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# Privately managed old-age pension schemes: theory and reality

## 1. Introduction

1.1 One of the most important elements of many recent pension reform proposals has been an increased role for privately managed, funded complementary pension arrangements. The principal objective in introducing, or strengthening, such arrangements is to increase the level of advance funding for future pension liabilities. Apart from having some psychological advantages and introducing a healthy discipline into the consideration of pension promises, an expansion of funded complementary schemes is seen as offering enhanced prospects for economic growth, making future pension promises more affordable.

1.2 It is also believed that an increase in the element of private sector management will increase efficiency and reduce the transaction costs associated with pension provision. This is based on a belief that public sector management structures are necessarily inefficient and that private sector competition will result in increased efficiency. The argument is most strongly promoted in relation to the investment of funds, where a number of examples can be cited to show that management of social security funds by public sector or quasi-public sector institutions has resulted in poor investment performance, an undesirable level of political influence and even suspicions, in some cases, of corruption, or at least incompetence.

1.3 Since almost every country in the world which has funded complementary pension schemes, or a non-trivial level of funding in the basic social security arrangement, has a number of different and unique characteristics, any attempt to generalise may be seen as conveying a partial, and possibly biassed, point of view. Nevertheless, this paper will attempt to explore the practical operation of a number of different styles of privately managed, funded complementary pension schemes. Countries referred to include some with a number of years of experience of privately managed pension schemes and others that are just starting down this road. This will provide some basis for reviewing elements which appear to have been successful and aspects which perhaps give rise to some concern or where care needs to be taken in establishing a new system. This may enable some deductions to be made about factors which should be the focus of particular attention in any pension reform.

## 2. Some theory – to fund or not?

2.1 The most important theoretical arguments in favour of an enhanced level of funded provision include the following:

- funding pension liabilities in advance will increase the level of savings in the economy

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- a funded complementary pension system will help to develop and stabilise capital markets

- the investment demand created by funded pension schemes will stimulate the growth of the economy, providing much-needed investment capital

- funded complementary pension arrangements will be better able to cope with the pressures caused by an ageing population

- investment returns will help to reduce the long-term cost of pensions

2.2 These are important claims for a funded pension system which certainly appear very attractive to countries facing difficult future economic development or with promises of future benefits under pay–as-you-go systems which may be difficult to sustain.

2.3 Although the development of funded pension schemes clearly implies an important savings dimension, economic theory warns against assuming that a change in savings structure necessarily increases savings in the economy. There is a real possibility that, if companies and individuals are forced to save more for pensions, they will reduce other forms of saving, leading to a substitutionary effect rather than a real increase in savings. It is unfortunately the case that some countries with a relatively high level of funded pension provision have quite a low overall savings ratio by international standards (e.g. the United Kingdom).

2.4 Most of the academic studies on the savings impact of funded pensions have a US orientation, but the literature is at best equivocal in that environment. It may, however, be the case that development of a funded pension sector could have a beneficial effect on savings in a country with a low savings ratio and little historical incentive to save or tradition of long-term saving.

2.5 The potential role of institutional investment, particularly from pension funds, in helping capital markets to develop, and reducing their volatility, seems to be generally accepted. There is, however, often a difficult "chicken and egg" issue, as the successful development of pension funds depends on there being a suitably wide range of appropriate investments, a well-functioning banking system to ensure speedy and accurate processing of financial transfers, and stable investment markets with adequate liquidity and low transaction costs and without excessive price volatility. To an extent these will follow from the development of pension funds, rather than coming first.

2.6 The availability of pension fund investment monies to finance economic growth through capital investment can clearly be an extremely attractive proposition in some environments, particularly where there is a dearth of available investor capital and where important wealth-enhancing projects cannot proceed for lack of such capital. However, this is certainly not the situation everywhere.

2.7 If it is not the case, pouring additional pension fund investment into the market may simply force up prices of the available stocks and securities. There is some evidence of this effect in developed economies but it is still reasonable to suppose that growth in pension fund investment could be beneficial in many emerging markets and in economies in transition.

2.8 It has increasingly been recognised that the switch from pay-as-you-go to funded provision does not automatically solve the demographic problems. The resources needed to support a growing elderly population will still need to be generated by an economy with a declining number of people at working ages. Wealth can only be transferred to a limited extent over time by investing, although ownership of assets does create a claim on the future resources of the economy. It may well be that such a market mechanism will achieve the transfers of resources necessary to support the elderly more smoothly than direct transfer payments (tax or social security contributions). It is also probable that it will make the process less political. If the additional investment does increase economic growth, the size of the economic "cake" to be divided up will be greater, and if so the transfer of resources to the elderly will be more affordable and perhaps easier to effect. International diversification may help, as not all regions will experience an ageing population at the same time.

2.9 There is a danger that there may be significant disinvestment from share markets in the 2020s and 2030s, as increasing numbers of people in many industrialised economies reach retirement age with access to a funded complementary pension. It can be expected that traditional occupational pension funds will need to reduce their exposure to equity markets as their age profile becomes more mature. However, the problem arises in more acute form with personal pensions (individual accounts), where equity style assets may be realised at (or approaching) retirement, with investments then being effectively switched to bonds (including index-linked bonds) through the purchase of annuities. The impact of longevity is likely to be passed on directly to pensioners through the increasing cost of annuities, or, with some annuity designs, through subsequent mortality charge adjustments.

2.10 There are other reasons why the development of complementary schemes may be seen as desirable. They may help individuals to identify more clearly with their accumulating pension "wealth" and to feel a sense of ownership of the underlying assets. This is seen as assisting in the development of a capital-owning democracy and also in increasing consumer choice. Complementary pension schemes may also offer a greater degree of flexibility to employers and to employees in managing the total remuneration package and may make labour markets more adaptable.

2.11 To the extent that investment returns on pension funds (net of transaction costs) exceed earnings inflation, they can be seen in one sense to reduce the real costs of pension provision. However, given the time preferences of individuals, government and private companies, it may well be that this is a rather weak argument for paying now for something which could be left to pay for later. The strongest argument for funding of privately managed pension schemes is the need to provide long-term security. Economists have shown that, theoretically at least, under somewhat simplified assumptions, a funded pension arrangement costs less than a pay-as-you-go arrangement if the return on the assets is greater than the increase in wages by more than the rate of increase in the number of births. This can be interpreted as implying that pay-as-you-go systems may have been reasonable value in the last 50 years, but that demographic changes in the next 50 years will make funded pensions a better proposition. Such an analysis is not without its problems, and, as indicated above, demographic change may get reflected in future rates of return in ways which are not easy to predict.

## 3. Private management – a panacea for efficiency?

3.1 Another fundamental belief is that significant improvements in efficiency (and particularly cost-effectiveness) can be achieved through moving from public management of the system to competitive private management.

3.2 In terms of administration and other transaction costs, public sector institutions often have little real incentive to improve efficiency. However, incentives may be able to be created through good public sector management structures and, particularly, through maintaining tight control on budgetary provisions for administrative costs. In some environments it has to be recognised that improvements in efficiency at working level may be difficult to achieve against a prevailing work culture.

3.3 Competition between private sector organisations ought in principle to create real incentives to bring costs down and to develop more efficient working practices and management structures. Unfortunately, it does not always work like this in practice. There is abundant evidence worldwide that the insurance industry, a major provider of pension investment products and usually the principal provider of annuities, has far from optimally low administration costs, probably because competition is only partially effective in an environment where the product is sold rather than bought and most purchasers do not actively shop around.

3.4 In fact the situation is rather worse than this in many jurisdictions, since insurance companies and commercial pension funds are most likely to make profits if they sell large volumes of business, so they devote huge resources to marketing and to generous compensation packages for salesmen and financial advisers. In most cases the intermediaries, whether employed or self-employed, are remunerated to a large extent by commission on contracts sold. The result of this can often be seen in commission competition (in markets where neither commission nor overall marketing costs are directly controlled by regulators), whereby the financial institutions compete to pay higher commission in order to attract more business. A well-documented example of this occurred in the United Kingdom after 1990 when a voluntary maximum commission agreement, operated by the insurance industry, was overturned as anti-competitive by the Office of Fair Trading, following which the level of commissions rose significantly.

