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ABSTRACT/RÉSUMÉ

Forms of Benefit Payment at Retirement

This paper focuses on describing the international practice on the various forms of retirement benefit payment currently allowed in countries throughout the world and the regulatory environment surrounding these different forms of benefit payment. The analysis suggests considerable variance between countries. Some countries only allow one form of retirement payment, while others allow several forms or even a combination of them. Examining country practices as regard the providers of benefit payments, suggest that lump-sums and programmed withdrawals are generally provided by pension funds; while, as regard life annuities, providers varied from insurance companies, to pension funds, financial intermediaries and a centralised annuity fund. The paper ends by examining the role of taxation where a choice between different types of benefit payments is allowed. Tax provision plays a key direct or indirect role in influencing payout options. Cross country evidence is varied but suggests that there is often an unequal tax treatment of the various forms of retirement payout options

JEL codes: D14, D91, E21, G11, G38, J14, J26.
Keywords: benefit payments at retirement, lump-sums, programmed withdrawals, life annuities, regulatory environment, pension funds, insurance companies, financial intermediaries, centralized annuity fund, taxation.

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Les différentes formes de prestations de retraite

Pour l'essentiel, ce document décrit les pratiques internationales en vigueur concernant les formes de prestations de retraite actuellement autorisées dans le monde, ainsi que les dispositifs réglementaires qui les régissent. Cette analyse fait ressortir de profondes disparités entre les pays. Certains n'autorisent en effet qu'un seul type de prestations, alors que dans d'autres, plusieurs formules peuvent être envisagées, voir associées. S'agissant des prestataires, l'examen des pratiques nationales tend à montrer que les sorties en capital et les retraits programmés sont généralement proposés par des fonds de pension, alors que les rentes viagères sont servies par des compagnies d'assurance, des fonds de pension, des intermédiaires financiers ou une caisse de retraite centralisée. Ce document s'achève sur une analyse du rôle joué par la fiscalité lorsque plusieurs types de prestations sont possibles. Les dispositions fiscales exercent alors directement ou indirectement une influence décisive sur le choix des modes de sortie. Les données comparatives concernant les différents pays sont hétérogènes, mais laissent supposer que les divers modes de sortie sont rarement soumis au même régime fiscal.

JEL codes: D14, D91, E21, G11, G38, J14, J26.
Mots clés: prestations de retraite, sorties en capital, retraits programmés, rentes viagères, dispositif réglementaire, fonds de pension, compagnies d'assurance, intermédiaires financiers, caisse de retraite centralisée, fiscalité.

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FORMS OF BENEFIT PAYMENT AT RETIREMENT

by Pablo Antolin, , Colin Pugh and Fiona Stewart [1]

Executive summary

The growing importance of occupational defined contribution (DC) pension plans and personal retirement savings has led to increased attention being focused on the forms of payment that should be allowed and/or encouraged under such plans at retirement. Many of the newer DC pension systems (notably in Central and Eastern Europe and Latin American countries) have successfully launched the capital accumulation phase. Yet, they may need to focus on the regulation of the payout phase. In particular, issues such as the choices that should be available to retiring individuals, which entities should be allowed to be providers and how should they be regulated are coming to the fore.

This paper focuses on describing the international practice on the various forms of retirement benefit payment currently allowed in countries throughout the world and the regulatory environment surrounding these different forms of benefit payment.

The analysis of the main forms of benefit payment at retirement suggests considerable variance between countries. Some countries only allow one form of retirement payment, while others allow several forms or even a combination of them. The main forms of retirement payments allowed are lump-sums (a single payment), programmed withdrawals (series of fixed or variable payments generally calculated by dividing the accumulated assets by a fix number or by the expected life expectancy in each period), and life annuities (a stream of payments for as long as the retiree lives).

Lump-sums are easy to administer, do not require complex calculations or record keeping, and the pension fund or plan sponsor relinquishes any subsequent obligation. For retiring plan members, lump-sums allow them to invest part of the money, pay down debt, satisfy the bequest motive, and give them the ability to "self-annuitize". However, lumps-sums also have their disadvantages. Few retirees are really prepared to "self-annuitize" as they lack appropriate financial skills and discipline. Moreover, problems of moral hazard arise as retirees can squander their assets and fall into the social security safety net. Finally, lump-sums do not protect from longevity risk.

Programmed withdrawals address some of the problems of lump-sums by providing more financial discipline, as payments are prearranged. However, under programmed withdrawals there again remains the risk that the capital will be completely exhausted while the retiree is still alive. Country practices on programmed withdrawals vary from simply imposing a minimum payment requirement to setting both

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minimum and maximum limits, through to highly prescriptive formulas that leave no discretion to the individual.

Life annuities have the advantage that payments are made for the entire lifetime of the retiree and therefore retirees are protected from longevity risk. In this regard, the paper shows that life annuities are superior to other forms of benefit payments. Life annuities can provide a fix payment or a variable payment; the latter can be escalating or tied to the performance of stock markets. Additionally, the distinction between deferred annuities and longevity insurance is important to bear in mind. Under deferred annuities, the capital is generally returned if the individual dies during the deferral period. However, under deferred annuities categorised as longevity insurance, the payments are conditional on surviving to the end of the deferred period, i.e. they are pure insurance and the premiums are significantly lower.

The paper also examines the country practices as regard the providers of benefit payments. Lump-sums and programmed withdrawals are generally provided by pension funds. However, as regard life annuities, providers varied from insurance companies, to pension funds, financial intermediaries and a centralised annuity fund. While pension funds retain the life annuity in Brazil and several CEE countries, this practice is relatively rare. The use of a state or other centralised annuity provider is even less common, although it has been discussed in Bolivia, Poland and Ireland. There is, in practice, a state annuity provider in Sweden, where the actual accumulated contributions in the DC portion of social security are combined with the more dominant notional DC account to determine the individual's overall retirement pension income (payable from a single source). The paper also discusses provider intermediaries, such as brokers, independent financial advisors, financial advisors directly attached to the plan, actuarial consulting firms and other advisors and software providers. Additionally, the paper highlights two interesting schemes that link providers and prospective annuitants: the SCOMP in Chile, and the open market option in the UK.

The paper ends by examining the role of taxation where a choice between different types of benefit payments is allowed. Tax provision plays a key direct or indirect role in influencing payout options. Cross country evidence is varied but suggests that there is often an unequal tax treatment of the various forms of retirement payout options.

I. Introduction

The growing importance of occupational defined contribution (DC) pension plans and personal retirement savings has caused increased attention to be focused on the **forms of payment** that should be allowed and/or encouraged under such plans at retirement. Many of the newly created defined contribution pension systems (notably in **Central and Eastern Europe, China,** etc.) have successfully launched the capital accumulation phase. Policymakers introducing these new systems have focused on this phase as the number of retirees (beneficiaries) is initially low, even more so because older workers are often excluded from joining the new systems. Attention therefore has been focused on regulation of the accumulation phase, including investment of assets and protection of plan members' rights. Creation of administratively efficient systems also is important, given the large number of relatively small accounts. The debate in these countries is now starting to shift to the matter of firming up the existing regulations concerning the forms of benefit payment to be allowed at retirement, and which financial institutions should be allowed to provide such payment forms. These are important issues, especially as the assumption of risk by the retiree can differ radically between the various payment forms. Regulators continue to search for optimal risk-sharing arrangements.

Many of the *reformed* systems are still in the transition stage, and *new* systems have not even reached the decumulation or payout phase. For example, annuitization will become obligatory in **Hungary** for individuals with 15 or more years of contributions under the mandatory DC accounts system introduced in 1998, but this obviously cannot happen before 2013. Similarly, the first annuity benefits under the mandatory individual accounts system in **Poland** will only be payable from 2009. A framework for transitioning from the accumulation phase to the payout phase has yet to be put in place or even outlined in detail in some of these countries. Nonetheless, the decumulation phase is just as important if the new systems are to achieve their goal of providing efficient and effective retirement incomes. If a truly effective accumulation phase is followed by a suboptimal payout phase, the end result will still be suboptimal. Success will be measured by whether the overall system provides regular and adequate income to retirees and their dependents. Pension regulators must carefully address the transition to the payout phase and attempt to avoid beneficiaries making suboptimal choices that could adversely affect the rest of their retirement.

Thus, more attention soon must be paid to the regulation of the payout phase in these countries. What choices should be available to the retiring individual? Which entities should be allowed to be payout "providers", and how should they be regulated? Such questions, to be addressed in this paper, have much wider implications than the pension systems in the aforementioned transition economies. Two other examples will be mentioned: first, the well developed DC pension systems introduced in Chile in 1981 and copied in many other **Latin American** countries in more recent years; the second example is largely focused on **North America and Western Europe**, including several countries where occupational pension plans had traditionally been defined benefit and where payouts were usually restricted to lifetime pensions. The transition to DC occupational plans, and the strong efforts in some countries to promote individual retirement savings (inherently DC), have changed the dynamics in these countries. In the absence of new payout options, continuation of the lifetime pension philosophy would imply the purchase of life annuities from life insurance companies. However, life annuities may not always generate expected levels of retirement income. All stakeholders are thus showing great interest in alternatives to the present systems – either whilst still trying to sustain their traditional objectives, or by re-evaluating the whole concept of optimal retirement choices. This paper attempts to make a positive contribution to this lively, and indeed global, debate.

Consequently, this paper will focus on describing the international practice on the various forms of payment currently allowed in countries throughout the world and the regulatory environment surrounding them. Emphasis has been placed on countries that provide interesting examples, rather than large countries

– some of which have no occupational DC markets and only small personal retirement savings markets. Furthermore, the paper focuses on DC plans.[2] It addresses such questions as:

- How are the payout phase and annuity markets structured in different countries?
- Which entities should be allowed to be payout providers? Particular emphasis will be paid to the issue of which entities should be allowed to provide life annuity products (pension funds, insurance companies, public authorities), and to what extent each such annuity provider is subject to actuarial reserving, solvency ratio and/or capital requirements.
- How do tax regulations influence the payout phase of pension systems globally?

Whilst every effort has been made to verify the accuracy of the country examples, information on some countries is limited and even contradictory. The situation is further complicated by the pace and scale of reform throughout the world. The author apologizes in advance for any resulting confusion.

II. Main forms of benefit payment at retirement

1. General overview of international practice

In North America and Western Europe, the traditional forms of benefit payments from DC pension plans have been either a lump sum payment or some form of life annuity. In several of these countries, especially in Western Europe, the *only* permitted form had been a life annuity, with a minority allowing the commutation of a relatively small part of the annuity for cash. This focus on lifetime pensions may reflect a continuation of the philosophy of most traditional occupational defined benefit pension plans of paying a lifetime pension, or it may simply reflect a strong belief in these countries that the true role of a pension plan is to replace pre-retirement employment income with post-retirement, lifetime pension income. The first consideration is not particularly relevant to this paper, but it is important to discuss the second, philosophical consideration about the real roles of occupational DC pension plans and personal retirement savings plans.

In Latin America, the choice is usually between a life annuity from an insurance company and programmed withdrawals from the pension fund. There are strict and sophisticated restrictions on the operation of programmed withdrawals, as is now also the case in some other countries (e.g. Canada).

Although not normally referred to as "retirement benefits", there are several countries (especially in Latin America, but also Italy) where employers are required to pay *termination indemnities* at retirement. In some countries, these lump sum payments can be significant. Although termination indemnities are not directly within the scope of this paper, discussions on the most appropriate forms of benefit payment at retirement should take into account that retirees in these countries will already receive significant benefits in lump sum form. This should provide clear incentives for the conventional retirement benefits to be paid in forms other than lump sum cash, and this does indeed appear to be the effect.

[2] It includes voluntarily implemented, generally single, employer occupational DC pension plans; multi-employer and industry-wide DC pension plans, irrespective of whether plan membership is voluntary or compulsory; mandatory occupational DC pension plans; any other mandatory DC pension arrangements, but excluding government-managed DC social security programmes; major individual/personal pension arrangements whose stated purpose is to encourage individuals to save for retirement.

Table 1 – Main Forms of Benefit Payment at Retirement

- **Lump sum.** A single payment.
- **Programmed withdrawals**. A series of fixed or variable payments whereby the retiree draws down a part of the retirement capital (and continued investment earnings thereon). Any amount remaining in the retiree's account at his/her subsequent death belongs to the estate and is paid to the retiree's family and other beneficiaries. If the retiree lives to an advanced age, there is a clear possibility (under some programmed withdrawal arrangements) of the payments becoming very small in the later years. Under other arrangements, there is the risk of the capital being completely exhausted before death. "Annuities certain" are a specific form of programmed withdrawals.
- **Life annuity**. A stream of payments for as long as the retiree lives. There are also life annuities with additional guarantees, with continued payment to the surviving spouse, with escalation of the benefits in payment, etc… The various forms of life annuity will be described in the main part of this paper, and reference should be made to Appendix A for a convenient glossary.

2. Lump sum payments

Under this approach, the entire value of the accumulated retirement capital is paid in a lump sum. Such payment normally would occur at retirement (under occupational pension plans) and at contract maturity (under a personal savings plan). Whilst still maintaining its role as retirement income, a delayed payment is often possible.

A lump sum payment is the only retirement benefit form in Hong Kong, India, Philippines and Thailand (provident funds). Countries where *full* lump sum payments from *occupational* pension plans are allowed at retirement, but where other options also are available, include Australia, Belgium, China, Czech Republic, Greece, Hungary (voluntary plans), Indonesia, Japan, Malaysia, New Zealand, South Africa (provident funds), Spain, Turkey and USA. The list of countries permitting full lump sum retirement payouts from *personal* retirement savings would be even longer.

Some countries permit a percentage of the retirement capital to be paid as a lump sum, with the balance being used to purchase a life annuity. These forms are discussed under "combination arrangements" in section 5.

As a matter of administrative convenience, many countries allow lump sum payments to be made at retirement when the retirement capital is too small to purchase a meaningful amount of life annuity or even too small to justify short-term programmed withdrawals. However, it would be distracting to place too much emphasis on this option, which is only supposed to apply in a relatively small number of situations.

More complicated are advanced payments, i.e. payments before retirement. The retirement focus of the savings arrangement can then be diluted, albeit in many cases for understandable reasons. Some countries allow full or partial premature withdrawals in a variety of circumstances, such as house purchase, serious disability, etc. Countries allowing partial pre-retirement withdrawals include Mexico (10% only, on marriage and unemployment), Switzerland (house purchase) and Singapore (death, disability, catastrophic medical care, housing, and education).

