

Ten Years of Public Pensions Reform *

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Introduction

In a 1995 article in the *International Social Security Review*, “A risky strategy: Reflections on the World Bank Report *Averting the old age crisis*”, the late Roger Beattie and I questioned criticisms of the fundamental bases for existing public pension schemes in *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth* and the recipe for reform which it advocated. (Beattie and McGillivray: 1995) We contended that the recipe would require individuals to bear significant risks.

In this essay, I set out my observations on the pension debate and the changes which have occurred in contributory public pension schemes since our article, and indeed over the past decade. The essay can touch on only a few issues. It is an interim personal survey of work in progress. Despite the certitude of supporters of particular pension policies and reforms that their favoured approaches will assure the provision of adequate and sustainable retirement benefits in the future, it will be three generations or more before the truth of their convictions can be known.

My observations focus first on definitions – misapprehensions have led to unnecessary controversy; next the demographic and economic implications – over which there is remarkably little agreement; and then political risk – political involvement is surely inevitable. The pattern of pension reform which is traced contains brief, personal and often anecdotal observations. Pension reform issues – major issues which hold risks for individuals and for governments – include the introduction of defined contribution individual accounts systems, investments, regulation and annuitization. Administration, which is crucially important to the successful operation of any social security scheme, has received insufficient attention in the reform process. A fundamental administration procedure – control of contribution evasion – presents significant risks for individuals and for governments. Clearly, a privately managed individual accounts system loses the economies of scale of a publicly managed scheme. However, it is too early to tell whether the increased administrative cost of systems relying on multiple individual account managers is compensated by their superior investment performance and the satisfaction members derive from the improved service they are expected to receive and the choices which the system lets them make.

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Background

In 1994, the World Bank launched the book *Averting the Old Age Crisis: Policies to Protect the Old and Promote Growth*, which has had a profound effect on the evolution of public social security programmes ever since. 'Averting' (the book is so well-known by those involved with public pensions that the first word of the title suffices) contained a thoroughly documented and devastating critique of public pension schemes and claimed that they had failed economically and socially. It cited unfortunate but undeniably correct cases where the ultimate custodian of public schemes, the government, had plundered their assets.

Averting cited a crisis: the ageing of national populations. A demographic burden, diminishing numbers of workers available to support growing numbers of retired persons, was already affecting some industrialized countries, would soon affect others and rapidly thereafter developing countries. In order to meet this crisis, countries were admonished to reform their public pension systems. *Averting* identified three functions of old-age security programmes: redistribution, saving and insurance, which it claimed should be separated, and proposed a recipe involving three pillars: a publicly managed mandatory first pillar to combat poverty, a privately managed mandatory savings second pillar and a third voluntary savings pillar. This neo-liberal approach to retirement pensions focusing on individual provision and privatisation became the 'new pension orthodoxy'. Indeed, in some quarters only privatisation has come to deserve the label of '(real) reform'. (Mueller: 2002, p. 13)

Averting shocked those responsible for public social security schemes. While the ageing of national populations had long been recognized, *Averting's* exposure of ageing as an impending public pensions crisis which required immediate action spawned articles in the popular press which exploited the alleged crisis and created uncertainty and doubt over their pension entitlements in the populations the public schemes were designed to protect. *Averting's* warnings and exhortations were welcomed and supported, and initially aggressively promoted, by private financial institutions which saw commercial opportunities in the privately managed savings pillar.¹

While population ageing is inexorable, it is not instantaneous. Despite *Averting's* ominous warning of imminent ageing crises facing public pension schemes, precipitate reforms of the schemes have not been made. Whether a privately managed defined contribution individual accounts second pillar can indeed confer the advantages attributed to it in *Averting* remains uncertain. In particular, will participants' individual account accumulations (along with any pension from the first pillar) be sufficient to provide adequate retirement income? Will participants have better and more secure retirement benefits as a result of private management of their individual accounts? These issues are central to the pensions debate.

Definitions

Analysis of public pensions is often confused by imprecise definitions. The financial system of a social security pension scheme refers to the manner whereby funds are made available to pay benefits. Funding refers to creating a reserve fund, which along with investment income earned on the reserve, is used to pay future benefits. A defined contribution scheme is fully funded; the total of individuals' accumulations is (or should be) equal to the reserve fund. At the opposite extreme is the pay-as-you-go financial system, where no reserve funds are set aside and current benefits are

paid from current contribution income.² It is frequently assumed that public defined benefit schemes are financed only on the pay-as-you-go system. This is not true.³ Defined benefit and pay-as-you-go refer to different concepts, and using these terms as synonyms creates confusion.

The expression 'individual accounts' as in second pillar 'defined contribution individual accounts' also leads to confusion.⁴ In a defined contribution scheme individual accounts must be maintained. But a defined benefit scheme where the pension benefit formula is based on members' earnings must also maintain individual records of their earnings. In fact, while a defined contribution scheme may only have to maintain accounts of members' most recent balances, a defined benefit scheme can require more extensive individual records if benefits are based on members' earnings over a period. The only schemes which do not have to maintain individual accounts are universal or demogrant schemes where a benefit is payable on the basis of residence or citizenship and a claimant must submit proof of eligibility.

