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Aspects of the economics of an ageing population:
Submission to a call for evidence from House of Lords
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**Aspects of the Economics of an
Ageing Population : submission
to a call for evidence from
House of Lords Economic Affairs
Select Committee**

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Aspects of the Economics of an Ageing Population

**Submission to the Select Committee on Economic Affairs, House of Lords
26th February 2003**

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This submission responds to the call for evidence. It is structured as follows. It begins with a brief answer to a number of the questions put by the Committee. In Appendices one to three, more detailed evidence is provided which, in each case, relates to one or more of the questions. Appendices two and three consist of previously published papers.

Part One

Q 1 What effect will population ageing have on the supply of labour and capital, wages, interest rates, asset prices and productivity?

A major study of this subject was undertaken by Booth, Cooper and Stein of the Social Insurance Reform Research Unit at City University for the Foresight, Ageing Population Panel of the Department of Trade and Industry in 2000, entitled, *The Impact of Demographic Change*. Copies of that study can be provided on request. Its conclusions are still relevant and highly pertinent to question one. A summary of some of the findings of the study and other perspectives on this issue can be found in appendix one, "Markets and the Ageing Population". Much of that appendix is extracted from the Foresight document. The main issues are as follows:

- It is likely that the level of saving and age structure of the population will impact significantly on investment returns and wages.
- Alarmist projections regarding the impact of population structure on asset values should not be taken seriously: other factors are far more important.
- It should be remembered that a fall in asset values at one time means that assets are cheaper and prospective returns greater for following generations. Such variations in asset values and future investment returns are inevitable and can be caused by a number of different factors.
- It is extremely important that there are as few impediments as possible to the supply of labour (possible impediments include regulation, high labour market taxes, explicit and implicit incentives to retire early and means-tested benefits). This is important for three reasons. First, such impediments prevent an optimal amount of labour being supplied; secondly, they are likely to raise the capital:labour ratio and thus indirectly reduce investment returns; and thirdly they raise the tax burden and this can have a positive feedback effect reducing labour supply still further.

- It is important to maintain an “open economy” (that is to have no impediments on investment overseas). The main study cited in appendix one modelled future investment returns using the assumptions that all extra capital accumulated as a result of the ageing population was invested in the UK. This was a cautious assumption but would have led to “pessimistic” results. Impediments to investing overseas not only prevent prospective pensioners from diversifying risk, they also lead to excessive capital accumulation and lower rates of return within the UK. Japan is a good example of a country that has impeded investment overseas and, as a result, has reduced domestic return on capital and returns to saving dramatically below those that may otherwise have pertained. Any impediments to overseas investment that are imposed in the future are unlikely to be explicit (such as the exchange controls that existed before 1979) but implicit, relating to prudential solvency standards, methods of valuation, prudent investment rules, currency matching rules and so on imposed on pension schemes. These could come from either the EU or UK government.

Q 2 How might policy reverse the trend towards early retirement? Should legislation outlaw age discrimination? Should there be a statutory retirement age? Can the labour market absorb more older workers?

It is difficult to identify precisely all the factors that have led to greater early retirement in the last twenty years. However, an optimistic view (but one that may well be valid) is that it has been caused some one-off factors that are unlikely to recur. There are four groups of early retirees on which one might focus:

1. Large numbers of people are retiring early from occupational defined-benefit pension schemes. There are two reasons why one might expect this group to fall in number in the future. The first is that it is commonly recognised that there has been an “agency problem”. Shareholders/directors have been slow to recognise the cost of defined benefit pension schemes and management have used such schemes to, in effect, provide opaque redundancy incentives to workers in their 50s and early 60s. This has happened both in the public and private sector. There is increasing understanding of the cost of using pension schemes in this way and that is likely to lead to a reduction in early retirement from defined benefit schemes. The second reason is that defined contribution schemes are growing in importance and, in such schemes, the cost of early retirement is nearly always borne by the retiree. If retirees face the full cost of early retirement they are less likely to retire early.
2. It is possible that individuals who were made unemployed in the 1980s or 1990s recessions went on to retire early. Arguably, these recessions (particularly the first) were caused by “one-off” changes in industrial structure accelerated by the earlier policy of tolerating inflation and subsidising inefficient industries. The recessions might have increased the “natural rate of unemployment” amongst groups of workers who had worked in the declining industries or who worked with declining technologies. In turn this may have

led to labour market inactivity reflected in earlier retirement rather than directly in unemployment statistics. It should not be thought that this factor causing increased early retirement will be enduring.

3. Evidence suggests that incapacity benefit is used by those who “retire early” from the labour market as a substitute for (lower) levels of unemployment benefits. The ability of individuals to receive incapacity benefit when not genuinely disabled has been curtailed but not retrospectively. The moral hazard effects of incapacity benefit are very difficult to control within the public sector. One solution to this problem would be to encourage the replacement of state incapacity benefit with private sector alternatives. This is a form of insurance that the private sector is quite capable of providing and pricing reasonably. Experience has shown that private sector insurers are far more effective than the state at nurturing the return to work of individuals who have suffered from health problems.
4. In general, defined benefit scheme structures encourage retirement at a particular age (and sometimes, as noted above, encourage early retirement). Defined benefit scheme structures are particularly prevalent in the public sector. The public sector is notoriously rigid with regard to allowing continuation in work after normal retirement age. This rigidity is encouraged by pension fund tax regulations. The public sector should deal with this issue by considering how it can develop incentive structures that allow it to retain workers after normal retirement age, when it is in the mutual best interest of employee and employer.

It would seem perfectly feasible that the labour market can absorb a greater number of older workers. The danger is that incentives to work are eroded by other policies. This includes all the factors mentioned in answer to question one but also the considerable increase in means-tested benefits for those over the age of 65. Such benefits would seem to reinforce incentives to retire fully by that age. It is difficult to see what age discrimination legislation can achieve that could not be achieved by addressing the issues identified above. Indeed, using the force of law whilst interfering in labour markets in ways which may discourage employment at older ages would seem to be both perverse and potentially ineffective.

Q. 3 Why do people not save enough for retirement?

One of the reasons why people do not save enough for retirement is that they are given strong incentives to not do so by means-tested benefits and recently increased taxes on pension funds. These issues are dealt with under Question 8. Other significant factors are that the costs of regulation and the complexity of the tax regimes surrounding pension funds provide significant disincentives to save.

There are a number of reasons for the recent demise of defined benefit pension funds. However, one of those reasons is the increased cost of regulation. Such regulations have included regulations that have increased the security of

members benefits or brought forward funding costs (such as the minimum funding requirement of the Pensions Act, 1995 and the development of international accounting standards). This form of regulation should be judged on its own merits. However, the fact that there can be unintended consequences of well-intended legislation should never be forgotten. Other aspects of regulation seem to impose costs on providers of defined contribution schemes (which ultimately fall on purchasers), on defined benefit schemes or on individuals. Furthermore, the impact of such regulation can be much greater than the sum of its parts. The pension system can seem so complex now that it is impenetrable and regarded as best avoided by individuals. This impression is then reinforced by the provision of means-tested benefits and the deterioration of the tax position of pensions relative to other (simpler) forms of saving. Those simpler forms of saving can normally be expended at maturity in such a way that entitlement to means-tested benefits is maximised. Action needs to be taken on a number of fronts:

- The conclusions of the Pickering Report need to be taken seriously.
- Contracting-out arrangements need to be simplified significantly. This should go hand-in-hand with simplifying the state pension system (see appendix two).
- The pension funds tax system should be simplified significantly (see appendix two). Current government proposals here are welcome but simplification could go further.
- The accumulation of rules relating to issues such as ethical investment, statement of investment principles, uprating of pensions and so on should be reviewed.
- Pension fund solvency regulations should only apply to that part of a pension fund that is used to provide contracted-out benefits. Methods of regulation such as compulsory scheme credit rating, information publication and so on should be used in respect of other aspects of scheme benefits so that the emphasis is on a “freedom with publicity” style of regulation.

Q. 4 Why are most pensioners who live in poverty women? How might public policy provide for people who cannot make regular contributions?

Most pensioners are women. A very high percentage of old pensioners are women. Old pensioners are more likely to live in poverty than younger pensioners. This is partly a function of the lack of funded provision in past times and, to some extent, this problem will be alleviated over time (although may return when the generation after next retire!). There will be many women who are dependent upon a partner's income during their working life and it is reasonable that part of their pension provision should come from that source too. It is not clear that this is an issue that public policy needs to address, except as it already has done so through providing for pension splitting on divorce and providing “credits” for state pension provision. It would be helpful if those who received “credits” for the various forms of state pension provision could be allowed to

“contract out” of the state system for an actuarially neutral rebate paid into a private sector scheme, in the same way as those who pay national insurance contributions can. This would give such people the same degree of independence and allow them to maintain funded provision at times when they were not working.

Q. 5 What is the role of the basic state pension and does it fulfil that role?

The original aim of the basic state pension was to provide a subsistence level of pension provision, on top of which private, funded provision could be added. It was felt by Beveridge that this was the best way of nurturing the development of the already comprehensive network of private welfare provision. This principle was undermined, almost before implementation so that the basic state pension was below subsistence levels. Until at least 1975 the basic state pension fulfilled three roles. The first was to provide a non-means-tested benefit on which individuals could build; the second was to provide means whereby those with intermittent work histories could build up pension provision (although this was not really fulfilled until “home responsibilities protection” was given in 1978); thirdly, it provided a degree of “defined benefit” pension provision for those who did not have access to defined benefit pensions through other means.

It no longer makes sense to think of the role of the basic state pension in isolation. Three reforms are important. In 1975 a minimum compulsory earnings-related scheme was developed (contracting out of this was allowed and then extended in 1988). In 2002 this system evolved into S2P and those with caring responsibilities were given credits in this system. It is proposed, as part two of those reforms, that S2P becomes a flat-rate benefit similar to (but not identical to) the basic state pension. Clearly the basic state pension (BSP) and S2P should be viewed together. Together they are the minimum, compulsory pension provision. The two pensions will be computed (when S2P is flat rate) using slightly different principles and it will be possible to contract out of S2P (if one is paying national insurance contributions) but not out of BSP.

What role do these combined benefits play? The best economic rationale for the state pension benefits is that they define the minimum compulsory level of pension provision. When they are above means-tested benefit limits¹, they will reduce disincentives to make other forms of pension provision in addition to the minimum. Limited contracting out of the minimum state pension provision is provided for (effectively in respect of S2P for those in work). It would seem sensible to extend the contracting out principle to those not in work but receiving credits in the BSP and S2P systems and to the BSP more generally. The first of these moves would be trivial and the second more complex. The basic rationale of the BSP and S2P would not then change. It would still provide the compulsory floor. But individuals would have more options as to how that floor is provided.

¹ Currently they are but the differential will erode over time as a result of the extension of means-tested benefits in retirement.

Q. 7 Is it appropriate to have as an explicit policy objective the reduction in public spending on pensions as a proportion of GDP? What is the role of the institutional framework, fiscal policy and the regulatory requirements?

In theory, it might be better to take decisions about pension provision without regard for the general fiscal framework. Issues such as the appropriate level of state provision, the minimum level of private provision and so on are issues that can be discussed in economic terms on their own merits. However, it would be dangerous to do this. There are clearly other upward pressures on public spending that are very hard to reduce. These include those arising from the ageing population (such as the costs of health care) as well as other pressures that are difficult to reduce because of the action of rent seeking and other interest groups. If all aspects of public expenditure are allowed to rise and none are reduced (and only defence expenditure, expenditure on nationalised industries and expenditure on national debt interest have reduced over the last twenty years: reductions that are unlikely to be repeated) the tax burden will increase intolerably. This would reduce labour market participation, particularly amongst those closest to retirement.

