation factor	3.421	3.421	3.421
7	Revised SERPS: spouse's pension reduced to 50%	2.014	2.014	2.014
8	Revised SERPS: raising the effective contribution rate	-0.639	1.303	1.303
9	SERPS replaced by S2P: flat rate	4.296	1.466	0.508
10	SERPS replaced by S2P: flat rate plus MIG and Pension Credit	6.232	3.290	2.368
	Female: 25 year old, single			
11	*Original Basic State Pension Scheme: retirement at 60*	*13.645*	*13.645*	*13.645*

12	Revised Basic State Pension Scheme: retirement at 65	11.725	11.725	11.725
13	*Original SERPS: retirement at 60*	*5.050*	*4.499*	*4.432*
14	Revised SERPS: retirement at 65	4.180	3.590	3.518

Note: The table reports real internal rates of return from membership of the first-pillar Basic State Pension Scheme and the second-pillar SERPS/S2P in their original forms and subsequent revised forms for a married male and a single female both joining the schemes at age 25 in 1978 at three different starting salaries equal to the Low Earnings Threshold (denoted low-paid), the Second Earnings Threshold (approximately equal to average earnings) and the Upper Earnings Limit for membership of SERPS/S2P (denoted high-paid), respectively for 2002/03: these salaries are assumed to grow annually in line with national average earnings. Mortality is derived from English Life Tables 14 (based on mortality experience in England and Wales between 1980 and 1982): the male is assumed to be married to a female of the same age, the female is assumed to be unmarried and both are assumed to survive until at least their respective retirement ages. Real growth rate in earnings assumed to be 2% p.a., the UK average over the post-war period.

Table 2. Political risk with personal pension schemes: Real internal rates of return (%)				
Type of member		Low-paid	Average	High-paid
Earnings 2002/03 (£)		10800	24600	30420
Male: 25 year old, married				
1	*Original PPS: annuity purchased at age 65, no lump sum*	*5.051*	*4.945*	*4.945*
2	Revised PPS: annuity purchased at age 75, no lump sum	4.859	4.771	4.771
3	Revised PPS: abolition of 20% tax credit on UK dividends	4.759	4.669	4.669
4	Revised PPS: lump sum at retirement age, tax-free	4.626	4.542	4.542
5	Revised PPS: lump sum at retirement age, taxed	4.446	4.383	4.250

Note: The table reports real internal rates of return from membership of a PPS in its original form and subsequent revised form for a married male (with a 50% spouse's pension) starting a PPS at age 25 in 1978 at three different starting salaries equal to the Low Earnings Threshold (denoted low-paid), the Second Earnings Threshold (approximately equal to average earnings) and the Upper Earnings Limit for membership of SERPS/S2P (denoted high-paid), respectively for 2002/03: these salaries are assumed to grow annually in line with national average earnings. Mortality is derived from English Life Tables 14 (based on mortality experience in England and Wales between 1980 and 1982): the male is assumed to be married to a female of the same age and to survive until at least retirement age. Real growth rate in earnings assumed to be 2% p.a., the UK average over the post-war period. Annual contributions into the PPS are assumed to equal the annual contracted-out NIC rebates plus any incentive bonuses in operation since 1978. The real rate of return on contributions in the PPS is assumed to be 4% p.a. The real risk-free rate of interest is assumed to be 1.3% p.a. The real yield on bonds used to value the annuity is 2%. The tax rate is assumed to be 22% (the basic rate) for the low-paid and average worker and 40% (the higher rate) for the high-paid worker.

Table 3. Political risk with the state pension scheme: Expected-utility-adjusted internal rates of return (%)

	Type of member	Low-paid	Average	High-paid
	Earnings 2002/03 (£)	**10800**	**24600**	**30420**
	Male: 25 year old, married			
1	*Original Basic State Pension Scheme: linked to earnings*	*13.857*	*13.857*	*13.857*
2	Revised Basic State Pension Scheme: linked to prices	12.750	12.750	12.750
3	*Original SERPS: linked to earnings*	*5.646*	*5.143*	*5.082*
4	Revised SERPS: linked to prices	5.383	4.880	4.819
5	Revised SERPS: accrual rate reduced to 20% of band earnings	5.243	4.739	4.678
6	Revised SERPS: lowering revaluation factor	5.107	4.685	4.635
7	Revised SERPS: spouse's pension reduced to 50%	5.049	4.585	4.529
8	Revised SERPS: raising the effective contribution rate	4.850	4.526	4.469
9	SERPS replaced by S2P: flat rate	5.416	4.540	4.408
10	SERPS replaced by S2P: flat rate plus MIG and Pension Credit	5.936	4.747	4.574
	Female: 25 year old, single			
11	*Original Basic State Pension Scheme: retirement at 60*	*13.645*	*13.645*	*13.645*
12	Revised Basic State Pension Scheme: retirement at 65	13.971	13.971	13.971