Economics and demography

Until the late 1980s public pensions had not been a major focus of economists. Following the publication of *Averting*, a vast literature has been built up dealing with all aspects of provision of retirement benefits. Initially, attention was devoted principally to the economics of supporting increasing proportions of retired persons.

No matter how they are financed, pensions are transfers of resources from active workers to inactive retired persons at the time the pensions are paid. Amounts paid in pensions, which pensioners then convert into goods and services that they consume, are equal to consumption (and investment) which workers forego. The goods and services which workers and pensioners share must be produced by workers at the time pensions are paid. Under the pay-as-you-go system the transfer is direct through taxes or contributions paid by workers. Under the funded system, pensioners liquidate assets which they have accumulated by selling their assets to workers. In both cases workers' disposable income is reduced by the amount of resources transferred to retired persons.⁵

Consequently, the problem of an increasing demographic burden is not solved by replacing a pay-as-you-go defined benefit scheme by a funded scheme. In both cases uncertainty remains. The uncertainty faced by participants in pay-as-you-go schemes is whether declining relative proportions of active workers have the capacity to pay the pensions of increasing numbers of pensioners. In funded schemes the uncertainty is whether there will be a systemic decline in asset values when pensioners seek to realize their assets by selling them to the same declining relative proportions of active workers. The fallacy of composition is cited to explain why in a micro-economic sense individuals can save for their own retirement, but in aggregate societies - the collectivity of individuals - cannot. (Brown: 1997, p. 4)

Thus, the fundamental issue is not the financial system which is used to determine how output is divided between workers and pensioners. Barr (1998, p. 217) observes that "The choice between PAYG and funding in the face of demographic change is therefore relevant only to the extent that funding ... systematically *causes* output to be higher."⁶ [emphasis in original] Support of increasing numbers of retired persons is possible only if output grows – only if economic growth is sufficiently robust to generate the resources to be transferred to retired persons without unduly depriving

active workers. This is accepted; indeed it may be the only element of the public pensions debate which is widely agreed.

Many have sought to demonstrate that increased saving through operating a funded scheme would stimulate economic growth. While this proposition is intuitively persuasive – a funded scheme should ultimately increase saving and the increased saving should result in increased investment and thereby increased output – convincing empirical evidence of the effect of a funded public scheme on saving has been elusive.⁷ Those who adhere to this hypothesis, and they are many, do so on faith.

The second component of the proposition – increased investment leads to greater economic growth (and not simply inflated asset values) – depends on the availability of efficient and productive investments. It is generally presumed that this would apply in industrialized countries with sophisticated capital markets. In developing countries where many (partially) funded social security schemes already face liquidity problems – they have funds to invest, but limited appropriate domestic investment opportunities – more funds to invest would exacerbate their present problems. The easy solution to this dilemma – countries in this situation should invest abroad – ignores the national development and macro-economic implications of exporting capital.⁸ In this case, the greater security which foreign investment might provide to persons covered by a pension scheme is incompatible with the goal of increasing national output.

Faced with these uncertainties, it is argued that pay-as-you-go financed pension schemes do not foster economic growth, while funded schemes might increase saving which might in turn lead to increased economic growth: consequently it is worthwhile to 'give a (funded) defined contribution scheme a try'. This speculation, which can partially satisfy proponents of both pay-as-you-go and funding, has provided impetus to the introduction of modest defined contribution schemes (e.g. in Sweden) and increased funding of defined benefit schemes (e.g. in Canada).

Implicit pension debt – the liability of an unfunded pension scheme – is put forward as a measure of the financial burden imposed on future generations by the benefits promised under a public pay-as-you-go pension scheme. In general, it is equal to the present value of future pension promises. (Holzmann, Palacios and Zviniene: 2000) Since the ratio of a country's implicit pension debt to its gross domestic product can be large (often two or more times GDP), the conclusion which is invited is that the public pension scheme must be curtailed in order to reduce the ratio to a reasonable level, whatever this may be. This conclusion ignores uncertain questions of definition, methodology and assumptions which are applied to calculate implicit pension debt. Implicit pension debt is not widely regarded as equivalent to explicit pension debt.⁹ Whatever its merits as a measure of the relative generosity of different schemes, and a possible tool for macroeconomic analysis and policy formulation, the ratio does focus attention on the dimensions of a public pension scheme.

An open question is why the concept of implicit debt is applicable to unfunded public pension schemes but not to other tacit promises of a state, for example public health care, education and defence spending, which will also be financed by future taxpayers and similarly constitute unfunded state liabilities.

Political risk

Public pension schemes are regularly modified. Parametric changes are made to take into account socio-economic developments such as increasing life expectancy, changes in working patterns and changes in family composition. In democracies, changes to public schemes must secure the support of the electorate, otherwise the government would not dare to propose them. This responsive adaptability has been considered a strength of public pension schemes.

Averting had an entirely different perspective. It considered parametric changes to be a manifestation of 'political risk'. The potential 'repudiation' – or the even more pejorative term, 'default' – of public pension promises, is considered justification for distancing statutory schemes from the influence of governments. However, in countries where civil society has a strong influence on public policy, political risk is not perceived to be as pernicious as it is in *Averting*. In many of these countries, in order to maintain the sustainability of national public pension programmes, parametric changes have been implemented gradually after prolonged debate to reach a national consensus.¹⁰ Seeking parametric changes involves another form of political risk. This is the risk that despite a manifest need for reform of the public scheme, since individual losses are readily identified and resisted, the body politic of a nation is unable to reach a consensus on an acceptable reform, thereby resulting in a 'reform deadlock'.