3.5 High commission and other marketing and transaction costs also characterise the competitively managed individual account pension systems, such as that pioneered in Chile from 1981 onwards. Since the market is not large enough to sustain a large number of pension funds (referred to in Chile as AFPs – see section 4.1), competition for affiliates (members) is intense. This leads to heavy marketing expenditure (especially on television advertising) and generous commissions for salespersons for securing new affiliates, and especially for persuading people to shift their affiliation from another AFP ("churning"), which rarely offers significant benefit to the individual affiliates (in some countries this practice can be highly detrimental to the individual because of charges levied on exit from the old fund and up-front charges on joining a new fund). With the mandatory contribution (into pension savings) set at 10% of earnings, the AFPs charge up to a further 2% or so of earnings to cover commission, marketing, fund management and other expenses (plus something for death and disability cover, but that is not relevant to the current discussion).

3.6 The arguments for competitive private management of the investments are stronger. Public sector institutions generally find it difficult to exhibit the flexibility and speed of action necessary to manage an investment portfolio actively and successfully. The funds involved could, in any event, rapidly build up to a size which mitigates against active management (because trades of a size to be worth doing in the context of a large portfolio may be difficult to execute as a result of inadequate liquidity in the market). Another problem is the temptation for political interference in the investment policy of a national institution, such as a social security scheme. Whilst there may sometimes be social benefits to be gained from investment policy being considered at the political level in the context of wider social and economic policies, this is unlikely to be optimal for individual members of the scheme, at least in straight financial terms, and many would contest whether it actually secures optimal allocation of capital in the economy.

3.7 A publicly managed social security institution may be restricted by legislation to investing in government bonds to a significant extent (the Social Security Trust Funds in the United States of America currently have to be wholly invested in government bonds). This raises the question of whether such investment has any beneficial economic effect, since in principle it just saves the government raising taxes elsewhere in the economy, or reduces other government borrowing requirements.

3.8 Some publicly managed schemes have sought to introduce a significant level of funding in real assets, devolving the management of the investments to private fund managers, perhaps operating under an independent (apolitical and non civil service) investment management board. The Canada Pension Plan is being developed along these lines. Even with decentralised management this may raise concerns about back-door nationalisation (taking into government ownership) of private equity.

3.9 There are economic efficiency arguments to support a policy of devolving asset management to a significant number of different private sector managers. Investment management charges are generally quite low and are easily justified if a small improvement in the overall rate of return can be obtained. However, whilst this is probably beneficial overall, and facilitates the development of stable and liquid capital markets, there are also risks from the point of view of the individual member, as some investment managers may not perform as well as others. In some structures it may even be possible for the pension fund vehicle to become insolvent (e.g. if operated through an insurance company, or if the pension fund is required to give guarantees which it has no means of financing, or with some types of expense and charging structures), in which case the members might lose out substantially (unless there is some form of guarantee fund or a guarantee underwritten by the government). Fraudulent investment dealings have been known to occur, sometimes even in quite heavily regulated environments.

3.10 Investment policy can usually only be optimised in the absence of significant constraints. Government regulations often result in sub-optimal investment policy, for example reducing return without decreasing and maybe even increasing the risk that the objectives may not be met. Requirements to provide guarantees in relation to investment return can also have an adverse effect on the efficiency of the investment process. In Chile the AFPs are required to guarantee that the real return (net of price inflation) which they provide each year will not be more than 2 percentage points (200 basis points) below the average real return for the AFPs. A key result of this has been a strong tendency of all the AFPs to follow a very similar investment strategy. It is safer to stay in line with the other funds, even if this leads to suboptimal returns, rather than aim for better returns and run the risk of a "fine" if things do not turn out so well.

3.11 Another impact of the trend towards defined contribution (individual account) pension systems has been reported in Australia. The transparency of investment outcomes, resulting from requirements for frequent disclosure to members of the value of the individual accounts, strongly inhibits investment management policy, resulting in a significantly more conservative investment strategy, and a greater focus on short-term results, than was previously the case under a defined benefit pension system. This may have been exacerbated in Australia by the prevalence of capital guaranteed products with discretionary interest additions, as opposed to pure unit-linked products, but relatively few markets may be ready for the unrestrained volatility of pure unit-linked investment with a high equity component.

3.12 Probably the optimum system from an investment perspective, both in terms of allocation of capital and achieving the best returns commensurate with an acceptable level of risk that outcomes will not be met, is found with private management of defined benefit pension schemes, either for individual employers, or for groups of employers (including industry-wide schemes). Unless these are very small (in which case they would probably make use of a pooled investment vehicle), they permit (in principle, at least, subject to local regulatory constraints) a high level of investment freedom, a very long-term investment perspective and competitive investment management at a level which facilitates liquidity, competition and efficient markets.

3.13 The major disadvantage of such defined benefit pension systems tends to be the open-ended nature of the liability on the sponsoring employer(s). It is this which may make such a system attractive to members, as they are substantially protected from market risk. Historically, employers in countries with a defined benefit occupational pension tradition have been willing to accept the relatively open-ended liabilities. The funding costs could generally be managed quite effectively on the basis of actuarial advice, and such schemes were regarded as attractive employee benefits for the purposes of recruitment and retention of staff. Recent trends in international accounting standards (in particular IAS19 (revised 1998)) are requiring sponsoring companies to adopt a more market-based approach to pension liabilities (fair value of assets and liabilities), which is expected to lead to much greater volatility in company balance sheets arising from the pension liabilities, even if the long-term funding situation appears to be under control.

This may create concerns about the impact of such plans, even though the long-term consequences may be quite manageable.

3.14 Another pressure on such schemes comes from the adoption of regulatory norms which require “solvency” or “asset adequacy” to be tested on a regular basis against the accrued liabilities. Market volatility is also an important factor here, and it may be extremely difficult to construct a solvency régime which does not conflict in some way with the sponsoring employers’ long-term funding objectives. The problem is to reconcile a long-term approach, framed around funding the ultimate benefits for those who stay to retirement age, with a short-term solvency approach based on accrued benefits, for example as though everyone left employment or the employer went out of business.

3.15 With these general theoretical aspects in mind, we turn now to examine some different complementary pension scheme structures in more detail. We start with the theoretically simple predominantly defined contribution schemes, exemplified by Chile and, more recently, other Latin American countries. In passing it is worth noting that there is nothing new in the defined contribution individual account approach. This was the basis of the provident funds which were developed as an alternative to social security pension schemes in many parts of the world, with some important examples in the Asia-Pacific region (e.g. Singapore, Malaysia, Indonesia, Fiji and a number of other Pacific island nation states). An important difference is that the Chilean system operates through competitively managed private sector funds, rather than investment being carried out by a single public, or quasi-public, institution. Provident funds also tended to focus on provision of the accumulated lump sum at retirement age, with the idea of annuitisation coming later and not always being welcomed in cultures where the availability of a large capital sum at retirement had become established. Individual accounts in the Chile style are geared to be converted to pensions in retirement, and in some countries this may be mandatory. Others permit different options for drawing down the accumulated sum in a more flexible way, with annuitisation being deferred to a more advanced age, or not required at all.

3.16 It should also be emphasized that defined contribution plans, in spite of their name, do not require contributions to be defined in advance, although typically they do have set percentages of earnings as regular contributions. The distinguishing feature of defined contribution schemes is that the benefits are determined by the contributions paid in, rather than the other way round. Defined contribution schemes may embody guarantees, e.g. in relation to rate of return, ultimate accumulation, or annuity conversion rate, but these guarantees are typically offered by the provider rather than the employer, whose liability is usually extinguished by payment of contributions at a specified percentage of the salaries of the employees.