Advantages of lump sum payments

The most obvious advantage of lump sum payments, from the perspective of the plan sponsor and especially the plan administrator, is that they are so easy to administer. They do not require any complex calculations or even the active maintenance of plan records. The entire obligation of the occupational

pension plan or personal retirement savings product to the individual is discharged at retirement or contract maturity. There is no ongoing obligation to maintain active records or even to maintain contact with the individual.

There are also several *potential* advantages to the retiring plan member. One purported advantage, especially applicable to early retirements in countries where the culture and economy are conducive, is the ability to invest part of the money to establish a personal company and thus continue some form of fulltime or part-time self-employment for several years thereafter. Another advantage is the immediately ability to liquidate significant debt, of which a house mortgage is usually the most significant, and thus be free of such financial burdens in the years following retirement. It also satisfies the "bequest motive", whereby any balance of the lump sum remaining at the retiree's death is payable to the estate and distributed accordingly to the individual's spouse, family and other beneficiaries.

More directly in the area of providing pension income after retirement, a major advantage of lump sum payments is the ability of retirees to "self-annuitize", at a time and on a basis that best suits their financial needs. The retirees can replicate, or at least attempt to replicate, a system of scheduled withdrawals paralleling a lifetime pension. To be successful, the self-insurer should be able to choose an efficient and not excessively risky investment portfolio and to abide by a conservative withdrawal strategy.

Retirees can still annuitize by taking the lump sum cash and then – on their own initiative – use all or part of the money to buy a conventional annuity from an insurance company. The purchase could be made immediately upon receiving the cash or at a later date of their choosing. This would be their choice, rather than being mandated by law – i.e. voluntary annuitization is possible. The purchase date could be chosen when long term interest rates are relatively high and therefore – all other things being equal – annuity purchase rates would be more attractive.

Disadvantages of lump sum payment

Although the ability of retirees to "self-annuitize" is claimed as being an advantage of lump sum payments, this is complex. The risks entailed by a strategy of self-insurance should not be downplayed. There is at least anecdotal evidence that individuals generally do not manage such arrangements very well. Many people, including well-educated and intelligent people, have a lot of difficulty turning a stock of wealth into a sustainable flow of income. The standard test of this difficulty is to ask people how much money they think they will need at retirement to sustain their current standard of living. Few people realize how large the capital sum must be and how small the rate of withdrawal has to be, regardless of the particular allocation of assets. Individuals still have a poor understanding of how long they will live and the financial implications thereof.

In addition to doubts about the financial skills of individuals to self-annuitize, there is the wider and more general policy concern about individuals simply spending the money in an accelerated and reckless manner, thus exhausting their funds within a short period of time and thus failing to provide adequate longer term protection to themselves and their families. In countries where the government or social security comes to the aid of the very poor, generally through the payment of means-tested welfare payments, problems of moral hazard arise. Those who rapidly spend their retirement savings through excessive consumption eventually become a permanent burden of the state. This is hardly an appropriate reward for those other individuals who annuitize conventionally or who manage their capital in a responsible manner.

3. Programmed withdrawals

As already defined in Table 1, programmed withdrawals consist of a series of fixed or variable payments whereby the annuitant draws down a part of the accumulated capital (and continued investment earnings thereon).[3] The key word here is "programmed", thus implying considerably more discipline than the less structured erosion of a lump sum payment. Programmed withdrawals do not involve longevity guarantees that would require complex actuarial reserving and solvency margins. They are financially uncomplicated, and there is no cross-subsidy from those who live for only a short time in retirement to those who live longer than the expected average. Programmed withdrawals thus also address the basic bequest motive.

Programmed withdrawals attempt to produce relatively stable annual income for the lifetime of the retiree. There are still many variations within this theme. Under the totally prescriptive approach, the amount to be withdrawn each year is calculated in accordance with a prescribed formula, and the annual withdrawal is exactly equal to this amount. Other countries set a minimum or a maximum limit on the amount that can be withdrawn. Finally, there are some countries that set both a minimum and a maximum limit on each annual withdrawal, i.e. the amount withdrawn must fall within a prescribed range or 'band'. All of the main variations are described and analysed below.

In some countries, programmed withdrawals are allowed or are even mandatory when the individual's retirement capital is too small to purchase a prescribed minimum amount of life annuity. It can easily be argued that this is a better approach than just allowing or mandating *lump sums* when the retirement capital is too small to buy a meaningful amount of lifetime pension. Those countries where programmed withdrawals are mandatory for small amounts (in lieu of life annuities) include Chile and Mexico.

Factors for Dividing Capital

Programmed withdrawals involve dividing the retirement capital by a clearly defined factor. The most common factors (or denominators) will now be discussed. Most categories can then be further sub-divided into two sub-categories, namely those where the calculation is performed only once (at the time of pension commencement) and those where the calculation is performed every year. The latter are more commonly found. The three main denominators are:

- **Present value of a life annuity.** The retirement capital is divided by the present value of an equivalent life annuity. If the calculation is performed only once (at the beginning and using realistic interest and longevity assumptions), then the pension payments can be expected to remain constant, and the capital will eventually be depleted for those individuals who live to an advanced age. The more common approach is for the calculation to be repeated each year for those who are still alive. There is then a constant re-spreading of the remaining, declining capital. The denominator will decline relatively slowly, as it only applies to those who survive the year, and it will also reflect any ongoing improvements in cohort longevity. At least in theory, the capital will never be totally exhausted, but the payments in later years could become much smaller. There is always the hope that these reductions will be compensated by very positive investment performance, but again some of this positive effect could be lost by the negative effect of improving longevity. The significance of the discount rate used in these

[3] "Programmed withdrawal" is arguably the most generic of terms used in this context. However, in Australia, they are called "allocated annuities", "allocated pensions" or more generically "allocated income streams". Other terminology equivalent to programmed withdrawals includes "scheduled withdrawals".

calculations also needs to be understood. If the discount rate is a deliberately low conservative rate, there is the expectation of excess interest earnings that can be used to increase the pension in a manner related to investment performance (but not necessarily price inflation). Countries using the life annuity approach for programmed withdrawals include the UK (for one of its many payout options)**.**

- **Life expectancy.** The retirement capital is divided by the expected future life expectancy of the annuitant and his/her cohorts. This calculation does not involve any discounting for interest, so it will not develop the same payments flow as the "present value of a life annuity" approach. In a similar manner, and with comparable effects, practice differs as to whether the calculation is made only once at the beginning or annually throughout the individual's lifetime. The list of countries using the life expectancy approach for programmed withdrawals is long. It includes Australia (minimum), Chile and Mexico.

- **Annuity certain to an advanced age**. In order to attempt to replicate a life annuity and to avoid frequent depletion of the retirement capital, this age is usually chosen as being beyond the average life expectancy at retirement (e.g. Canada allows an annuity certain to age 90). On this basis, only a very small percentage of the population will exhaust their funds while still alive. [This should not be confused with countries that – for entirely different reasons - place much shorter and stricter maximums on the length of an annuity certain, as discussed above.] In addition to Canada, other countries using the *long* annuity certain approach includes Australia (maximum payment rule).

Totally prescriptive formula

The amount to be withdrawn each year is prescribed by law. In **Chile**, if the programmed withdrawal option is chosen, the annual amount (expressed in so-called quotas) is equal to the balance of the individual's account at the beginning of the year divided by the family group's life expectancy. If this generates a periodic payment less than the minimum pension, then the minimum pension must be withdrawn – with the obvious expectation that the retirement capital eventually will be exhausted. In other words, the whole formula is highly prescriptive. A similarly prescriptive approach is to be found in other Latin American countries, many of which closely follow the Chilean model.

Both minimum and maximum limits

Such limits are simply the result of the joining of two countervailing forces – the tax authorities trying to reduce tax abuse, and the pension authorities trying to avoid depletion of the fund during the individual's lifetime.

- **Australia.** The minimum payment for the most common form of programmed withdrawal is determined by dividing the fund by life expectancy; the maximum payment is determined so that individuals have capital through until their early 80's. The government supplies a table for this purpose.[4]

- **Canada (occupational plans only).** The minimum applies to both occupational and personal retirement savings. It is described below and is driven by the tax authorities. The maximum annual withdrawal from assets transferred from an occupational pension fund is driven by pension regulators, and thus can vary from one province to another. In Ontario, for example,

[4] Choosing the optimal retirement payout form in Australia is a complex exercise, being affected by both different tax treatments and the assets-test and income-test that apply to the basic social security benefit.

the maximum is equal to the greater of (a) the investment earnings for the prior year and (b) the beginning year fund balance divided by factor equal to the present value of an annuity certain payable until age 90.

Only minimum payment requirements

The rationale behind a minimum payment requirement is that retirement assets should not be used as a tax-sheltered succession planning tool. Consequently, such restrictions are usually imposed by the tax authorities, rather than any pension or insurance regulator.

- **Canada.** Payouts from an *individual* retirement savings arrangement are subject only to a minimum annual withdrawal constraint. The same minimum withdrawal constraint is applied to funds transferred from an *occupational* pension plan, but here a maximum annual withdrawal limit also applies (see above). The minimum annual withdrawal requirement is determined as a percentage, depending on the individual's age, of the total value of the retirement assets at the beginning of the year. The percentage is 4% at age 65, increasing gradually to 8.75% at age 80 and to 20% at ages 94 and above. Below age 71, which is the upper age limit for the retirement savings accumulation period, it can be seen that the minimum withdrawal is simply equal to the beginning year fund balance divided by '90 minus the individual's age'. *Only maximum payment requirement.*

The rationale behind imposing a maximum limit on each withdrawal is clear. It is the result of trying to match a life annuity and of trying to ensure that the fund is not depleted during the individual's lifetime. On more basic terms, upper limits protect individuals against themselves and their own imprudence. The maximum limit often would be a function of the amount of remaining capital and the average remaining life expectancy of the retiree and his/her age cohorts, so the formula can be equivalent to that used under the totally prescriptive approach. However, it has the added advantage in years of low personal consumption that the individual can leave some of the money in the fund for a future date when financial needs may be higher, e.g. when aggravated by a major medical or other unforeseen expenditure.

- **UK.** The maximum annual amount that can be withdrawn during the period until age 75 is 120% of the amount of a comparable annuity; full annuitization is compulsory at age 75. Until April 2006, there had also been a minimum withdrawal requirement of 35% of the amount of a comparable annuity, but there is no longer any minimum withdrawal requirement before the compulsory life annuitization age of 75.

Annuity Certain

One simple form of programmed withdrawal is an annuity certain, whereby the retirement capital is repaid (with interest) over a fixed period of time. For example, assuming monthly payments in advance, a 6% interest assumption and a 10-year annuity certain, €100,000 of retirement capital would generate payments of €13,163 per year. These payments would be made for exactly ten years – no more, no less. If the annuitant dies within the 10-year period, the payments continue to the annuitant's beneficiaries for the remainder of the 10-year period (perhaps with the option to commute these remaining payments into a lump sum). If the annuitant survives to the end of the 10-year period, the payments stop, and there is no more retirement income from this source. In common with all other forms of programmed withdrawals, there are no mortality assumptions in these calculations, and the provider assumes no longevity risk. There are several possible variations concerning the interest rate to be used in the calculation. A common form is where a relatively conservative interest rate is guaranteed at the beginning, and fixed monthly payments are calculated around this interest rate, and where there is a final payment at the end of the term equal to the excess interest/investment earnings.

There are sometimes maximum limits on the duration of an annuity certain, either because of market practice or because of legal restrictions. For example, the UK allows an annuity certain only to age 75, the limit by which the remaining retirement capital must be converted to a conventional life annuity. Other countries establish relatively short maximum periods in order to reduce opportunities for abusive, tax-effective inheritance planning.

Advantages of programmed withdrawals

From the perspective of the retiree, programmed withdrawals are more constraining than a lump sum payment, but they are often much less constraining than purchasing a life annuity. And, in a similar manner to lump sum payments, programmed withdrawals satisfy the "bequest motive", whereby any balance remaining at the retiree's death is payable to the individual's estate and distributed accordingly.

An even more important advantage of programmed withdrawals is for the capital to continue to be invested in the pension fund and to earn a higher rate of return than is assumed by an insurance company or other provider in setting conventional life annuity purchase rates. However, this advantage also can be obtained through the purchase of a *variable* life annuity. Programmed withdrawals can also be better at smoothing out the investment risk, especially when the pension fund used during the accumulation period retains the capital, thus often avoiding the need for a point-in-time sale and transfer of assets. This is in contrast to a single premium life annuity purchase that is usually preceded by such a point-in-time sale of investments. In particular, programmed withdrawals are more attractive than life annuities when bond yields are low and are unlikely to increase within the time limit permitted for purchasing a life annuity. It is even possible in some countries to change the programmed withdrawal provider when investment performance is unsatisfactory.

Disadvantages of programmed withdrawals

The main disadvantage of programmed withdrawals is the risk that the capital will be completely exhausted while the retiree is still alive. The amount and duration of programmed withdrawals are generally calculated on the basis of "average" life expectancies, so an individual retiree can easily outlive these averages. Even where the payments are recalculated each year based on the projected future life expectancy of the retiree and the declining group of his/her surviving cohorts, the capital to be re-spread can eventually decline to such a level that the re-spread periodic payments will be correspondingly unattractive.

It is generally argued that the costs of administering a programmed withdrawal and more actively investing the assets are higher than the expense loadings in a life annuity contract.

A more complicated feature of programmed withdrawals is that, under some forms, whilst the monthly payment at the beginning is generally higher than under a conventional life annuity, the monthly payments can be very much lower in the later years (see Figure 1 in next section). The amount of each payment can also fluctuate as a result of the volatility of pension fund returns. When the monthly payments reach such low levels, or indeed if the retirement capital is exhausted completely, there is the risk that the individual eventually will become dependent on government-financed means-tested or income-tested welfare payments. Programmed withdrawal arrangements do not normally present the same moral hazard issues as those associated with lump sum payments, but the risk is still there.

In a valid and well-intentioned attempt to provide retirees with an alternative to life annuities, some governments may simultaneously be creating yet another opportunity for high-wealth individuals to play games with the tax system. The permitted programmed withdrawal options can sometimes be too wide, thus creating a convenient tool for such individuals to maximize inheritance planning to an abusive extent.