Averting urged governments to cease making parametric changes to their defined benefit schemes; rather, they should abandon them and set up the recommended three pillar model with privately managed defined contribution individual accounts which would be insulated from government interference.¹¹ Whatever the merits of a structural change, and despite the frequent dire warnings of a public pensions crisis in the popular press, in industrialized countries there has been little support for massive structural reform of their systems of providing retirement benefits. In countries where structural reform has been implemented, major changes are being phased in over long periods so that the current generation approaching retirement is little affected. The full impact of the structural reform will be felt by subsequent generations which are unaware or insouciant of the possible implications of the reform or unable to express their opinions.

Removing governments from direct influence over social security programmes is unlikely to be achieved.¹² Governments have an important role to play in statutory pension systems, and they no doubt bear in mind the increasing numbers of pensioners who are voters and whom they want to be satisfied with their pensions. The social protection of retired persons is simply too important to be confident that governments will not act should they decide that circumstances (including their political survival) warrant intervention. (McGillivray: 2000, p. 4)

Pattern of pension reform

In Chile, by the end of the 1970s political maneuvering, unrealistic pension promises, mismanagement, inflation and currency devaluation had brought the public pay-as-you-go social security schemes (there were several, covering different sectors) into disrepute. The schemes were discredited, and they had become unsustainable. In 1981 Chile introduced a retirement benefits scheme based on privately managed defined contribution individual accounts to replace the defined benefit schemes. For the next decade, little attention was paid to this Chilean experiment. *Averting* focused

attention on Chile where the new system seemed to provide the inspiration for the model which *Averting* advocated.

Initially, it seemed that national provident funds would fit the *Averting* model. These publicly managed defined contribution individual accounts schemes had been set up in many British territories towards the end of and just following the colonial period.¹³ For years, provident funds had been criticized for providing lump sums rather than periodic payments at retirement, and for the inadequacy of the lump sums to sustain retired persons and their dependants thereafter. By the 1990s, these deficiencies had been generally recognized and provident funds had been replaced or were in the process of being converted to public defined benefit pension schemes (except in Malaysia and Singapore). Ultimately, however, since provident funds are publicly managed, they do not fit the *Averting* model. For it to be otherwise, provident funds would need private managers competing for members on the basis of investment performance and provision of services. Irrespective of public or private management, however, the risk of inadequate retirement income remains with the member.

Generally, the structural pension reform promoted in *Averting* found supporters in ministries of finance, whereas less influential ministries of labour or social welfare have favoured parametric changes to existing public schemes. Embracing structural pension reform, notably privatisation, has come to be a signal that a country is adopting sound market-oriented macroeconomic policies for which it would be duly rewarded by bond rating agencies. But countries which contemplate a structural change from a pay-as-you-go public scheme to a funded individual accounts system face the challenge of how to deal with the 'double burden' of paying pensions to persons presently retired and the acquired pension entitlements of current contributors to the public scheme when future contributions are made to individual accounts.¹⁴ Contributors can be issued bonds redeemable at retirement which recognize their accrued rights (as in Chile) or elements of the old system can be maintained to pay accrued benefits. The fiscal implications and pressures resulting from financing the transition from a pay-as-you-go public scheme to a funded individual accounts system can be significant; sufficient to deter countries from adopting this approach to pension reform. (Chand and Jaeger: 1996) Indeed, according to Baker and Weisbrot (2002), the budget deficits which led to economic collapse in Argentina in 2001/2002 are largely attributable to the loss of revenue resulting from privatising the public social security scheme in 1994 along with the constraints imposed by the peg of the national currency to the US dollar.¹⁵

The Chilean model was aggressively promoted in Latin American and elsewhere where discredited and unsustainable public schemes sorely needed reform. It was implemented with significant modifications in Argentina and Uruguay. In some Latin American countries with little in common with Chile aside from the Spanish language and geography, the Chilean model was imported virtually unchanged. Despite considerable encouragement, few developing (or other) countries outside Latin America have reformed their old-age protection schemes to adopt the model promoted in *Averting*.¹⁶ On the contrary, in the 1990s several provident funds were converted to defined benefit pension schemes or incorporated defined benefit components (e.g. in Fiji, Ghana, India, Nepal, Tanzania, Zambia).

The proposals in *Averting* appeared at the same time as countries in Central and Eastern Europe and the former Soviet Union were making massive structural changes in order to adapt their economies and societies to a free market model. Social protection systems had to be recast, and these transition countries became "laboratories for experiments in welfare reform". (Merrien: 2001, p. 541; Barr: 1994,

pp. 216-223) The international financial institutions, other international agencies and some bilateral aid agencies eagerly sought to assist the transition countries to implement social security reforms which the particular institution (or individual) proffering advice deemed appropriate.¹⁷ The ideological commitment and enthusiasm with which some reforms have been promoted has not always been accompanied by the requisite expertise or sufficient recognition of national constraints. In particular, these constraints include administrative capacity and financial market prerequisites to support a funded scheme.