The role of the fiscal, institutional and regulatory framework should be to facilitate provision of pensions in a climate of legal predictability and simplicity. The regulatory framework should have clear and limited economic objectives. The fiscal framework should return to its original objectives of not taxing pension contributions until they are spent (in the form of an annuity). It is reasonable for the fiscal framework to tax pensions less harshly than other forms of saving because of the way those who are not in receipt of pensions may well be entitled to means-tested benefits. It is also important that pension fund investment returns are tax-free. However, the tax system should follow coherent economic principles. It is irrational to provide a tax-free lump sum but tax returns from equities in pension funds (a situation that arose because of the removal of dividend tax credits in the July 1997 budget).

The institutional framework is also important. Sometimes the institutions involved in pension provision are opaque and may seem anti-competitive. However, they have often evolved to serve a purpose. The most obvious example of this is the defined benefit occupational scheme. The last Conservative government felt that this type of scheme restricted freedom of movement of labour. This may have been true. However, it also provided a voluntary paternalistic function, as the scheme sponsor required, as part of the terms and conditions of employment, membership of a pension scheme. It is often suggested that pensions mis-selling arose from regulatory or market failure. In fact, it arose directly from the government ignoring the subtlety of institutions involved in pension provision and re-writing labour market contracts to allow those who had contracted to be members of a scheme to leave.

It should be added that security of property rights is paramount in any system of private, funded pension provision.

Q. 8 What effect do means-tested benefits for pensioners have on work and saving incentives?

It is appropriate to consider work and saving incentives together here. Very often savings incentives are considered but work incentives are ignored. It is clear that there are many people who have little incentive to save as a result of the increase in means-tested benefit provision. Because such means-tested benefits are age related, they also provide disincentives to work after age 65. Furthermore, signals have been sent to savers that will impact on their expectations and thus affect their behaviour. Most particularly, strong signals have been given that means-tested benefit levels will increase in line with earnings. It should be noted, however, that simply increasing universal benefits to reduce the impact of means testing (for example by increasing the state pension) will lead to increased taxes and reduce incentives to both work and save. If money is to be redistributed from the rich to the poor, the rich and poor must be identified, and the income transfer take place. It does not matter whether it takes place through means-tested benefits or more progressive taxes there will still be disincentive effects. It is difficult to avoid the conclusion that the attempts at redistribution have gone too far and, indeed, are counter productive because they are financed by taxing people lower and lower down the income scale, including people who are in receipt of means-tested benefits. This all adds to the complexity and dead-weight losses in the system.

Q 9 Is the continuing trend away from public and towards private provision economically sustainable?

This is a curious question. What is the evidence of a continuing trend? The value and number of defined benefit schemes is decreasing dramatically. They are not being replaced by defined contribution schemes with the same level of funding. The scope of the state pension schemes has been increased considerably. Additionally, from April 2003, 50% of pensioners will be in receipt of means-tested benefits. Increased regulation, funding requirements, complexity, greater means-tested retirement income provision, reduction in the relative value (compared with the actuarially neutral value) of contracted-out rebates and increased taxes on pension fund returns are likely to accelerate the slide away from funded provision.

This is of concern. It is also strange to ask whether the trend away (if one were to exist) from state provision is economically sustainable. One clear advantage that private funded provision has is security and sustainability. The security of unfunded provision is susceptible to demographic changes. However, funded provision facilitates capital formation and the securing of property rights. It can also adjust to changes in the economic environment. As salaries and investment

returns change as a result of demographic change, individuals can respond by changing their retirement and/or saving patterns. This cannot happen in a state scheme where political issues are paramount. This issue is explored further in appendix three.

Appendix One

Markets and the Ageing Population

Demographics savings and investment returns

The purpose of this part of the submission is to discuss the possible impact of demographic factors on investment returns. It is mainly extracted from the DTI Foresight Report, *The Impact of Demographic Change*, Booth, Cooper and Stein (2000).

Investment returns and economic theory

Amongst the most publicised pieces of work linking demographic change with investment returns is that by Barclays Capital (1999, 1997 and 1996). The major conclusions of that work are as follows:

1. There is a strong link between demographic changes and inflation
2. There is a strong link between demographic changes and both real and nominal bond yields
3. There is a strong link between demographic changes and the required risk premium from equities.

As a consequence of 3, there must also be a link between demographic changes and relative yields from equities and bonds.

Barclays Capital (1999) justify all their reasoning with statistical relationships between demographic variables, inflation, equity and gilt yields.

We will take the issues in turn.

Demographic changes and inflation

The argument here is that changes in saving and consumption patterns which are a natural consequence of an ageing population will lead to changes in inflationary pressures. Specifically, the articles argue that when the ratio of individuals of non-working age to those of working age is high, demand for goods and services is high relative to the ability of the working population to supply such goods and services. This causes inflationary pressures. On the other hand, when the ratio of the working population to the non-working population is high, demand pressures are more subdued and the ability of the economy to supply goods and services is stronger. This will tend to reduce inflation.

This analysis is backed up by statistics. In the UK, we can divide the century into three periods. From the beginning of the century to the Second World War, the ratio of non-workers to workers was declining. It then rose steadily until the mid

1970s and declined thereafter. In projecting likely investment returns, it should be noted that the ratio will continue to fall until 2005; it will then level out for a few years and rise sharply after 2012. The authors relate this to inflation patterns during the century.

This analysis is inadequate at a theoretical level and the statistical analysis seems simply to be spurious correlation. To take the statistical analysis first, the authors draw conclusions from three time periods which were also affected by momentous economic changes. In the first of these periods (approximately 1900 to 1939) three economic factors contained inflation:

1. There was a deep-seated belief amongst economists that there could be no benefit from inflation and that it could, indeed, be harmful.
2. Shocks, particularly on the demand side, generally reduced rather than increased inflationary pressures. The most notable of these was in the period when the gold standard was restored, followed by the Great Depression. If this period is taken to be from 1924 to 1933, this alone caused the cost of living index to fall by 20.6%. This cannot be blamed on demographic factors.
3. Institutional mechanisms (for example the gold standard which operated for much of the period) had a zero or negative inflation bias.

In the next period, reviewed by Barclays Capital, the above factors are reversed. Many economists believed that inflation and government borrowing could have beneficial effects; there were supply shocks (such as the oil shock) and the combination of exchange controls and politicisation of the conduct of monetary policy created incentives for politicians to increase inflation. The lower inflation environment in the post mid-1970s period can be traced back to the erosion of the post-war consensus and creation of an anti-inflation discipline which culminated in central bank independence, granted in 1997.

To explain the enormous swings in inflation by demographic changes is spurious.

The theoretical arguments of Barclays Capital (1999) may be slightly more appealing. Indeed, a weak case can be made in their support. Changes in the demographic structure can lead to significant changes in the savings ratio. An economy where the working population is expanding will tend to save more than one where a high proportion of the population is retired. However, the shrinking of the working population and the growth of the ageing population, whilst it may reduce productive capacity and increase consumption should not lead to higher inflation. When the retired generation dis-saves the economy should see price signals which lead to the increase in consumption of consumer goods and reduced production of capital goods. Insofar as saving has taken place by the accumulation of assets abroad, any increase in the level of consumption would involve such savings being liquidated and spent on consumption goods. There may be changes in the equilibrium level of interest rates and exchange rates necessary to contain inflation and such changes may mean that the management

of monetary policy is more complex. However, there is no reason to believe that there will be an increase in inflation.

Demographic changes and bond yields

A case can be made that demographic changes can have an impact on bond yields. Whilst the issues discussed above should not lead directly to higher or lower inflation, they could impact on long and short term interest rates in the economy for other reasons. Barclays Capital (1996) show a number of regression results suggesting a relationship between the proportions of population in different age groups and investment returns and yields. These results should be treated with caution. In their regressions of population variables against investment returns, there are a total of eight significant parameters out of 35. However, 6 of these relate to nominal cash yields and nominal gilt yields (the possibly spurious relationship between inflation and population structure might be coming through).

The theoretical arguments that relate changes in demographics to changes in interest rates in general, as articulated in Barclays Capital, are as follows:

1. When there is a high proportion of people approaching retirement, individuals will save more, in order to spread consumption across their lifetime. This increased saving will lead to an increased demand for investment instruments, the capital values of which will rise and the yields from which will fall.
2. As the population ages further, the spreading of consumption across the period of retirement will involve the liquidation of savings, higher yields and lower capital values.

These ideas are appealing. However, they are inadequate as an explanation of possible patterns as the demographic profile of the population changes. There are two major weaknesses in the argument. The argument ignores the other side of financial and investment markets i.e. capital markets. Miles (1999), argues strongly in favour of a “general equilibrium overlapping generations model” to analyse these effects.

The argument runs as follows. An increase in pensions saving does not simply involve one generation saving and thereby pouring money into investment markets with a fixed pool of assets. Investment markets exist to facilitate both capital investment and the exchange of property rights relating to the returns from capital investment. If there is an increase in demand for investments due to increased saving for any reason, the stock of investments will not remain fixed. Lower equity and fixed-interest bond yields make physical capital investment more attractive because the cost of capital is lower relative to the expected internal rates of return from further investment. This increased investment will be financed by new equity and bond issues, thus there will be a supply of new investment instruments on the market. This supply of new instruments will cause

investment returns to rise again until a new equilibrium is reached. The new equilibrium level of investment returns will depend on the way in which returns to capital vary with the total capital stock.

It is worth considering three situations. In the first, assume that the market reacts instantly and that returns to capital are constant, regardless of the capital stock. Whenever there was any increased saving, interest rates on bonds and/or yields on equities would fall. This would make the cost of capital in the financial markets lower relative to the return on physical capital investment. Immediately, firms would issue new investment instruments until the cost of capital rose again to its previous level. Investment returns would be unaffected.

This argument assumes a frictionless world with constant returns to capital which, of course, does not exist. There are two important exceptions which must be discussed. Firstly, it is unlikely that capital markets respond very quickly to changes in investment variables. It is sometimes difficult for those working in corporations to change hurdle rates when taking corporate investment decisions, for example. Even if they did, new investment always takes a long time to organise and finance. Secondly, it is unlikely that we live in an economy with constant returns to capital. It is normally assumed that, for a given labour stock, returns to capital will fall as more capital is added to the aggregate capital stock. An economy with higher savings and a higher stock of capital will therefore experience lower returns. Overlapping generations models, as developed by Miles, adjust for the latter but not the former effect. They also take account of variations in the size of the workforce itself. It is not just the capital stock of an economy that determines investment returns but the capital:labour ratio. It is normally accepted in economics that there are diminishing marginal returns to capital and labour in that, if one factor remains fixed and the other increases, the marginal productivity of the increasing factor will decline. General equilibrium models try to predict the amount of saving and capital formation and the amount of labour which will be supplied. There are feedback effects in all cases so that the model takes into account the impact of changing wage levels on labour supply, the impact of lower returns to capital on saving and the impact of changes in the capital:labour ratio on the returns to saving, the level of saving, wages and the labour supply, as the demographic profile of the population changes. Such models, despite the limitations which will be discussed below, are the most sophisticated models available. As such, their results should be taken seriously.

As the results of Miles' work shows, it is possible that investment returns will fall as pensions saving rises over the coming twenty years or so. However, this is not for the reasons stated by Barclays Capital (1999) and probably will not be to the extent they suggest. The Barclays Capital analysis takes no account of an increase in aggregate investment.