13	*Original SERPS: retirement at 60*	*5.050*	*4.499*	*4.432*
14	Revised SERPS: retirement at 65	5.660	5.015	4.937

Note: The table reports expected-utility-adjusted internal rates of return from membership of the first-pillar Basic State Pension Scheme and the second-pillar SERPS/S2P in their original forms and subsequent revised forms for a married male and a single female both joining the schemes at age 25 in 1978 at three different starting salaries equal to the Low Earnings Threshold (denoted low-paid), the Second Earnings Threshold (approximately equal to average earnings) and the Upper Earnings Limit for membership of SERPS/S2P (denoted high-paid), respectively for 2002/03: these salaries are assumed to grow annually in line with national average earnings. In each row, the EUA-IRR is equal to the unadjusted IRR from the corresponding row of Table 1, scaled by the ratio of the value function after the policy change to the value function before the policy change; the value function assumes a relative risk aversion parameter of 2 and a rate of time preference of 3%. Mortality is derived from English Life Tables 14 (based on mortality experience in England and Wales between 1980 and 1982): the male is assumed to be married to a female of the same age, the female is assumed to be unmarried and both are assumed to survive until at least their respective retirement ages. Real growth rate in earnings assumed to be 2% p.a., the UK average over the post-war period.

Table 4. Political risk with personal pension schemes: Expected-utility-adjusted internal rates of return (%)

	Type of member	Low-paid	Average	High-paid
	Earnings 2002/03 (£)	**10800**	**24600**	**30420**
	Male: 25 year old, married			
1	*Original PPS: annuity purchased at age 65, no lump sum*	*5.051*	*4.945*	*4.945*
2	Revised PPS: annuity purchased at age 75, no lump sum	4.971	4.870	4.868
3	Revised PPS: abolition of 20% tax credit on UK dividends	4.936	4.835	4.831
4	Revised PPS: lump sum at retirement age, tax-free	4.814	4.721	4.715
5	Revised PPS: lump sum at retirement age, taxed	4.784	4.693	4.662

Note: The table reports expected-utility-adjusted internal rates of return from membership of a PPS in its original form and subsequent revised form for a married male (with a 50% spouse's pension) starting the PPS at age 25 in 1978 at three different starting salaries equal to the Low Earnings Threshold (denoted low-paid), the Second Earnings Threshold (approximately equal to average earnings) and the Upper Earnings Limit for membership of SERPS/S2P (denoted high-paid), respectively for 2002/03: these salaries are assumed to grow annually in line with national average earnings. In each row, the EUA-IRR is equal to the unadjusted IRR from the corresponding row of Table 6, scaled by the ratio of the value function after the policy change to the value function before the policy change; the value function assumes a relative risk aversion parameter of 2 and a rate of time preference of 3%. Mortality is derived from English Life Tables 14 (based on mortality experience in England and Wales between 1980 and 1982): the male is assumed to be married to a female of the same age and to survive until at least retirement age. Real growth rate in earnings assumed to be 2% p.a., the UK average over the post-war period. Annual contributions into the PPS are assumed to equal the annual contracted-out NIC rebates plus any incentive bonuses in operation since 1978. The real rate of return on contributions in the PPS is assumed to be 4% p.a. The real risk-free rate of interest is assumed to be 1.3% p.a. The real yield on bonds used to value the annuity is 2%. The tax rate is assumed to be 22% (the basic rate) for the low-paid and average worker and 40% (the higher rate) for the high-paid worker.

Appendix: The UK Pension System (not intended for publication)

The Current System of Pension Provision in the UK

A flat-rate first-pillar pension is provided by the state and is known as the Basic State Pension (BSP). Second-pillar pensions are provided by the state, employers and private sector financial institutions, the so-called three pillars of support in old age. The main second-pillar pension choices are as follows. The state system offers a pension that is low relative to average earnings, although the pension is fully indexed to prices after retirement. Occupational pensions used to be of the defined benefit type, offering a relatively high level of pension related to final salary (which is partially indexed to prices after retirement up to a maximum of 5% p.a. (with this maximum reduced to 2.5% p.a. from April 2005))[8], but, as a result of poor transfer values between schemes on changing jobs, only to workers who spend most of their working lives with the same company. However, most private sector companies have closed their final salary schemes to new members and replaced them with defined contribution schemes. Finally, there are personal pension schemes that offer fully portable (and partially indexed) defined contribution pensions which are based on uncertain investment returns and are subject to very high set-up and administration charges, often inappropriate sales tactics, and very low paid-up values if contributions into the plans lapse prematurely; in 2001, stakeholder pension schemes with charges capped at 1% of fund value p.a. were introduced in an attempt to mitigate the consequences of the high charges extracted in personal pension schemes.