## 4. Defined contribution schemes in practice

### 4.1 Chile

4.1.1 Chile effected a radical reform of its social security system in 1981, closing down the former defined benefit social security scheme for new entrants and replacing it with a mandatory defined contribution system based on individual accounts. This, in effect, became a funded first and second pillar, although the government guarantees a minimum level of pension for those who have contributed to the funded system for 20 years or more. Those in employment at the time when the new system was introduced were given the choice of opting to remain in the old system. Even now there are 250,000 workers (5% of the economically active population) still contributing to that system, although this is clearly an ageing group. For those who opted to change to the new system, accrued rights to benefit under the old system were recognised through special "recognition bonds" issued by the government, which are a promise to pay a defined amount into the individual account at the time when retirement takes place.

4.1.2 Each member is free to choose to which Administrador de Fondos de Pensiones (AFP) to affiliate, there being currently 13 to choose from (down from 24 a few years ago). Contributions are paid at 10% of earnings (up to a ceiling of approximately US$2000 a month at present) into the individual account, the whole amount being payable by the member rather than the employer. A once and for all pay increase was granted to employees to coincide with the introduction of a new scheme. An additional 2 to 3% of earnings is paid to the AFP (the administrator, or manager, of the pension fund) to cover administrative costs, to purchase insurance protection for disability and survivorship benefits, and to generate profit for the AFP.

4.1.3 The AFPs are not entitled to make any annual expense deduction from the funds themselves. Indeed in some circumstances they may have to subsidise the funds, as they are required to guarantee that the return each year will be no lower than 2 percentage points (200 basis points) below the average rate of return from all the AFPs. To date there have only been a few occasions on which AFPs have produced returns falling outside this range and have been required to support this guarantee from their own resources.

4.1.4 AFPs are in principle permitted to make a charge on exit, if a member transfers his or her monies to another fund, but in practice they do not. Maintaining adequate contribution income is thus the key to their survival and much effort is expended in trying to attract new affiliates. This results in rather high marketing costs and a sum of the order of 20% of contribution income being absorbed in the total costs. Although all the charges are made at the front end, no provisions are made for future expenses, as would normally be required for an insurance company, so that continued viability depends on having a good number of affiliates. This, however, reduces the capital requirements relative to other regulated financial institutions.

4.1.5 Affiliates are free to change from one AFP to another. However, if they decide to contribute to a new AFP, they must also transfer their existing balance to the new AFP. An affiliate can only have savings with one AFP at any time. There have been concerns about the frequency of switching. Since the system is compulsory, all employed persons belong to an AFP. Apart from some scope for increasing coverage among the self-employed, who can choose whether or not to contribute, the main way in which an AFP can increase its income (to cover management expenses and create the possibility of profit for the owners) is through persuading affiliates to transfer from another fund. Measures have been introduced recently to ensure that a transfer is only made as a deliberate choice of the affiliate and not simply under pressure from a sales agent.

4.1.6 It is important to distinguish the pension fund itself from the entity which manages the fund. The pension fund is a pure unitised investment vehicle, without any deduction of charges, the assets of which effectively belong to the affiliates. The administrator has to be authorised by the Superintendent of AFPs and must have a minimum level of capital of about US$600,000. There have been three "insolvencies" of AFPs, that is to say cases where the Superintendent has withdrawn the authorisation to manage a pension fund, on the grounds of insufficient resources in the management company. In these cases the assets of the pension fund were not impaired, and affiliates were required to transfer the balance of their accounts to new AFPs.

4.1.7 At retirement age the member can opt to convert the accumulated sum into a price-indexed annuity (indexed according to the Consumer Price Index (CPI)), or to use the draw-down facility (programmed withdrawal), withdrawing an income of his or her choosing, with the option of converting the balance into an annuity later. So far the experience has been of a fairly equal split between those opting for an annuity and those opting for programmed withdrawal. There is evidence, not unsurprisingly, that this results in some antiselection from the point of view of the insurance companies, as only the healthier retirees select the annuity option. Annuities have to be indexed (they are expressed in UFs - unidades de fomento - a "real" currency unit) but index-linked bonds are available from the central bank, so that a reasonable degree of matching of assets to liabilities is possible. The matching possibilities are, however, limited by the range of redemption dates available and by the absence of index-linked bonds with duration of more than about 15 years.

4.1.8 The system has proved successful in many respects, although the success has been due in large part to the spectacular investment returns achieved, averaging 12.5% a year real (in excess of price inflation) over the first 15 years, with 1995 being the only year to produce a negative return. The circumstances giving rise to these returns were in many ways exceptional. Investment was initially (from 1981 to 1985) restricted to bank deposits and government, mortgage and corporate bonds, but the real returns on these were high. Then interest rates fell and the funds reaped substantial capital gains. From 1985 investment was permitted in the various privatisation issues and this also proved highly profitable for the funds. From 1986 investment was permitted in the shares of joint stock companies, subject to various restrictions, which have been gradually relaxed; these have also yielded good returns. The pension funds had a somewhat bumpy ride in 1997, with significant losses on investments in the privatised electricity company, and set-backs on the Chilean stock exchange in response to global movements in equity markets. However, there was still a positive real rate of return for the year taken as a whole.

4.1.9 The annuity market is growing rapidly, with considerations from accumulated AFP monies at retirement age now constituting 80% of premium income of the insurance market. Although the insurance market generally is relatively lightly regulated, with companies having freedom to develop new products and to set premium rates, annuity reserves are controlled by the Superintendencia de Valores y Seguros (SVS).

4.1.10 Some have suggested that contribution compliance is still poor (poor compliance was endemic under the former system), but the problem is the nature of participation in the labour market, with many affiliates having only a very partial contribution record. With 5 million people in the economically active population, more than 5 million accounts have been activated but only 3 million people are currently contributing. Of the balance, some 250,000 are in exempt categories, such as the armed forces, and 250,000 are still contributing to the old pay-as-you-go defined benefit scheme. The remaining 1.5 million are self-employed or working in the informal economy; only 50,000 of these have opted to contribute to the AFP system.

4.1.11 The level of transaction costs is quite high: many feel that is exacerbated by the right to change AFPs once a year. With the high investment returns which have been experienced, amounts accumulated at retirement should generally be satisfactory. In these circumstances the guaranteed minimum level of pension should not involve much cost for the government. There is potentially a significant contingent liability in this respect. The cost of transition to the new system has had quite major budgetary implications, with the cost of continuing to pay pensioners from the old system, and to finance recognition bonds when affiliates of the new system reach retirement age, adding up to 5% or so of GDP each year over a fairly lengthy transition period. This was manageable for the Chilean economy, which was running a budget surplus over much of the period, and, crucially, at the start of the transition. Such transition costs are, however, likely to prove a significant issue in other countries seeking to switch to a greater degree of advance funding of retirement provision.

### 4.2 Mexico

4.2.1 Although the Chilean reform is now almost 20 years old, there were few moves to copy it elsewhere until the early 1990s, since when most other Latin American countries, and others elsewhere in the world, have initiated pension reforms which bear clear hallmarks of Chile, although adapted in a variety of ways. This trend without doubt owes a lot to the influence of the World Bank, following the publication of the study Averting the Old-Age Crisis (World Bank, 1994), whose consultants have tended to promote the Chilean model of reform. To illustrate how the principles of the Chilean reform have been adapted elsewhere, where there was a desire to retain a basic level of pay-as-you-go social security, at least for a transition period, we turn now to the example of Mexico.

4.2.2 Under the new Mexican mandatory individual account social security system, which began on 1 July 1997, new entrants to the labour market are required to contribute to the funded system. Existing members of the labour force have retained rights with regard to the former defined benefit social security system and generally continue to be members of that scheme. Part of the social security contributions of employers and employees is paid into the AFORE (Administrador de Fondos de Retiro - the private pension fund administrator, similar to AFP in Chile) of the individual's choice. There are currently 13 AFOREs, following some consolidation from the original 17 in 1997. The contributions allocated to the AFOREs are 6.5% of covered earnings up to 15 times the minimum wage and 2% above that level, up to 25 times the minimum wage. The 15 times cap is to be increased by 1 minimum wage each year, reaching 25 times the minimum wage in 2007.