The greater a country's external debt, the more receptive it seems to have been to the policy recommendations of the international financial institutions. Two countries with modest levels of external debt in the 1990s, the Czech Republic and Slovenia, made parametric reforms to their mandatory defined benefit public schemes and created supplementary voluntary funded schemes. In these countries, elements of civil society, notably trade unions and pensioners' associations, mobilized to resist proposed structural changes to the public pension schemes. The situation was different in Hungary and Poland. In Hungary, a 1998 reform created a mixed system consisting of a modified public defined benefit scheme and a second tier privately managed individual accounts defined contribution system. In Poland, in 1999 a mixed scheme was implemented whereby the public defined benefit scheme was replaced by a notional defined contribution scheme and a mandatory second tier system of privately managed defined contribution individual accounts.

In most Central and Eastern European countries (and countries of the former Soviet Union) the pension reform process which began in the early 1990s has taken much longer than was originally envisaged and it is continuing. Much effort has been expended to convince civil society of the need for pension reform and to seek a consensus. In these countries, 'privileged pensions', a feature of the former systems which awarded preferential pensions to persons in selected occupations, had to be retrenched. Disability pensions, which in the early years of economic reform had been granted to workers becoming unemployed in lieu of (nonexistent) unemployment benefits, have to revert to their proper function. Structural reforms such as those in Hungary and Poland are complicated, and transitional measures which have been introduced to cater for older workers increase the complexity of the pension schemes. Workers over a certain age are sometimes given a choice whether to join a reformed scheme or remain in the former public scheme, a choice which may be irrevocable and for which they may have no basis for taking a rational decision.

In order to avert the alleged impending crisis of public pensions, pension reform has sometimes been rushed and implemented without sufficient consultation, political commitment and creation of administrative capacity (especially information and communications technology systems) to give the reformed system a chance to work properly. Also, changes of government can lead to fundamental changes in statutory pension arrangements when a new government is ambivalent or even opposed to structural changes which have previously been enacted. These changes, however sound and sincerely motivated they may be, create uncertainty and a loss of confidence in the long-term reliability of statutory pension arrangements, and can lead to evasion of contribution obligations.¹⁸

Notional defined contributions

In the mid-1990s an innovative approach to defining and financing public pension schemes, 'notional defined contribution' (NDC) accounts, was developed. (Palmer: 2002; Gora and Palmer: 2002) During the accumulation period a NDC scheme

operates like a defined contribution scheme except that the notional accounts are not credited with annual interest, but are revalued annually in accordance with an index (e.g. the rate of increase in covered wages or in gross domestic product). When a benefit is payable, the notional balance of an individual's NDC accumulation is converted into periodic pension payments. However, unlike (funded) defined contribution schemes, contributions are used to pay current pensions on a pay-as-you-go basis; hence members' accounts are 'empty', and their accumulations are 'notional'. Since 'defined contribution' appears in the NDC title, the rectitude which has come to be attributed to *funded* defined contribution schemes, no doubt casts some undeserved merit on NDC schemes. Indeed, the name has contributed to considerable confusion ('notional accounts' might be a better description).

The NDC system avoids the dilemma of paying current (and accrued) pensions which arises when an existing pay-as-you-go scheme is replaced by a funded defined contribution scheme, since the NDC scheme contributions are used to finance benefits payable under the previous scheme. During the accumulation period, the NDC system is in fact a defined benefit scheme where the pension benefit accrual is based on an individual's career average revalued earnings. (Cichon: 1999) The NDC arrangement has some of the merits proponents attribute to funded defined contribution schemes: the absence of any redistribution and a strong link between contributions and benefits. Since it is a pay-as-you-go system, an NDC scheme creates no potential increase in national saving nor any impetus for the development of national financial markets.

The NDC system is presented as a package: the defined benefit accumulation and the conversion of the balance available in the NDC account at retirement into an annuity based on the mortality assumed to apply to each retiring cohort. As life expectancy increases, successive cohorts of retirees will have to work longer in order to have adequate pensions. Thus, while the NDC system permits persons to retire when they wish after a specified age, in order to have adequate pensions they will have to contribute to the scheme for increasingly long periods, thereby encouraging their continued attachment to the labour force (assuming, of course, they can find employment). This is a desirable result in countries where dramatic reductions in the labour force relative to retired persons are projected. Contributions which older persons continue to make to an NDC (or a funded defined contribution) scheme will have little effect on the amount of their pensions, but they will have employment income while they continue working and the retirement period during which they must rely on their pensions will be reduced thereby resulting in larger pensions.

Significant parametric adjustments to pension benefit formulas and/or contribution increases in countries where current pay-as-you-go defined benefit schemes are projected to become unsustainable can be difficult to implement, and a reform deadlock can result. A fundamental change to a totally new NDC system may break the deadlock and render reductions in expected pension benefits possible. NDC schemes have been introduced in Sweden, Latvia, Italy and Poland.¹⁹

Pension reform issues

Individual account balances at retirement

Contributors face the risk that their defined contribution individual account balances at retirement will be insufficient to provide them and their dependants with adequate retirement income. Multiple estimates of individual account balances can be constructed, but there are no generally accepted standards regarding the

assumptions which must be made concerning interest rates, rates of wage growth and inflation during the active (contribution) period. While projections are made over contributory working periods of 40 years or so, few participants will have a full 40 years of contributions. Hence the projected individual account balances can be deceptive. Even if pension projections are sufficiently robust for a group, they are unlikely to apply to any individual member of the group. If a participant's contributions are intermittent (for example, due to periods of (non-contributory) unemployment), in a defined contribution scheme the operation of compound interest means that contributions made at younger ages (when contributory earnings are normally low) are more important than those made later.²⁰ Provisions permitting withdrawals from individual account balances before retirement (e.g. due to unemployment or marriage) jeopardize the eventual retirement benefit.