Employees in the UK in receipt of earnings subject to National Insurance Contributions (NICs) will build up entitlement[9] both to the BSP[10] and, on 'band earnings' between the Lower Earnings Limit (LEL) and the Upper Earnings Limit (UEL)[11], to the pension provided by the State Second Pension Scheme (S2P); S2P was introduced in April 2002 and replaced the State-Earnings-Related Pension Scheme (SERPS) which started in 1978. These pensions are paid by the Department of Work and Pensions (DWP) (formerly the Department of Social Security (DSS))[12] from State Pension Age which is 65 for men and 60 for women[13]. The self-employed are also entitled to a BSP, but not to a S2P pension. Employees with earnings in excess of the LEL will automatically be members of S2P, unless they belong to an employer's occupational pension scheme or to a personal or stakeholder pension scheme that has been contracted-out of S2P. In

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[8] This is known as limited price indexation.

[9] NICs also build up entitlement to health service, sickness, disability and incapacity benefits and the job seeker's allowance.

[10] Worth £3,926 p.a. for a single person in 2002-2003, while national average earnings were £23,400 p.a., suggesting a replacement ratio of about 17%. The BSP is uprated annually in line with prices, subject to a minimum annual increase of 2.5%.

[11] The LEL (equal to the annual BSP rounded to the nearest £100) was £3,900 p.a. and the UEL was £30,420 p.a. in 2002-2003. These are uprated annually in line with prices, with a minimum annual increase in the LEL of 2.5%.

[12] The Department of Social Security (DSS) was renamed the Department of Work and Pensions in June 2001.

[13] The State Pension Age for women is being progressively raised to 65 over the period 2010-20.

such cases both the individual and the employer contracting-out receive a rebate on their NICs (1.6% of earnings for the employee and 3.5% for the employer, unless it operates a contracted-out money purchase scheme (COMPS) in which case the employer rebate is 1.0%[14]) and the individual foregoes the right to receive a S2P pension. However, there is no obligation on employers to operate their own pension scheme, nor, since 1988, is there any contractual requirement for an employee to join the employer's scheme if it has one.

There is a wide range of private sector pension schemes open to individuals. They can join their employer's occupational pension scheme (if he has one), which can be any one of the following:

- contracted-in salary-related scheme (CISRS)
- contracted-in money purchase scheme (CIMPS)
- contracted-out salary-related scheme (COSRS)
- contracted-out money-purchase scheme (COMPS)
- contracted-out mixed benefit scheme (COMBS)
- contracted-out hybrid scheme (COHS).

A CISRS is a defined benefit scheme that has not been contracted-out of S2P and so provides a salary-related pension in addition to the S2P pension. A CIMPS provides a defined contribution supplement to the S2P pension. A COSRS must satisfy a 'reference scheme test' in order to contract out of S2P, namely provide a pension for life from age 65 which is indexed to inflation up to a maximum of 5% p.a. (2.5% p.a. from April 2005) where the starting pension is calculated by taking a minimum of 1/80th of the average salary over the three years prior to retirement for each year of service in the scheme up to a maximum of 40 years service. A COMPS must satisfy a 'protected rights test' in order to contract out of S2P, namely must have contributions no lower than the contracted-out rebate. A COMBS can use a mixture of the reference scheme test and the minimum contributions test to contract out of S2P, e.g., a salary-related scheme contracted-out on a protected rights basis is a COMBS. A COHS can provide pensions using a combination of salary-related and money purchase elements, e.g., some members could get the former, while others could get the latter; or the pension for a scheme member could be based on the larger of the two elements. Individuals can also top up their schemes with Additional Voluntary Contributions (AVCs) or Free-Standing Additional Voluntary Contributions (FSAVCs) up to limits permitted by the Inland Revenue.

As an alternative, individuals have the following individual pension choices that are independent of the employer's scheme:

- personal pension scheme (PPS)
- group personal pension scheme (GPPS)
- stakeholder pension scheme (SPS)

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[14] The non-contracted out National Insurance Contribution rate in 2002-2003 for employees was 10% of earnings between the Low Earnings Threshold (LET) of £89 per week and the UEL, while for employers it was 11.8% on all earnings above £89 per week.