4.2.3 Disability and survivors' benefits are paid for by a contribution of a further 2.5% of covered earnings. In addition, 1.5% is contributed to retiree medical care, making a total contribution of 10.5% for these benefits, which is the same total as under the previous system for old age, disability and survivors' pensions, if one includes the 2% contributions to savings for retirement (a compulsory savings supplement). The government also contributes 5.5% of the minimum wage per employee to fund the deficit in the pay-as-you-go system.

4.2.4 At retirement the accumulated sum will be available for the purchase of an index-linked annuity (with reversion to surviving spouse and orphans) from an insurance company. The individual will be able to elect for programmed withdrawals instead of an annuity. Those with retained rights in the old system (IMSS) will be able to elect to receive their IMSS entitlement pension instead. In such cases the accumulated sum will be handed over to IMSS in return for payment of the relevant pension (which they in turn will purchase from an insurance company).

4.2.5 Existing pensions in payment will continue to be the responsibility of IMSS and will be paid for out of the general government budget. Normal retirement age will continue to be 65, although benefits may be taken from age 60 if out of work.

4.2.6 The contributions for disability and survivorship benefits are not passed over to the AFOREs. Although responsibility remains with the IMSS for these benefits (on death before retirement age), IMSS no longer pays the benefits directly, but, for benefits vesting on or after 1 July 1997, purchases an annuity from the insurance company of the claimant's choice.

4.2.7 No guarantees are provided on the investment of the AFOREs, as it was felt that guarantees such as those required under other such individual account systems (e.g. in Chile and Argentina) would unduly constrain investment freedom. However, the government will guarantee a minimum level of pension to every retiree (at the level of the minimum wage).

4.2.8 Contributions continue to be collected by IMSS and are passed on to the chosen AFORE in bulk. AFOREs are licensed by a regulatory body under the Ministry of Finance. Only insurance companies are allowed to offer annuities; they are supervised by the Comisión Nacional de Seguros y Fianzas, also under the Ministry of Finance. The liability for payment of pension rests with IMSS in case of failure of an AFORE or insurance company, so that the privatisation can be regarded as a form of reinsurance. There is a strong element of mutualisation of disability and mortality risk through the payment by all of a fixed percentage of earnings for risk benefits. IMSS will continue to manage this risk sharing, reinsuring the delivery of the resulting annuities, with the insurance companies taking on the subsequent mortality and financial risks.

## 4.3 Central and eastern Europe

4.3.1 Some interesting developments in the field of complementary pension schemes have been taking place in central and eastern Europe. Each of the countries in the region has a fully developed social security scheme, originally providing a good level of benefits relative to salary levels, although the benefits have in many cases now been significantly eroded by inflation. The costs were met either from the national budget or from the contributions of employers. There were generally no employee contributions and there was little or no scope for private pension arrangements.

4.3.2 Following the political changes in these countries and in the light of concerns about the growing costs of the social security schemes, each country is embarking on a programme of reform of the social security scheme, in conjunction, in most cases, with plans to encourage the formation of complementary pension schemes. Reform packages usually involve: the introduction of employee contributions, the elimination of special categories of members with privileged benefits, raising retirement age (especially, initially, for women, who generally have a very low retirement age, particularly if they have had children), introduction of unemployment benefits, and scaling down of pension benefits.

### 4.4 Hungary

4.4.1 Hungary introduced legislation in 1993 to provide for the establishment of mutual benefit funds, revising an old tradition in the country, but now primarily as vehicles for complementary pension provision (health insurance and welfare funds are also provided for). The funds can be set up on the initiative of an employer or group of employers, or at the instigation of a group of employees (with or without financial support from their employers) or by a group of people with some common affiliation (e.g. members of a union or profession, or people from a particular geographical area). Control is exercised by the members but the fund is required to make use of appropriate professional skills, including actuarial skills if any death benefits or annuities are provided.

4.4.2 Further legislation was passed in July 1997 to introduce mandatory private pension funds. Employees are required to pay contributions of 6% of earnings in 1998, 7% in 1999 and 8% from 2000 onwards. Additional voluntary contributions are permitted up to 10% of earnings. Private pension funds to provide the mandatory coverage may be established by employers, professional associations, mutual benefit funds or local governments. Membership of the new funded system has been mandatory for new entrants to the labour market from 1 July 1998, and optional for employees then aged 47 or less. Older employers, pensioners, and young employees who so opt, will remain in the old pay-as-you-go social security system, which will be mainly financed by employer contributions (currently 24% of earnings but expected to be 22% from 2000 onwards), by contributions from employees who remain in that system (7% of earnings rising to 9% from 2000 onwards), and by 1% contributions from employees who participate in the new funds.

4.4.3 By the end of the first full year of operation (1998), the mandatory private pension funds had membership of over 1.3 million and funds of 29 billion HUF (USD46 million). Membership has continued to grow, as more people have opted to join. After August 1999 new entrants will be restricted to new entrants to the labour force. By the middle of 1999 there were 39 mandatory private pension funds operating. About 85% of their assets are held in Hungarian government bonds.

### 4.5 Poland

4.5.1 A system of mandatory private pension funds was introduced in Poland from the beginning of 1999. The social security system has been restructured, with the old-age pension part separated from the rest and operated as a notional defined contribution structure. This is still financed essentially on a pay-as-you-go basis, although a small reserve fund is to be built up as a demographic equalisation fund, based on a contribution, for the time being, of 1% of earnings. Everyone under the age of 50 at the start will be in the new defined contribution system. Those over 50 will remain in the old system. Contributions of 19.52% are mandatory on earnings up to 2½ times national average income. For those under 30 at the start, amount of 7.3% of relevant income is passed to a funded individual account with a pension fund of the individual's choosing. The pension funds will just handle the accumulation and investment of monies up to retirement age, when an annuity will be required to be purchased from a specialised pension annuity company. Those aged between 30 and 50 at the start were able to opt to have 100% of their contributions paid into the notional defined contribution scheme or to have part going to a pension fund, as for younger people. The government will underwrite a minimum level of pension (from the first and second pillar systems together.

4.5.2 The second pillar pension funds (PTEs) are regulated by a new Pension Fund Supervision Office (UNFE). Twenty one have been granted licences, with the list now closed. They will be obliged to diversify their investment risk with limits set for the maximum which they may invest in particular types of asset: 40% maximum in quoted stock, 5% in foreign shares, 10% in the secondary stock market, 10% in National Investment Funds, 10% in National Bank paper and 15% in municipal bonds. Members will only be allowed to invest in one fund, and switching (starting to contribute to a new fund and transferring accumulated assets to the new fund) will not be made too easy, so as to discourage agents from churning the accounts of their clients. Initial charges vary between PTEs, from a minimum of 7.9% to a maximum of 11%, although some promise to deduct a lower percentage in future, with a scale varying according to the number of years of contribution. Most charge an annual investment management fee of 0.6% of the accumulated funds. The Polish reform has coined the descriptor "Security through Diversity" to emphasize the risk reduction benefits of a balanced mixture between pay-as-you-go and funded systems.

4.5.3 Similar pension reforms are being carried out in neighbouring Latvia and Lithuania. The basic concept of a notional defined contribution first pillar and a funded individual account second pillar owes a lot to the recent reforms of the Swedish social security system.

### 4.6 Australia

4.6.1 A somewhat different approach to the evolution of funded individual account pensions can be seen in Australia. Here the social security benefits are payable only on a means-tested basis, with the test extending to assets as well as income. The benefits are financed out of general tax revenues. There is thus no history of generous promises being made through a pay-as-you-go first pillar social security scheme.

4.6.2 Many larger employers in Australia traditionally sponsored defined benefit (usually final salary) pension schemes. However, the coverage of occupational schemes was partial and the government passed Award Superannuation legislation in 1986 to require a minimum level of contributions to be made to private pension arrangements. This covered all employees paid under an Award (collective agreement), which was a high proportion of the working population. The Superannuation Guarantee Levy was introduced in 1992 to extend the provision to all employees.