Investment returns

A principal reason for introducing carefully regulated, privately managed, defined contribution individual accounts systems is to overcome perceived deficiencies in the investment performance of funded public social security schemes. Contributors select their investment managers, and are allowed to change (switch) their selections among competing private fund managers who are free from direct government interference and demands to which funded publicly managed schemes can be subject. The investment independence and competition which this is expected to foster among private fund managers should result in improved investment returns, more efficient allocation of capital and increased national economic growth.²¹

Enthusiasm for these desirable outcomes has led to the implementation of defined contribution individual accounts systems in some countries without laws governing the ownership and transfer of property, domestic capital markets, reliable banking systems, functioning securities exchanges and effective regulation of financial institutions, nor the will or capacity to enforce whatever regulations there are. This is surely a triumph of orthodoxy and confidence that the necessary infrastructure will rapidly develop over a prudent assessment of national economic and institutional circumstances and capacities.

Contributors alone bear the investment risk. They have been empowered to make their own choices (i.e. select and change fund managers), but generally they do not have either the information or the acumen to make informed decisions. In their dilemma, there is no shortage of professional advisers and salespersons to assist them. The resulting switching of fund managers complicates administration, increases administration expenses and can abet evasion of contributions. Daykin (1998, pp. 36-37) observed, "Some would place a high premium on having consumer choice. It is difficult to be against choice, but the essential factor with pensions is to ensure that the consumer has adequate safeguards since the issues are rather too complicated for most people to grasp fully the nature of the choices with which they are faced. Although it may sound paternalistic, it is sometimes better to limit the number of choices, in order to ensure that everyone receives a reasonable level of pension."

It is far too soon to assess whether private management of investments is in general resulting in balances in members' individual accounts which they have been led to expect in order to produce adequate retirement income. A long-term perspective – each member has a potential contribution period of around 40 years – is necessary. Pension funds can be invested for long durations thereby enabling projects which will generate returns over long periods and promote national economic development. Hence, their investment performance should also be measured over long periods.

They should not be monitored in the same manner as other financial institutions whose investment performance is measured over short periods. This long-term approach is ill-understood by the public which is increasingly accustomed to daily analyses of investment performance.

An exception to this long-term perspective occurs at the time a worker retires. While over long periods the investment returns of a scheme may be acceptable, at the time of retirement a worker faces the risk that the value of the assets in which the worker's contributions have been invested may be depressed. At the same time, the interest rate applicable to the purchase of an annuity may be low. While these two risks may operate in opposite directions, it is clear that individual retirees are ill-equipped to avoid them or possibly even to understand them.²²

An alternative solution to liberating public pension scheme investments from government interference is to allocate funds to competing private investment institutions whose performance is monitored by the public scheme or to set up an independent investment authority. In Canada, since 1998 funds of the partially-funded Canada Pension Plan have been managed by the independent Canada Pension Plan Investment Board. (Tamagno: 2000)

Regulation

Whereas public defined benefit schemes are controlled by the legislative authority, statutory privately managed individual accounts systems require the creation of national regulatory institutions with functions similar to those in countries where voluntary occupational and personal pension plans are widespread. These institutions supervise the operations of individual accounts managers in order to protect members of the schemes.

The scope and contents of supervision are continuously evolving. Regulators have been accused of excessive zeal in protecting scheme members, thereby stifling competition and innovation among the private managers. Generally, the composition of the investment portfolios of different managers is remarkably similar. This may be attributable to regulations constraining investments, or simply due to the depth of the domestic capital market which offers few investments suitable for social security funds. The consolidation of management companies seems to be an inevitable result of a number of institutions entering the business and subsequently withdrawing after they ascertain that their market share is going to be insufficient for them to become profitable.²³ Regulators have focused on specific problems including excessive administration expenses and marketing abuses such as members' excessive switching of their accounts among managers, both of which are disadvantageous to the members themselves.

Bodies responsible for regulation need highly-trained specialists who are unlikely to be available in some countries which have implemented privately managed individual accounts systems – countries where close supervision of the individual account managers may be most needed. The cost of operating the regulatory machinery required for supervision of mandatory privately managed individual accounts systems is generally paid by the state.

Annuitization

When privately managed defined contribution individual accounts systems were initially promoted, little attention was paid to the conversion of the lump-sum balances in members' accounts into a stream of payments throughout their retirement.²⁴ The cost of an annuity is determined by three assumptions: future

investment and reinvestment returns, future annuitant mortality and marketing and administration expenses. In order to index annuity payments so they keep up with inflation, private annuity underwriters must invest in indexed securities; generally certain government bonds which are available in only a few countries.²⁵ The future mortality of annuitants is unknown, however the expectation of life of persons at retirement age is expected to continue to increase, so annuity underwriters must include sufficient margins in their premiums to protect their shareholders. The principal expense of underwriting annuities is the commissions paid to agents selling the annuities.