A PPS is divided into two components. The first is an Appropriate Personal Pension Scheme (APPS) which is contracted out of S2P and provides protected rights benefits that stand in place of S2P benefits: they are also known as minimum contribution or rebate-only schemes since the only contributions permitted are the combined rebate on NICs with the employee's share of the rebate grossed up for basic rate tax relief.[15] The second is an additional scheme, also contracted out, that receives any additional contributions up to Inland Revenue limits. A GPPS is a scheme that has been arranged by a small employer with only a few employees: it is essentially a collection of individual schemes, but with lower unit costs because of the savings on up-front marketing and administration costs. A SPS is a low-cost PPS with charges capped at 1% p.a. of the fund value and into which contributions of up £3,600 p.a. can be made irrespective of whether the SPS member has made any net relevant earnings during the year[16].

Pension Reforms since 1980

Thatcher-Major reforms to the pension system The Thatcher Conservative government that came into power in 1979 became the first government in the developed world to confront head on the potential crisis in state pension provision that has arisen as a result of a demographic imbalance between the proportion of the population in retirement and the proportion in work. These reforms were continued by the succeeding Major Conservative government.

These governments introduced the following measures:

1. Linked the growth rate in state pensions to prices rather than national average earnings, thereby saving about 2% p.a. (Social Security Act 1980).

2. Raised the state pension age from 60 to 65 for women over a 10-year period beginning in 2010, thereby reducing the cost of state pensions by £3bn p.a. (Pensions Act 1995).

3. Reduced the benefits accruing under SERPS (which had only been set up in 1978) in a number of ways: (a) the pension was to be reduced (over a 10-year transitional period beginning in April 1999) from 25% of average revalued band earnings over the best 20 years to 20% of average revalued band earnings over the full career (Social Security Act 1986); (b) the spouse's pension was cut from 100% of the member's pension to 50% over an eight-year transitional period beginning in October 2002 (Social Security Act 1986); (c) the annual revaluation factor for band earnings was reduced by the product of the lower earnings limit and the difference between the rate of change in national average earnings and retail prices (Pensions Act 1995); the combined effect of all these changes was to reduce the value of SERPS benefits by around two-thirds.

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[15] 22% in 2002-03.

[16] UK private pension schemes benefit from an EET system of tax breaks: the contributions into schemes are exempt from tax, the investment returns (with the exception, since 1997, of dividend income on UK equities) are exempt from tax, and the pension is taxed (with the exception of a tax-free lump sum equal to 1.5 times the final salary in the case of a defined benefit scheme and 25% of the accumulated pension fund in the case of a defined contribution scheme).

4. Provided a 'special bonus' in the form of an extra 2% NIC rebate for all PPSs contracting out of SERPS between April 1988 and April 1993 (Social Security Act 1986); provided an incentive between April 1993 and April 1997 in the form of a 1% age-related NIC rebate to members of contracted-out PPSs aged 30 or more to discourage them from recontracting back into SERPS; age-related NIC rebates continued in a revised form after April 1997 (Social Security Act 1993).

5. Relaxed the restriction on PPSs that an annuity had to be purchased on the retirement date, by introducing an income drawdown facility which enabled an income (of between 35 and 100% of a single life annuity) to be drawn from the pension fund (which otherwise remains invested in earning assets) and delaying the obligation to purchase an annuity until age 75 (Finance Act 1995).

6. Enabled members of occupational pension schemes to join personal pension schemes (Social Security Act 1986).

7. Simplified the arrangements for occupational schemes to contract out of SERPS by abolishing the requirement for occupational schemes to provide Guaranteed Minimum Pensions (GMPs): since April 1997, COSRSs had to demonstrate only that they satisfy the reference scheme test (Pensions Act 1995).

8. Ended its commitment to pay for part of the inflation indexation of occupational schemes (Pensions Act 1995). Until April 1997, COSRSs had to index the GMP up to an inflation level of 3% p.a. and any additional pension above the GMP up to an inflation level of 5% p.a. Since the GMP replaced the SERPS pension which was itself fully indexed to inflation, the government increased an individual's state pension to compensate for any inflation on the GMP above 3% p.a. But the 1995 Act abolished the GMP altogether and required COSRSs to index the whole of the pension that they pay up to a maximum of 5% p.a. (2.5% p.a. from April 2005).

9. Improved the security of the assets in private sector schemes through the creation of the Occupational Pensions Regulatory Authority (OPRA), a compensation fund operated by the Pension Compensation Board (PCB), a Minimum Funding Requirement (MFR) and a Statement of Investment Principles (SIP) (Pensions Act 1995); OPRA, the PCB and the MFR are examined in more detail below.

Defects in theThatcher-Major reforms The main defects of the Thatcher-Major reforms are as follows:

1. Removing the requirement that membership of an occupational pension scheme could be made a condition of employment. Membership was made voluntary and new employees had to take the active decision of joining their employer's scheme: barely more than 50% of them did so.