Programmed withdrawals became a popular alternative to life annuities in times when long term bond yields were low and the corresponding price of life annuities was high. In countries where full or substantial annuitization at retirement was mandatory (e.g. developed pension markets in Anglo-Saxon countries), legislation was relaxed to avoid committing the retiree's entire capital to a life annuity purchase in a volatile and perhaps uncertain annuity market. New options include the deferred purchase of a life annuity, based on the theory that annuity markets would eventually improve or that annuity purchase rates in any event reduce with age. This would perhaps be coupled with a relatively disciplined form of drawing down some of the capital in the interim.

In countries that simply do not have a developed annuities market, or where the annuity market is even more volatile, programmed withdrawals have assumed an even greater importance. Some of these countries allow lump sum payments, generally within limits, but also allow (or even encourage) the option of programmed withdrawals. Programmed or scheduled withdrawals were an innovation in the Chilean pension reform of 1981, a model that has since been followed in several other countries.

Although an increasing number of countries are allowing programmed withdrawals, the government pension authorities in at least one of these countries (the UK) are very cautious in their advice to individuals regarding such arrangements. For example, several official UK publications make a strong case for choosing a traditional life annuity and view present programmed withdrawal products as being suitable only for well-off individuals with large amounts of retirement capital. There also seems to be strong resistance to relaxing the requirement whereby, no later than age 75, a UK retiree must apply all remaining retirement capital to the purchase of a life annuity. There had been some debate about increasing the age limit to 80 or 85, but that idea was rejected. The UK, in common with some other (especially European) countries remains committed to the idea that retirement capital should generate lifetime pension income.

Finally, programmed withdrawals can have a serious negative impact of government budgets. For example, when the retirement capital is exhausted under programmed withdrawals, individuals may fall into the government social security net, increasing the fiscal burden of ageing population.

4. Life annuities

"It has been over four decades since economic theory first concluded that individuals looking to maximize guaranteed spending in retirement should convert all available assets to an immediate annuity. However, in stark contrast to the predictions of economic theory, very few retirees allocate any dollars to an immediate annuity, much less fully annuitize." (Scott, J., 2007, The Longevity Annuity: An Annuity for Everyone?)

Under the traditional and most commonly found annuity approach, the plan member's DC accumulation is transferred at retirement to a life insurance company. In turn, the insurance company provides an annuity that, in its simplest (single life) annuity form, will make payments to the retiree for the rest of his/her life.[5] These payments will be made on a regular basis, *e.g.* weekly, monthly or quarterly. The retiring plan member normally would be allowed to choose the most competitive and appropriate insurance company to which the DC accumulation should be transferred, although this is not always the case.

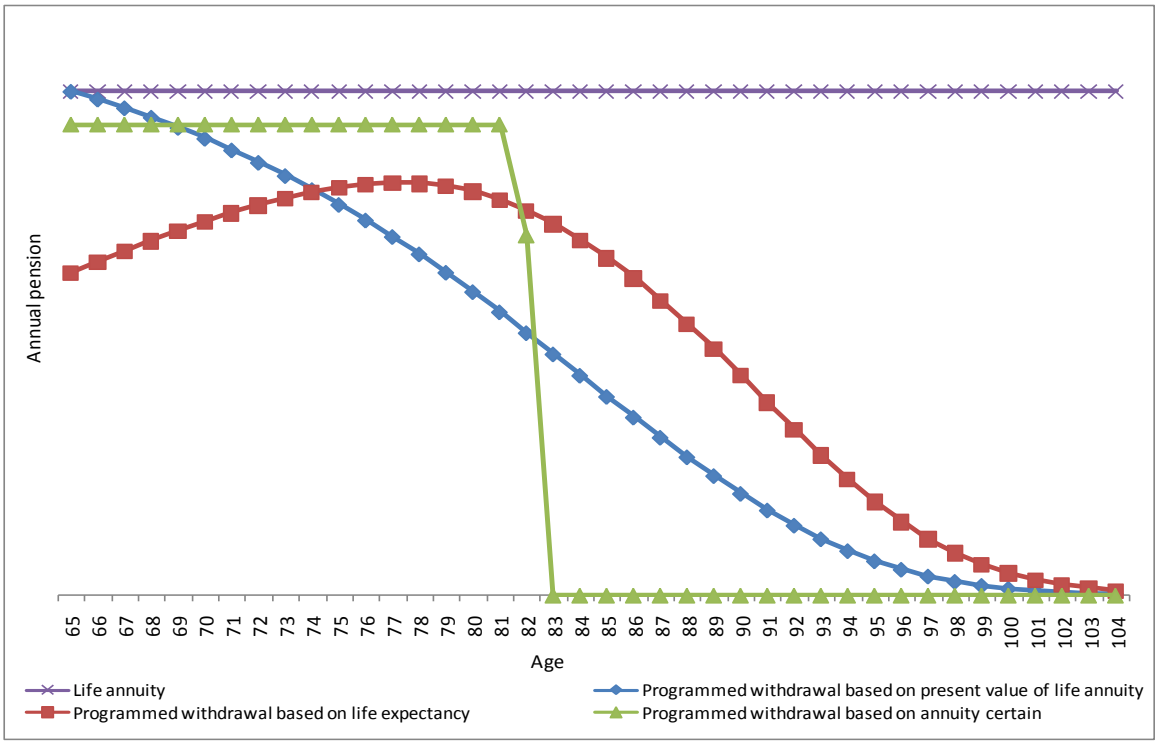
[5] Appendix A introduces other types of life annuities. A companion paper (Rusconi, 2008) provides a more complete overview of the different type of annuity products available in different annuity markets. In contrast, this paper simply discusses life annuities as a sub-group of the total family of retirement benefit payout options and restricts its analysis to this context.

Life annuities are the *only* permitted form of retirement benefit payout in several countries. These countries include Austria, Bolivia, Colombia, Croatia, Hungary (mandatory plans), Netherlands, Norway, Poland, Sweden and Uruguay. To this list should be added those countries that mandate a life annuity purchase in the event of *early* retirement, including Argentina, Chile, El Salvador, and Peru.

Advantages of life annuities

The main advantage of life annuities is that the payments are fixed and will be made for the entire lifetime of the retiree. In contrast, programmed withdrawals, in its different versions, entail a payment that always ends up below the life annuity retirement payment as people ages. Figure 3 makes the point. The payments in the first year are the same under a life annuity and under programmed withdrawals based on the present value of a life annuity, but are lower under the other forms of programmed withdrawals. However, during the ensuing years, retirement payment from programmed withdrawals slowly decline. For programmed withdrawals using life expectancy as the denominator, retirement payments actually increase overtime, but never reach the levels of a life annuity.

Figure 1 Retirement payments over time from a life annuity and programmed withdrawals[6]



[6] Calculations assume that the rate of return on investment credited to the individual's programmed withdrawal account is the same as the discount rate used in pricing the life annuity. There are not allowances for administrative expenses and no loadings for adverse selection have been included in the calculation of life annuities. The three different programmed withdrawal lines are based on (1) life expectancy (*i.e.* the annual payment is calculated by dividing the capital left by the individual's remaining life expectancy at the beginning of each year); (2) life annuity (*i.e.* each year the remaining capital is calculated by dividing it by the present value of a life annuity); and (3) annuity certain (*i.e.* the annual payment is calculated at the beginning by dividing the accumulated capital by the individual's life expectancy at retirement).

Disadvantages of life annuities

In contrast, life annuities suffer of several disadvantages. For example, life annuities involve the retiree foregoing future control over investments and losing the potential to earn superior investment returns. It also runs counter to the bequest motive. Another argument against heavy annuitization is more relevant to countries without universal and comprehensive health systems and where the retiree can be exposed to very heavy and unanticipated medical expenses during retirement, without the necessary cash resources. In retirement savings arrangements where annuitization is mandatory, but participation is voluntary, several people would argue that participation rates will be lower simply because of the annuitization requirement. Also, it should not be forgotten that the critically important guarantee of payments for the retiree's entire lifetime is only as good as the financial strength of the institution making such guarantees. In at least one country with a major focus on life annuities, namely the UK, certain religious groups objected to the "pooling" of mortality risk that is inherent in life annuities. The government subsequently introduced the option of an "alternatively secured pension" that removed the pooling element and more closely resembled a form of programmed withdrawal.

5. More complex life annuities

The market for annuities has developed more complex life annuity products in an attempt to address some of the above concerns about conventional single life annuities.[7] One concern is quite straightforward, which is to protect the retiree's spouse, partner or other dependents after his/her death. Another concern is that, at least under a conventional single life annuity, the pension payments stop immediately upon the retiree's death. If the retiree only lives for a short period of time after retirement, the expenditure of a large amount of capital on the purchase of an annuity is perceived as being an extremely poor investment. In a related area, a third concern relates to the bequest motive. The individual's entire retirement capital has been transferred to an insurance company that invests the money for the aggregate support of its entire portfolio of annuity business, not for the individual account of each pensioner. This contrasts with the lump sum and programmed withdrawal approaches where substantial residual assets would be passed on to the deceased retiree's family in the event of early death.

Escalating life annuities

Another major risk which basic annuity products do not cover is that of inflation. The question therefore arises as to whether life annuities should be increased each year in some manner. The most obvious approach is a life annuity that is indexed to general *price* inflation, thereby protecting the purchasing power of the pension. Purchasing such indexed annuities can be expensive. For a fixed amount of retirement capital, the payments in the early years under an indexed annuity are much lower than under a conventional fixed pension.

A less complicated form of escalating annuity is one that simply increases each year by a fixed percentage, say 2% or 4%. Another indexing approach uses as a base the old "with profits" annuities sold for many decades by insurance companies in several countries, especially in Europe. The basic concept is that the annuity purchase price will be calculated using a relatively low interest rate (e.g. in Belgium, where the rate is not allowed to exceed 3.75% and where several insurers use only 3.25% for all their insurance policies). Excess interest is earned each year by the insurance company and, *in the absence of any other factors such as longevity improvements*; the major portion of the excess interest is credited to the policyholders.

[7] Appendix A provides a non-exhaustive summary. Rusconi (2008) provides a more complete discussion of different annuity products available.

Countries where the indexation of life annuity payments is mandatory include Chile, Colombia, Dominican Republic, Mexico and Uruguay. Note that many of these countries (other than Uruguay) do not require the individual to select a life annuity, but, if selected, the annuity must be indexed in some prescribed manner.

Variable annuities

The tradition type of variable annuity is one where the payments vary with the performance of market-sensitive investments, e.g. an annuity where the benefit varies according to the investment results of the funds set aside to provide it. They are also called "investment linked" annuities in some countries (e.g. the UK). One can conceptualize a variable annuity as being similar to selling N units in a mutual fund each month, such that the pension fluctuates with the performance of the fund and the resultant progression of its unit values. But, it is also a traditional life annuity in that it guarantees the payment of N units per month for the remainder of the annuitant's lifetime. The insurance company continues to assume the longevity risk, but the investment risk is transferred to the annuitant. Thus, a distinguishing feature between these variable annuities and the participating annuities described in Section 7 is that payments under the latter should slowly increase, whereas payments under variable annuities can both increase and decrease.

The main advantages of variable annuities can be summarized as:

- **Investment opportunities**. The ability to continue actively to participate in the investment market and the resultant opportunity to earn investment returns higher than the discount rate assumed by the insurance company in its pricing of conventional life annuities.

- **Lower annuity prices**. The insurance company is no longer assuming the investment risk, so it should (at least in theory) be able to offer lower annuity purchase rates.

- **Lower annuity price volatility**. Variable annuities reduce the wide variability of life annuity prices caused by fluctuating interest rates, specifically long term bond yields.

- **Greater transparency**. Under a variable annuity, the all-important investment return assumption disappears, so the insurance company may be *oblige*d to be more explicit about its other assumptions.

The obvious disadvantage of variable annuities is that the annuitants are exposing themselves to investment risks that may not be appropriate, especially in their later years. Many retirees simply do not have the ability to cope with wide fluctuations in their pension income. Also, the theory of lower annuity prices may not always be borne out in reality. As all investment gains accrue to the annuitant, the life insurance company will quite likely be more conservative about its longevity assumptions and expense loadings. Under conventional life annuities, the insurance company itself benefits from the investment gains and can use such gains as an offset against unfavourable longevity experience and/or administrative costs. This option is not available to it under a variable annuity.

Deferred annuities and longevity insurance

All these different annuity products aim at introducing flexibility into life annuities. One way of allowing flexibility and maintaining protection from longevity risk is to use deferred annuities for late life combined with programmed withdrawals or lump-sum (see next section).

Deferred annuities providing longevity insurance directly addresses this challenge.[8] These involve the purchase *at or near retirement* of an insurance contract, whereby the pension payments do not start until a specified date well into the future. Depending on the age at retirement, the deferred period could be as long as 20–25 years. To be most effective, it is generally agreed that the deferred period should approximate or even exceed the average life expectancy of the annuitant. This is true "insurance", as the contract has no surrender value, and nothing is payable in the event of the death of the insured during the deferral period. Only someone who lives until the deferred payment commencement date will collect the periodic payments, which will then be payable for the rest of that individual's lifetime.

In theory, a deferred annuity contract could be purchased well before retirement, but it is unlikely to be interesting to those concerned. A deferred annuity with longevity insurance is cheap primarily because of the mortality credits created by policyholders who die after they purchase the longevity insurance and before the deferred payment commencement date. However, mortality in the years before retirement is low, so there will be very little price discounting for mortality credits before retirement for those choosing such an advanced purchase.