Underwriting of annuities is further complicated when, subject to specific conditions, defined contribution schemes permit programmed (or phased) withdrawals that allow a retiree to determine the timing and select the amounts of the accumulated capital which will be drawn down. This provision gives individuals a choice which can result in their outliving the payments and thereafter resorting to a guaranteed minimum pension paid by the state. Persons who perceive themselves to be unhealthy or who seek to leave a bequest opt for programmed withdrawals. This adverse selection (selection against annuity underwriters) further complicates the assessment of future annuitant mortality.²⁶

Annuitization is now receiving attention, but privately underwritten annuities are expensive and the scope for competition in the private annuity market appears to be limited. Public pay-as-you-go defined benefit schemes do not face adverse selection since all persons retiring receive periodic payments throughout their lifetimes (and the lifetimes of certain specified survivors) and no commissions are paid. Aside from fidelity to the orthodoxy of pursuing private sector solutions, it remains unclear what advantages private underwriters can bring to the provision of annuities.

Contributions

However sound the conceptual basis of any old-age protection system may be, administrative realities must be taken into account if the system is to succeed. A statutory contributory pension scheme can only provide adequate retirement incomes for participants and their dependants if participants meet their contribution obligations.

In defined benefit pension schemes the retirement pension is often calculated according to a formula which relates an individual's earnings near retirement and the period during which the individual contributed to the scheme. Hence, there is a potential moral hazard since participants may seek to manipulate the timing of their contributions and the earnings used to calculate their pensions in order to reduce their contributions and inflate their pensions. In defined contribution schemes the periodic payments depend on the accumulated amount in an individual's account at retirement. It is expected that the close link between contributions and benefits should eliminate the moral hazard since participants have an incentive to comply with the statutory contribution conditions. (James: 1998, p. 455) This rational economic response has not been reflected by improved levels of compliance in defined contribution schemes which have replaced defined benefit schemes. (Mesa-Lago: 1998, p. 782; Gillion *et al.*: 2000, p. 255) Myopic behaviour and current consumption needs have predominated over prudent saving for retirement.

In some countries members of defined contribution individual accounts systems are guaranteed minimum pensions by the government. Whenever necessary, pensions of participants who have contributed for a specified minimum period are supplemented up to the level of a guaranteed minimum pension. (Queisser: 1998, pp. 67-68) Although the minimum pension may be modest, it is contended that the

existence of a minimum pension constitutes a moral hazard since participants may decide to rely on the minimum pension (presumably along with other savings) to finance their retirement, or they may conclude that continuing to contribute to their individual accounts will not produce pensions significantly higher than the minimum pension. Unlike a defined benefit pension scheme, there is no pooled fund from which minimum pensions can be paid, and they are paid from general revenue. The fiscal implications of governments' liabilities for guaranteed minimum pensions are a cause for concern. (Bertranou and Arenas de Mesa: 2002)

While statutory social security contributions are a legal obligation, administrators of public social security schemes have long known that contributions must be *collected* and that expensive and extensive enforcement activities are necessary to deter evasion. This is a different approach from insurance companies and mutual funds (or unit trusts) which *receive* voluntary premiums and deposits. Individual account fund managers to whom contributions are payable tend to behave in much the same manner as insurance companies and mutual funds. This approach is not appropriate for a statutory social security scheme, but there is little incentive for private fund managers to devote resources to compliance since evaders are predominately individuals whose contributions would be small and compliance measures would increase the fund managers' costs. (McGillivray: 2001, pp. 17-18)

A centralized collection agency can be more efficient and pursue a diligent enforcement policy.²⁷ Marginal costs should be reduced when collection of social security contributions can be combined with an existing income-tax collection system which has an extensive infrastructure in place that can not only collect contributions, but also perform verification, oversight, and enforcement functions. (Heller and Gillingham: 1999, p. 4) But economies of scale and efficient enforcement which should be possible with a unified collection system can only result if there is a strong tax administration which acts solely as an agent that receives and transmits social security contributions to the social security organization without delay or diversion. These conditions can be difficult to meet. In the former command economies, particularly those with chronic budget deficits, the concept of agency may be poorly understood since the tax collection authority is not accustomed to allocating revenue anywhere other than to the state budget (from which pensions were formerly paid).

Conclusion

Much has transpired since 1994 when *Averting the Old Age Crisis* advocated provision of statutory pensions principally through a mandatory second pillar privately managed defined contribution scheme. Experience with problems encountered implementing and operating this system has led to a more pragmatic and flexible approach. Countries opting for structural reform of their public pension schemes have generally implemented three pillar systems: a publicly managed mandatory defined benefit first pillar, a privately managed mandatory savings second pillar and a third voluntary savings pillar. Aside from a few countries in Latin America, the defined benefit first pillar is a major component of the reform packages. If pensions from the defined contribution second pillar meet the expectations of proponents of this pillar, in the future it may grow in importance at the expense of the first pillar. However, it will be many years before the capacity of a funded defined contribution scheme to provide adequate and reliable pensions can be assessed. Reforming the first pillar by adopting a notional defined contribution system is an alternative which is attracting increasing attention.