2. No requirement to ensure that transferring from an occupational to a personal pension scheme was in the best interests of the employee, leading directly to the Personal Pensions Mis-selling Scandal that erupted in December 1993. Between 1988 and 1993, 500,000 members of occupational pension schemes had transferred their assets to personal pension schemes following

high pressure sales tactics by agents of PPS providers. As many as 90% of those who transferred had been given inappropriate advice. Miners, teachers, nurses and police officers were amongst the main targets of the sales agents. Many of these people remained working for the same employer, but they switched from a good occupational pension scheme offering an index-linked pension into a PPS towards which the employer did not contribute and which took up to 25% of the transfer value in commissions and administration charges. An example reported in the press concerned a miner who transferred to a PPS in 1989 and retired in 1994 aged 60. He received a lump sum of £2,576 and a pension of £734 from his new scheme. Had he remained in his occupational scheme, he would have received a lump sum of £5,125 and a pension of £1,791. As a result of a public outcry, PPS providers have had to compensate those who had been given inappropriate advice to the tune of £13.5bn.

3. No restriction on the charges that could be imposed in PPSs, hoping that market forces alone would ensure that they were competitively provided.

4. Giving PPS members the right to recontract back into SERPS. This option has turned out to be extremely expensive for the government because of the back-loading of benefits in DB pension schemes such as SERPS: benefits accrue more heavily in the later years than the earlier years[17]. Despite the financial incentives given to contract out of SERPS into PPSs, it turned out to be advantageous for men over 42 and women over 34 to contract back into SERPS once the period of the special bonus had ended in 1993. To discourage this from happening the government has been forced to offer additional age-related rebates to PPS members since 1993. Far from saving the government money, the net cost of PPSs during the first 10 years was estimated by the National Audit Office to be about £10bn.

The Blair reforms to the pension system The Blair New Labour government came into power in 1997 with a radical agenda for reforming the welfare state. In the event, Frank Field, appointed the first Minister for Welfare Reform at the Department of Social Security (DSS) and charged with the objective of 'thinking the unthinkable', proved to be too radical for the traditional Old Labour wing of the Labour Party and was soon replaced. The eventual DSS Green Paper proposals 'A new contract for welfare: Partnership in pensions' (December 1998) turned out to be much less radical than initially anticipated, but nevertheless continued with the Thatcher government's agenda of attempting to reduce the cost to the state of public pension provision and of transferring the burden of provision to the private sector through the introduction of Stakeholder Pension Schemes. Nevertheless, there was much greater emphasis on redistributing resources to poorer members of society than was the case with the Conservatives. Shortly after the publication of the Green Paper, the Treasury issued a consultation document on the type of investment vehicles in which stakeholder pension contributions might be invested. We will examine these proposals in turn.

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[17] Although the backloading effect is lower in average salary schemes (such as SERPS) than in final salary schemes (such as a typical occupational scheme).

<u>The Department of Social Security proposals</u> The key objectives of the DSS Green Paper were to:

1. Reduce the complexity of the UK pension system, by abolishing SERPS.

2. Introduce a minimum income guarantee in retirement linked to increases in national average earnings on the grounds that people who work all their lives should not have to rely on means-tested benefits in retirement; the first-pillar BSP will remain indexed to prices, however, and over time will become a relatively unimportant component of most people's pensions.

3. Provide more state help for those who cannot save for retirement, e.g., the low-paid (those on less than half median earnings), carers and the disabled, via the unfunded state system.

4. Encourage those who are able to save what they can for retirement, via affordable and secure second-pillar pensions:

- provided by the state for those on modest incomes (via a new unfunded State Second Pension), and
- provided by the private sector for middle- and high-income earners, with the option of new low-cost defined contribution stakeholder pensions which are likely to replace high-cost personal pensions. But there will be no extra compulsion to save for retirement at the second pillar and no additional incentives over those already existing at the second pillar.

The Green Paper proposals formed the basis of the Welfare Reform and Pensions Act which received the Royal Assent in November 1999. The Act deals with following issues.

<u>State pensions</u>
1. A Minimum Income Guarantee (MIG) of £75 per week was introduced for pensioners in April 1999: it is means-tested on a weekly basis (and tapers off if the claimant's capital exceeds a specified limit) and is indexed to earnings. The MIG significantly increased the benefit income of the poorest pensioners, creating a new, higher income threshold below which pensioners with no or little savings should not fall.