There are various figures being quoted as regards the cost of such deferred annuities providing longevity insurance. In addition to using different assumptions, these costs vary simply because of the age and gender of the annuitant, the length of the deferral period, the form of pension (single life or joint) and whether the annuity incorporates any inflation protection either during the deferral period or throughout the entire term of the annuity. Some quotations:

- "It is estimated that retirees only need to spend about 10%-15% of retirement capital on such longevity insurance, and they could then use programmed withdrawals or self-manage the remaining 85%-90%."[9]

- "A household planning to smooth consumption through its retirement would need to allocate only 15% of its age 60 wealth to an ALDA (advanced life deferred annuity) with payments commencing at age 85. A $10,000 per year, inflation protected joint and two-thirds pension starting at age 85 would cost just $37,000 at age 60 or $41,140 at 65. A household purchasing an ALDA with benefits starting at age 85 would optimally spend between 13.2% and 15.8% of its wealth on the product."[10]

- Per Metropolitan Life, "A $100,000 single premium at age 65 purchases an annuity of $92,760 *per year* from age 85."[11]

One way or another, it can readily be seen that the price of this deferred annuity is very reasonable, and its design is focused entirely on paying benefits to those who will need them. This is an area that is receiving an increased amount of attention, although the market has hardly started to develop. It can be a particularly interesting approach for individuals who would prefer to control (self-annuitize) a very large

[8] Deferred annuities allow buying an annuity today that will begin making payments sometime in the future. They may refund the entire cash value in the event of death during the referral period. In this context, annuity providers lack incentives to provide for long deferrals. However, deferred annuities may also provide longevity insurance paying only in the event of survival. Throughout the discussion, this paper assumes that deferred annuities provide for longevity insurance and as a result the deferral period can be very long, and they do not pay anything on death during the referral period.

[9] Rob Stone, December 2006, *Longevity insurance: an answer to a difficult retirement planning question*.

[10] Webb, Gong and Sun, July 2007, *An annuity that people might actually buy*.

[11] Jason Scott, June 2007, *The Longevity Annuity: An Annuity for Everyone*?

portion of their retirement capital, but who also fear the financial effects of outliving these assets. In practice, deferred annuities with longevity insurance should have attractions for almost everyone with a normal life expectancy. Few policies currently exist, but more accommodating legislation and an active market could and should result in innovative product designs, with additional features such as investment-linked adjustments during the deferred period, indexation during the deferred period or throughout the entire contract term, joint and survivor options, etc… Of course, additional features generally cost more money, but the availability of such choices can only be viewed positively.

The availability of deferred annuities with longevity insurance is still small. At least one major US insurer introduced the product in 2004 and another in 2006, but it is clear that the market is still only in its infancy. Current legislative constraints may also impede its introduction. There are few, if any, countries that would currently permit this form of retirement benefit payout under occupational pension plans or even many tax-incentivised personal retirement savings arrangements. However, Chile is actively considering the approach. Also, Singapore recently introduced a form of longevity insurance, but it comes bundled with an annuity certain such that the "package" more closely resembles a conventional life annuity with strong guarantees.

On of the main drawbacks of deferred annuities with longevity insurance is that they are likely to be even more actuarially unfair than traditional annuities to the average household. People who purchase them are likely to have a much higher than average probability of surviving to such ages. As a result, the introduction of deferred annuities with longevity insurance to star paying at late life may be compulsory. In this way, people are protected from longevity risk and more flexibility of retirement payout options can be introduced during the period from retirement until the late life deferred annuity begins making payments. This type of combination arrangement is discussed below.

6. Combination arrangements

There is an active debate in several countries about enlarging the list of permissible retirement benefit payout forms. Many of the ideas concerning individual options already have been identified earlier in this paper. An arguably even more interesting debate concerns allowing more *combination* arrangements, even around the individual options already available. Allowing more combination arrangements would be a relatively simple route to resolving the concern of many retirees about "putting all their eggs in one basket". Each option has its strengths and weaknesses, and a combination arrangement would allow the individual to develop an optimal mix of the different types.

Flexibility to choose various combination

Australia. Australia has the widest choice of retirement benefit payout options (lump sums, life annuities and various forms of programmed withdrawals), and this includes the ability to select a mixture of different forms.

Denmark. Within certain tax limits, an individual can choose a mixture of a lump sum payment, programmed withdrawals (annuities certain) and a life annuity – all payable or starting at retirement. It should be noted that these choices normally must be made on joining the pension plan, not at retirement. It is possible subsequently to change a lump sum or programmed withdrawal choice into a life annuity, but not the reverse.

Partial lump sums plus life annuities

Indonesia, Ireland, Italy, Portugal, South Africa and the UK. In these countries, the retiree has the choice of taking part of the retirement capital in a lump sum. With some exceptions, the allowable percentage falls between 25% and one-third. This lump sum payment is often tax-free and does not

depend on the adequacy or otherwise of the remaining life annuity. Thus, if the lump sum were then to be converted back into a life annuity, it would be more favourably taxed than the non-commuted part – only the interest portion would be taxable, rather than the full payment. If the plan rules so permit, a retiree in **Brazil** can choose a partial lump sum plus a life annuity or annuity certain.

Programmed withdrawals plus deferred life annuity.

Chile, Colombia, El Salvador and Peru. At retirement, the mandatory individual account balance (including the value of accrued rights under the social insurance system) can be divided into two parts, with one part being used to purchase a deferred life annuity and the other part being applied to programmed withdrawals for the temporary period until the deferred annuity commences. Only relatively short deferral periods currently are allowed. The regular retirement payout options also are available in these countries, i.e. applying the whole amount for programmed withdrawals or (if the retirement capital is sufficient) for the purchase of a life annuity.

Programmed withdrawals followed by mandatory annuitization.

UK. A series of programmed withdrawals can start at retirement, but the remaining retirement capital must be used to purchase a life annuity at or before the age of 75. This is not the same as the Latin America examples in the previous paragraph, as the UK regulation concentrates on the deferred purchase of an immediate annuity rather than the immediate purchase at retirement of a deferred annuity.

Canada. A similar requirement had existed in Canada, but is now being abandoned. For example, in Ontario, a life annuity had to be purchased by age 80, but this restriction no longer applies. An individual in Ontario can now continue programmed withdrawals until death. From age 90, the entire remaining balance can be taken in lump sum cash, but this is not mandatory; programmed withdrawals can continue.

Life annuity (e.g. for basic survival) plus programmed withdrawals.

El Salvador. It appears that the mandatory individual account balance (plus the value of accrued rights under the social insurance system) can be split, with one part being applied to purchase an immediate life annuity and the balance being programmed withdrawals providing income for the duration of the expected lifetime. In other words, both parts would *concurrently* be paying benefits.

Chile allows the retirement capital to be split between a life annuity purchase and programmed withdrawals, but with the constraint that the life annuity benefit must at least equal the social security minimum pension. A similar approach applies in **Mexico.**

Lump sum or programmed withdrawals coupled with deferred annuities with longevity insurance.

Under this option, most of the retirement capital would still be available to be taken as programmed withdrawals during the deferral period before the longevity insurance starts paying, or as a lump sum for self-annuitization during the same deferral period. This approach would relieve the concern of many individuals about committing their entire retirement capital to an insured life annuity, and could allow for an optimal blending of the different benefit payment forms, each building on the strengths and offsetting the weaknesses of the other. However, it is not allowed in the large majority of countries, and it is not easily facilitated in those few countries where the combination could perhaps be made to work within current regulations. It should not be confused with the combination of programmed withdrawals plus a deferred life annuity purchase that is already an allowed option in some Latin American countries (see above). However, <u>if</u> much longer deferral periods were to be allowed, and <u>if</u> the deferred annuities could be modified to exclude any death benefit payment during the deferral period (and indeed have no cash

surrender value) – the key elements in making the price of longevity insurance so attractive – the end result would be equivalent. Chile is already one country that is analyzing this alternative approach.

Heavy restrictions on combination arrangements in many jurisdictions

With the few exceptions described above, it is generally impossible to split the retirement capital and *concurrently* receive two forms of benefit payout, e.g. a life annuity and programmed withdrawals. This could be an interesting package for individuals seeking the safety of a life annuity for a basic level of monthly retirement income and concurrently being more imaginative with the balance of their retirement capital. Whilst recognizing that several countries do permit a *sequential* combination of two arrangements, e.g. programmed withdrawals followed by payments from a life annuity, it is the *simultaneous* combination of two arrangements that could prove more interesting.

Table 2: Countries grouped by allowed forms of benefit payments[12]

Lump sums only:

- Hong Kong (Mandatory Provident Fund, i.e. social security by another name).
- India (Mandatory Provident Fund, but there is also a defined benefit social security program).
- Luxembourg (SEPCAV)
- Philippines Mandatory Provident Fund

Lump sum or programmed withdrawals:

- China PRC.
- Indonesia.
- Malaysia.

Complete range of options (full lump sum, programmed withdrawals and life annuities):

- Australia (mandatory plan on top of modest, means-tested social security pensions).
- Brazil – closed funds (if the plan rules so provide).
- Denmark.
- Japan.

[12] This box has general summaries about legal constraints and customary practices regarding occupational DC pension plans around the world. These summaries do not pretend to be comprehensive, as this would work against the objective of a higher level search for consistency of approach, coherent legislation and best practices. Thus, minor features are ignored, such as the option in several countries to take a lump sum payment when years of participation are low or when the accumulated funds are below a certain amount or are too small to buy a viable amount of pension – issues already addressed in earlier sections. The analyses focus on *occupational* DC pension plans, as this is where the greatest divergences between countries are found, and because they are the first source of supplementary retirement income after social security. Countries without any material occupational DC plans – including some large and important countries - are excluded from this analysis.

- Singapore (minimum sum must be taken in instalments or used to purchase a life annuity).

Lump sum or life annuity:

- Luxembourg, Greece and Spain (all with relatively generous social security systems).
- Belgium.
- Czech Republic.
- Hungary – voluntary (occupational, multi-employer) mutual pension funds, VMPFs.
- South Africa - provident funds.
- Switzerland - voluntary plans complementing mandatory BVG/LPP.
- USA (although lump sum payments dominate).

Partial lump sum option, but otherwise life annuity:

- Germany (Riester pensions only)
- Ireland (relaxation of the rules is currently under consideration).
- Italy.
- Portugal.
- South Africa (if not structured as a provident fund)
- UK (programmed withdrawals allowed until age 75; then, mandatory annuitization).

Life annuity or programmed withdrawals:

- Argentina.
- Canada.
- Chile (mandatory plan aimed at replacing social security, but with minimum guarantee).
- Costa Rica (mandatory plan supplementary to social security).
- Mexico (mandatory plan aimed at replacing social security, but with minimum guarantee).
- Norway.
- Peru (mandatory plan in lieu of social security).

Life annuities only:

- Austria.
- Bulgaria (mandatory second pillar).
- Colombia (mandatory DC plan for those electing not to participate in DB social security).

- Croatia.
- Germany (occupational pension plans, as opposed to individual Riester pensions).
- Hungary – mandatory plan (lump sum option is available to those retiring before 2013).
- Netherlands.
- Poland.
- Russia (mandatory funded DC accounts).
- Sweden.
- Switzerland (mandatory BVG/LPP pension).
- Uruguay (mandatory plan in lieu of social security).

7. Benefit payments for personal retirement savings

As regards benefit payments personal retirement savings arrangements, much greater flexibility is often allowed in those countries where the regulation of occupational plans is strict. Consequently, there is a greater convergence between countries of the treatment of personal plans, with many countries allowing the full range of options - lump sum payments, programmed withdrawals (if available) and life annuities. Here, it is more interesting to identify those that do not allow, for one reason or another, the full range of choices at this level. A third, less available category is additional voluntary contributions (AVCs) that employees in some countries can make either to social security or to their occupational pension plans.

Voluntary contributions to social security or a state fund

These arrangements are not particularly common. For example, any individual in India who is not a member of an occupational pension plan can make voluntary contributions to the Public Provident Fund maintained by the government; the payment form is a lump sum.

Voluntary contributions to the mandatory occupational pension fund.

Additional voluntary contributions. Some countries allow the employee, or the employer on behalf of the employee, to make voluntary contributions to the mandatory pension plan – either to the same fund or to a separate fund offered within the same pension fund management structure. Examples include:

- Argentina, Bolivia, El Salvador, Peru and Uruguay. Individuals and their employers can make voluntary contributions to their mandatory individual fund accounts. The tax treatment is the same as for mandatory savings. With the exception of Peru (and even then only under strict age and membership conditions), pre-retirement withdrawals are not allowed.

- Chile and Columbia. Individuals and their employers can make voluntary contributions to their mandatory individual fund accounts. The tax treatment is the same as for mandatory savings. In contrast to the other Latin American countries mentioned above, such voluntary contributions can just as easily be directed to non-AFPs, such as banks and insurance companies, and pre-retirement withdrawals *are* allowed (sometimes with tax penalties).

- Mexico. Individuals and their employers can make voluntary contributions to their mandatory individual fund accounts, but these contributions are invested in a separate fund managed by the same fund manager (AFORE). The tax treatment is the same as for mandatory savings. Pre-retirement withdrawals are allowed.

- Australia. The full range of payout options applies also to the voluntary contributions.

- Hungary. Such contributions are allowed up to 2% of salary, although conventional voluntary pension funds are more popular. In the same manner as voluntary occupational plans, payout is either a lump sum or an annuity.

- Malaysia. Both employers and employees may make substantial additional contributions to the Employees' Provident Fund, although employee contributions are only tax effective within limits.

The self-employed. They are often not required to contribute to a mandatory occupational pension system, but they can sometimes voluntarily participate. The retirement benefit payment options would be the same as for employed persons. Examples include:

- Costa Rica. The same open pension fund structure as for mandatory occupational plans, except that the self-employed individual is more directly and completely the contract holder. Payment options are programmed withdrawals or a life annuity.

- El Salvador. The self-employed voluntarily contribute to the same pension funds (AFPs), paying the equivalent of both the employee and the employer contributions. Payment options are programmed withdrawals, a life annuity or both.

Additional voluntary contributions to a conventional occupational pension plan.

Additional voluntary contributions (AVCs) to a *defined benefit* pension plan. In several countries, such as Ireland and the UK, plan members have the choice of making AVCs to the plan. Within limits, AVCs enjoy the same tax advantages as regular employee contributions. Under conventional AVC arrangements, the contributions are invested in the regular pension fund and must stop upon leaving the plan (e.g. on termination of employment). Under so-called "free standing" AVCs, there is a wide range of investment options and contributions can be continued after termination, but the individual bears the administrative costs. AVCs are used to buy additional lifetime pension income.

Additional voluntary contributions to a *defined contribution* plan. This is a common feature of many occupational DC pension plans. In some cases, additional employee contributions generate additional employer contributions. The retirement benefit payments forms generally match those applicable to the basic contributions.

More typical (and more widespread) personal retirement savings arrangements

Although broad generalisations can be difficult, personal retirement savings arrangements often exhibit all or most of the following characteristics:

- They are funded defined contribution plans.