Results of Overlapping Generations Models

Miles uses a rational expectations model and the key results are reported in Miles (1999). The model attempts to use demographic and economic information to predict labour force participation, savings rates, return on capital and investment returns, given different policy assumptions. In the base case, it is assumed that state pension systems are financed from current taxation so as to maintain a balance of income and expenditure in the national insurance fund. Two other simulations are run. In the first alternative, it is assumed that the basic state pension falls to the extent necessary to ensure that the contribution rate remains constant. In the second alternative, it is assumed that the basic state pension is phased out between 2020 and 2040. In both the alternative scenarios saving increases because higher saving is necessary to smooth out consumption across the lifetime, given the lower level of state income in retirement. In the base case, the tax rate necessary to finance pensions rises from just under 7% in 1995 to 11% in 2040. As a rule of thumb, it can be said that real returns will drop by about 0.3%, due to demographic change, if the basic state pension is maintained, and 0.4% under the constant contribution rate assumption.

The main results of Miles' work are shown in the table below:

Savings rates, real interest rates and capital:labour ratio in the Miles, "Overlapping generation model".

Variable	Year	Base case	Constant Contribution	BSP phased out
Savings rates	1990	14.39	14.52	14.60
	2020	11.24	11.66	11.08
	2050	6.45	7.00	8.60
Real interest rates	1990	4.56	4.56	4.56
	2020	4.28	4.25	4.17
	2050	4.28	4.17	4.05
Capital: labour ratio	1990	7.20	7.27	7.28
	2020	8.08	8.09	8.29
	2050	7.99	8.31	8.90

Factors Not Taken into Account in General Equilibrium Models

Any economic model is limited in terms of the range of factors that can be included. Nevertheless, they give indications or "pattern predictions" of the types of effect we would expect to see. The results of Miles accord with prior reasoning. We should, however, consider other factors which could affect the incomes people should expect from saving over the next 25 to 40 years. We will concentrate on issues which could lead to "downside shocks".

Taxation changes

The government could change the tax status of saving in general or of pension saving in particular. This could have a number of effects. It would reduce net returns to saving directly and this would reduce post-retirement incomes. It would also have a number of indirect effects. Total saving could either increase or decrease. An increase in saving could occur because, to obtain a given income in retirement (or indeed a reduced income), total saving would have to be higher: this would have a further impact on investment returns by raising the capital:labour ratio. A reduction in saving could arise as a result of individuals responding to lower net returns to saving by increasing current consumption². If pensions saving were taxed more heavily but the tax position of other types of saving remained unchanged, we could expect to see pensions saving substituted by other types of saving. Given the inflexibility of pensions saving, individuals will only tend to use this mechanism if it is compulsory or if they are given incentives. If the relative net returns to pension saving are reduced, more prospective pensioners are likely to be affected by the means-testing of the minimum income guarantee. Again, this is likely to reduce the incentive to save. The more attractive non-pensions saving products are, relative to pension-saving products, the more individuals are likely to use the former and then make arrangements close to retirement to maximise receipt of means-tested benefits.

The reduced tax base caused by the ageing population may be a factor which would encourage the government to increase the taxation of pension funds. This could be done in a number of ways. Firstly, the tax-free lump sum could be reduced. Secondly, the government could choose to levy a tax on all investment returns in a pension fund (it currently levies a tax on all equity returns, indirectly through the corporation tax system: there is now no possibility of any corporation tax being reclaimed by a pension fund because of the withdrawal of tax credits in the July 1997 Budget).

Higher inflation

Higher inflation reduces directly the real return available from fixed-interest investments. It may also reduce the real return from “real” investments (such as equities, property and so on) because of the temporary costs that increasing and decreasing inflation can impose on an economy. The impact of higher inflation is similar to that of imposing a tax on fixed-interest investment returns.

Means-tested benefits in retirement

Higher means-tested benefits has many similar affects to increased taxation on savings: they reduce the net return (after allowing for all taxation and lost benefit payments from the government) of saving. Two recent government actions have

² Which of these scenarios results depends on the relative sizes of the so-called income and substitution effects, which depends on preferences of savers. It is not possible to make an *a priori* judgement.

been to both increase tax on pension funds (see above) and to increased means-tested benefits in retirement (through the provision of the minimum income guarantee and pension credit which has both formalised means-tested benefits in retirement and linked them to earnings).

Change in productivity of capital

A lower productivity of capital would reduce equity returns directly and also put downward pressure on bond returns. The following factors could, inter alia, induce a fall in the productivity of capital:

- i) Distortions in the tax system which encouraged particular types of investment.
- ii) Increased regulation or taxation.
- iii) Serious structural failures (for example a fall in relative demand for particular products in which the UK had a comparative advantage)

Regulation distorting bond yields

There is some evidence that regulation of both life insurance companies and pension schemes distorts bond yields. This is particularly so for both index-linked and government bond yields at the long end. This may affect both the long-term rate of return that personal pension funds receive on their investments (if the investor has a cautious investment policy) but, perhaps more importantly, it puts upward pressure on annuity prices, thus reducing the income an individual can obtain from a given sized “pension pot”. Any further regulation that artificially encourages institutions to invest in long-dated government bonds could have a further impact on bond yields. This is particularly so at a time of declining issues due to low government borrowing.

Stock market valuations change

Personal pension savers do have the benefit of spreading investment over a long period of time. However, they are still vulnerable to long periods of low returns, or to a fall in the capital value of their fund close to retirement, if an over-valued stock market falls or under performs for a long period of time. There is a correlation between bond yields and equity yields so that, if equity values fall, it is likely to be a time when pressures on annuity prices are falling. However, a scenario could be envisaged whereby a stock-market crash happened at the same time as a “flight to quality” so that gilt yields fell and annuity prices rose at the same time. Theoretically, hedging strategies can be used, even in personal pensions vehicles.

Effect of foreign investment

One factor not taken into account by Miles was the ability of savers in the UK, as an open economy, to invest in overseas countries: he assumes a closed economy. If capital is perfectly mobile, any change in domestic saving need not affect the domestic capital:labour ratio and domestic interest rates because, if prospective returns fell in the UK, investment could take place overseas. This is one factor which could mitigate the problems discussed by Miles. Against this, it should be said, that there are many countries in the world which face the same demographic profile as the UK and thus one might expect world-wide saving to increase and work interest rates to fall. Nevertheless, foreign investment is one “safety valve” which can release some of the pressures caused by demographic change.

European Monetary Union

The UK's participation in EMU could have two direct effects on investment returns as the demographic profile changes. Firstly, capital markets may “deepen” by increasing the size and volume of the domestic currency investment markets (particularly bond markets). This may make investment returns more impervious to distortions. For example, any distortion to bond yields due to life insurance company regulation and the minimum funding requirement in the UK is likely to be less in a wider bond market (however, it may be more appropriate to amend the regulations than to join EMU to alleviate the effects of such regulations on bond markets!). Secondly, Miles' closed economy assumption becomes even less tenable. Instead, we can expect investment returns to change in a way which reflects changes in the capital:labour ratio across the whole of the EU. EMU could lead to greater harmonisation of labour-market regulation, harmonisation of taxes and an environment of lower economic growth due to the loss of exchange rate flexibility.

It is worth noting that the “law of unforeseen consequences” can, of course, also apply to any change in government policy. There could be changes in government policy which we can not predict would have an influence on pensions saving and interest rates but which, in the event, do affect these variables. Examples here include regulation of financial services, increased complexity of the overall pensions system and changes in rebate structures for contracting out of the state earnings related pension or second state pension. It may be the case that the gains from pension saving are more likely to be outweighed by the loss of flexibility from pensions as opposed to general saving if pensions saving becomes more complex as people are led towards simpler non-pensions products. This is just one example where a policy change to achieve one objective can, inadvertently, undermine pensions saving.

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Appendix Two³

Simplifying the Taxation of Pensions

Philip Booth and Deborah Cooper⁴

Abstract

The current tax framework for pensions is now economically incoherent. The changes in the 1997 budget made it more so. Changes can be made to restore its coherence. However, any attempt to remove tax relief at the higher rate, as has been discussed by academics and commentators recently, would be wrong in principle and could not work in practice. The pension-fund tax codes and the rules for annuitisation should be simplified significantly. The Inland Revenue no longer needs to design detailed rules to prevent people “abusing” tax relief. Such detailed rules are extremely costly to implement and, because they make the whole system impenetrable, stop people from using pension vehicles for saving. The recent pensions Green Paper⁵ also proposed tax simplification. Our suggestions have certain advantages over the government’s suggestions, but the case is finely balanced.

Introduction

Since 1921, pension fund taxation has been based on the principle that income used to finance pension provision remains outside the tax system until a pension is received. However, in practice the tax system deviates from that principle in important elements of detail. The general approach, established at the beginning of the 1920s was that earned income used for pension provision would be deductible before income was taxed, that money invested in pension funds would accumulate free of tax. Tax would then be paid on pension income once received. The application of this so-called expenditure tax system to pensions manifested itself in what has now become known as the EET system (money invested in the pension fund is exempt from tax, money is accumulated with interest that is exempt from tax and the proceeds of the fund are taxable). The system is still incorrectly described as EET by many commentators⁶. This tax treatment of pensions reinforced the notion (explicit in civil service schemes at

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⁵ Pension Green Paper (2003), *Simplicity, security and choice: Working and saving for retirement*, Department of Work and Pensions, HM Government.

⁶ See Booth P. M. and Cooper D. R. (2002), *The Tax Treatment of UK Defined-Contribution Pension Schemes*, *Fiscal Studies*, Volume 23 No. 1 for an analysis.

the time) that pensions were “deferred pay”. The pay was only to be taxed once received as a pension.

One would expect that the concept of removing pensions from the tax system would be a reasonably simple concept that would lead to tax efficiency and simplicity, rather than to complexity. However, a number of factors have conspired to undermine the concept of simplicity. First the EET principle has only been applied partially. Secondly, the interaction of the corporation tax system with the income tax system creates complexity in terms of the treatment of equity investments. Thirdly, the Inland Revenue has created restrictions on the use of pensions vehicles to constrain the amount of income that is temporarily removed from the tax system. Each of these aspects gives rise to particular and serious problems. The system for taxing pensions is economically incoherent; there is tax discrimination between equity and debt that distorts pension fund investment policy and corporate finance decisions; and the system is so complex there are huge explicit and implicit costs of compliance and it may well deter many people from making pension provision. We will examine each of the issues.

The Expenditure Tax Basis for Pension Funds

If pensions were taxed under a comprehensive income tax system, contributions made to a pension scheme would be taxed, interest income and capital gains earned by the fund would be taxed and the pension would be free of tax when paid. This system could be described as TTE and is the system underlying most savings provision, with the exception of pensions and ISAs. There are economic arguments both in favour of and against this approach being applied in respect of general savings. However, in the case of pensions saving, a strong case can be made for the expenditure tax (EET) basis described in the introduction⁷. We will assume in this discussion that the expenditure tax treatment of pension saving is the aim of the tax system. To what extent does the current pension fund tax regime follow an EET system?

The True Tax Treatment of Pensions

We will consider the tax position of contributions, investment returns and pensions in payment in turn.

Contributions: In general income that is contributed to a pension scheme is tax-free. Similarly, employer’s contributions are not classed as a taxable benefit in the hands of the employee. A huge amount of complexity arises as a result of rules designed to limit contributions that receive tax relief. However, of themselves, these rules do not undermine the EET basis of the tax system.

⁷ See Booth and Cooper op cit and the references contained therein for a detailed discussion of this issue.

Investment returns: All investment income is exempt in the sense that no further tax is paid once the investment returns are in the hands of the fund. In the case of investments in bonds, direct real estate and cash, any tax deducted at source is reclaimable by the pension fund, so the entire return is tax-free. However, in the case of investments in equities, profits are taxed at source in the company's hands and this tax cannot be reclaimed by the pension fund. (Prior to the July 1997 Budget a tax credit was available for the return from UK equities received in the form of dividends.) The tax rate suffered by pension funds on equity investments is thus the UK corporation tax rate or, in the case of overseas equities, the equivalent tax rate of the foreign country plus any non-reclaimable withholding tax. Returns from equities are not tax-free.