The principal interlocutors among the international agencies, the International Labour Office and the World Bank, have been refining their approaches to social protection. In *Social Protection Sector Strategy* (World Bank: 2001) a 'social risk management' approach for the Bank's work in the social protection sector is set out. *Social security: A new consensus* (ILO: 2001) contains the results of a discussion on social security at the International Labour Conference in June 2001. While reaffirming their respective market-based and solidarity approaches to social security, both documents identify the extension of social protection to unprotected persons as a priority.

Clearly, individual participants bear the risk that their benefits resulting from a defined contribution scheme will be inadequate. Changing benefit provisions in order to remove incentives which might motivate individuals not to contribute, for example eliminating a guaranteed minimum pension, would remove potential moral hazards but does not solve the problem of providing adequate retirement income for persons whose pensions are low. No contributory social security scheme, however theoretically sound it may be, can meet its objectives unless participants comply with their contribution obligations; consequently attention must be devoted to scheme administration, notably enforcement of compliance.

If an individual's retirement benefits from a mandatory defined contribution scheme are inadequate for whatever reason – poor investment performance, low contributory earnings, intermittent employment, evasion of contributions – the state has no statutory responsibility aside perhaps from paying a general revenue financed guaranteed minimum pension. But, in reality, the state is not out of the business of paying public pensions. If benefits under the statutory scheme are generally inadequate, the political influence of increasing numbers of pensioners will lead to irresistible pressure on governments to supplement their retirement income to acceptable levels. Governments which take this risk into account proceed cautiously with reform of their public pension systems.

Endnotes

¹ This enthusiasm has dimmed in face of recognition that individual contributions to privately managed individual accounts are likely to be modest. In the United States, if average taxable earnings for social security are in the order of \$25,000, a contribution rate of 2% to individual accounts would yield \$500 contributed annually in instalments. Based on experience with 401(k) plans for small employers, the cost of administering each of the around 150 million individual accounts could exceed \$300 annually. This offset to possibly higher investment earnings, the dimensions of the administrative infrastructure required and the potential public dissatisfaction with the system has dimmed enthusiasm in the investment community.

² Iyer (1999) provides a description of financial systems which are applied in public social security schemes and illustrates their relationship to financial systems used for private (occupational) schemes.

³ While most public defined benefit schemes in Western Europe follow the pay-as-you-go system, in Canada, Japan and the USA and in most developing countries, various levels of partial funding are applied. A measure of the level of funding is the funding ratio, the reserve divided by current annual pension payments. According to *La Lettre de l'Observatoire des Retraites* (2001, pp. 12-13), for the relatively mature schemes in the three industrialized countries mentioned, the ratios are currently from 2.5 to 4 years of benefit payments. From their annual and actuarial reports, for less mature schemes such as in Barbados and the Social Security System of the Philippines, the current ratios are around 5 and 6.5 respectively, and in Korea, in 1998, the relatively new public scheme had a funding ratio of 20.9.

⁴ As Holzmann and Palacios (2001, p. 46) state "In the popular pension discussion, 'individual accounts' are often used as a short hand for funded, privately managed, defined contribution type pension arrangements. However, this can be misleading since each of the main characteristics of a mandated pension system ... can be combined in essentially any form and often are."

⁵ Owner occupied housing is an exception to the transfer from active workers to pensioners; assets which are sold abroad do not involve a transfer of domestic resources.

⁶ Barr's 1979 article, "Myths My Grandpa Taught Me", seems to be the first which identified 'myths'. Subsequently, identifying and debunking myths – propositions which the authors consider fallacious - has been a popular approach in articles dealing with pensions. (See World Bank (1994); Barr (2000); P. Orszag and Stiglitz (2001).

⁷ Saving should increase unless the saving attributable to a funded scheme is compensated by dissaving elsewhere (e.g. if it is diverted to higher private or public consumption). When, and indeed if, there would be an increase in saving also depends on how the transition cost from a pay-as-you-go to a funded scheme is handled.

⁸ Even when foreign investment is permitted, Holzmann (2000, p.14) observes that emerging markets seem to share with developed markets a home bias of pension funds, that is, their portfolios include a much lower share of foreign investments compared to what standard models of global portfolio choice would suggest.

⁹ In their analysis of the extent to which privatisation of the public social security system contributed to the Argentinean financial crisis, Baker and Weisbrot (2002, p. 3 footnote) observe "Some proponents of privatisation argue that government debt created by privatising should not be viewed as new debt, since it is just replacing implicit debt ... with explicit debt. It seems clear that the financial markets did not take this view, not did the IMF. The IMF insisted that Argentina balance its budget as a condition of new loans. Had it accepted that implicit debt and implicit debt of the pension fund were equivalent, it would have allowed for a deficit equal to the amount of lost revenue from privatising its social security system."

¹⁰ In Canada, in the mid-1990s, public consultations revealed a strong desire to see the Canada Pension Plan (CPP) remain a public pension plan and not be privatised. In order to maintain the sustainability of the CPP indefinitely, an accelerated increase in the contribution rate with the objective of achieving a funding ratio (reserve/annual pension payments) of five was implemented. An independent CPP Investment Board was set up to manage the funds. (Townson: 2001)

¹¹ Events in late 2001 in Argentina where private fund managers under the mandatory defined contribution system were ordered by the Government to transfer deposits to the state-owned bank cast doubt on the conviction that privatisation would liberate pension funds from political risk. (See Catan: 2002.) The experience in Argentina suggests that privatisation has not

distanced the Government from responsibility for the adequacy of retirement pensions (i.e. government has a 'conjectural liability' – implicit responsibility if outcomes of a mandatory scheme prove to be unsatisfactory.)