- Often administered by life insurance companies, even if the payout is a lump sum. Also offered by banks, trust companies and pension fund management companies – usually also strongly regulated, but generally not permitted to provide life annuities.

- Slightly less stringent investment restrictions than for occupational pension funds (in those countries that still retain quantitative investment restrictions for the latter).

- Ability to switch funds from one provider to another.

- Tax treatment that is equal to, or less favourable than, the tax treatment of occupational pension plans. There are some important exceptions in this area. In an increasing number of countries, personal tax deduction limits are aggregated between employee contributions to occupational plans and individual contributions to personal arrangements. More contributions to one form directly decrease the opportunities for contributions to the other form.

- The retirement payment options would sometimes be the same as, but would generally be more flexible than those available under occupational pension plans, especially given the voluntary and highly discretionary nature of personal retirement savings. This treatment is often based on the premise – somewhat debatable in many countries - that the social security and occupational pillars are already providing adequate retirement income in the form of pensions. Reference should be made to Table 8 for details of payments options in various countries, and identification of whether or not these options are broader than are available under occupational plans.

- In some countries, such as in Austria and under the new savings plans in Chile, lump sums can be available, but they are not tax effective. The retirement payments are only tax effective if they follow the same forms as are available for occupational plan benefits, i.e. life annuities in Austria, and life annuities and programmed withdrawals in Chile. Persuasion, without compulsion.

- If a life annuity purchase is selected or required, it would normally have to be purchased from a life insurance company, with the facility to shop around for the best price.

Personal retirement savings arrangements facilitating portability of occupational plan benefits

There are several countries where a personal retirement savings plan has become a convenient and legally encouraged repository for transfer values from occupational pension plans. Canada is one example, whereby a personal registered retirement savings plan (RRSP) can accept a lump sum transfers from an occupational pension plan. However, they then become "locked in RRSPs", which means that the ultimate payout options largely reflect occupational plan legislation (e.g. no lump sum payments). The USA has a similar approach, whereby lump sum payments from an occupational plan can be "rolled-over" to an Individual Retirement Account (IRA). In both examples, the transfer is made directly from one financial entity to the other, without any immediate tax consequences for the individual.

Personal retirement savings arrangements as a proxy for an occupational pension plan

There are retail retirement savings arrangements in several countries that started in the personal pillar, and indeed still are to be found in the personal pillar, but that also have been "grouped" and pulled into the occupational pension pillar. The distinguishing feature of this type of arrangement is that the employee is directly and immediately the owner of the contract and can make decisions and exercise powers within the provisions of the contract.

One reason that encouraged the use of such personal retirement savings arrangements was the **more flexible payout options** generally available. In several countries where occupational pension benefits had to be taken as life pensions, individual arrangements had the choice between a lump sum payment, the purchase or a life annuity and even programmed withdrawals. The tax treatment also was different in several countries – sometimes more favourable, but sometimes less favourable. However, as regards payment options and tax treatment, several countries have moved in recent years to a more level playing field between occupational and personal pension arrangements. As regards payment options, this convergence has largely worked to the advantage of occupational plans – greater flexibility than the traditional life pension. In contrast, **convergence of tax treatment** often has worked to the advantage of individual arrangements – increasing the limits for tax-deductible contributions to the equivalent of those applied under occupational plans (both DB and DC).

Brazil. PBGLs are the most popular personal retirement savings arrangements. VGBLs are products offered by life insurance companies that provide a combination of life insurance (in the event of death before retirement) and life annuity payments from retirement. Both PBGLs and VBGLs are unit-linked investment products during the accumulation phase. Then there are FAPIs that are offered by banks. In theory, annuitization is required at retirement under PBGLs, VGBLs and their variants (but not FAPIs) – through the purchase of an inflation-indexed annuity. The annuity conversion rate is guaranteed in the contract, although a better rate may be offered at retirement by the insurer. However, as all the products can be surrendered at any time before retirement, a lump sum payment is *de facto* a possibility.

Canada. Registered retirement savings plans (RRSPs). These are the most popular individual retirement savings arrangements. The limits on tax-deductible contributions for an individual who is not a member of an occupational pension plan ("registered retirement plan") are fairly generous - up to the lesser of 18% of earnings and $19,000 per year. Furthermore, there is full payout flexibility, in that *retirement benefits can be taken in a lump sum or as programmed withdrawals or applied to purchase a life annuity.* Thus, when grouped together by an employer under a so-called group RRSP, they can provide a simple and convenient proxy for an occupational pension plan.

Table 3[13]

	Compared with payment forms available under occupational pension plans	
Benefit payments allowed under personal retirement savings arrangements	**Same options**	**More flexibility**
Lump sums (LS) only	Thailand	
Lump sum or programmed withdrawals		Bulgaria Ireland
Programmed withdrawals only	No countries	in survey
Complete range of options	Australia Denmark Singapore	Canada - RRSPs Chile (but excise tax) Colombia Costa Rica

[13] Very few Asian countries appear in this table, as formalised personal retirement savings arrangements are rare in the other countries in this region.

Lump sum or life annuity	Belgium Czech Republic New Zealand Switzerland[14]	Hungary Portugal (2008 new plan)
Partial lump sum option; otherwise, life annuity	Italy South Africa	
Programmed withdrawals or life annuity	Chile (tax effective) Mexico	Croatia Ireland (and 25% as LS)
Life annuities only	Austria Netherlands Norway	N/A

III. Providers of Benefit Payments

1. Providers of lump-sums and programmed withdrawals

In the event the occupational DC pension plan only provides for lump sum payouts - or the retiring member elects a lump sum payment - the plan trustee or its representative (e.g. the plan administrator), or the pension fund management company in other countries, normally would pay the benefit directly. It simply needs mechanisms in place to withhold and remit income and social security taxes (where applicable) and to report the payment to the relevant authorities.

In the event of programmed withdrawals, the administration is more complicated, but again the payments can easily be made directly from the pension fund to the retiree. Indeed, this is the approach adopted in many countries. However, the option also exists in some countries to transfer the accumulated retirement capital directly to a provider that is dedicated both to appropriate post-retirement investment of the retirement capital and to effective administration and payment of such programmed withdrawals. One example is **Canada** where a wide variety of financial institutions can provide the relevant "product" (life insurance companies, banks, trust companies, credit unions and investment companies). If the programmed withdrawals in Canada relate to personal savings, a minimum withdrawal must be made each year, based on tables supplied by the tax authorities. In contrast, if the programmed withdrawals relate to occupational pension plan accruals, there are both minimum and maximum limits on the amount that can be withdrawn each year – the provincial pension regulator specifies the maximum.

Where choices are available, including the life annuities to be discussed below, there also need to be facilities in place to assist the retirees in making the choices best suited to their circumstances. This is more difficult than it sounds, and there are several debates on the fiduciary responsibilities of the various players in this regard. Section 15 addresses some of these considerations.

2. Providers of life annuities

In OECD countries and many other countries around the world, insurance companies typically are the sole providers of life annuities. However, the number of insurance companies interested in selling annuities has fallen dramatically in recent years, notably in some annuities markets that would normally be categorized as mature and well developed. This is not solely because many life insurance companies now prefer to focus more on purely financial products and less on "insurance", but also because life annuity

[14] Same choices as under voluntary occupational plans in Switzerland; mandatory plans are more restrictive.

business can be particularly uninteresting or even unprofitable (low investment returns and increasing longevity, coupled with high reserving requirements). If there is a reduction in private sector competition, it can often lead to further increases in already unexciting annuity purchase rates. In other countries, where life insurance companies are not well regulated or the annuities market is not well developed, the problems and challenges are more basic, e.g. availability to the insurers of appropriate investments, accurate mortality tables for calculating realistic prices, and more general measures to ensure the financial stability of the insurers.

Thus, the first question to be addressed is whether an insurance company is essential for the provision of life annuities. Under the typical scenario, the retiring employee's accumulated capital would be transferred from the pension fund to the insurance company at retirement, and the pension fund's obligations for that individual would immediately and completely terminate. Conventional life insurance companies have some natural advantages in supplying annuity products, being able to derive economies of scale from their overall life insurance business and from their strong internal actuarial and administrative skills and experience. Life insurance companies also have the advantage of offsetting the effects of mortality changes between two primary lines of business, namely death benefit insurance (i.e. life insurance) and life annuities. General movements in the mortality rates of their clients are usually bad news for one line of business, but good news for the other.

In many countries, the insurance company already is involved in the pre-retirement accumulation phase, so it would seem a natural progression for it to be involved in the annuity (decumulation) phase. However, one important lesson to be learned in this regard is that retiring plan members must *not* be restricted to purchasing their annuities from that same insurance company. This has been the source of some abuse in the past. The retiring members must be able to "shop around" in the market for the best annuity rate. If a better rate can be found elsewhere, the funds should be transferred from one insurance company to the other without charge.

Several alternatives to using life insurance companies are in place or are being considered around the world, including the retention of the life annuity obligation in the (DC) pension fund; a separate financial institutions focusing entirely on retirement annuities; and a state annuity fund, operated by or on behalf of the government. Each of these approaches will now be discussed, and country examples will be provided.

DC pension fund retains the life annuity

One alternative to the life insurance company approach is for the annuity obligation to stay in the pension fund. This provides an opportunity for the pension fund to earn profits by generating investment returns higher than those assumed by insurance companies in their pricing structures. Such profits then could be applied to increase the pensions in payment – a form of indexing. However, this approach also can present serious complications, as the pension fund becomes a *de facto* insurance company that should normally be subject to insurance-type actuarial reserving requirements. Questions can then arise as to what actions to take when the annuity promises become unsustainable. This could arise if the subsequent investment performance of the pension fund is poor. More importantly, it exposes the pension fund to all the problems arising from retirees living longer than expected – the much publicized problem of *increasing longevity*. In a DC pension fund where the plan sponsors have completely fulfilled their obligations by making their required contributions in respect of active members, and when there is no third party supporting the annuity guarantees, the problems have to be addressed within the pension fund itself. The two most obvious approaches to addressing the problems then become (a) reducing future payments to the retirees and (b) taking away some of the investment earnings from the accounts of the active, non-retired plan members. Clearly, neither of these options is particularly attractive.

Several countries already have substantial experience regarding pension funds retaining the life annuity obligation, but this experience relates to defined benefit pension plans. Formal processes already are in place to address any actuarial deficits that may arise in respect of either the active or the retired lives' liabilities. The most common "remedy" is an increase in plan sponsor contributions, but this route runs counter to the whole concept of a defined contribution plan. From the plan sponsor's perspective, a *pure* DC pension plan should not involve any residual contribution obligations. There are also many forms of hybrid pension plan that are already in place or evolving rapidly, but these are DB plans for all intents and purposes, and mechanisms are (or should be) already in place to address any funding shortfalls. If the DC accumulation fund retains the post-retirement annuity, what happens when things go wrong?

Brazil. Closed (single employer and other non-retail) pension funds in Brazil can be defined benefit, defined contribution or so-called variable contribution. DC pension funds can, and generally do, keep the life annuity obligation after retirement. The annuity conversion rate can be set out in the plan rules, often in a manner that guarantees the rate for future retirees. As regards actuarial deficits, all three plan types are covered by the same legislation, namely Article 21 of Law #109, the law of 2001 that has become the basic legislation governing closed pension funds. This Article 21 states that deficits should be addressed by the plan sponsor, active plan members and pensioners *in proportion to their respective contributions*. Both increases in contributions and reductions in benefits are mentioned as possibilities for addressing the deficit, *subject to rules established by the regulatory and tax authorities*. However, no complementary regulations have yet been issued regarding how Article 21 should be applied in practice, and this is currently one of the discussions taking place in the market. With few retirees and high real interest rates, coupled with a continuing discussion on appropriate mortality tables for reserving requirements, serious problems have yet to surface.

Bulgaria (mandatory and voluntary DC arrangements). The retirement benefit must be taken as a life annuity, and it is the obligation of the pension fund to pay this life annuity. A pension fund (whether it is a "universal pension fund", an "occupational pension fund" or a "voluntary pension fund") is an independent legal entity created and managed by a licensed, capitalized joint stock company, otherwise known as a pension insurance company. The assets of the pension funds are de facto separated from the pension insurance company and must be held by a custodian. No dividends can be paid by the pension insurance company to its shareholders until it has built up a pension reserve sufficient to cover pension payments for individuals who outlive the actuarial expectations. Actuarial reports must be submitted annually.

Czech Republic. The retirement benefit can be taken as either a lump sum or a life annuity. In the latter case, the pension fund retains the retirement capital and the annuity obligation. These funds are operated by pension companies exclusively confined to this business. In contrast to most other countries, the pension company's shareholder assets are intermingled with employee and employer pension contributions – both financially and legally. 5% of the company's profits must be allocated to a reserve fund to cover minimum investment return guarantees and other losses.

Hungary. The life annuity provider can be either the pension fund itself or either the pension fund or the retiree can purchase a life annuity from an insurance company. As annuitization will not be mandatory before the year 2013, and as most current retirees are choosing the lump sum option, there is little accumulated experience regarding the provision of life annuities. The regulations applying to a pension fund retaining the life annuity obligation are still evolving. Currently, there are no solvency capital requirements regarding such obligations. The annuity rates must be the same for men and women, but otherwise the fund actuary has complete flexibility to choose a mortality table and considerable flexibility to choose the technical interest rate. There are no regulations regarding how to address any actuarial deficits arising from inadequate reserving (poor investment returns and/or increasing longevity). However, the regulators in Hungary are keenly aware of all the questions that need to be answered and the challenges that still need to be addressed. .

Switzerland. Mandatory pension plans in Switzerland are categorized by some people as defined contribution. However, both the interest rate to be credited to individual accounts and the annuity conversion rate are established by law (although they can be modified prospectively from time-to-time). Thus, many would argue that it is a cash balance plan (if the retiree elects a lump sum) or an indexed career-average earnings plan (if the retiree takes a pension). In any event, it is normal for the pension fund to retain the annuity obligation; the same autonomous pension fund is involved in both the accumulation and payout phases. But, are they really funds supporting a pure DC pension plan? This is very debatable. Such autonomous pension funds are indeed required to submit actuarial valuations, and they do indeed have DB-type surpluses and deficits.