2. In October 2003, the government introduced the Pension Credit (PC) the aim of which is not just to end the penalty on savings, but, for the first time, to reward savings. The PC, which is untaxed, is designed to make up the difference between the income a pensioner receives from *all* existing sources (including private pensions and savings) and the MIG. When it was first introduced, the pension credit meant extra cash for single pensioners with incomes up to £135 a week and for couples with incomes up to £201 a week. The guaranteed minimum income was £100 a week for individuals and £154 for couples. There was a maximum income entitlement under the pension credit of £135 a week for a single pensioner and £201 a week for a couple. The pension credit rewards saving by providing additional tax-free cash above the guaranteed minimum income at the rate of 60p for every pound of savings income, earnings or second pension up to the total income entitlement. The pension credit is the difference between the total

income entitlement and the actual income received by the pensioner(s) from all sources. The total income entitlement under the pension credit is therefore equal to the guaranteed minimum income (£100 in 2003-04) plus 60 per cent of the income received from any second pension, any savings or any part-time work up to the maximum income entitlement (£135 in 2003-04).

3. SERPS was replaced by a new State Second Pension (S2P) in April 2002: the S2P was initially earnings-related but from April 2007 becomes a flat-rate benefit, even though contributions are earnings-related (Child Support, Pensions and Social Security Act 2000).

Between 2002 and 2007, the S2P:

- ensures that everyone with a complete work record receives combined pensions above the MIG
- treats low-paid workers earning between the LEL[18] and the Low Earnings Threshold (LET)[19] for S2P purposes (Band 1 earnings) as if they had earnings equal to the LET. The accrual rate on the S2P is 40 per cent of the difference between the LET and the LEL (this difference is known as the 'surplus'), twice that of SERPS
- gives workers earning between the LET and the Second Earnings Threshold (SET)[20] an accrual rate of 10 per cent of Band 2 earnings, half that of SERPS
- leaves those earning over the SET and below the UEL[21] (Band 3 earnings) unaffected (with an accrual rate of 20%)
- uprates the LET, the SET and the surpluses in the three bands in line with national average earnings
- calculates the pension by taking the revalued surpluses in each band, applying the relevant accrual rates, adding together the resulting three values and dividing this sum by the number of tax years of membership of the scheme up to state pension age
- provides credits for carers (including parents with children under 5) and the disabled.

From 2007, S2P becomes a flat-rate pension scheme, although it will still be based on earnings-related contributions. This is intended to provide a strong incentive for workers on moderate and higher earnings to make their own private pension provision, while state provision in retirement is concentrated on workers on lower earnings. From 2007, everyone contracted-in to the state scheme will be treated as if they had earnings equal to the LET, regardless of the level of their actual earnings. Qualifying carers and long-term disabled people with broken work records will continue to be treated as if they had such an earnings factor. The S2P will be calculated for everyone by reference to the surplus in an earnings factor equal to the LET with an accrual rate of 40%. NIC rebates to those in contracted-out pension schemes remains earnings-related.

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[18] £3,900 p.a. in 2002-03
[19] £10,800 p.a. in 2002-03
[20] £24,600 p.a. in 2002-03, calculated as 3 x LET – 2 x LEL rounded to the nearest £100
[21] £30,420 in 2003-03

Stakeholder pensions

1. New Stakeholder Pension Schemes were introduced in April 2001, but are principally intended for middle-income earners (between the LET and the SET) with no existing private pension provision. They can be used to contract out of S2P.

 2. They are collective arrangements, provided by:

- an employer
- a representative or membership or affinity organisation, or
- a financial services company.

3. They are defined contribution schemes, with the same restrictions as for personal pensions, namely that on the retirement date up to 25% of the accumulated fund may be taken as a tax-free lump sum, the remaining fund may be used to buy an annuity or to provide a pension income by way of a drawdown facility until age 75 when an annuity must be purchased with the remaining assets.

4. They have to meet minimum standards, known as CAT marks (for charges-access-terms) concerning:

- the charging structure and level of charges (a maximum of 1% of fund value)
- levels of contractual minimum contributions (£20)
- contribution flexibility and transferability (no penalties if contributions cease temporarily (up to 5 years) or if the fund is transferred to another provider).

5. The main provisions of the Pensions Act 1995 apply to stakeholder pension schemes, covering the annual report and accounts, the appointment of professional advisers and the Statement of Investment Principles.

6. They are regulated principally by OPRA, although the selling of schemes and the supervision of their investment managers is regulated by the Financial Services Authority (FSA), with the Pensions Ombudsman for redress.

7. Employers without an occupational scheme and with at least five staff must offer access to one 'nominated' stakeholder pension scheme and to provide a payroll deduction facility.

8. There is a new integrated tax regime for all defined contribution pension schemes from April 2001. Stakeholder pension schemes, personal pension schemes and occupational DC schemes will attract tax relief on contributions up to a maximum of 17.5% of earnings (below age 36), rising to 40% (above age 61). But contributions up to £3,600 pa can be made into any DC plan regardless of the size of net relevant earnings. Contributions in excess of £3,600 pa may continue for up to 5 years after relevant earnings have ceased. Thereafter, contributions may not exceed £3,600 pa. All contributions into DC plans will be made net of basic rate tax, with providers recovering the tax from the Inland Revenue and with higher rate tax, if any, being recovered in the self-assessment tax return (Finance Act 2000).