Benefits: Benefits taken in pension form are taxed at normal income tax rates. The maximum pension from a defined benefit scheme or an occupational defined contribution scheme is broadly 2/3rds final salary⁸ and a tax-free lump sum benefit is restricted to 2.25 times the maximum defined benefit pension. In a personal pension the maximum tax-free lump sum is 25% of the fund.

The overall effect of these tax rules is complex:

- Subject to the limits, contributions made to approved schemes are generally fully exempt. Breach of the contribution limits would result in a scheme losing Inland Revenue approval and hence the regime for unapproved schemes applying. The first E is, therefore, for most employees, unqualified for approved schemes. However, its administration can be complex (see below).
- The apparent exemption of investment income is illusory: some three-quarters of the average pension fund was invested in equities at the time dividend tax credits were withdrawn⁹. Equities are taxed at the relevant corporation tax rate. So, assuming an average corporation tax rate of 30% and an income tax basic rate of 22%, the current system of taxing investment returns could be regarded as T, or even T⁺, by a basic-rate taxpayer.
- Typically one quarter of benefits are taken in tax-free form, so the final T is partial.

Overall, therefore, the current system could best be described as ETT^{partial} or ET⁺T^{partial}. This is economically incoherent. A comprehensive income tax system (TTE) has some economic merit in that it taxes the returns from all factors of production equally. An expenditure tax system (either EET, or TEE as used in the case of ISAs, although in that case the dividend tax credit is limited too) is economically coherent in that it does not distort savings decisions. The current system for taxing pensions has no economic basis. Furthermore, it is

⁸ The limits are more complex than this, but this illustrates the broad position. Also, in practice, the final salary is "capped" using rules designed to prevent abuse.

⁹ 76%: see W.M. All Funds Universe, Quarter 2, 1997

worth mentioning that employee's contributions to pension funds are subject to national insurance whereas contributions made by employers are not.

Abolition of Tax Relief at the Higher Rate

Some commentators have recently suggested that higher rate tax relief on contributions should be abolished¹⁰. Many combine that suggestion with the so-called "BOGOF" proposal. The idea of BOGOF is that the system of tax relief should be replaced by a system of subsidies so that the government would match money put into a pension scheme but only up to a limit. Reference to abolishing higher rate tax relief was also made in the 1998 Pensions Green Paper¹¹ although the paper did not express an intention to go ahead with any such abolition. Academic articles have also made the case for abolition of tax relief at the higher rate¹². The argument of those suggesting the removal of tax relief at the higher rate is that tax relief is, in effect, an implicit subsidy and that, due to the existence of tax relief at the higher rate, higher earners are receiving a greater subsidy than lower earners.

If higher rate tax relief were abolished, it would produce a system of $E^{\text{basic rate}} T + T^{\text{partial}}$ i.e. contributions would only be exempt from basic rate tax with the contributor having to pay tax at the difference between the higher rate and the basic rate on contributions made to a pension fund. However, if the intention is to restrict the benefit of deferring tax until retirement to the basic rate of tax by collecting the higher rate tax upfront, it would be necessary, for consistency, also to abolish the higher rate of tax on pension benefits. In other words, $E^{\text{basic rate}} T + T^{\text{basic rate}}$ would be necessary to produce the desired effect. That is, tax should only be charged at the basic rate on pension income because tax would have already been charged at the difference between the higher rate and the basic rate on earnings used to fund contributions. The abolition of higher rate tax relief on its own would produce an entirely arbitrary result.

BOGOF-type proposals would fundamentally change the nature of the pensions tax system. Rather than money invested in pensions not being taxed until a pension is received, BOGOF would be allowing the government to determine some "optimal" rate of subsidy for pension provision. The authors would argue that, insofar as there is a disincentive to save, faced by lower earners, caused by means-tested benefits in retirement, this problem should be attacked at its root, not by developing a complementary system of subsidies for pension provision to match the system of subsidies that exists in retirement for those who do not

¹⁰ See, for example, reports of Ross Altman's proposals in Sunday Times, 20th October, 2002.

¹¹ Department of Social Security, (1998), *A New Contract for Welfare: Partnership in Pensions*, Cm 4179, London: The Stationery Office.

¹² See, for example, Le Grand J. and Agulnik P. (1998), Tax Relief and Partnership Pensions, *Fiscal Studies*, Volume 19, No. 4.

make pension provision. It should also be noted that BOGOF would be impossible to implement at the defined benefit level without a very long transition period and might well lead to the double taxation of pensions savings.

The Impact of Restricting Tax Relief on Pension Fund Contributions to the Higher Rate

The proposals to restrict tax relief fundamentally misunderstand the nature of the pension-fund tax system. Its purpose is not to provide a subsidy but to remove pension saving from the tax system and tax them on an expenditure tax basis. Pension fund contributions reduce taxable income in work but increase taxable income in retirement. The current system has advantages for those on volatile incomes that would otherwise be lost. Such people are able to reduce their taxable income in years when their earnings are high by making pension contributions that will raise their taxable income in years when their income is low (i.e. after retirement). This is entirely appropriate. Progressive tax systems penalise those on volatile incomes causing them to pay more tax than those on less volatile incomes but who receive the same lifetime earnings.

It is also difficult to envisage the practical operation of a tax system that did not give tax relief at the marginal rate of tax, including higher rates, where applicable. Pension contributions made by employers would have to be assigned to employees as taxable benefits. Otherwise, individuals would gain by not making contributions themselves but, instead, entering labour market contracts to receive a lower salary with the employer making pension contributions (that could then be written off against employer costs). However, whilst assigning contributions to employees and treating them as taxable benefits could be done easily in a defined contribution scheme the structure of a defined benefit scheme is such that it would be impossible to assign employer contributions to individual employees.

Furthermore, as has been noted above, it would be wholly inequitable to not give tax relief at the higher rate on pension contributions and then tax pension income at the higher rate: this would lead to the double taxation of income. However, if tax were to be charged at the basic rate only on pension income, it would lead to two insurmountable practical difficulties. First, pension income accumulated under the existing system (on which tax would have to be paid at the higher rate) would have to be separated from income accumulated under the proposed new system. Secondly, pension income would somehow have to be separated from other income with each being taxed under different codes.

A movement to a TEE system for taxing pensions¹³ would be feasible and would remove a number of benefits for higher rate taxpayers. However, the Altman proposals, which also involve giving explicit subsidies for pension provision to

¹³ This was proposed by the Conservative government just before the 1997 general election in Department of Social Security (1997), *Basic Pension Plus*, DSS, London, UK.

those on low incomes, are unworkable in practice. They are also flawed in principle. They would move the pensions tax system from one under which pension funds are accumulated outside the tax system to one in which the Treasury would be determining the explicit amount of subsidy for groups of people on different incomes. It would be another step towards the “micro-management” of individual’s incomes through the tax system and would further exacerbate the problem whereby individual tax burdens were rising whilst sums of money were returned to individuals through the tax system, ring-fenced in extremely complex ways.

To conclude this section, neither the current pension fund tax system, nor proposals to abolish higher rate tax relief and move to $E^{\text{basic rate}}_T + T^{\text{partial}}$, have any obvious economic rationale, unlike EET, TEE (the ISA regime) or TTE (the comprehensive income tax regime).

The Cost of Incoherence

We now resume consideration of the existing tax system for pension funds, assuming that tax relief on contributions will remain at the marginal rate of tax. We will assume that the benchmark system is the EET system under which it has been intended that pension funds should operate.

Clearly the use of a system that deviates unfavourably from the benchmark will lead to a cost borne by employers and employees. There are other indirect costs of complexity and of not having economically coherent tax systems. We concentrate on calculating the direct cost of pension provision under different tax systems. The authors set up a model defined benefit scheme based on principles discussed in detail in Booth and Cooper (1999)¹⁴. A contribution rate is computed so that, at the expected rate of return, given the assumed distribution of assets between different investment classes, the contributions would be sufficient to meet the benefits, calculated on a final salary basis. Most of the assumptions underlying the model scheme do not affect the cost that different tax regimes impose on the scheme. However, the investment return assumptions and the asset allocation assumptions are important. Three different tax regimes are considered. The first is the current tax regime. The second is the pre-July 1997 tax regime. That regime allowed part of the corporation tax that had been paid by a company on its profits to be reclaimed, insofar as the company’s equity was held by a pension fund or other non-taxpayer. The amount of the reclaim was limited to the “advanced corporation tax” paid on the dividend declared which was itself limited to the lower rate of income tax¹⁵. The pre-1997 regime effectively allowed about two thirds of the corporation tax to be reclaimed by a pension fund on roughly half the earnings per share. It helped to reduce the tax discrimination against equity investment and also helped to restore the “middle

¹⁴ Reference to come

¹⁵ Until 1992, it was limited to the basic rate of income tax.

E” of pension funds tax treatment. The third regime that we consider is one in which all tax on investment returns (including that assumed to be paid through the corporation tax system on equity returns) is reclaimed (that is a genuine EET regime).

The asset allocation for the scheme was assumed to be as follows:

Investment Category	Proportion of fund invested in category
UK Equities	55%
US Equities	15%
Property	10%
Index-linked bonds	6%
Conventional bonds	10%
Cash	4%

Table One: Assumed Asset Allocation for Model Pension Fund

This is close to the average investment distribution for UK defined benefit schemes (slightly less is invested in property in practice and for simplicity we assumed that all overseas equity investments were invested in US equities).

The rates of return from different investment categories under different tax regimes were assumed to be as follows:

Investment Category	Post-97	Pre-97	Pure expenditure
UK equities	6.9%	7.55%	8.63%
US equities	7.15%	7.15%	7.15%
Conventional bonds	5.2%	5.2%	5.2%
Index-linked gilts	4.95%	4.95%	4.95%
Property	8.1%	8.1%	8.1%
Cash	4.7%	4.7%	4.7%

Table Two: Investment Return Assumptions

These follow historical norms and relationships but were adjusted for current yield levels. Of more importance than the absolute returns are the relative returns from different tax regimes. UK equity returns are significantly higher under the expenditure tax regime because, under the other two regimes, they are taxed through the corporation tax system. According to our assumptions, the change to the tax regime in 1997 reduced UK equity returns for pension funds by nearly 0.7%. Whilst the precise impact of the tax change on equity returns for pension funds is arguable, a reduction in returns of 0.7% seems reasonable. We do not

consider the effect of taking overseas equities outside the tax system for UK pension funds as this does not seem to be a practical possibility. Thus the pure expenditure tax regime that we consider does, in fact, assume that overseas equity investments are taxed. The cost of funding a pension scheme under the three tax regimes is shown in the table below.

Table Three: Standard Contribution Rates Under Different Tax Regimes

Tax regime	Standard Contribution Rates
Post-97	12.1%
Pre-97	11.2%
Pure Expenditure	8.9%

The contribution rate, to fund a given level of benefits increased by about 8% as a result of the 1997 tax changes and would fall by nearly 30% if there were a movement to a pure expenditure tax regime. Such a pure expenditure tax regime would involve removing corporate profits from the tax system, as far as pension funds were concerned, but would also involve abolishing the tax-free lump sum. A move to a pure expenditure tax system would be difficult to administer. A full imputation system for company profits would be required so that pension funds reclaimed all tax on the earnings per share that was imputed to the fund. A compromise would be to provide a tax credit equal to the rate of corporation tax paid by the company on dividends remitted to pension funds. In effect, this would restore the pre-1997 system but with a higher rate of tax credit. This would create an incentive for the dispersion of earnings through dividends but this is arguably preferable to the current system that creates significant incentives to finance companies through debt rather than equity capital. Further calculations were not undertaken, but it seems reasonable to assume that moving to a system where the rate of tax credit on dividends was equal to 30% would reduce the standard contribution rate to about 10.7%. Further calculations, undertaken in Booth and Cooper (1999) suggest that the contribution rate under a comprehensive income tax system (where there was no tax relief on pension contributions, all interest income and capital gains were taxed but pensions were received tax free, i.e. TTE) would be 15%. Thus the current system is a little nearer a comprehensive income tax system than an expenditure tax system. This is completely contrary to popular wisdom, even amongst economists. The pre-1997 system was a little closer to a TEE expenditure tax system than to a TTE comprehensive income tax system.