USA. So-called 401(k) plans are the dominant form of DC retirement savings in the USA. The retirement benefit can be taken in cash or used to purchase a life annuity from an insurance company, but there is a potentially interesting third option. 401(k) plans often complement a defined benefit plan maintained by the same employer. In recent years, this DB plan would generally take the form of a cash balance plan, where the retirement benefit also can be taken as a lump sum, but where there is often the option to leave the money in the fund and receive a lifetime pension from the fund. Going one step further, employers frequently allow employees to transfer their 401(k) accumulations into the cash balance plan to be converted into an annuity. The cash balance DB pension fund thus substitutes for the insurance company. The reserves required to be maintained by the pension fund would be governed by pension plan funding regulations, rather than insurance company reserving requirements. One would expect the former to be less demanding than the latter. This could, perhaps, mean less security for the pensioner, although the Pension Benefit Guaranty Corporation (PBGC) provides pension fund insolvency insurance.

Other countries where the DC pension fund keeps, or has the option of keeping, the post-retirement life annuity obligation include:

- **Australia** (mandatory plans)**.** This is not a major issue at the moment, as the life annuity market in Australia is minute - retirees are allowed to elect, and generally do choose, other forms of retirement benefit payment

- **Denmark.** The pension fund is regulated in the same manner as a life insurance company. This applies to its entire operations, which include the provision of life annuities.

- **Poland.** With the first annuity payments starting in 2009, the government is actively considering whether the occupational pension funds should be allowed to retain the retirement capital and pay the lifetime pensions; the other alternative would be the purchase of an annuity from the state-owned social insurance institution.

Separate financial institutions focusing entirely on retirement annuities.

Under this approach, a life insurance company or an equivalent financial institution would only underwrite life annuities. It would specialize solely in this business and build up the knowledge, skills and investment portfolios appropriate for just this line of business. Such a focused approach could have its advantages. However, it would lose the advantage of broader-based life insurance companies that generally have the ability to offset mortality loses on annuities with mortality gains on life insurance (assuming unexpected improvements in mortality) and vice versa.

State annuity fund.

Another alternative, which seems to be generating interest in a number of countries, is a form of state annuity fund or other single entity. If one follows the conventional philosophy that a third party should

indeed assume responsibility for the annuities, the question then becomes whether these life annuities should be provided by the private sector or a public source. Would one central provider be more efficient, through economies of scale, elimination of excessive marketing and distribution costs and commissions, and through using less conservative mortality tables? If such a state annuity fund were to be established, should it be the sole provider or should it openly compete with private sector life insurance companies? The government then could become the insurance company of choice. Would this approach provide better annuity rates for the retirees? The state, and thus taxpayers, would become the ultimate guarantors of the solvency of any such fund. One argument against this approach is that many governments are already heavily involved in longevity guarantees – through their social security programmes. The fact that so many questions are being raised is because of dissatisfaction with the current annuities markets and the resulting search for alternatives.

The idea of a single annuity fund had been discussed in **Bolivia**. A system had been proposed for the account balance social security system whereby longevity risk is shared "in a fund composed of individual accounts, under which the accounts for those retirees who dies early would be disbursed among those who survived. This approach has yet to be adopted."[15] In **Poland**, with the first annuity payments starting in 2009 and where various life annuity provider options are being debated, the default would appear to be the state-owned social insurance institution.

More recently, the idea of a state annuity fund has been raised in **Ireland** (in a government report of December 2004 and a 2007 Green Paper). However, one of the main reasons behind this idea has nothing to do with DC pension plans; rather, it is to ease the burden of the minimum funding standard on DB pension plans. Other reasons are more relevant, and the question is posed as to whether a state annuity fund would provide lower annuity rates to small pension funds and personal retirement savings accounts. Although the Green paper expressed some concerns about the current life annuity market, it concluded: "The arguments for the State to become directly involved in the provision of annuities and the broader implications of any intervention by the State deserve attention and critical examination. However, there is no evidence to suggest that there is any fundamental failure in the annuities market or that annuities are significantly overpriced. The difficulty of confining any particular arrangement to any original target group must also be recognised. The State already bears much of the "longevity risk" in the economy through its role in relation to State pensions, public service pensions, healthcare and social services etc… A State Annuity Fund would increase this exposure."[16]

A wholesale immediate annuity provider

In its simplest form, it involves the pension fund buying a single premium immediate annuity for the member from an insurance company selected by the pension fund or the plan sponsor.[17] This approach has long since disappeared in many countries, either through legislation requiring member choice or through natural evolution. In contrast, **Italy** is an excellent example of where the system still operates. The individual is not allowed to take out a lump-sum at retirement and to buy a single premium annuity. Instead, the (closed) pension fund will buy an annuity on behalf of each member as they retire. Interestingly, the unions supported this approach, arguing that a bulk annuity contract would be less expensive in terms of loadings, and that retirees lack the necessary financial and technical expertise to compare annuity providers. As regards open pension funds, where the market is dominated by banks

[15] Bob Heitzman, 2003, *Let Them Eat …Annuities*, article for Benefits & Compensation International.

[16] Department of Social and Family Affairs, 2007, *Green Paper on Pensions*.

[17] This approach should not be confused with bulk annuity buyouts by defined benefit plans, which is a completely different subject.

rather than insurance companies, annuities are often provided by the life insurance arm of the group rather than by a traditional life insurance company.[18]

Group insured deferred annuity providers.

These are, in effect, occupational pension plans financed through group deferred annuity contracts underwritten by life insurance companies. In some cases, the contractual structure is a collection of individual deferred annuity contracts, but the end result is still a bulk purchase of deferred annuities on an ongoing basis. These are fully insured contracts, in that the insurance company is guaranteeing that a current premium of P, or level annual premiums of P per annum, will buy an annual pension of X from normal retirement age. In other words, the insured elements cover both the accumulation and payout phase (together). These types of fully insured products can still be found in Belgium, Denmark, Germany, Netherlands and Norway and (until recently) Switzerland.[19] Except for Denmark, these contracts traditionally focused on financing DB plans, which are not the subject of this paper. One can also expect the continued decline of these types of contracts, and they are unlikely to be adopted in other countries.

3. Provider intermediaries

As already mentioned in the previous section, there are concerns that the retiree does not always have the necessary information or expertise to select the best provider. This is especially true of life annuity purchases, although programmed withdrawals can also present some of the same challenges. Consequently, there is growing interest in third party providers that can assist the process. Underpinning most of these approaches would be an electronic quotation system that would allow the third party to feed in basic information about the retiring individual, the amount of available retirement capital and the forms of pension under consideration and receive almost instantaneous quotations from a wide range (or even the full range) of life annuity providers. It could even be possible for an individual directly to access such information, as is already the case in several countries for simpler transactions such as the purchase of car insurance. However, life annuities are more complex and the implications very much more long-term. Selecting the most appropriate form, and balancing the best price with the reputation and financial stability of each insurer, often justifies the involvement of an informed intermediary.

A common **private-sector initiative** would involve a third party that could provide retiring employees with competitive immediate annuity quotations from a wide selection of life insurance companies. The value of this approach is further enhanced if the third party is able to obtain "group" purchase rates, rather than the more expensive "individual" rates that the retiree would otherwise have to accept. Such private-sector arrangements are widely available in such countries as Canada, the UK and the USA. Indeed, a Google of "annuity quotations" will generate more than 500 links – dominated by UK service providers. Most of these services are equally applicable to DC retirement capital from occupational plans and personal retirement savings. The services come in several forms, with various levels of responsibility being assumed by the third party, and with various remuneration structures. For example:

- **Broker**. Licensed and regulated (as life insurance agents or brokers) by the industry, the relevant profession body, the insurance industry regulator, etc… Customarily remunerated by commissions payable on the single premium life annuity purchase; commission rates are relatively low, but the single premiums are relatively high. Many of these brokers are very clear about the fact that they do not provide financial advice, but simply provide the retiree with the

[18] Cardinale, Findlater and Orszag (2002) *Paying out Pensions: a Review of International Annuities Markets*.

[19] For a full report on such contracts, reference should be made to Pugh, C (2004) *Report on Insured Occupational Pension Plans*, a research document prepared for the OECD Working Party on Private Pensions.

best available quotations from all or a broad range of life insurance companies. Quoting from one website confirms this point: "This service is appropriate if you know that you want an annuity and know what options you want to select. With this service, we will act upon your instructions to buy your annuity, and will only provide advice in relation to the selection of a product provider; therefore you will not receive any advice regarding the suitability of the product."

- **Independent financial advisors**. These are authorised and regulated by the Financial Services Authority (in the UK, or comparable authority in other countries). Although there is sometimes a fine line between an advisor and a broker, the implication is that the financial advisor will provide counselling on whether or not to purchase a life annuity and, if so, which form of life annuity (single life, contingent life, with or without guarantees, with or without escalation) is best suited to the individual's situation and objectives. The service then would include finding the most appropriate insurance company, in terms of price and other factors. Attention should also be paid to pension plans or accumulation products that include guaranteed annuity rates, as these may be better than rates currently available in the market place.

- **Financial advisor directly attached to the plan**. Under this scenario, there would typically be only one broker or financial advisor for the plan. The employee approaching retirement would be forced or encouraged to use this third party. This approach is more likely to result in "group" annuity rates being available to the retiree. This financial advisor would be licensed and regulated as any other equivalent financial advisor. However, in some countries such as the USA, this third party could also find itself being classified as a "plan fiduciary", with all the responsibilities and liabilities that attach to this classification.

- **Actuarial consulting firms**. Customised online annuity services developed for the trustees or administrators of an occupational pension plan and directly accessible to plan members.

- **Advisors and software suppliers** to insurance companies and brokers (sometimes also providing customised surveys to the media). Remunerated by fees and subscriptions.

Chile. The so-called SCOMP system initiated by the government is designed to advance the quality of information provided to customers as well as to permit them directly to access a full range of annuity quotations. It operates in the following manner:

1. The retiring member goes to his/her pension fund provider (AFP) and initiates procedures for a pension. The AFP sends the member's balance certificate with personal data to the SCOMP system;

2. The member selects a participant in SCOMP to solicit quotations. Participants include AFPs, brokers and life insurance companies;

3. The member sends a request for annuity quotes, with or without the assistance of brokers or sales agents. Members can make up to three separate requests for each certificate issued by the APF;

4. The central information system validates the personal information of the member (e.g. age, sex, eligibility, balance), assigns a code and sends the information with the request to life insurance companies;

5. The life companies send their annuity quotes, while the SCOMP itself calculates programmed withdrawal payments, which are regulated in a very prescriptive manner;

6. SCOMP send the programmed withdrawal and annuity quotes to the member. The quotes are valid for 15 days;

7. The member must either accept one of the offers, or accept another offer made outside SCOMP. Alternatively the member can request bids from at least three companies (an auction) and accept the best offer, or simply decide not to retire.

Initial data suggests that the system is working well and transparency has been improved. Although only relatively small numbers of participants have used the system to request competitive bids from annuity providers, the implication is that price competition has improved. Brokers' commissions also have been reduced, and market concentration has resulted.

Open Market Option (UK). It is claimed that the United Kingdom has the world's most developed annuity market (e.g. Watson Wyatt, 2007, *A Review of International Annuities Markets*), but it does not appear to have the most sophisticated customers. Most retirees give little thought to the type of annuity they should buy, so they continue to take the default option – usually a traditional, bond-based single or joint and survivor life annuity. Furthermore, about 70%-75% of retirees take the annuity rate offered by the accumulation period provider. Only 25%-30% shop around for the best annuity rates, notwithstanding up to a 20% spread between the best and worst rates. The Open Market Option (OMO) was developed to address these problems and related matters. It attempts to educate consumers on choosing the most appropriate form of annuity and to facilitate selecting the most competitive provider. The UK government is still concerned that the OMO is not fulfilling even these basic objectives, so the system is again under review. According to a UK Treasury paper on the subject: "Problems identified with switching include inertia, lack of awareness, complexity of forms, time delays in making transfers, lack of alternative quotes, the gain 'not looking big enough' (i.e. a lack of understanding), or (on a more positive if not entirely economically rational note) wishing to stay with the company one has built a good relationship with. The UK government is working to improve the OMO system which provides alternative annuity quotes. For example a more structured approach to annuity purchase is being considered. One stage will involve individuals deciding what type of annuity best suit their needs (aided by suitable information and guidance). The next stage then allows the consumer to choose the provider that offers the best deal on this type of product, with the help of comparative tables provided by the financial sector regulator."[20]

Table 4: Examples of Annuity Provider by Country

Insurance Company	Pension Fund	Pension Fund or Insurance Company	State Provider
Chile	***Brazil***	***Hungary***	***Bolivia***
Italy	***Bulgaria***	***USA***	***Poland (?)***
Mexico	***Czech Republic***	***Australia***	
South Africa	***Switzerland***	***Denmark***	
UK		***Poland (?)***	

[20] HM Treasury, December 2006, *The Annuities Market*.

IV. Tax Provisions for Benefit Payments

Where a choice between types of benefit payment is allowed, tax provisions play a key direct or indirect role in influencing payout options. If the government wants to allow some choice, but it really favours one form of retirement payout over the others, then its tax code should be designed to nudge individuals in that direction. Where a country allows partial cash commutations (e.g. the one-third rule in the UK) or full cash payments – and especially if the lump sum is given preferential tax treatment – it must be either because the government genuinely believes it is in everyone's best interests to allow such lump sums or because of a loss of focus.

Several countries that do not have *equal* tax treatment of various forms are actively debating ideas for moving to a more level playing field. Belgium is just one example of a country where the old tax code favoured lump sums and where changes were made to put lump sums and life annuities (the only two permitted forms) on an equal footing.

Even with equal treatment, human nature will still push people towards lump sums, so one can even argue for tax discrimination against lump sums in countries that prefer retirees to choose other payment forms. One step in this direction is to tax lump sums as a straight addition to other income in the year of receipt. In countries with steeply progressive tax structures, this pushes retirees into high marginal tax brackets that would not normally apply to them. This will create a much heavier tax burden than income taxes paid in other years, either on employment earnings before retirement or on regular pension income after retirement. This can be extremely painful, and tax provisions of this type could be a true test of how much the government wants to discourage lump sum payments. Another route to encouraging annuities or programmed withdrawals is an additional tax deduction or tax credit for pension income in retirement. Again, this is a commonly found provision, sometimes also coupled with full taxation of lump sums.