¹² Governments set up and amend regulations and supervisory arrangements for privately managed individual account systems (and for occupational and personal pension schemes). Taxation of pension scheme contributions, investment income and benefits is determined by governments.

¹³ Fiji, India, Kenya, Malaysia, Nepal, Singapore, Tanzania, Uganda, Zambia, and several countries in the Caribbean set up provident funds. For a thorough analysis of the provident fund model see Chapter 5 of Charlton and McKinnon (2001).

¹⁴ This is the case where the implicit pension debt must be calculated, i.e. when a pay-as-you-go scheme is wound-up.

¹⁵ Baker and Weisbrot (2002, p. 3) note that in September 2001 public scheme benefits in Argentina were cut by 13 per cent. They observe that "The irony of this action is that Argentina's decision to privatize social security in 1994 helped to touch off a financial crisis, which ultimately forced much more draconian cuts in social security than ever would have been contemplated in 1994."

¹⁶ In Hong Kong a privately managed defined contribution individual accounts scheme was set up in 2001.

¹⁷ Notable among the financial institutions are the World Bank, Asian Development Bank and to a lesser extent, the International Monetary Fund; the ILO and the European Commission among other international bodies; and US AID among bilateral aid agencies.

¹⁸ With respect to Poland, Chlon (2002, p. 120) observes "...lack of time for discussion and preparation resulted in many imperfections in the legislation, which created the need for further amendments after implementation of the reform." In Hungary, following the election of a new Government in 1998, the structural reforms implemented in January 1998 were significantly modified. See Augusztinovics (2002).

¹⁹ Under the pension reform in Sweden, of the 18.5% of contributory earnings total contribution rate, 16.5% is allocated to the NDC scheme and 2.5% to the (funded) defined contribution Premium Pension scheme. In Poland, under the reform implemented in 1999, of the 19.52% of contributory earnings total contribution rate, 12.22% is allocated to the NDC scheme and 7.3% to a defined contribution individual accounts scheme. (Chlon: 2002, p. 123) Transitional arrangements apply.

²⁰ Pension reform focuses on retirement pensions. In privately managed individual accounts defined contribution schemes, disability and survivors' benefits are normally provided through insurance contracts. The effectiveness of these ancillary benefits is little investigated.

²¹ Enthusiasm for independent and aggressive investment management of pension funds is no doubt attributable in part to the phenomenal growth of equity markets in most industrialized countries in the 1990s. Expectations of continuing high market returns sometimes led to inflated projections of pensions arising from defined contribution schemes.

²² The Asian financial crisis led to a fall in asset values in Chile in 1998. Persons nearing retirement age were urged by the Deputy Minister of Social Welfare to continue working and postpone taking a pension until economic conditions and returns on the pension funds returned to normal. (*La Cuarta*, 1998) What constituted normal conditions, when normal conditions might return and how one would know they had returned were not mentioned; nor was the practical matter of retaining or locating employment during the period of postponed retirement.

²³ When a system of privately managed individual accounts is implemented, the success of an individual account management company depends much on how many of the current contributors to the public scheme can be attracted to the company. Thereafter, the growth in number of contributors is limited to the number of new entrants to the labour force covered by the scheme whom the management company can attract and contributors whom it can lure to switch from another company. Companies which have been unsuccessful in attracting a sufficient number of contributors will not become profitable, and will be absorbed by other companies. In order to succeed, companies employ agents. In Poland when the reform was implemented in 1999 there were over 400,000 agents – one for every 25 pension contributors. (Chlor: 2002, p. 161). The agents receive fees (or commissions) which are ultimately paid by the contributors.

²⁴ While the Polish reform was implemented in 1999, how the NDC and funded defined contribution accounts are to be converted into periodic payments had not been decided by early 2002. (Chlon: 2002, p. 130 and 135)

²⁵ According to Thompson (1998: p. 159) "If a government is willing to issue index bonds, it can organize a retirement income system based on mandatory, advance funded, individual accounts that is just as effective as a pay-as-you-go public pension system in protecting individuals against the risk of unanticipated inflation. ...a substantial portion of the financial assets held in individual retirement programs would have to be government liabilities, and the government would be guaranteeing the purchasing power of retiree assets in all economic circumstances to an even greater degree than it does under pay-as-you-go pension arrangements." He observes that indexed bonds pass the responsibility for fulfilling promises on to future taxpayers in the same manner as public schemes that are criticized for creating implicit promises of future government payments. It may be questioned whether fulfilment of these obligations is more certain than the obligation to pay future pay-as-you-go financed pensions.

²⁶ Other restrictions, for example the use of "unisex" tables, further complicate underwriting annuities.

²⁷ Countries where there is centralized collection of contributions to privately managed individual accounts schemes include Argentina, Mexico, Poland, Sweden and Uruguay. In Chile, El Salvador, Hungary and Peru contributions are paid directly to the individual accounts managers.