Occupational pensions
1. Occupational schemes can contract out of the S2P.

2. Employers can again make membership of an occupational scheme a condition of employment, and employees are only allowed to opt out if they have signed a statement of rights being given up, certified that they have adequate alternative provision, and have taken advice that confirms that the alternative is at least as good as the S2P.

3. The compensation scheme established by the 1995 Pensions Act was extended to cover 100% of the liabilities of pensioners and those within 10 years of normal pension age (NPA). In June 2003, the government announced that it would establish a Pensions Protection Fund (PPF) from April 2005. The PPF will be an insurance scheme, financed by an annual levy on all occupational schemes, which will guarantee 100% of benefits to those who have retired and 90% of accrued benefits to those who have not. The cost of the PPF is estimated at around £375m or between 1 – 2% of contributions. The priority order when schemes are wound up will change to ensure fairer treatment for those who have not yet retired, but have contributed the longest. If a solvent scheme is wound up voluntarily prior to April 2005, it will have to meet its pension promise in full by purchasing immediate annuities for its retired members and deferred annuities for its active members.

4. The 1997 Finance Act changed the tax rules applying to UK dividend payments. Advance corporation tax paid by companies at the time dividends are paid at the rate of 20% could no longer be reclaimed by pension funds and other tax-exempt organisations. This has been estimated to reduce the income of pension funds by £5bn p.a.

5. In June 2003, the government announced that the limited price indexation of pensions in payment and deferred pensions would be capped at 2.5% p.a. (instead of the previous 5% p.a.).

Personal pensions
1. PPS can contract out of the S2P.

2. They receive protection in cases of the bankruptcy of the member.

HM Treasury proposals
The Treasury proposals were contained in 'Helping to Deliver Stakeholder Pensions: Flexibility in Pension Investment' (February 1999). They called for the introduction of more flexible investment vehicles for managing pension contributions, not only those in the new stakeholder pension schemes, but also those in occupational and personal pension schemes. These investment vehicles were given the name Individual Pension Accounts (IPAs). The main IPAs are authorised unit trusts (AUTs or open-ended mutual funds), investment trust companies (ITCs or closed-ended mutual funds), and open-ended investment companies (OEICs).

In comparison with the individual arrangements of existing personal pension schemes and the poor transferability of occupational pension schemes, IPAs offer:

- lower charges: since collective investment vehicles have much lower overheads than individual investments;
- greater flexibility: since IPAs are easy to value and transfer between different stakeholder, personal and occupational pension schemes, allowing employees to move jobs without having to change pension schemes, thereby encouraging greater labour market flexibility.

Assessment of the Blair reforms The Welfare Reform and Pensions Act, while containing some significant improvements on the existing system, does not fully meet the Green Paper's own objectives.

Reforms to state pensions
While the abolition of SERPS helped to simplify the UK's extremely complex pension system, the proposal to have a MIG (of £75 per week) that differed from the BSP (£67.50 per week at the time) reintroduced substantial complexity at the starting point for state pension provision, especially when the difference between the two amounts (£7.50 per week) was initially so small. It would have been far simpler to set the MIG equal to the BSP and to link the latter to earnings. Now the government explicitly rejected this on the grounds of both cost[22] and the fact that it would benefit the high paid as well as the low paid, whereas the government's emphasis was on helping the low paid. But the problem with keeping the BSP linked to prices rather than to earnings is that it will continue to fall relentlessly as a proportion of national average earnings (NAE): it is currently just 17% of NAE and will fall to 10% by 2030. While the government admits that this will save substantial sums of money, it implies the government is effectively abandoning the first pillar of support in old age and obliging everyone to rely on the second and third pillars. The Green Paper talked about building on the BSP, but this implies building on a sinking ship.

If the government is genuinely concerned about security at the minimum level for all, it should consider funding the first pillar appropriately by establishing an explicit fund (like the Social Security Trust Fund in the US) into which it places the NICs of those who are in work, while the government itself funds the contributions of the low-paid, carers and the disabled[23]. The contribution rate could be actuarially set to deliver the MIG for all when they retire. It could be a hypothecated part of NICs. In other words, the contributions would accrue 'interest' equal to the growth rate in NAE. The state could explicitly issue NAE-indexed bonds which the SSTF would

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[22] An additional £3bn per year (*Daily Telegraph*, 31 July 1999).