The preceding paragraphs assume an EET or equivalent tax system that grants tax concessions at the front end and taxes benefit payments at the back end. Of course, there are other, less tax-incentivized retirement savings arrangements. For example, if a retiree purchases a life annuity with regular savings, only the interest portion (or deemed interest portion) of the annuity should be considered as possible taxable income. In France, for example, 40% of a life annuity starting at ages 60-69 is deemed to be taxable income, decreasing to 30% for annuities commencing at age 70 or later.

Table 5: Examples of Tax Treatment of Benefits by Country

Australia	Benefits are taxed favourably up to the Reasonable Benefit Level (RBL). The RBL is the maximum concessionally taxed superannuation benefit that a person can receive over a lifetime. Superannuation benefits exceeding a person's RBL are taxed at the highest marginal tax rate. In order to encourage the payment of regular income streams rather than lump sums, the RBL for pensions is twice the RBL for lump sums and applies if at least 50% of the accrued benefits are taken in form of a pension. The RBL is AUD 562,195 for lump sums and AUD 1,124,384 for pensions as of January 1, 2003 and is indexed annually.
Belgium	Lump-sum benefits are taxed at a flat rate of 16.5% for capital accumulated by contributions made before January 1, 1993 and 10% for capital accumulated by contributions made after that date. Annuities are taxed under a special regime: 10% on the revenue from worker's contribution and 16.5% on the revenue from employer's contribution.
Canada	Lump-sum benefits and pensions are taxed as income in the year in which they are paid.

Chile	Annuities are taxed as personal income. Annuities are under the General Tax Regime. Lump sum withdrawals are free of taxes until a limit establish by Law. Over this limit, lump sums are subjected to the same General Tax Regime.
Denmark	Annuities are taxed as personal income. Lump-sum benefits are taxed at a flat rate of 40%.
Israel	35% of pension benefits is tax-exempt. Lump-sum benefits are tax-exempt.
Ireland	Taxed as income. The maximum lump sum of up to one and a half times final salary is tax-exempt.
Italy	Pension benefits are taxed as income, net of the amount on which tax has already been paid, i.e.: Contributions exceeding the tax-deductible limit and on which tax was therefore paid; Net investment income on which tax has already been levied on the pension fund at 11%. Lump sums paid at retirement are taxed separately on the amount not already taxed (see above). The amount corresponding to the net investment income is taxed again, however, if the lump sum exceeds one-third of the accumulated capital.
Japan	A part of pension benefits is taxed as income at a rate of between 10% and 37%. The tax-exempt amount depends on the total pension income from different sources (e.g. EPI, occupational plans etc.) and the number of dependents. Only a part of lump-sum benefits is taxed as income at a rate of between 10% and 37%. The tax-exempt amount depends on a so-called retirement income deduction that is deducted from the lump sum. The lump sum minus the deduction and divided by two is taxed at the applicable income tax rate. The retirement income deduction varies with the length of plan membership. If the membership has lasted for less than 20 years, the deduction is JPY 400,000 times the years of membership. If the membership has lasted for more than 20 years, the deduction is JPY 8 Million plus JPY 700,000 times the years of membership exceeding 20.
Portugal	Taxable pension income (see below) is exempt from income tax if, together with social security pensions, it does not exceed EUR 7,961.71 per year. The pension income exceeding this limit is subject to income tax. Pension benefits are only considered as taxable pension income if the contributions were tax-deductible. If contributions were taxed, only that part of the pension which constitutes interest is considered as taxable pension income. The interest component is assumed to be 35% of the pension if it is not possible to exactly separate contributions and interest. Lump-sum benefits are for tax purposes divided into contribution and interest components. If contributions were tax-deductible, one-third of the contribution component is tax-exempt up to the limit of EUR 11,704.70. If the contributions were taxed, the entire contribution component is tax-exempt. The interest component is taxed at a rate of 20% if the retiree has been a member of the plan for less than 5 years, 80% of the interest component is taxed at a rate of 16% if the retiree has been a member for between 5 and 8 years and 40% of the interest component is taxed at a rate of 8% if the retiree has been a member for more than 8 years.
Slovakia	Both pensions and lump sums are taxed at a rate of 10%.
South Africa	Pension benefits are taxed as earned income. A portion of lump-sum benefits at retirement is tax-exempt. The tax-free portion is one-tenth of the highest 5 consecutive years average annual salary (with a maximum of ZAR 60,000) times years of membership (with a maximum of 50 years taken into account). This tax-free amount is limited to the greater of ZAR 120,000 or ZAR 4,500 times years of membership. The remaining portion of the lump sum is taxed as earned income.

	Benefits are taxed at the higher of the average tax rates of the retiree in the year of retirement and the preceding year.
Spain	Occupational pension plans: Taxed. Lump-sum benefits are tax-exempt up to 40% of the cash value of accrued benefits or accumulated capital.
Switzerland	Benefits taxed as income. Pension and lump-sum payments are taxed on different bases. There are 27 different federal and cantonal taxation schemes. Lump-sum payments are usually taxed at a lower rate than pensions.
United Kingdom	Contracted-out occupational pension plans: Taxed but maximum 150% of final salary may be taken as a tax-free lump sum. Personal pension plans: Taxed but up to 25% of (non-protected rights) assets can be taken as a tax-free lump sum.
United States	All benefits taxed as income (except benefits financed through taxable employee contributions).

V. Comments and conclusions

As identified in the introduction, this paper has attempted to describe the international practice and the regulatory environment surrounding the different forms of pension payments at retirement. Particular emphasis has been placed on addressing such issues as the structure of the payout phase and annuity markets in different countries; how the regulatory environment and the country context affect what payout forms are allowed and which providers operate, and whether there is any correlation between the level and form of social security benefits and the forms of retirement payout permitted under supplementary pension arrangements; payout providers, with particular emphasis on whether and how entities other than life insurance companies (e.g. pensions funds, quasi-government institutions, etc...) should be allowed to provide life annuity products.

It is undeniable that there is a major shift to defined contribution plans throughout most of the world. However, the rapid growth in such plans has also revealed their several weaknesses. The problems, many of which are beyond the scope of this paper, include inadequate contribution rates, often based on unrealistic expectations; ineffective investment of the assets during the accumulation phase (much has already been done to resolve the challenges in this area); point-in-time sale of the investments at retirement, either to pay the lump sum or transfer the capital to a life insurance company for the purpose of buying an annuity; and point-in-time purchase of a life annuity.

The last two issues are directly relevant to this paper, and various approaches to addressing the challenges already have been adopted in some countries. It is essential that more attention be paid to the payout phase, in order not to aggravate the already existing weaknesses of DC plans. Viewed more positively, more attention should be paid to this area specifically in order to maximize the effectiveness of such plans. Several existing approaches and new ideas seem worthy of further debate, and some will now be identified.

Shift of emphasis regarding payout options? There are some countries with small social security benefits that allow retirees considerable or even complete flexibility regarding payout choices – Australia, South Africa and several countries in South-East Asia. Is such entrepreneurial flexibility desirable? To what extent do cultural attitudes and market forces support this approach? At the other extreme, there are countries with good social security retirement pensions that require occupational pensions also to be taken as lifetime pensions – primarily Western European countries. Is this approach too conservative and has it become outdated? Certainly, some countries that had been in this category in the past (Canada, Ireland and

the UK) have provided expanded flexibility in recent years, with one explanation being disillusionment with tradition, insured life annuities. Will other countries follow? What can regulators in Central & Eastern Europe learn from these experiences and developments?

Broader range of life annuity options. That people are averse to buying annuities is well known and has already been discussed. This does not mean giving upon annuities altogether. One step that could encourage individuals to think more positively about annuities would be to increase the range of allowable options. Many of the concerns about annuities stem from the fear of tying up a large amount of retirement capital and then dying early and losing any remaining capital. Yet, it is not allowed in many jurisdictions to purchase a form of life annuity that would reduce or alleviate this concern. For example, cash refund annuities, paying a residual lump sum to the annuitant's beneficiaries in the event of early death, simply are not allowed in many jurisdictions. Also, where it is allowed to purchase a life annuity with a minimum guarantee, there is sometimes a limit of ten years' payments. Relatively minor concessions in these two areas would already be one step towards making life annuity options more attractive.

More attention to alternatives to conventional life annuities, without compromising the basic objectives of providing income throughout retirement and encouraging such retirement savings arrangements through tax incentives. When identifying and discussing all the various retirement payout options in this paper, the longest description and analysis related to programmed withdrawals. This is hardly surprising, as each country continues to review its options and to seek guidance from debate and related activities in other countries. Without again reviewing all the programmed withdrawal approaches, some points will be raised at this time. First, consideration could be given to relaxing the rules in those countries with very prescriptive regulations and to allow the payments to fall in a range either side of the prescribed amount. The advantages of allowing greater flexibility include the ability of the retiree to set aside money in years when financial needs are low and thus build up a cushion for future years, and the related ability to withdraw extra amounts in difficult years (e.g. major medical expenses). This flexibility already exists to some degree in several countries.

Concurrent payments under two different options. As another extension of the debate on programmed withdrawals, consideration should be given to allowing *concurrent* payments from a life annuity and programmed withdrawals. Under its simplest approach, the retirement capital would be split into two or more parts <u>at</u> <u>retirement</u> and allocated to different payment forms. For example, this would allow annuitization at a basic survival level (or at even higher level for the most conservative individuals) and more adventurous programmed withdrawals for the remaining capital.

Alternative life annuity providers. Brazil and some Central and Eastern European countries allow the pension fund to retain the life annuity, rather than transferring the retirement capital to an insurance company. Some of these arrangements are only in their infancy, and detailed regulations are lacking. Denmark also allows the pension fund to retain the annuity, but it is regulated as an insurance company. In the other countries, they are regulated as pension funds, so this is an area that needs further debate.

Implications of any changes in the Chilean model. Several reviews of the so-called Chilean model have criticised its focus on "income replacement" and claim that it is losing sight of what should be, in the eyes of many experts, the first objective of social security – namely "poverty prevention". Social security programmes around the world attempt to address both poverty prevention and income replacement, but the former is normally the first priority. However, as indicated by Gill, Packard and Yermo (2004) in regard to Latin America: "*the poverty prevention function (once explicitly identified and separated into a first or even a zero pillar) has not received the attention it deserves. In fact, this component should be the main attraction of a social security system, not a sideshow. The lack of attention to this core component of*

government policy is a serious mistake."[21] The matter is raised at this time because Chile has introduced (in 2008) a flat social security retirement pension (Sistema de Pensiones Solidarias) that provides a basic non-contributory benefit to those not eligible for any other pension and pension supplements for those with low pensions. Will these changes affect the operation of retirement benefit payouts under the mandatory accounts, which are currently so intertwined with the old social security minimum benefit levels? Chile has also announced its intention to review its current range of retirement payment options. Will these reforms signal changes in the other Latin American countries that follow the Chilean model?

Deferred life annuities with longevity insurance. This idea is starting to receive the attention it deserves. Many individuals, including the author of this paper, would have much preferred the option of programmed withdrawals for a prescribed and relatively long period of time, with longevity insurance taking over at the end of this period. Instead, the only available option has been a "with-profits" life annuity policy that, because of longevity losses, will never pay any profits.

[21] Gill, I. T. Packard and Yermo, J. (2004) *Keeping the Promise of Social Security in Latin America*.

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APPENDIX A - TAXONOMY OF DIFFERENT TYPES OF LIFE ANNUITIES

BASIC LIFE ANNUITY DEFINITIONS

- **Annuitant.** The person covered by an annuity and who normally receives the payments.
- **Annuity.** A stream of payments for a pre-established period of time. Payments can be weekly, monthly quarterly, etc...
  - → Immediate annuity. Payments start immediately.
  - → Deferred annuity. Payments start at a later date.
- **Life annuity/single life annuity**. A stream of payments for as long as the annuitant lives.
- **Indexed annuity**. Payments increase at a prescribed rate, whether fixed or variable.
- **Variable annuity** (traditional definition). An annuity where the payments vary with the performance of market-sensitive investments. Normally, an annuity where the benefit varies according to the investment results of the funds set aside to provide it.
- **Variable annuity** (second definition). Same as the traditional definition, except that the payment also varies with subsequent changes in the average life expectancy of the annuitant and his/her cohorts.
- **Temporary annuity.** An annuity where the payments cease at the earlier of the annuitant's death and a fixed date (e.g. the annuitant's 65th birthday). This approach is often used under occupational pension (enterprise annuity) plans to provide a "bridging pension" from the employee's early retirement date until such time as social security benefits become payable.
- **Annuity rate/annuity conversion rate**. The present value of the series of payments of unit value (e.g. $1.00 or €1.00 or RMB 1.0).
- **Laddered annuities**. Purchasing annuities in increments, to smooth annuity purchase rates.
- **Unisex annuity rates**. Annuity rates that are the same for both men and women.

MORE COMPLEX FORMS OF LIFE ANNUITY

- **Joint and (last) survivor annuity – J&LS.** An annuity payable for as long as the (primary) annuitant lives and thereafter for the lifetime of the named survivor or contingent annuity if still living (e.g. the annuitant's spouse). The amount of the payment may reduce on either the first death or the death of the primary annuitant.
- **Contingent annuity** → Joint and (last) survivor annuity.
- **(Full) cash refund annuity.** An annuity with a lump sum payment made on the death of the annuitant equal to the excess (if any) of the annuity purchase price over the sum of the periodic pension payments already made up to the death of the annuitant.
- **Modified refund annuity.** An annuity with a lump sum payment made on the death of the annuitant equal to the excess (if any) of a pre-determined amount over the sum of the periodic payments made up to the death of the annuitant. It is sometimes found under a pension plan to which the employees contribute, where the 'pre-determined amount' is equal to an accumulation of the employee's own contributions.
- **(Life) Annuity with N year guarantee.** An annuity payable for the life of the annuitant, but with a minimum of N years' payments in any event. "N" is usually 5 years or 10 years. In other words, if the annuitant dies before N years of payments have been made, payments will continue to the annuitant's estate or dependents for the remaining balance of the N-year period. This is an approach used under contributory plans in Canada and elsewhere as an approximation to ensuring that the aggregate pension payments are at least equal to the employee's own accumulated contributions. The extra cost of a 5-year guarantee is negligible, given that mortality in most countries in the years immediately following retirement is low, so it is an easy option that is well worth considering.
- **(Life) Annuity with N year period certain** → idem.