One change that would make the pension fund tax system more coherent would be to make the pragmatic adjustment to the system for taxing equity returns proposed above (that is restore dividend tax credits at the full rate of corporation tax) and abolish the tax-free lump sum. We have not performed detailed calculations for defined benefit schemes but the calculations for defined contribution schemes in Booth and Cooper (2002) suggest that this would not

change the contribution rate for a pension fund significantly, if the same net benefit were to be funded. The tax cost of losing the lump sum would be roughly the same as the benefit from restoring the partial tax-free status of equity investment. The contribution rate would still be roughly half way between that necessary for a scheme in a pure EET regime and that for a scheme in a pure TTE regime. Nevertheless, the tax framework for pensions as a whole would be more coherent and there would be less of a bias against equity investment and financing corporations through the issue of equity capital than at present and less bias against using the fund to buy an annuity. There would be less incentive for corporations to gear up and avoid tax in other ways by making their balance sheets more opaque. Thus the proposal of this paper would be to move from the current system that is, in effect, $ETT^{partial}$ to $ET^{partial}T$. This is demonstrably closer to the ideal of EET, both with regard to the treatment of investment returns ($T^{partial}$ being closer to E than is T) and the treatment of the proceeds of pension fund investment.

The conclusions from this analysis are clear. The current tax regime for pensions is economically incoherent; it became less coherent as a result of the actions taken in the 1997 budget; the deviation of the system from the expenditure tax system adds considerably to the cost of funding pensions. The easiest practical change to the pension fund tax regime would be to remove the tax-free status of the lump sum and restore the tax-free status of dividends. This would remove the distortion caused to the relative cost of debt and equity capital by the current system and remove the incentive that exists for debt finance and increased corporate gearing under our current tax system.

Legal Complexity

The arguments above might be more important for the applied economist than the “everyman”. Whilst the incentives for pension provision are weakened by any move away from the EET system, the economic incoherence of the system may be regarded as an esoteric issue. In fact, the tax-free lump sum balances some of the costs of not receiving equity returns fully gross. Pension contributions are irrevocable and therefore the fact that one element “cancels out” the other may not matter over the lifetime of a scheme¹⁶. However, the legal complexity of the pension fund tax system imposes serious time costs on individuals, companies, the National Insurance Contributions Office and the Inland Revenue and may lead to a significant reduction in pensions saving because so many individuals regard the current system as impenetrable.

In summary, the tax codes for pension schemes work as follows. In the case of occupational schemes, *whether defined benefit or defined contribution*, full tax relief is given on employer’s contributions but there are limits on benefits and these limits have to be administered by the scheme. Employees receive tax relief

¹⁶ Although the authors would argue that the incentives to finance company operations using debt rather than equity capital could be of fundamental importance.

on contributions up to 15% of capped earnings for that tax year (higher at older ages). The 'earnings cap' is £97,200 in 2002/3 and is usually uprated in line with prices. Employees can also make "additional voluntary contributions" (AVCs) as long as the total contribution does not exceed 15% of earnings and as long as total benefits do not breach benefit ceilings. Thus an employee can be in an occupational defined benefit scheme, or occupational defined contribution scheme or both (through the use of AVCs). The benefits are capped and the contributions are separately capped.

Employees who are not in an occupational scheme can be in defined contribution personal pension schemes. Such a scheme would have a maximum contribution of 17.5%¹⁷ of capped earnings. Stakeholder schemes operate by a parallel set of rules and allow a contribution of up to £3,600 (including basic rate tax relief), regardless of earnings. An increment to the pension contribution equivalent to basic rate tax relief can therefore be received by somebody even if they are not paying tax. Thus defined contribution occupational schemes operate under a different tax regime than that for defined contribution personal schemes, despite the fact that there is no inherent difference between the two types of scheme. It should be noted that, in respect of an individual employment, concurrency (that is the membership of a personal pension scheme and an occupational scheme) is allowed for those earning less than £30,000. For individuals who have more than one employment (possibly one employment with a firm that has an occupational scheme and one employment with a firm that does not) the complexities are even greater. We will not discuss the relationship between pension schemes and the national insurance system, which is even more complex.

There are specific anomalies and difficulties that arise from this multiplicity of tax codes. In the case of an occupational defined contribution, for example, there is a contribution limit for the employee but not for the employer. Because there is no contribution limit for the employer there is a benefit limit that has to be administered and monitored. Meanwhile, AVC schemes have benefit limits that are considered in conjunction with the total benefit that individuals will receive from the occupational schemes of which they are members. As a result of the multiplicity of systems, there are transfer regulations to limit occupational benefits being moved to personal schemes in such a way that individuals could avoid both contribution limits and benefit limits, and various sets of regulations that dictate the types of scheme of which an individual can be a member concurrently.

Creating One Defined Contribution Tax Code¹⁸

It is easy to see why the current position has arisen. The Inland Revenue wishes most individuals to be a member of either an occupational arrangement or a

¹⁷ This maximum contribution is age related and is higher at older ages.

¹⁸ These proposals were previously outlined in Booth with Arthur (2002), Making Pensions Simpler, Adam Smith Institute, London, UK.

personal arrangement so that benefits, and contributions on which tax relief is received, are limited. However, we have noted above that the tax system does not favour pensions nearly as much as is commonly supposed. Furthermore, the restrictions on benefits and contributions were developed at a time when marginal rates of tax were up to 83%, not 40% as is the case now¹⁹. The tax benefit for “abusing” pension fund tax relief, used to be significant: now it is not. The discontinuation of these separate tax codes would reduce employer and employee costs considerably.

A single tax code could be created for all defined-contribution schemes and individuals could be allowed to be members of both a defined benefit and a defined contribution scheme with no interdependence between the benefit and contribution limits. If contribution limits are kept in the defined contribution regime, then those limits currently applying to personal pensions could be applied to all defined-contribution schemes but with a minimum allowable contribution for all individuals of £3,600, regardless of taxable income. In the case of a defined contribution scheme run by an employer, the contribution limit should apply to the employer and employee contribution combined.

This approach would collapse three tax regimes into one regime and considerably simplify the personal affairs of workers who were members of more than one type of scheme during their working lives. It would also enable removal of the transfer regulations, concurrency regulations and the benefit limits in respect of occupational money-purchase schemes. The concept of AVCs, with their separate tax rules, would be redundant, as would the concept of an occupational defined contribution scheme. However, that would not stop employers setting up defined contribution schemes that would operate under the unified tax code.

If this approach were adopted, then clearly some individuals would obtain a higher pension than would currently be allowed under any of the tax codes. As already noted, we do not believe that this is a likely problem or potential area of tax avoidance. The only real danger for the Inland Revenue would be with regard to individuals who took two tax-free lump sums (they could receive tax relief on their contributions and then receive a tax-free lump sum). This could easily be dealt with either by changing the system for taxing pensions in the way proposed above, so that the tax-free lump sum was removed or by a particular regulation that limited the tax-free lump sum. For example, such a regulation could prevent any individual from taking (say) more than 1.5 times their average taxable income over the last three years of their employment as a tax-free lump sum whilst also preventing more than 25% of any defined-contribution ‘pot’ being taken as a tax-free lump sum.

¹⁹ This is particularly so with some of the very detailed regulations used to implement that tax codes that we have not discussed here. Benefit limits, for example, can involve very complex calculations that could not possibly be understood by most pension scheme members.

It is worth making a comparison of our proposals with those in the Pensions Green Paper (2003). The Green Paper proposed one tax regime for pensions. At first sight, this would be less complex than our proposal for two tax regimes. However, the Green Paper suggests an overall lifetime limit on pensions saving. In order to enforce this it is necessary to find a “rate of exchange” to transform defined benefits into cash equivalents. Also, the limit relates not just to the contributions made to any schemes (which *are* under the control of the saver) but to the total cash-equivalent value of any funds. The value of pension funds is not under the control of savers, as it will be increased by favourable investment returns. Individuals may pay tax at the end of their working life, on pension contributions invested in a fund, simply because of favourable investment returns. The proposals here, keep two separate tax codes for two fundamentally different types of scheme but each having a very simple set of rules, with individuals allowed to accumulate funds under both tax regimes simultaneously.

Annuitisation rules

Currently, there are restrictions on the financial purposes to which a defined-contribution pension ‘pot’ can be put and also restrictions on the annuity structure in defined-benefit schemes. These provide yet more pages of detailed regulation. There are two economic reasons for these restrictions:

- To prevent moral hazard (for example, individuals spending all their retirement income savings at the point of retirement and then claiming minimum income guarantee from the state).
- To prevent individuals from ‘over-providing’. The rationale here is that pensions are tax privileged, to help people provide an annuity in old age and prevent people becoming a burden on the state. If people want to save more than for this basic requirement, they should use non-privileged savings vehicles.

As noted already, the second reason is barely significant given that the tax system for pensions is not the EET system commonly supposed. However, the first reason remains important: indeed, with the growth in the extent of means testing, the first reason has become more important than hitherto. When the restrictions on pension provision were developed, the key objective was to limit tax relief. The moral hazard issue was much less important. That situation has now reversed and the rules for annuitisation should change accordingly.

Rules could easily be developed regarding annuitisation that take account of these changed circumstances and that are less prescriptive. The following principles could be used, for example:

- Assuming the tax-free lump sum remains as a feature of the pension system, individuals may take tax-free lump sums on the basis suggested above (that

is, up to a maximum of 1.5 times taxable final earnings).

- Individuals must use their remaining pension savings to purchase insured, price index-linked annuities such that their insured, annuity income (including basic state pension) is (say) 1.5 times the state's minimum income guarantee.

Non-annuitised parts of pension 'pots' could be taken at any time but income tax would be payable on any income withdrawn at any time (or on any money left in the fund at death). Housing benefit and council tax benefit (and pension credit above the minimum income guarantee level) would not be paid to an individual until the total pension pot had been annuitised.

Conclusion

In the first part of this paper, we outlined the problems with the existing pensions tax system. The system is economically incoherent and does not provide the favourable tax treatment of pensions that is commonly supposed. We suggested proposals for dealing with this that would involve restoring the partial tax-free status of equities within a pension fund but removing the tax-free status of the lump sum. In the second part of the paper we looked at the legal complexities of the tax system. These impose considerable direct and indirect costs on individuals, companies and taxpayers. These complexities arise as a result of an unreasonable fear, by the Inland Revenue, that tax revenue will be lost. The two sections of the paper are related because the demonstration that pensions are not as tax-favoured as is thought should provide comfort to the Inland Revenue that abuse of a less complex legal environment is less likely than they may presume. We also note that the economic case against removing higher-rate tax relief from pensions is overwhelming and that such a policy would be impossible to operate in practice without hastening the demise of defined benefit schemes.

Appendix Three²⁰

The Transition from Social Insecurity²¹

Introduction

The papers in this volume of Economic Affairs concentrate on pension reform. Pension provision is just one aspect of long-term insurance provision often undertaken by the state. With state pension provision the principle of “pay-as-you-go” (PAYGO) or “intergenerational transfers” is normally used, whereby the taxes of the working generation are used to pay the pensions of the retired. This contrasts with most private sector provision which is financed by capital accumulation. Minford’s article looks at the fundamental economics of funded and PAYGO schemes. Changing demographic structures are causing financial instability in PAYGO schemes. Sometimes the effects are dramatic and they have led to major reforms in countries such as Chile, Poland and Australia which are discussed by Pinera, Stroinski and Knox respectively. Other countries, particularly in the EU, have not reformed so radically and Daykin looks at the relationship between state and private arrangements in EU countries.