[23] In fact, the Conservative government in the UK announced in March 1997 plans to privatise the entire state pension system from the turn of the century and to end its unfunded nature. All individuals in work would receive rebates on their NICs which would be invested in a personalised pension account. The initial costs in terms of additional taxation were estimated to be £160m in the first year, rising to a peak of £7bn a year in 2040. However, the long term savings to the taxpayer from the end of state pension provision were estimated to be £40bn per year (all in 1997 prices). The proposals were put on hold as a result of the Conservative government's defeat in the May 1997 General Election (see *Basic Pension Plus*, Conservative Central Office, 5 March 1997).

buy. This is the only honest way both of preserving the value of and honouring the promises under the first pillar. The second and third pillars could then be formally integrated with the first pillar, i.e., the second pillar is used to deliver the tranche of pension between the MIG and the Inland Revenue limits, while the third pillar is used for voluntary arrangements above the IR limits. If the first pillar remains unfunded, there is nothing to prevent future generations reneging on an agreement which they are expected to keep but did not voluntarily enter into.

The fact that membership of pension schemes at the second pillar remains voluntary, is highly worrying for reasons of myopia and moral hazard. Compulsory contributions are seen as one way of dealing with individual myopia and the problem of moral hazard. Myopia arises because individuals do not recognise the need to make adequate provision for retirement when they are young, but regret this when they are old, by which time it is too late to do anything about it. Moral hazard arises when individuals deliberately avoid saving for retirement when they are young because they calculate that the state will feel obliged not to let them live in dire poverty in retirement. Inevitably, this will lead to substantial means testing in retirement.

In short, while the Welfare Reform and Pensions Act has some good points, it fails three tests set by Frank Field for a good state pension system: it is not mandatory, it is not funded and it remains means-tested.[24] Field argued that means-testing turns honest, thrifty citizens into dishonest citizens, since they have a strong incentive to conceal the true extent of their savings from the authorities in order to avoid having their state benefits cut. The spendthrift tend to end up with higher state benefits than the thrifty, to the annoyance of the latter. However, the Pension Credit was specifically designed to overcome this problem, by rewarding rather than penalising retirement savings.

Reforms to private pensions
The government's proposal to have a maximum charge of 1% of fund value on SPSs will have two dramatic effects on private sector pension provision, especially PPSs.

The first is that it will help to force economies of scale in DC pension provision. This is because stakeholder pensions will be a retail product with wholesale charges. To deliver this product effectively, providers will need to exploit massive economies of scale. Charges for personal pension schemes which prior to the introduction of stakeholder pension schemes averaged 1.4% p.a. and rose to as much as 2.2% p.a. of fund value for 25-year policies[25] are much higher than the 1% p.a. CAT-marked limit on stakeholder pension schemes. There may be a range of providers of stakeholder pension schemes to begin with, but the only way for a provider to survive in the long run will be if it operates at low unit cost on a large scale. This will inevitably lead to mergers amongst providers and a final equilibrium with a small number of very large providers.

Existing personal pension providers and distribution channels face these challenges:

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[24] Field, F. (1996), *Stakeholder Welfare*. Choice in Welfare Series No. 32, Institute of Economic Affairs, London; Field, F. (1996), *How to Pay for the Future: Building a Stakeholders' Welfare*, Institute of Community Studies, London.
[25] *Money Management*, October 1998.

- APPSs face massive competition from SPSs for future NIC rebates;
- SPSs could be better than PPSs for middle-income groups, leaving PPSs as a choice only for those on high incomes who require and are willing to pay for a bespoke product; those people who wish to manage the investments in their scheme themselves would choose a self-invested personal pension scheme (SIPPS);
- new affinity-based stakeholder pension schemes with gateway organisations linking up with pension providers (e.g. Amalgamated Engineering & Electrical Union with 720,000 members and Friends Provident);
- the Treasury's proposed IPAs provide a low-cost alternative investment vehicle to the high-cost managed funds of most PPSs;
- Individual Savings Accounts (ISAs), introduced by the Treasury in April 1999 to encourage greater personal sector savings, also provide an important alternative to PPSs. Contributions into ISAs of up to £7,000 per annum are permitted and the investment returns are free from income and capital gains tax. While not intended as pension savings vehicles (they do not attract tax relief on contributions, for example, unlike standard pension savings products), ISAs can be used in retirement income planning, since they enjoy the big advantage that they can be cashed in tax free at any time, thereby avoiding the need to purchase a pension annuity on the retirement date.

The second benefit is that it will effectively force stakeholder pension funds to be passively managed, since active management would result in a charge higher than 1%. In the past, active fund managers have not demonstrated that they can systematically deliver the superior investment performance that justifies their higher charges. Further passively-managed mutual funds in the US, such as Vanguard (which are similar investment vehicles to IPAs), have charges below 0.3%.