The pensions problem

The transition from social insecurity

Philip Booth

The paper analyses the insecurity of state relative to private pensions. It considers issues such as moral hazard, policy-induced risk and the way in which property rights accrue to a scheme's beneficiaries. The article concludes that state schemes are fundamentally more insecure than private schemes and that the difficulties of state schemes have not arisen simply because of an accident of demographics. The difficulties of private pension schemes are also discussed as well as the transition problems arising from moving from state to private arrangements.

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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 'inter-generational 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 Piñera, Stroinski and Knox respectively. Other countries, particularly in the European Union (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. Concentrating on the funding issue alone may result in 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; and 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.

The first part of this article considers some of the more general issues relating to state and private insurance provision. It then looks at the transition to systems which provide genuine security. The appendix 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 starting by asking whether private provision, on a mass scale, is possible at all. The climate was, at one time, very different. Our current pattern of provision for these insurable risks began to develop in 1911 and that development 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 (1996).[1]

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 and so on 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 better 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 felt that private provision for social insurance is better than state provision. It is because of the financial difficulties of state pension schemes. Thus, in some quarters, there remains a dichotomy of views. 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 private social insurance is possible in today's market.

Booth and Dickinson (1997) look at the principle of insurability.[2] If insurance is to be provided, there are a number of prerequisites. 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 argue 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 Piñera elsewhere in this issue. 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 inbuilt 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.'[3]

Within socialised PAYGO systems, there are also inbuilt 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 because of 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).[4] 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).[5] There are

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two aspects, discussed by Booth and Dickinson (1997).[6] 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 overridden 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.

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)[7] and the arguments have been summarised in Booth and Dickinson (1997).[8] There are several ways of quantifying the accumulated social security obligations. The OECD (reported in Paribas (1995))[9] 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: GDP ratio of over 100%. Figures for France were similar. Italy was projected to have a budget deficit of 13% and a debt: GDP ratio of 120%. The UK, with its significant private pension provision, had a projected budget surplus and a projected debt: 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 because the state has taken 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)[10] 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 in the EU 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 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 Lunnon in *The Actuary* (1996)[11] 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 productivity. 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. The appendix tries 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)[12] 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 could not afford the premiums, either 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 has many facets. There are those on low incomes but nevertheless 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

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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, that is 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 are not new problems. They were recognised by the 1853 Select Committee of Parliament on long-term insurance regulation. As quoted by Nicholl (1898),[13] 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).[14] 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),[15] 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) illustrate the effect on final pension of choosing a poorly performing fund manager.[16] It can be considerable.

There are ways of controlling or reallocating 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 further development of group defined-contribution schemes would help control investment risk by allowing diversification between fund managers. In a capitalist economy, the risk that capital investments do not provide the required returns cannot be eliminated, though it can be insured, repackaged, reallocated and controlled.

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).[17] 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.'[18] 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. Saving helps to provide a pension for individuals 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 has called three-pillar provision. For example, Hagemann and Nicoletti (1989) argue 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.[19] 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.[20] 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, the multi-pillared approach 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 inadequate

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private-sector provision 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 its 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 it 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, to an individual's private pension vehicle.[21] 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 with a variable income pattern has 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 – the government redistributes income so that people can make pension provision but does not 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?
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 Piñera), does not solve the transition problem.[22] 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 Piñera and Stroinski, is used in the transition from state to private 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.

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)).[23] 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.[24] 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 which did not establish the system. 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 (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

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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 between financer and provider would enable those on low incomes to have the advantages that funded schemes offer.

If there is a movement to more funded pension provision, there will be transition problems though they 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 appendix, funding is graded and the true nature of state pension schemes is discussed.

Appendix

Grading funding and security

Many economists describe state pension liabilities as 'unfunded', for example Stein (1997).[25] 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 appendix, 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 appendix 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 (discussed by Knox) and Chile (discussed by Piñera) and in the UK, USA 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 overturn '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. First, 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. Second, there is no pool of capital investments (no accumulation of capital) and assets are not separately held for the beneficiaries. Third, 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 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 loosest 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, which is 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 even to try to control the effects of demographic change. If an individual is part of a smaller contributor

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generation he will have to pay for the pension debts built up by the proceeding 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 Five for two further reasons. First, the build-up of debt may lead voters to reduce benefits. Second, because benefits have not been paid for by actuarially fair contributions, voters may be less inhibited from reducing benefits.

This appendix has 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.

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