4.6.3 Employers covered by federal or state collective agreements (Awards) were required to provide Award Super (Superannuation i.e. pensions) to employees, subject to the specifications in the award, which could include a qualifying period, exclusion of part-time and casual workers and the possibility, in some cases, of individual employees opting out. Under the Superannuation Guarantee, which has applied from 1 July 1999, many such exclusions are not permitted and all those aged 18 and over, working more than 30 hours a week and being paid AUD450 per month are required to be covered.

4.6.4 Super schemes are marketed to employers or industry groupings. They are classified either as Industry Funds (for particular industries) or Master Trusts (for a variety of employers). Individual employees initially had no choice of provider, although, since 1998, employees entering the workforce have had to be given a choice of at least five providers by their employer. From 2000 onwards it is intended that this choice will be extended to all members of Award Superannuation and the Superannuation Guarantee Levy (SGL), but this issue is now being dealt with on a state by state basis and passing the necessary legislation may take time.

4.6.5 Initially, the mandatory contribution level was 3% of gross earnings, payable by the employer. This has now been raised to 6% and, in the tax year 2002/3, employers will be required to pay 9% of earnings and minimum employee contributions of 3% of earnings will be introduced.

4.6.6 The mandatory contribution requirement has led to new pension schemes being established on a defined contribution rather than a defined benefit basis and a trend for existing schemes to convert to defined contribution. Defined contribution schemes are frequently designed on the basis of accumulation funds, with the interest added each year to the accumulated investment, according to the investment performance of the fund. This leads to investment policies designed to protect the capital from downward fluctuations in value, which is often not in the long-term interests of the members. Although initially not very popular, pure unit-linked funds, in which the members share directly in the investment performance (up or down) are now growing in popularity. Lump sum benefits used to predominate in Australia, but the compulsory scheme (and also now many other schemes) requires the benefit to be taken as an income stream.

4.6.7 When the compulsory scheme was launched, providers (principally life insurance companies) aggressively pursued market share, and many failed to set in place adequate administrative support and systems, with the result that huge processing difficulties emerged. It took many months to sort out the mess and ensure that all the individual account information was captured. Meanwhile, many members had already left the scheme they had joined (because of job mobility) and could not be traced. Some left with a negative balance, as the total of entry charge, fund charge and exit charge exceeded the amounts contributed. There was also some mis-selling to employers, on the strength of publicity regarding the mandatory nature of superannuation, of products which did not actually comply with the requirements for Award Super and SGL.

4.6.8 Initially there was no regulation of charges by providers, but the position of Consumer Advocate was subsequently introduced with a remit to control fees. Many providers who lost out on the initial scramble for market share, whose administrative systems could not cope, or whose ongoing costs could not be covered by the newly controlled levels of charges, dropped out, leaving 90% of the administration of compulsory schemes in the hands of two providers and their subsidiaries. Many other companies continue to manage the investments of schemes, whilst out-sourcing the administration. A central registry plays a role in tracing missing periods of membership and fund accumulation for individuals who believe they many not be receiving all the benefits for which they contributed. This sort of arrangement may be a necessity in a system which does not require accumulated funds to be transferred to the new provider when contributions are switched.

## 4.7 Hong Kong

4.7.1 Up to now Hong Kong has avoided putting in place a comprehensive social security system, preferring to rely on the strength of family networks and the wealth-generating instincts of its people. The only public provision has been relatively low, means-tested allowances. Following the British and US traditions, many employers established occupational pension schemes, which are highly regulated under the Occupational Retirement Schemes Ordinance (ORSO).

4.7.2 One of the last acts of the British administration, prior to Hong Kong becoming a Special Administrative Region of China on 1 July 1997, was to pass legislation establishing a Mandatory Provident Fund. This will apply both to employed and self-employed persons, woth contributions payable from December 2000. Contributions will be required at 5% of relevant income (up to a ceiling of about HK$20,000 a month – about USD2500) from the member, with a matching 5% contribution from the employer. Individuals earning below a threshold (HK$4,000 a month – USD500) will not be obliged to contribute, although their employers must contribute.

4.7.3 Contribution compliance is expected to be something of a problem. Many employers have no experience of withholding deductions from pay and payslips are not common. MPF schemes will be required to be established under trust, either for a single employer or group of related employers or by way of a master trust for unrelated employers. Existing registered occupational retirement schemes will, under certain circumstances, be permitted exemption from the MPF, although individual members will still be able to opt either to remain in the occupational scheme or switch to an MFP.

4.7.4 Mandatory contributions will vest immediately and early leavers will be permitted to have the benefits preserved until normal retirement date (65) or to take a transfer payment to another scheme. The benefit at normal retirement age will be paid as a lump sum and there is no plan to require annuitisation.

4.7.5 Investments of the MPFs will be closely controlled by the regulatory body, the Mandatory Provident Fund Authority (MPFA). There are various restrictions on the types of assets which may be held, in particular to avoid concentration of risk. At least 30% of the assets must be held in Hong Kong dollar denominated investments (or hedged into Hong Kong dollars). Twenty one companies have submitted applications to be MPF trustees and those whose licences are approved will be able to start marketing in February 2000 to employers who do not have a pension scheme. There have also been applications in respect of 44 master schemes and 257 investment funds.

## 4.8 United States of America

4.8.1 The US has a well-developed contributory social security scheme (established as long ago as 1935) with earnings-related contributions and earnings-related benefits (in bands up to a ceiling). The contribution is always described as a tax, although it is specifically earmarked for social security and is paid into the social security trust fund. The contribution schedule is fixed by Congress for many years in advance, with a view to achieving what they describe as “close actuarial balance” over the period of the actuary’s projections (now usually 75 years). Contributions are currently higher than is needed to balance income and outgo on a year-by-year basis. Consequently a fund is building up, although this is invested solely in US Government paper, so the effect on the economy is no different from the government raising the extra revenue by means of some other tax mechanism.

4.8.2 Occupational pension plans are well-developed in the US, since social security does not provide a generous level of benefit. Historically most plans were defined benefit, with the benefit expressed as a fraction of final salary. Some quite large plans have benefits expressed in flat dollar amounts. Indexation of benefits after award is unusual, so benefits can decline significantly in net worth in times of inflation.

4.8.3 In recent years more and more defined contribution plans have been established, and many defined benefit plans have been closed down. This process is said to have been accelerated by the level of regulation imposed on defined benefit plans by ERISA (Employees Retirement Income Security Act). An easy escape route was provided when the Pension Benefit Guaranty Corporation was established, since the PBGC would pick up the liabilities from underfunded plans. After a few years this loophole was closed, with PBGC only being permitted to take over the liabilities of underfunded plans where the employer is financially impaired. Nevertheless, the trend to defined contribution plans is continuing, fuelled by concerns on the part of employers to limit their future liabilities.

4.8.4 Many Americans save directly for their retirement using tax-efficient individual pension savings plans or 401(K) savings plans, which are also attractive from a tax point of view.

## 4.9 United Kingdom

4.9.1 There is a long tradition of funded occupational pension schemes in the United Kingdom. Until 1978 the social security pension in the UK was entirely flat-rate (i.e. independent of the level of earnings during the career), and almost 50% of employed persons belonged to defined benefit occupational pension schemes. The self-employed, and employees whose employer did not offer an occupational pension scheme, could contribute to tax-efficient personal pensions, although the take-up was not particularly high. From 1978 it has been compulsory, for all employees with earnings above a rather low threshold level, to have a second tier pension over and above the basic flat-rate social security. In principle this is provided by the State Earnings-Related Pension Scheme (SERPS). However, opting-out of SERPS is encouraged, and members of defined benefit occupational pension schemes can qualify to opt out (the technical term is "contract-out") if their occupational scheme meets certain requirements. If contracted-out, both employee and employer pay a reduced level of contribution to the social security scheme, and most of the earnings-related pension has to be paid by the occupational scheme (until 1997 some of the post-award revaluation was still paid out of SERPS).