Whilst critiques of state pension provision often focus on the funding issue, we should not ignore other differences between state and private pension provision. If we concentrate on the funding issue alone we may draw false conclusions from false premises or from an incomplete consideration of the issues. For example, it is possible to develop state funded pension schemes; compulsory private provision is often proposed; strict government regulation of product design is also favoured by many who understand the advantages of funding. A consideration of the economics of funding alone does not help us answer more general questions relating to the relationship between the state and the private sector in pension provision.

In the first part of this article, we will consider some of the more general issues relating to state and private insurance provision. We will then look at the transition to systems which provide genuine security. The annex looks at the issue of funding in greater detail. The purpose of this article is to provide an in-depth analysis not just of funding issues but of the benefits of private sector relative to state provision of pensions from a more general perspective. Many of these arguments relate not just to pensions but to other “social insurances”.

Is Private Provision Possible?

In the current political climate, there is wide acceptance of state unemployment, disability, health and, to a lesser extent, pensions provision. It is worthwhile

²⁰ Previously published in Economic Affairs, Volume 18, No. 1.

²¹ References to “Minford”, “Stroinski” etc. without further citation details are references to other papers in Volume 18, No. 1 of Economic Affairs.

starting by asking whether private provision, on a mass scale, is possible at all. But the climate was, at one time, very different. Our current pattern of provision for these insurable risks began to change in 1911 and that change was accelerated by the 1948 National Assistance Act. Before the Second World War, millions of people, even those on quite modest incomes, obtained insurance benefits from friendly societies, other types of insurers (often mutuals which distribute all profits to policyholders), unions and voluntary organisations. Many of these organisations were so strong that, despite the demise of their role in providing social benefits, they are still with us today. Their role is discussed in Seldon et al. in (1996).

Of course, it could be argued that, since the nationalisation of social insurance, benefit provision and services have spread wider and improved beyond all measure. However, this is not to compare like with like. The quality and coverage of telecommunications, electrical goods, clothing etc. has also increased beyond all measure. We should not fall into the trap of comparing state provision for insurance risks such as health, disability and pensions today with private provision in 1911. We should look at whether the state or the private sector is best able to meet the needs of the consumer.

In most OECD countries, the political climate has changed in favour of private pensions provision. This is not primarily because it is generally felt that private provision for social insurance is generally better than state provision. It is because of the financial difficulties of state pension schemes. Thus, in some quarters, there remains almost a dichotomy of view. It is believed that state pension provision is financially unsustainable but mass private provision of social insurance for other risks is often regarded as impossible or highly undesirable. However, experience before 1948 and a consideration of the principles of insurability indicate that mass provision of social insurance is possible in today's market.

Booth and Dickinson (1997) look at the principle of insurability. If insurance is to be provided, there are a number of pre-requisites. The information necessary to price the risk must be available. There must be ways of avoiding concentration of risk. There must be ways of preventing anti-selection, by those who are poor risks. There must also be ways of controlling moral hazard. With pensions, it is clear that all these principles of insurability are fulfilled. Booth and Dickinson also believed that disability, sickness, health care, long-term care for the elderly and short-term unemployment are insurable by the private sector.

The Problems of State Provision

Choice and Efficiency

State insurance of any form involves a compulsory contract between the state and the individual. Individuals may prefer a different type of arrangement or no

arrangement at all. A market approach will tend to lead to innovation and allow consumer choice. In the pensions market this may involve a choice between different investment funds; a choice between employer and individual arrangements; a choice between money purchase and defined benefit provision; and a choice between different rates of contribution. In today's changing world, with greater labour mobility, flexibility in pension arrangements is very important and we must allow innovation to ensure that tomorrow's challenges are met. Better value is also generally obtained from private sector schemes. The rate of return from private sector investments is generally significantly higher than the return on government debt in which state schemes are implicitly invested.

Many of those who want to expand funded provision wish to do so in a prescriptive way. High compulsory minimum contribution rates, the direction of investments into indexed funds and the development of tight tax qualifications are often proposed. Some of these features also exist in the Chilean system described by Pinera. These proposals may not expand funded provision in a way which extends choice in an efficient, low cost manner.

Moral Hazard

Moral Hazard could be regarded as the tendency, in over-insured systems, for a person's behaviour to change to take advantage of the insurance benefit. It exists in both state and private insurance. Moral Hazard is not as great a problem with pensions as with, say, health insurance. The "hazard" to an insurer is that people with pension entitlements live longer than expected. People do not control or, at least, are unlikely to alter their behaviour, in order to increase life expectancy, simply because they take out pension provision. Nevertheless, there are various forms of moral hazard which do exist in socialised PAYGO systems.

A PAYGO system relies on demographic sustainability. Each generation has to provide enough taxpayers to support that generation in retirement. The number of taxpayers will depend on the number of children produced by a contributor generation and the participation rate of those children in the labour force when they reach adulthood. We can contrast socialised PAYGO systems with private or family PAYGO systems. The socialised system is mutually insured so that those individuals with insufficient children rely on the children produced by other families. A private or family based PAYGO system, whereby children look after their parents in an extended family, would put the responsibility on individuals to have children. Those who did not have children would have to save for retirement. The socialised PAYGO system has in-built moral hazard as there is no incentive for those within the system to have children who will participate in the labour force and pay taxes to provide pensions. Everybody relies on everybody else having children. Privately funded systems circumvent this problem because individual pensions relate to individual contributions and the degree of mutual insurance is limited and moral hazard controlled. Thus the

issue is not, as is often portrayed, one of “funded” versus “non-funded” it is “socialised” versus “non-socialised”²².

Within socialised PAYGO systems, there are also in-built mechanisms which undermine the system. The taxes which are necessary to finance a PAYGO system will discourage labour force participation as well as leading to welfare losses due to the distorted income/leisure trade-off. Furthermore, the development of a deficit, due to demographic difficulties, can be exacerbated due to positive feedback. A deficit will lead to higher social security taxes, which will lead to reduced labour force participation or tax evasion. This will widen the social security deficit. This is clearly a problem in countries such as Poland where, as Stroinski describes, social security taxes have reached 45% of income. In many respects, the social insurance systems have exhibited the problems of the “common” described by Thomson (1992). They do not encourage the saving and work effort (indeed they discourage it) that is necessary to sustain the system. Individuals who act in their own best interest take action which does not support the social insurance fund but which depletes it.

Policy Induced Risk

The difficulty of moral hazard leads to the next difficulty, “policy induced risk”. This has been discussed in detail by Lindbeck (1994). There are two aspects to this problem, discussed by Booth and Dickinson (1997). The first relates to moral hazard. If a social insurance system encourages lifestyles which are not self-sustaining, that abuse is often limited by the government constantly changing qualification rules. This is less of a problem with state pensions than with, for example, unemployment provision because state pensions tend to be based on the contributory principle. The second aspect is that, whilst with private pension provision there is an enforceable contract between the provider and the contributor, with state pension provision there is no such contract. Whether a benefit is paid at any particular time simply depends on the will of the majority, expressed through the democratic system or on the ability of interest groups to influence government. There is an inherent conflict in a democratic system between interest groups. The interest of those groups receiving pensions can be over-ridden by the interest of those groups paying taxes. As we have seen in many EU countries, “promises” made by governments are simply not enforceable when the time comes for people to collect their pension. The market resolves conflicts by a system of enforceable, voluntary contracting and the establishment of property rights.

²² Just as it is possible to have private PAYGO pensions it is possible to have socialised funded provision, although it is true that most private arrangements are funded and most state arrangements are PAYGO. Most of the literature concentrates on the funded issue. This article concentrates on the issue of socialised versus non-socialised schemes.

If we accept the principle of policy induced risk, and it is difficult to argue that it has not been a problem in the pensions field, it may well be the case that the very system which was designed to provide social security becomes a system of social insecurity.

Unfunded Systems in Deficit

Notwithstanding the points made above, most state pension provision is unfunded. The phrase, "solidarity between the generations" is often used to describe this mechanism whereby those working and paying taxes provide income transfers for those who have retired. However, there is no mechanism, within the unfunded system, by which that solidarity is sustained. The main immediate difficulty with social insurance schemes in the developed world is not the lack of choice and innovation; it is not moral hazard and it is not policy induced risk. The systems rely on a reasonable demographic balance between old and young being maintained. There is nothing inherent in the system that can bring about that demographic balance. Various trends have developed which have destroyed that balance. Those trends may be partly attributable to moral hazard and they may be partly as a result of a general social trend towards lower fertility rates and longer life expectancy.

The demographic problems have been discussed by authors such as Kessler (1996), Chand and Jaeger (1996) and the arguments have been summarised in Booth and Dickinson (1997). There are several ways of quantifying the accumulated social security obligations. The OECD (reported in Paribas (1995)) looked at long-term budget deficits and national debt figures for various countries, on the assumption that their state social insurance schemes remain intact. The estimates were based on the assumption of 1995 policies continuing. By 2030, Germany was projected to have a budget deficit of 9% of GDP and a debt to GDP ratio of over 100%. Figures for France were similar. Italy was projected to have a budget deficit of 13% and a debt to GDP ratio of 120%. The UK, with its significant private pension provision, had a projected budget surplus and a projected debt to GDP ratio of below 10%.

It should be remembered that the unfunded pensions burden is only one of a series of unfunded social insurance burdens which have arisen as a result of the state taking over the insurance functions of the private sector. Health and long-term care for the elderly are also financed out of current taxation rather than from accumulated investment funds set aside by people in their working lives. This makes health and long-term care costs susceptible to changes in the demographic profile. Roseveare, Leibfritz, Fore and Wurzel (1996) estimate that, if unit costs of health care increase in line with GDP, public health care costs would increase by about 1.5%-2% of GDP in most EU countries. This implies a much greater increase in taxes, as taxes are not levied on the whole of GDP.

The accumulated cost of pensions, health and long-term care combined may become very great indeed, as the demographic profile changes. The burden on the taxpayer may become such that it undermines work incentives which, in itself, further undermines the ability of the system to finance itself.

PAYGO and Funded Pensions: the Fundamental Difference

All countries are suffering from the demographic problems which have been described above. Nearly all state pension provision is PAYGO. Those countries with the greatest difficulties are those countries with the greatest state, unfunded, PAYGO pension provision. The reason for this relates to the straightforward difference between PAYGO and funded systems. Brown (1995) and Lunn in "The Actuary" (1996) have suggested that there is macro-economic equivalence between PAYGO and funded schemes. Their argument is that whether benefits are funded or not is irrelevant because all must consume what the workers produce in aggregate, whether or not benefits are funded. Therefore the pensions of today's pensioners must come from the production of today's workers. This argument is a fallacy. It completely ignores the role that capital plays in the economy. Unfunded pension provision involves genuine inter-generational transfer. Funded pensions involve the accumulation of capital which increases the productivity of labour. That capital could be invested at home or abroad. The person funding a pension establishes a capital fund which provides a property right over part of the production of those who use the capital provided by the person funding the pension. This is a fundamentally different system from PAYGO pensions.

Nevertheless, as Minford reminds us, there are circumstances in which so-called PAYGO pensions could be regarded as funded, in a sense. Some economists would regard PAYGO pensions as funded by implicit government debt: property rights are established but capital is not always accumulated. In the Annex we try to define more precisely degrees of funding.

Social Solidarity or Social Insecurity?

It is ironic that the system which has become known as "social solidarity" is that system which, whatever its merits, is least solid in that those who make pension promises, to be financed by the next generation, do not make the provision which would enable the next generation to finance the commitments. The promotion of this policy must lead to insecurity because there is no guarantee that the working generation will have the means to pay the pensions which the retired generation promised itself. Kessler (1996) suggests that social solidarity could, in fact, dissolve into social conflict. He asks what will happen if today's young people decide that they do not wish their standard of living to fall as a result of pensions promises made to future generations? They could express dissatisfaction through the ballot box. However, if this fails, because of the growing number of pensioner voters, the young may express their dissatisfaction about higher taxes

or the lowering of the standards of public services provided to the young by non-political means. Essentially, the socialised system can lead to inherent conflicts within society. Instead of the allocation of resources being determined by voluntary contracting and the development of property rights, a PAYGO pension system allocates them through a process of competition between interest groups which try to influence the political system.

Although there are considerable risks of state pension provision, the proponents of private provision would not argue that it is without risks and difficulties. State provision also has particular features which may be desirable. In the next section we will look at the other side of the debate.

Problems of Private Pensions

One of the main difficulties of private sector provision for risks such as unemployment, disability and health is uninsurability. Many people either could not afford the premiums, because their income is too low or because they are a particularly high risk. With pensions the latter problem does not tend to apply. However, there may be a problem with regard to those who do not have sufficient income to make pension provision.

The problem of insufficient income is not a single problem. There are many facets to it. There are those on a low income but who have an income somewhat above social security levels. Such people may be willing to save an appropriate proportion of their income towards a pension but high policy fees may make their pension inadequate. Those who are on a very low income for a substantial part of their working lives could clearly not be expected to contribute sufficient to a pension fund to provide them with an adequate pension. However, those who are on a temporarily low income (for example students) or who have no income but come from a high income household (for example some housewives) should not expect the same state assistance as the former group.

The advantage of the UK basic state pension is that it is an efficient mechanism for income redistribution. It is not means-tested and therefore does not produce work disincentives. It also provides an income for those who are poor throughout working life which is a higher proportion of lifetime earnings than it is for those who are temporarily poor. Other mechanisms of helping those on low incomes (for example state contributions into private schemes) would give disproportionate assistance to those on variable incomes.

Administrative costs of private pension schemes are perceived to be high. This is a serious issue which it is not possible to discuss in detail in this paper. In many unit-linked products, a 5% entrance charge and an annual charge of 1.25% of the fund value are common. There will normally be other plan charges on top. These charges, taken from a real return, which could be expected in the long-term, of 5%-6% are considerable. There is much governments could do to

reduce charges. Tax qualification could be simplified; regulation could be simplified; the further development of group arrangements could be encouraged. As world trade in financial services develops, greater competition and greater product transparency could also reduce charges significantly.

Within a private system, there are also risks of fraud and insolvency of a pension provider. The Maxwell case is probably the best known example. As we have seen in the UK, there are also risks of mis-selling i.e. of consumers being sold a product which is demonstrably unsuitable for their needs. These risks are inherent within any market. However, with long-term insurance and pensions they are potentially more serious. These problems are not new problems. They were recognised by the 1853 Select Committee of Parliament on long-term insurance regulation. As quoted by Nicholl (1898), the Select Committee stated that, "even admitting the general wisdom of the principle of non-interference on the part of the government in matters of trade, it has been contended that the question of life insurance differs in its general character, from ordinary trading transactions that it may fairly be considered as an exception to that rule". The reasons given, which apply equally to pension provision, related to the solemn and long-term nature of life insurance, and to the fact that a contract cannot be broken once entered. It should also be said that strong arguments were put forward to the Select Committee against excessive regulation. Arguments for and against different types of regulation are put forward in Booth (1997) and Simpson (1996). However, whatever system is accepted, it should be understood that the proponents of private provision never maintain that it will produce a perfect outcome. As discussed in Kirzner (1997), the market is a learning process. It never reaches a perfect competition equilibrium. A market has therefore not failed if mistakes are made by its participants. The proponents of private systems simply maintain that they operate better than systems designed by the state.

It should also not be assumed that demographic changes have no impact on private, funded pension schemes. Whilst it is true that the accumulation of a fund of invested assets should give those belonging to private pension schemes access to a pool of productive resources, there will be frictional costs of changes in demographics. For example, the capital/labour ratio will change as the population ages. Also, there will be saving followed by dis-saving as people make pension provision and then draw on their asset pool. In a closed economy, long-term interest rates would act as an equilibrating mechanism. As dis-saving took place, asset values could fall and long-term interest rates rise. This would reduce physical capital investment (as would be necessary in an economy which is consuming more) but also attract greater saving until a new savings/investment equilibrium was reached. There would, no doubt, be structural problems in the economy as this process takes place. However, there would be a constant control mechanism to ensure that the system remained sustainable. In fact, any frictional difficulties are significantly eased by international diversification of investments. By investing overseas, a pension

fund establishes property rights to an income stream from capital being used in other countries. This income stream can then be used to import goods and services from abroad, thus ensuring that the retired generation can consume in later life.

One of the most fundamental risks in funded pension schemes is the risk of the investments under performing. This can arise because there is a general long-term under performance of investment values (as in Japan over the last seven years); because of misjudgement in the asset allocation process; or because the particular fund managers chosen under perform the market. Blake and Orszag (1997) illustrates the effect on final pension, of choosing a poorly performing fund manager. It can be considerable.

There are ways of controlling or re-allocating investment risks. Defined benefit schemes allow the fund sponsor (normally the employer) to take the investment risk. Pension funds should diversify investments to reduce risk. Funds should be regularly monitored to ensure that the contribution rates are sufficient, given the investment returns achieved. The development of group defined-contribution schemes would help control investment risk by allowing diversification between fund managers. It should be remembered that, in a capitalised economy, the risk that capital investments do not provide the required returns cannot be eliminated. It can be insured, re-packaged, re-allocated and controlled but it cannot be eliminated.

The final issue we will discuss, with regard to private arrangements relates to what is often described as “investor myopia”. It is believed that, if left to be responsible for their own arrangements, individuals will not save enough, in a pension scheme, to provide an adequate pension (for example, see NAPF, 1997). This is more of a problem with personal, defined contribution arrangements than with defined benefit arrangements. In the latter, significant contributions are made by the employer.

Two issues should be separated. We should deal first with the importance of encouraging independence. Many liberal economists would accept that it is reasonable to encourage individuals (through tax incentives or compulsion) to make pension provision sufficient that they be independent of state benefits in retirement. This may require a minimum contribution rate, as a percentage of earnings, but there could be an upper limit on the earnings taken into account in determining the minimum contribution rate. This equates to the current situation for contracting out of the UK state earnings related pension scheme (SERPS).

There is more debate about the desirability of further compulsion to increase the savings ratio of the economy as a whole. In the Government consultation document, “Stakeholder Pensions” (1997), it was suggested that, “a significant number of responses to the Pension Review urged an extension of compulsion to cut costs in pension provision”. Many commentators also suggest that

compulsion will raise the savings ratio, helping the economy as a whole and ensuring a decent replacement ratio (ratio of pension to earnings) for all individuals. These arguments are of a fundamentally different character from the independence argument. Compulsory provision of any product may lower unit cost in the short-term. However, this is at the expense of innovation and consumer efficiency in the long-term and may lead to an uncompetitive market developing. With regard to the savings ratio argument, it could be said that it should be up to individuals to determine their own consumption patterns. Savings helps to provide a pension for individual pensioners but it is not clear how it helps the economy as a whole other than to provide the return to the saver, who establishes a property-right claim to the returns from that saving. Additionally, compulsory savings may lead to the diminution of other savings and, in fact, it forces an individual to save using a particular, long-term, inflexible, high-intermediation-cost vehicle which may not be appropriate to his needs. A big pool of compulsory savings may also lower the productivity of capital.

Nevertheless, compulsory contributions to private, funded schemes should not be seen as taxes. If there is a clear link between contributions and benefits and also choice between alternative private schemes compulsion and increased taxation are not analogous.

A State and Private Mix?

We can summarise the arguments regarding state and private provision as follows. State provision can lead to a lack of choice and innovation; there is policy induced risk and the potential for conflicts between interest groups; there is moral hazard; and there is the problem of financial unsustainability. Private arrangements, on the other hand, can suffer from high expenses, inadequate provision for the low paid; and the possibility of insurer insolvency or inappropriate investment policy. To some extent, the difficulty of high expenses could be reduced by reduced regulation and a considerable simplification of the tax qualification rules. Appropriate regulation and, possibly, compensation schemes can be developed to deal with the third problem. The problem of inadequate provision for the low paid is more difficult. How should we deal with this?

Multi-Pillar Approaches

One approach is to develop what the OECD have called three pillar provision. They argue, for example in Hagemann and Nicoletti (1989), that the state system is particularly effective in redistributing income and, therefore, there should be a compulsory state pillar around which people would build private provision. The first pillar could take various forms. It could be linked to prices or earnings. It could be means tested or universal. The pension age could be constant or adjusted to ensure that life expectancy beyond pension age remains constant. The second pillar would involve compulsory private provision. The third pillar

would be voluntary private provision. Giarini (1990) and Kessler (1988) have suggested a fourth pillar, whereby individuals supplement retirement income through part-time work. The Polish reform, described by Stroinski, provides a good example of the multi-pillar approach.

Depending on the size and indexing arrangements for the first pillar, multi-pillared approaches can vary between being a genuinely mixed system and one where the state has minimal involvement, as is shown by Daykin in his review of arrangements in the EU.

The problem with the multi-pillared approach is that it alleviates the problem of the private sector providing inadequately for the less well off whilst leaving the group which relies on the first pillar with the other problems inherent in state provision. It also creates a block of unfunded provision. Is there an alternative route?

Income Redistribution or Social Insurance?

There is a fundamental difference between the government redistributing income and providing an insurance product, such as a pension, to those who cannot make their own provision. We make no value judgement on the extent of income redistribution deemed desirable and believe it is an appropriate function of the state to redistribute income to some extent. However, this does not need to be done by separating off one group of society and developing for them pension arrangements which can be fundamentally insecure. An alternative approach is to follow the suggestion of NAPF (1997) and have the state make a contribution, up to a certain minimum contribution level, to an individual's private pension vehicle. This would ensure that temporary or permanent lack of income during a working life did not translate into dependency on state pension and benefits in retirement. It would also ensure that the growing proportion of the workforce who have a variable income pattern have continuity of pension arrangements. This second approach also fits in with the philosophy of recent governments. Recent governments have tried to split the provider and financer of services. This principle can be extended to pension provision, so that the government redistributes income so that people can make pension provision but does not actually provide the pension itself.

If there is going to be a considerable shift to private pension provision there can be considerable transition difficulties. These are described in the next section.

The Transition to Funded Arrangements

If it is accepted that, in most OECD countries, there should be a movement towards more privately funded pension provision, with some degree of compulsion and maintaining some degree of support for those on low incomes, there will be transition problems.

We can define two types of transition problem arising from a movement from state to private pension provision:

- a) how should the state deal with those who have accrued rights in the existing state system? and
- b) if the state decides to maintain existing accrued benefits within the state system, how does it deal with the cash flow difficulties? In a PAYGO system, the social security taxes of the current generation pay for the pensions of the retired generation. If the current working generation makes contributions to a funded scheme, there will be insufficient social security taxes to meet the PAYGO commitments already made.