4.9.2 Contracting-out is also possible for members of defined contribution occupational pension schemes, and, by means of a defined contribution "Appropriate Personal Pension" (APP). For those contracting-out on a defined contribution (money purchase) basis, the reduction in social security contributions varies by age. Individuals with APPs do not get a reduction in their social security contributions, but the equivalent amount (including an amount corresponding to a reduction in the employer's social security contributions and an element corresponding to tax relief) is paid directly into the APP account.

4.9.3 Occupational schemes usually provide benefits above the minimum level required for contracting-out. Tax-effective contributions can also be made to personal pension arrangements in addition to the APP.

4.9.4 The current position in the UK is that there are about 38,000 defined benefit occupational pension schemes, covering about 9 million employed persons. There are some 110,000 defined contribution occupational pension schemes, covering about 1 million employed persons. It is clear that occupational defined contribution schemes are catering primarily for organisations with only a few employees. Defined benefit schemes predominate among larger employers, although there is something of a trend to introduce mixed (hybrid) arrangements, where, for example, a defined contribution arrangement applies in the first few years of service, or below a certain age, and the defined benefit scheme comes into play thereafter (or where the defined benefit is subject to a minimum calculated according to a defined contribution approach).

4.9.5 These developments reflect concern about another aspect of defined benefit (and, in particular, final salary defined benefit) schemes. They tend to favour those who spend their whole career with the employer (especially the years leading up to retirement age) and those who have large real increases in salary in the years immediately preceding retirement. Early leavers (those who change jobs early in their career, mid-way through it) are generally felt to do less well out of such schemes, especially if their accrued rights on leaving are based only on their salary at that time, without provision for future inflation or real earnings growth). In the UK, such "preserved rights" (payable at normal retirement age) do now have to be indexed in line with the Consumer Price Index (subject to an overall cap of 5% a year) which reduces the losses experienced by early leavers, although the benefits they will receive in respect of such a period of service will still generally be significantly less than the benefit would have been if calculated on the basis of final salary at retirement age.

4.9.6 Defined benefit occupational schemes remain very popular in the UK. The investments of such schemes are predominantly (80% on average) in company shares (equities), with 75% of this portion being invested in companies quoted on the London Stock Exchange and 25% on exchanges outside the UK. Some one-third of the market capitalisation of equities on the London Stock Exchange is held by pension schemes.

4.9.7 Defined contribution arrangements are growing in importance. Apart from the 110,000 defined contribution occupational pension schemes referred to above, many people (about a quarter of the employed workforce) have opened a personal pension contract (not all are contributing at any given moment) with an insurance company or other financial institution (such pension savings contracts can also be issued by unit trusts, banks and building societies, subject to restrictions on what can be done with the accumulated sum at retirement age, although insurance companies dominate the market).

4.9.8 The main growth in numbers of personal pension contracts has been since 1987, when this became an accepted mechanism for substituting for the earnings-related part of the social security scheme (SERPS). Another relevant factor was that, from then on, employers were not permitted to insist on their employees belonging to any occupational pension scheme which they were providing. The fact that this combination of circumstances has led to great problems is probably well-known, even outside the UK. The market conduct regulator has insisted on insurance companies (and independent advisers where applicable) reviewing a large proportion of sales of such personal pension contracts, especially from the period 1987 to 1992, with a view to identifying cases which were "mis-sold" and compensating the individuals affected. "Mis-selling" may have been the result of over-enthusiastic selling techniques, often accompanied by a failure to explore adequately the individual's existing pension rights. Former members of employer-sponsored defined benefit occupational pensions schemes are particularly likely to have been "mis-sold", if they opted out of such a scheme for a personal pension, as they would generally then have forfeited the contributions of the employer to their pension arrangement. The cost to the insurance industry of compensation for mis-selling (and indeed for carrying out the very extensive review) is estimated now to be likely to exceed $20 billion.

4.9.9 Another well-publicised crisis in the UK privately managed pension fund sector occurred in 1991, when Sir Robert Maxwell fell into the sea from his yacht, leaving a legacy of under-funding in many of the pension funds of his group of companies. This is believed to have resulted largely from illegal investment activities, carried out at Maxwell's behest, with a view to propping up failing companies in his business empire. This is undoubtedly the largest scale of such misappropriation which has been experienced in the UK pension market, and occurred in spite of regular controls by auditors, the involvement of regulated professional investment managers, frequent monitoring of financial adequacy by the actuary and the over-arching responsibilities of the trustees of the schemes.

4.9.10 Although it was feared that there would be a major shortfall in the assets of some of the schemes, most has in fact been made good, either by recovering assets that had been spirited away, or by voluntary contributions from many of the financial institutions involved (few, if any, admitted any liability formally). This incident led to significant changes in the regulation and supervision of pension schemes in the UK, and to the introduction of a compensation fund, which will help in future cases of losses due to the theft or misappropriation of assets. However, few believe that the enhanced regulatory environment will be sufficient to prevent a determined fraudster from carrying out a similar raid on a pension fund in future.

4.9.11 It is relevant here also to consider the cost and efficiency of different modes of delivery, since this has been documented in the UK. The current UK contributory social security scheme, covering both basic pensions and additional SERPS pensions (not to mention all the other benefits) incurs administrative costs which were quoted in answer to a recent Parliamentary Question as being at the level of about 1½% of the income. Contributions are collected with taxes and there are huge economies of scale. Even allowing for hidden costs, such as those incurred by employers in operating the system, the overall level of expense is probably no more than about 3% of the income.

4.9.12 Occupational pension schemes can also operate relatively cost-effectively, although not quite as cheaply as a national social security scheme. The results of a Government Actuary's Department survey have shown that, weighted by size of scheme, average costs amount to about 8% of contribution income. As these figures are on a weighted basis, they strongly reflect the cost structure of larger, and generally more efficient, schemes. The costs represent a higher proportion of income for smaller schemes, coming out at an average of 12% of contribution income on an unweighted basis.

4.9.13 Charges of 20 to 25% of the contributions would be typical for insured individual account pensions in the UK. These are not principally administrative or fund management costs, although administrative costs may be higher for a defined contribution scheme than a defined benefit scheme. Personal pension products are priced to deliver a profit, and a significant part of the cost is accounted for by the need to remunerate salesmen or financial intermediaries, in particular given the need for financial advice in connection with the sale of such products.

### 4.10 Germany

4.10.1 The book reserve approach is very typical in Germany. Indeed regulatory constraints and fiscal treatment positively encourage this method of providing for complementary pensions. The employer makes a contractual promise of pension benefits and then, as the benefits accrue, sets aside a provision on the balance sheet in respect of the future liability. From the point of view of company cash flow, the pensions are effectively on a pay-as-you-go basis. However, one might also regard the liabilities as pre-funded, with 100% of the assets placed with the sponsoring employer.

4.10.2 The usual argument against self-investment in the sponsoring employer's own business is one of loss of security. If the employer gets into financial difficulties, the assets backing future pensions may be lost. This did give rise to some serious losses in Germany in the late 1960s, as a result of which a system of insolvency insurance was introduced. Employers with book reserves in respect of pension promises pay annual assessments (or premiums) to the Pensionsicherungsverein, a mutual insurer which in return undertakes to buy out the acquired pension liabilities (normally with an insurance company or group of insurance companies) in the event of the bankruptcy of a sponsoring employer. Whilst this system has considerably improved the level of security for longer-serving employees, it should be noted that only vested benefit rights are covered by the insolvency insurance, and this normally excludes accrued pension rights in respect of those with less than 10 years' service.

4.10.3 Although the German approach, with very high levels of self-investment, has probably served them well over a period, many German companies would now like to see the way being opened up (from a regulatory and tax efficiency standpoint) for greater diversification of pension fund investment outside the company itself. Members and trade unions would like to see the 10 year vesting period significantly shortened. It is unlikely that the German approach would provide a satisfactory model for a country wanting to develop a new funded pension scheme sector.

### 4.11 Japan

4.11.1 The Japanese pension system has some similarities to the United Kingdom. Occupational pension schemes are well-developed, particularly among larger employers, although small employers can group together to form schemes. Contracting-out of part of the earnings-related social security scheme is permitted, where a suitable occupational pension scheme is in place. Pension plans sponsored by employers are predominantly defined benefit and are funded on the basis of long-term criteria. Funds invest significantly in equities and in property and the difficult investment conditions in Japan over the last decade or so have made it very difficult to maintain adequate funding levels, particularly against a criterion of short-term solvency in the event of the failure of the sponsoring company.

4.11.2 Draft legislation has been drawn up to permit defined contribution plans, both in the form of employer-sponsored (occupational) plans and individual plans for the self-employed and individuals who do not have access to an occupational plan. It is hoped that this legislation will be passed in the year 2000.

## 5. Regulation of complementary pension funds

5.1 Although the political philosophy behind the encouragement of complementary pension schemes is generally in favour of flexibility and freedom of action for employers and individuals, there is a fair measure of agreement that a certain amount of regulation is essential and that this needs to be backed up by reasonably strong supervision. There are many possible areas for regulation (see Daykin (1995) for more details), which might include:

* overall legal structure, e.g. establishment under trust
* benefit structure
* lump sums, annuities or draw down option
* mandatory contribution levels
* equal treatment of men and women
* other non-discrimination requirements
* acquired rights for early leavers (vesting)
* inflation protection of benefits (in payment and in deferment)
* sound and prudent management
* reporting requirements
* minimum funding requirements
* investment of funds
* custodianship of investments

5.2 A formal legislative basis is needed for the tax treatment of complementary pension schemes. This should cover

* the treatment of employee contributions
* the treatment of employer contributions (both from the employer's point of view and from the point of view of the employee's assessed income)
* investment income and gains within the pension fund
* the payment of benefits

5.3 The tax treatment is seen in most countries as an important instrument for creating incentives to employers and employees to make provision for retirement through complementary pension schemes. Such incentives can be designed to operate selectively in order to encourage particular behaviour, or to favour particular pension vehicles or groups of people. Unfortunately the behavioural impact of such provisions is not always easy to predict. It is also often the case that differences in tax treatment between alternative pension vehicles are unintentional and probably undesirable. There is much to commend a policy of equitable treatment of the various alternatives, unless there are strong underlying policy initiatives at stake.

5.4 It is worth noting that the majority of countries have adopted a system of tax incentives for complementary pension provision which enables contributions to pension schemes to be made out of pre-tax income or treated as an expense in determining profit. Benefit payments, on the other hand, are usually taxed as earned income. There are some exceptions to this, as a surprising number of countries permit a lump sum to be taken at retirement entirely free of tax, or with tax only at a reduced rate. Investment income of pension funds is often free of tax. Tax incentives may not be necessary or appropriate in a system where contributions to privately managed pension funds are mandatory.

5.5 Once established, the taxation treatment of complementary pension schemes may be quite difficult to change. However, both New Zealand and Australia have made radical changes in recent years, no doubt driven by a desire to reduce the extent of tax deferral in the system. New Zealand has moved fully to a system of non-deductibility of contributions but tax-free benefits. In principle this does not make much difference to the average pension scheme member, unless the rate of tax payable during employment is higher than might be applicable in retirement. The contributions can be scaled down so as to target a level of pension equivalent to that which would be payable net under the traditional tax treatment.

5.6 A particular problem for the development of complementary pension schemes in an entirely new environment is that of investment. Suitable investment vehicles may not be available, particularly if equity markets are not developed and government paper is essentially short-dated. Pension fund investment managers have an objective of maximising return, subject to proper management of the level of risk. Risk should be expressed in terms of the possibility of the proceeds from the assets failing to cover the liabilities as they require to be paid. Although defined contribution schemes do not have independently determined liabilities, it might still be appropriate to set objectives for investment managers (and the definition of risk) with regard to an earnings or price related growth target. The definition of risk should focus on investment failures, and an overall failure of the portfolio to meet the objectives, rather than on short-term volatility.

5.7 Pension funds in newly emerging markets may find that they have to invest directly, rather than through stock markets. This will inevitably require rapid development of sophisticated investment appraisal techniques. It will also necessitate a conscious emphasis on diversification of risk.

5.8 Legislators face a dilemma, when seeking to implement new structures for complementary schemes, in deciding whether to impose tight controls on investment, in order, theoretically at least, to protect the members. Such controls may in practice act against the interests of the majority of members, although they may provide some protection against the results of excessive risk-taking. It may be more productive to set only limited investment restrictions and place the onus on pension fund managers to demonstrate that they are investing in accordance with what might reasonably be expected of a prudent investor.

## 6. Compensation funds

6.1 Political pressure in the UK, following the shortfalls in the Maxwell pension funds, was for the setting up of a broad-ranging compensation fund to ensure that pension scheme members would not lose out in the event of a failure of a pension fund. Although the idea may seem superficially attractive, there is inevitably a cost involved, which would have to be met by the other pension funds (or by the taxpayer if the compensation fund is financed by the government). It is also vital to ensure that the existence of a compensation arrangement does not distort behaviour, or encourage employers to walk away from their liabilities (moral hazard). This proved to be a particularly serious problem when the Pension Benefit Guaranty Corporation (PBGC) was created in the United States of America. Since the PBGC would take over the assets and liabilities of under-funded discontinued pension plans and underwrite the liabilities, there was a perverse incentive for employers to under-fund their pension plans, discontinue them and hand the problem over to the PBGC. It was not long before it was realised that this had to be stopped, and the role of the PBGC was restricted to taking over the liabilities of pension plans where the employer is in financial distress.

6.2 Few countries have in fact implemented compensation funds of general applicability. Even Germany, which has no external security for accrued pension rights in the large majority of schemes which operate on the basis of book reserves in the balance sheet of the employer (100% self-investment), did not introduce any form of guarantee fund until 1975.

6.3 Sweden and Finland both have credit insurance against the risk of employer insolvency. In their case pension funds do maintain assets separate from the employer's business, but they are permitted to make unsecured loans back to the employer. The risk of default by the employer on these loans is covered by the credit insurance. The Finnish credit insurance has been completely restructured in recent years, as large numbers of defaults, in the wake of a very serious recession, led to a crisis in the credit insurance system.

6.4 Japan has a compensation fund, which is designed primarily to protect the supplementary liabilities (i.e. liabilities in excess of those corresponding to social security benefits, for which the private pension plan has undertaken responsibility under the contracting-out arrangements). Although it is partially prefunded from levies on the pension plans, the accumulated fund is quite small relative to the quantum of unfunded liabilities in Japanese pension funds. However, it can only be called upon when a sponsoring employer goes into liquidation, leaving the relevant liabilities inadequately funded. Compensation is intended to cover the supplementary part of the pension, together with 30% of the part which substitutes for social security benefits.

6.5 The United Kingdom similarly has, since 1978, had an arrangement for compensating and funding shortfalls in respect of defined benefit occupational pension schemes where the employer goes into default, to the extent that the benefits are substituting for social security benefits. A more general compensation scheme was introduced by the Pensions Act 1995. It applies only to losses arising from fraud, theft or misappropriation of assets and replaces only 90% of the lost assets (subject to restoring solvency to no more than 90% of the minimum funding requirement).

## 7. Lessons from the pension reform process

7.1 The last few years have seen a spate of pension reform programmes throughout the world. Many involve a second pillar based on the concept of fully funded defined contribution individual accounts, drawing on the Chilean experience, although with a variety of individual characteristics.

7.2 Some countries have made it compulsory to contribute to a funded individual account; others have started with a voluntary system, perhaps with the intention of making it compulsory later. In many countries the new funded system applies on a mandatory basis only to new members of the workforce. There is usually freedom to switch from one pension provider to another, although there may be restrictions on how frequently this is permitted. The investment policy of the funds is usually significantly constrained by regulations, overseen by the supervisory authority.