Recognition of Accrued Rights

Miles (1997) points out, correctly, that privatising the existing liabilities of state pension schemes (or making the liabilities explicit using the method described by Pinera), does not solve the transition problem. Implicit debt would simply be transformed into explicit debt either as the government recognised accrued rights using recognition bonds or as it made contributions to private schemes, in recognition of accrued liabilities, financed by the issue of debt. This means that, in theory, the chosen solution to the first transition problem does not affect the magnitude of the second transition problem. One way or another accrued liabilities have to be met. These economic realities are then compounded by political realities. Countries, such as Germany or Italy, which have significant unfunded liabilities, face massive transitional problems if they move towards private provision. On the other hand, countries for whom the problem is less serious, such as the UK, are more likely to reform because there are fewer political difficulties caused by transition.

However, the position is not quite as clear as implied by Miles. First, we will assume that the recognition bond system, described by Pinera and Stroinski, is used in the transition from state pension schemes. This involves explicitly acknowledging state pension liabilities and giving members of the state pension scheme a non-tradable bond equal to the present value of their liabilities, calculated at the rate of return normally paid on government debt. There are two potential economic gains from this proposal:

- (i) Making implicit debt explicit provides more information to voters. They may take more informed decisions about how they would like debt to be built up by governments in the future.
- (ii) It may be possible to issue recognition bonds in respect of a lower level of benefits than state pension scheme members would expect to receive had they remained in the state scheme. Members may prefer a reduced level of benefits with certainty to a higher expected level of benefits which could be eroded by political decisions. This economic benefit arises from the

assignment of property rights and consequent reduction in risk. It is a pure economic gain.

It should be mentioned that recognition bonds are not tradable and therefore do not give rise to cash flow problems that the issue of traditional government bonds would.

If the government goes a step further and issues explicit government debt to pay contributions into private schemes, in respect of accrued liabilities, two further potential economic benefits are available:

- (i) The new state debt could be cancelled by the proceeds of privatisation. If privatised industries have a higher present value in the private than in the public sector there is a pure economic gain from this approach, as well as the benefit from easing transition arrangements. Privatisation is rarely mentioned in the context of pension reform (for example, it is not mentioned in the EU Green Paper, Supplementary Pensions in the Single Market (1997)). However, the simultaneous privatisation of state assets and liabilities is one of the more obvious ways of easing the transition.
- (ii) There is a further gain from allowing individuals to choose their own investment policies and, possibly, obtaining a higher risk adjusted return than would be available in the public sector.

The second transition difficulty, of how to deal with the burden on the current working generation of unwinding the accrued liabilities of state pension schemes, is more difficult. Some general points can be made. Booth and Dickinson (1997) gave persuasive arguments why the deficit should not be amortised over one generation. In particular, the generation which has benefited from a PAYGO system has died. There is no reason why the cost should just fall on the current working generation who did not set the system up. Various suggestions were made by Booth and Dickinson as to how the debt of future pension liabilities could be spread across two or three future generations. A further way was advanced by the "Basic Pension Plus" proposals of the previous Conservative Government.

Basic Pension Plus proposed reversing the current taxation treatment of pensions. Contributions would no longer have been tax deductible but benefits would be tax free. The removal of tax relief on contributions would have obviated the need for further tax increases to finance existing obligations (although the tax burden would rise for the current working generation due to loss of relief). The next generation of taxpayers (i.e. today's children) would also have made a contribution to the amortisation of the debt by financing tax free benefits to today's contributor generation. Thus the social insurance debt could have been amortised over a number of generations.

We will conclude this section by commenting that merely looking at the funding issue from an accounting perspective can lead us to some misleading conclusions. Whilst a case can be made that the privatisation or explicit recognition of existing liabilities has no economic impact, a wider consideration suggests that those courses of action could have significant economic benefits. However, the issue of how the liabilities are amortised is essentially a distributional one. It deserves explicit consideration by politicians.

Conclusion

This article has looked at the difficulties of state pension provision. It has also considered some of the difficulties with private schemes and concluded that, whilst some of these can be overcome, some are inherent in a system of pension provision which leads to private capital accumulation. Whilst much of the literature has focused on funding difficulties with PAYGO state pension schemes, these are not the only problems. It would be a mistake for politicians to focus on funding problems alone when considering pension reform. To do so would be to focus on the effects and not the causes of unstable arrangements. State pension systems tend to provide a uniform product and do not allow innovation; they lead to moral hazard, which is one of the causes of the funding difficulties; there is also the difficulty of “policy induced risk” which can lead to the name “social security” being a misnomer: no property rights are held by those who build-up state pension entitlements. State pension arrangements do not have any natural control mechanisms and can be self destructive. They can also undermine the social solidarity they are meant to promote.

When developing reforms, a number of issues need to be considered. For example, how much compulsion should there be? What should be the tax status of private pension schemes? What regulation should surround the provision of pensions? It is important not to surround the private provision of pensions with such complexity that many of the advantages of private provision are lost.

One of the clear advantages of the basic state pension is its ability to provide for those on low lifetime incomes. However, the government does not have to finance and provide pensions. As with many other services, it is possible for the government to finance pension provision for the low paid but not necessarily provide the pension. A division of the financier and provider would enable those on low income to have the advantages that funded schemes offer.

If there is a movement to more funded pension provision, there will be transition problems. Those problems need not be as great as is often assumed in the literature. For example, the government can simultaneously privatise pension liabilities and state owned assets at considerable economic gain. In countries with a large public sector and high state pension liabilities, this may be a useful approach. The article by Stroinski mentions the likelihood of the Polish government taking that approach.

Whilst funding is not the only important issue in the pensions debate, it is an important one. Economists differ on the precise meaning of the word, “funded”. In the annex, funding is graded and the true nature of state pension schemes is discussed.

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Annex

Grading Funding and Security

Many economists describe state pension liabilities as “unfunded”, for example Stein (1997). However, there is not unanimous agreement about the use of this expression. Some economists, whilst not being in favour of state pensions, describe state pensions as being implicitly invested in government debt. Minford, in his article in this edition, describes the SERPS system as coming close to funding, because individual contributions relate to the present value of benefits.

The funded/unfunded debate could be seen to be simplistic in that it attempts to summarise a whole range of different degrees of funding and security using one word. The important issue for prospective pensioners is security of their future pension arrangements which is determined by three factors:

- a) the investment arrangements which are made to provide future benefits
- b) the institutional arrangements surrounding the investment of funds
- c) the extent to which property rights are conferred upon the prospective pensioner, with regard to their future pensions, or investments, so that the prospective pensioner is not relying on compulsory income transfers which may or may not be sanctioned by the democratic process.

In this Annex, we grade funding or security of various different arrangements by the above criteria. Occupational schemes for public sector employees (for example civil servants' schemes) are specifically excluded from this analysis. They give rise to different issues, given the nature of the employment contract

which exists with the government. This annex concentrates on the security of alternative pension arrangements for private sector employees.

Grade One

Private, invested schemes with separately held assets, primarily invested in the private sector.

Such schemes can be either defined contribution or defined benefit schemes as used in Australia and Chile (discussed in this edition) and in UK, US and Canada. Funds are invested in long-term investments which should provide an economic return; funds are separately held protecting the beneficiary from insolvency of the sponsor; property rights to the investments and contractual rights to benefits are well defined.

Where assets are mainly public sector, property rights are still well defined and investments secure. There may arise indirect problems from an excessive build-up of government debt if all pension funds are invested in government debt.

Grade Two

Private, book reserve schemes

Such schemes are common in Germany. A contractual pension promise is made to the scheme member. However, assets are not separately invested. A liability builds up on the balance sheet and the contributions are effectively invested in the business. Thus funds are invested but the institutional arrangements are weaker than in Grade One. Property rights and contractual obligations are clear.

It is with state arrangements that the greatest confusion regarding funding appears. It is important to separate state arrangements into different types.

Grade Three

State pensions, privately invested, actuarially determined contribution rates.

In some respects, if such schemes were to provide a small proportion of overall pension provision, they would be equivalent to Grade One, in terms of security. The state would be acting as administrator of the scheme but investments would be segregated and property rights defined. This would have implications for choice and efficiency but not for security. However, if such schemes were significant, government investment decisions would become important and the government could come to own very large shares of industry. The consequences of this are impossible to predict.

Grade Four

State pensions, actuarially determined contribution rates, benefits determined by contribution record, contributions invested in state capital projects (part of the Singapore Central Provident Fund has these characteristics).

The investment arrangements are secure in the sense that funds are invested in capital projects. However, investment is within the public sector and returns may be low (particularly if funds are large and there is a limited range of public sector projects). The investments may not be separately held for beneficiaries. The contractual arrangements determining benefits may also be weak in that future generations may be able to over-turn “promises”, made through the democratic system, by previous generations. Property rights are relatively obscure.

Grade Five

State pensions, actuarially determined contribution rates, benefits determined by contributions, no explicit investment of funds.

Minford has described such schemes as being effectively invested in government debt. This is true but the debt is not explicit; correspondingly the investments of the potential beneficiary are not explicitly held. The state receives the contribution and spends it. In return, it makes a promise to make future payments (the payments being determined by actuarial calculation) to the potential beneficiary. From the economic point of view, this appears to be an identical transaction to that of the state issuing debt and receiving payment for the debt and spending the payment. In return, it promises to repay the debt in the future. In technical terms, the pensions are therefore funded by the reduction in explicit government debt which can take place because of the receipt of pension contributions. And, as Minford points out, there is no inter-generational subsidy because contribution rates are actuarially fair. In a number of important ways, however, the arrangements are unfunded and insecure. Firstly the government debt is implicit (no bonds are actually issued but pension promises are made): there is therefore no guarantee that explicit debt will be reduced by income from contributions. Secondly there is no pool of capital investments (no accumulation of capital) and assets are not separately held for the beneficiaries. Thirdly, as we have seen with SERPS in the UK, even where benefits are based on the contributory principle, they can be eroded, by elected politicians, when the time comes for payment. This possibility arises because there are no separately held explicit investments, implicit debt can increase without politicians realising it and there are no well defined rights and contractual arrangements which can be enforced. Grade five has the advantage over grade six in that that each generation has to pay the expected cost of its own benefits and therefore there is less incentive for a generation to vote itself excessive benefits.

In the author's view, it is perfectly reasonable to describe the above arrangements as "unfunded". They are funded only in the most loose sense of the word.

Grade Six

State pensions, pension levels determined by legislation (or in other government regulations), pensions paid from the tax revenue of the working generation, tax levels determined so that they are sufficient to pay pensions of the current retired generation.

These arrangements, common in the EU (and in Poland, as described by Stroinski), share some of the characteristics of grade five but are less secure. Once again, the pensions are funded, in a technical sense, by government debt, because government promises are made to prospective pensioners. However, the current working generation does not buy the implicit debt (as in a scheme with actuarially determined contributions). The taxes of the current working generation extinguish the debt built up by the previous generation, who are now receiving pensions in retirement. There are extra risks involved in such a system, compared with grade five). There is a danger of a given generation promising itself large benefits which do not affect its contributions. In grade five, demographic change can lead to a build-up of implicit debt which can go unnoticed. However, in grade six, there is no attempt to even try to control the effects of demographic change. If an individual is part of a smaller contributor generation he will have to pay for the pension debts built-up by the preceding larger generation. The inter-generational build-up of debt is formalised and it is very unlikely, given that contribution income in a given generation would not reflect the implicit debt being built up, that explicit debt would be reduced to compensate. As with grade five, there are no contractual guarantees or property rights and no pool of separately invested assets. Pensions are probably less secure than in grade 5 for two further reasons. Firstly, the build-up of debt may lead voters to reduce benefits. Secondly, because benefits have not been paid for by actuarially fair contributions, voters may be less inhibited from reducing benefits.

It should be noted that, in this annex, we have not discussed the difference between defined contribution and defined benefit schemes. This is an important security and risk issue in itself but does not affect the difference between funding arrangements. Unfunded schemes (particularly grades five and six) have proven to be insecure even when based on the defined benefit principle.