7.3 Many countries wish to maintain a public pay-as-you go social security system as the first pillar, albeit perhaps with significant changes to restrain the growth of costs. Sometimes the government underwrites various guarantees with regard to the funded system, for example a minimum level of pension after a given number of years of contribution, or a minimum rate of return. The pension funds, or the companies responsible for administering them, may be required to offer other guarantees, for example in relation to the return on the funds, or may do so for competitive reasons as part of their product design.

7.4 There are different approaches to charging structures, including deductions from the initial contributions, a percentage of the return on the funds, or an exit charge on withdrawal of monies from the fund. Some régimes restrict the use which can be made of certain types of charges, or the level at which they can be pitched.

7.5 Some systems permit withdrawals to be made before retirement age, although most are designed to produce a capital sum at retirement age. Options which may be available include

- taking all or part as a lump sum

- converting the accumulated amount (or part of it) into a life annuity (with or without a reversionary annuity to a partner)

- withdrawing income on a more or less regular basis until the fund is extinguished

- withdrawing income for a period and then purchasing an annuity

- converting the accumulated amount into an annuity certain

7.6 A few countries have sought to encourage a strong level of employer involvement, in the expectation that many pension funds will be established by individual employers for their employees, or perhaps by groups of employers in a particular industry. Other possibilities include different types of affinity groups, for example based on locality, profession, union membership, religious affiliation. Most systems allow for the possibility of entirely open funds, to which anyone may contribute.

7.7 Many pension reforms are still at a relatively early stage. Of the new types of individual account pension schemes, only Chile, Australia and the UK have a significant track record. Special factors which were present in the Chilean experience make it difficult to draw conclusions from there which are of general application. Early indications are that these individual account systems are proving popular, with significant numbers opting for that route where a choice is offered and reasonably positive experience where mandatory. There have, however, been some upsets, with a number of failures arising from, for example, investment in the sponsoring company or inability to attract sufficient affiliates to cover expenses. There have also been significant problems in some countries with mis-selling and there are examples which highlight the importance of adequate administrative systems.

7.8 A danger which may become more evident over time with individual account schemes is the increased exposure of the insurance market to the risk of longevity. In some countries the annuities arising from the new funded pension system are rapidly becoming a very major part of the new business of the insurance industry. In Chile the total considerations for annuity purchase are already significantly higher than the aggregate of other premium income for life insurance companies. This could happen quite quickly in Mexico also. With annuities required to be written on a non-participating price-indexed basis, this exposes life insurance companies quite strongly to any mis-matching risk, if index-linked assets of sufficiently long duration (or an adequate spread of durations) are not available, and to a longevity risk if mortality improves more rapidly than allowed for in premium rates or there is a significant antiselection problem (with programmed withdrawal options available as an alternative to annuity purchase).

7.9 Some lessons which might be drawn include:

- the importance of having in place from the start a clear regulatory framework and a strong supervisory authority;

- the need to adapt the concepts to the circumstances of the country, including its existing social security system, legal framework, social and political ethos and state of development towards a market economy;

- the desirability in most cases of retaining the public social security system as a first pillar;

- the need to have a properly functioning banking system and at least embryonic capital markets;

- the desirability of the government making available suitably long-dated bonds, including index-linked bonds, for pension funds to invest in;

- the desirability of facilitating the formation of employer-sponsored schemes (occupational schemes) as well as open funds, and not to rule out the option of trying to develop defined benefit occupational schemes, where employers are willing to play a role in social protection;

- the need to avoid imposing too many constraints on the freedom of pension funds to charge to cover their costs, whilst preventing the potential abuses of high charges;

- the need to ensure that options and guarantees are not offered which cannot realistically be given, or whose true costs have not been properly assessed;

- the need to control the marketing of personal pensions and individual accounts;

- the need to plan well in advance for the creation of an annuity market with appropriate deployment of actuarial expertise in pricing, reserving and asset/liability management.

## 8. Concluding remarks

8.1 Payment of pensions to the elderly involves a transfer of resources from those parts of the economy where wealth is being created. This is so whether it is done through transfer payments (by means of tax or a public social security system), or through a funded system involving the private sector. The mechanisms are, of course, different, and the impact of ageing may be less evident in a funded system. In principle, however, the changing demographics will affect the relative interests of workers and shareholders, and the value of investments will be affected by the balance of buyers and sellers, which could change markedly as the population ages and pension funds become "super-mature".

8.2 It is not certain that increasing the level of funded pension provision will necessarily increase overall savings levels in the economy, or generate new productive investment. This form of saving may simply replace other forms, and the additional investment may drive up prices if there are insufficient worthwhile investment projects to absorb the extra funds. Nevertheless, it is widely assumed that the growth of funded pension arrangements will be beneficial for the economy. It could certainly play a role in facilitating the development of an active capital market in countries which are at an early stage of development as market economies. Switching to a funded system (or increasing the degree of reliance on funding) may also help to focus on affordability of pension promises and may encourage individuals to identify with their accruing pension rights and take a more active interest in pensions.

8.3 The rising cost of paying pensions to the elderly will be made more affordable if the economy exhibits sustainable real growth, inflation is kept under control and unemployment is brought down to a low level. The capital investment resulting from funding may play a role in bringing about these favourable outcomes.

8.4 It is likely that many countries will seek to develop a multi-pillar pension system, with social security as the first pillar, a funded second pillar based on the employment relationship and a third pillar based on individual initiative. However, there will be a lot of resistance in many countries to reducing the first pillar to a flat-rate or means-tested safety net, as recommended by the World Bank, so many first pillars will still offer substantial salary-related benefits, at least for lower earners. Reforms will, however, include raising retirement age, making indexation less expensive, toughening eligibility conditions, reducing the earnings ceiling for benefit, reducing benefit accrual rates but probably still requiring some increase in contributions of employees and employers.

8.5 For the second pillar there is likely to be a lively debate on whether or not contributing to a funded system should be made compulsory. If it is not, there may need to be a higher first pillar, with contracting-out options, if an underclass with inadequate pension provision is to be avoided. Concerns about the security of private funded pensions will need to be addressed by strong systems of regulation and supervision. If the second pillar is voluntary, strong encouragement should be given to employers to set up externally funded occupational pension schemes, as this will be a more effective way of increasing coverage. Employer-sponsored pension funds are often more efficient, even as part of a compulsory system, and help to keep down the transaction costs and administrative overheads. It is perhaps an inevitable consequence of moving across the scale from solidarity systems to individual accounts that a greater and greater degree of regulation is thought to be necessary.

8.6 To the extent that open funds are used, particular attention needs to be given to keeping the marketing costs down, and avoiding frequent switching possibilities. The marketing of such schemes provides fertile opportunities for misleading unsophisticated customers and needs to be strictly controlled. Requiring schemes to offer investment performance guarantees, or limits on expense charges, may be attractive from a public interest point of view. However, careful attention should then be paid to reserving requirements and pension fund providers should satisfy prudent free asset requirements. The more that guarantees are introduced, the more important it is to have proper actuarial financial control.

8.7 Although pension reform programmes will often be presented as reducing the involvement of government, disengagement may be difficult to achieve. Apart from the important role of regulation and supervision, taxation policy is a key factor. Governments also remain responsible for fall-back guarantees of minimum income (through means-tested welfare benefits, even if there is no explicit guarantee of pension level). In some cases governments may retain a role as guarantor of last resort for compensation funds, and almost all systems assume that governments will issue sufficient bonds (particularly index-linked bonds) to enable annuity liabilities to be satisfactorily matched.

8.8 The development of privately managed complementary pension schemes is certainly not a simple process. There are many policy decisions to be made, implementation is fraught with difficulties and the impact on society and on the economy is largely uncertain. However, there is no doubt that this is the way forward for most countries, so the issues need to be tackled in a realistic way, having regard to the ample experience of different approaches around the world.

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