APPENDIX B: PROFILES OF COUNTRIES SELECTED FOR THEIR DIFFERENT CHARACTERISTICS

AUSTRALIA

	Lump sums	Programmed withdrawals	Life annuities	Tax
Social security (basic, means-tested)	NO	NO	Mandatory	
Occupational plans (mandatory)	**YES**	**YES**	**YES**	TTE
Personal plans	**YES**	**YES**	**YES**	TTE

Highlights.

Australia is a particularly relevant country for the purposes of this paper, because it allows the full range of retirement payout options under both occupational pension plans and personal savings arrangements. In light of the modest and means-tested social security benefits, some people find this flexibility surprising. Another important characteristic is that a DC pension fund can be the provider of a life annuity; the retirement capital does not need to be transferred to a life insurance company. In practice, very few retirees choose a life annuity as the payout form.

Social security.

Social security in Australia is a flat pension that is both income-tested and asset-tested. It is called the Age Pension. It is financed from general tax revenues; there are no explicit employee or employer contributions. The social security system is meant only to meet the most basic welfare needs of Australia's citizens. Where other income or prescribed assets exceed a given limit, benefits are reduced on a sliding scale. All potential recipients of pensions are first income-tested and then asset-tested to determine the amount of pension the recipient can receive; the test that produces the lower benefit is used. Those who are eligible receive a pension payment every two weeks. First pillar payments are expected to reduce over time as retirement benefits from the mandatory pillar become more significant.

Occupational pension plans.

Occupational pension plans, called “superannuation” in Australia, are mandatory. This mandatory second pillar, called the Superannuation Guarantee, requires employers to contribute 9% of an employee’s earnings to privately managed funds on behalf of their employees. The employee chooses the fund. There are many types of pension fund that are approved for this purpose, including public offer (retail) funds, single employer (corporate) funds, industry-wide funds, public sector funds for public service employees, self-managed funds (less than five members, all of whom are trustees) and Retirement Savings Accounts. Employers can make contributions at a higher rate than 9%. Employees can make voluntary contributions. Withdrawals from the retirement savings account before retirement are allowed only in exceptional circumstances. The so-called “preservation rights” are strong.

Simplified occupational pension plans for small employers.

A very widely used approach for small employers (less than five plan members) is a self-managed superannuation fund. Under this structure, all the plan members must be trustees or a corporate trustee can be appointed. SMEs with five or more plan members are encouraged to use Retirement Savings Accounts, details of which are provided in the next paragraph.

Personal retirement savings arrangements.

One commonly used approach for accumulating additional retirement benefits is for the individual to make voluntary contributions to the superannuation fund. Another form of superannuation arrangement, called Retirement Savings Accounts (RSAs) was introduced by the government in 1997. It does not require a trustee structure, and it can be offered by banks, credit unions, friendly societies, and life insurance companies. The investment must be capital guaranteed. RSAs are only intended to be used for small amounts or for short-term employment, and the potential customer must be told that other superannuation arrangements may be more appropriate for larger accounts (defined as A$10,000 or more). RSAs have not been very successful, especially as public offer funds such as master trusts and some industry funds can offer an equivalent product within the trustee structure.

Programmed withdrawals.

There are several different forms of programmed withdrawals in Australia. Each category is then sub-divided into either a "pension" or an "annuity" or, but this is basically a reference to the provider. A *pension* is paid directly from the superannuation fund, whereas an *annuity* is paid under a contract with a life insurance company. Otherwise, the regulations are fundamentally the same. For ease of presentation, the main forms of *pension* programmed withdrawals will be described:

- **Allocated income streams**. This is the most popular method and accounts for a large majority of all money invested in programmed withdrawals. The retiree has an individual account that increases with investment earnings and decreases as payments are made. The minimum annual payment is obtained by dividing the remaining retirement capital by the life expectancy of the primary beneficiary, in accordance with a table set by the government (Schedule 1AAB of Superannuation Industry Regulations 1994, as updated). The denominator is 17.3 at age 65, decreasing to 10.5 at age 80 and 4.4 at age 100. The maximum payment is determined by dividing the remaining retirement capital by another factor that is provided in the aforementioned Schedule 1AAB. This denominator is 9.9 at age 65, decreasing to 3.1 at age 80 and to 1 at ages 83 and above. In other words, from age 83 onwards, the entire remaining capital can be paid in a lump sum.

- **Life expectancy income stream.** The pension is paid annually throughout a period fixed at the commencement of the pension. This fixed period cannot be less than the life expectancy of the retiree (primary beneficiary). It cannot be more than the period of years equal to the number of years between the retiree's age and age 100. Alternatively, the maximum period for a joint and last survivor pension covering the retiree and the spouse (reversionary beneficiary) can be based on the life expectancy of the spouse (calculated, at the option of the primary beneficiary, as if the spouse were up to 5 years younger).

- **Market linked income stream.** Similar to a life expectancy pension, except that the retiree has investment choice, but consequently loses the guarantees. The term is fixed at commencement and is again based on life expectancy, age 100, etc… Each year, the remaining account balance is divided by the remaining term. There is some flexibility to vary payments within 10% of the calculated figure.

- **Fixed term income stream.** A fixed term income stream is simply one that is payable for any set period of time, from one year to around 25 years. In contrast to the other options, the retiree can defer receipt of some of the original capital until the expiry of the contract; this amount is known as the residual capital value. Many short term contracts pay only interest during the period and refund the entire original capital at the end of the period.

Life annuities (available forms).

The regulation of permitted forms of life annuities is detailed. Such regulations require the pension to be indexed to price inflation "unless the Regulator otherwise approves". In a similar manner, joint and last survivor (reversionary) pensions are encouraged for married employees. In any event, the life annuity market is very small.

Providers.

The superannuation fund that is investing the assets during the accumulation phase can provide the entire range of retirement payout form, including life annuities. Alternatively, the retirement capital can be transferred tax-free to a life insurance company which can also offer the entire range of options.

Taxation.

In common with most other countries, the employer contributions to a superannuation fund are generally a tax-deductible business expense. There are upper limits on the amounts deductible in respect of any individual employee, and these limits increase with the employee's age. Employer contributions to superannuation plans are not considered taxable income to the employee. In all other respects, Australia is quite different from international norms regarding the tax treatment of occupational pension plans (superannuation funds). First, the employer contributions to a superannuation fund are taxed at 15% upon receipt by the trustees of the plan. Then, the fund investment earnings are also subject to a 15% tax, but it is possible to reduce this tax depending on the type of assets held in the fund. Finally, benefit payments had traditionally been taxed at special rates, but the tax regime was overhauled effective 1 July 2007. Now, all lump sum payments from a taxed source, such as a superannuation fund, are tax free. Similarly, all pensions paid from a taxed source are tax free.

Means-testing.

As already mentioned, accumulated assets (e.g. house) and income from other sources can reduce an individual's entitlement to social security benefits. Before the 2007 reform, assets in "complying income stream" products such as described above were either completely excluded from assets for the purposes of the assets test or only included for 50% of their value. They are now included in full. To compensate for this effect, the asset-test itself has been relaxed, with each social security pension payment now being reduced by $1.50 for each $1,000 of assets; the previous reduction had been $3.00 per $1,000.

Effects on retirement benefit payout choices.

Means-testing of social security benefits and tax issues surrounding superannuation accruals and payments complicate the decision making process for an individual approaching retirement. There is a general opinion that the latest changes will encourage the receipt of lump sum benefits and somewhat discourage the currently widespread use of income stream arrangements.

Comments.

Australia is a county whose citizens appear to dislike life annuities and value the flexibility of lump sum payments and the wide choice of programmed withdrawal arrangements. Pension legislation openly encourages these alternatives. Given the modest and means-tested social security benefits, many outsiders find this situation rather surprisinging.

BRAZIL

	Lump Sums	Programmed withdrawals	Life annuities	Tax
Social security	NO	NO	Mandatory	T-T
Occupational plans:				
Closed pension funds	YES[1]	YES[1]	YES	EET
Open pension funds (see "personal plans")	---	---	---	---
Personal plans:				
PBGL	Yes[2]	No	Yes	EET
VGBL	Yes[2]	No	Yes	EET
FAPI	Yes	No	Yes	EET

[1] If the plan rules so provide.

[2] Although annuitization is mandatory, one can always surrender the contract before retirement.

Highlights.

Brazil is an interesting country from the perspective of this paper because closed DC pension funds are allowed to retain the life annuity obligation – a major challenge for the regulator and a potential cause for concern for the various stakeholders. Indeed, the annuity conversion rate is often guaranteed in the plan rules, thus applying to active plan members who are still far from retirement. These arrangements are "pure" DC during the accumulation phase and should not to be confused with hybrid plans (which also exist in Brazil, under the title of "variable contribution" plans).

Brazil is also interesting because of its wide variety of open, retail pension arrangements that can be used by an individual or collectively under an occupational pension plan. The two markets are regulated by two completely separate regulatory authorities. Closed pension funds are supervised by the Secretaria de Previdência Complementar (SPC), which is part of the Ministry of Social Security. Open/retail pension contracts are supervised by the Superintendência de Seguros Privados (SUSEP), i.e. the Superintendent of Private Insurances, which is part of the Ministry of Finance.

Social security.

The normal retirement pension is equal to 70% of the "benefit salary" plus 1% of the benefit salary for each year of contribution, up to a maximum benefit of 100% after 30 or more years. The minimum benefit salary is the minimum wage, and the maximum benefit salary is currently eight times the minimum wage. Average earnings for benefit calculation purposes are based on the best 80% of the total number of months of contributions. Retirement benefits can only be taken in the form of lifetime monthly pensions, with 100% continuation of the payments to the surviving spouse.

Closed occupational pension plans (supervised by the SPC).

The traditional closed pension fund is restricted to the employees of the sponsoring company and employees of related companies. Since 2001, professional associations and trade unions also are allowed to create closed pension funds for their members. There are then two types of multi-sponsored closed funds, namely (a) multi-employer funds for employees of companies in the same industry and (b) those set up by financial institutions for use by unrelated employers. There are three types of plans, namely defined benefit, defined contribution with guarantees (hybrid) and pure defined contribution. Retirement benefits are usually paid in the form of a lifetime pension, but many plans allow the alternative of receiving all or part of the retirement benefit in a lump sum. Annuities certain of long, or even very long, durations also are available.

All three types of pension plan (DB, pure DC and hybrid) keep the life annuity obligation after retirement. The annuity conversion rate for DC and hybrid plans can be set out in the plan rules, often in a manner that guarantees the rate for future retirees. As regards actuarial deficits, all three plan types are covered by the same legislation, namely Article 21 of Law #109, the law of 2001 that has become the basic legislation governing closed pension funds. This Article 21 states that deficits should be addressed by the plan sponsor, active plan members and pensioners *in proportion to their respective contributions*. Both increases in contributions and reductions in benefits are mentioned as possibilities for addressing the deficit, *subject to rules established by the regulatory and tax authorities*. However, no complementary regulations have yet been issued regarding how Article 21 should be applied in practice, and this is currently one of the discussions taking place in the market. Pure defined contribution plans would seem to present the greatest challenges in this regard. However, with few retirees and high real interest rates, coupled with a continuing discussion on which mortality tables are appropriate for annuity pricing and for reserving requirements, serious problems have yet to surface.

Open/retail pension plans.

These are used by individuals, the self-employed and SMEs. They are also sometimes used by large employers, especially when they are covering only a small sub-group of employees (e.g. executives). When used as a form of occupational pension arrangement, the employer chooses the fund administrator and selects the investment options to be offered to the members. Additional voluntary contributions are permitted. There are various types of open plans, including:

- PBGL. Similar to 401(k) plans in the USA, PBGLs are the most popular personal retirement savings option. They are unit-linked investment products offered by life insurance companies, many of which are owned by banks (the dominant financial institution in Brazil). Two variations, namely PRGP and PAGP, include return guarantees during the accumulation phase.

- VGBL. Products offered by life insurance companies that provide a combination of life insurance (in the event of death before retirement) and life annuity payments from retirement. Two variations, namely VRGP and VAGP, include return guarantees during the accumulation phase. The most common form is simply a unit-linked investment product during the accumulation phase.

- FAPI. Similar to Individual Retirement Accounts (IRAs) in the USA, they are offered by banks. Annuitization is not required.

In theory, mandatory annuitization is required at retirement under PBGLs, VGBLs and their variants – through the purchase of an inflation-indexed annuity. The annuity conversion rate is guaranteed in the

contract, although a better rate may be offered at retirement by the insurer. However, as all the products can be surrendered at any time before retirement, a lump sum payment is *de facto* a possibility.

Programmed withdrawals.

The rules of any pension plan financed through a closed pension fund can include provisions allowing programmed withdrawals. Such programmed withdrawals take the form of annuities certain, often with a wide choice of durations (e.g. from 10 to 45 years).

Lifetime pensions and life annuities (available forms).

The normal forms of pension are a conventional single or joint and last survivor annuity. Either form can be with or without a minimum guarantee period of 5 or 10 years. Annuities must be indexed to price inflation.

Providers.

For closed pension funds, the provider of the programmed withdrawals and life annuities is the pension fund itself. For open pension funds, the provider of life annuities is the life insurance company involved in the accumulation phase.

Comments.

The pension scene in Brazil is completely different from other Latin American countries. Defined benefit and hybrid plans play an important role, although pure defined contribution plans are growing in importance. Also, Brazil does not yet have a well developed life annuity market, so the retention of the life annuity liability within the pension fund presents some interesting challenges.

CANADA

	Lump sums	Programmed withdrawals	Life annuities	Tax
Social security	NO	NO	Mandatory	E--T
Occupational plans:				
Registered pension plans (RPPs)	NO	NO	Mandatory	EET
Group RRSPs	Yes	Yes	Yes	EET
Deferred profit sharing plans	Yes	Yes	Yes	EET
Personal plans:				
Registered retirement savings plans (RRSP)	YES	YES	YES	EET
Rollovers from RPPs ("locked-in" RRSPs)	No[1]	Yes[2]	Yes	EET

[1] various relaxations of this restriction are currently under consideration (see below).

[2] a strictly regulated form of programmed withdrawal that attempts to replicate a life annuity.

Highlights.

Canada is an interesting country from the perspective of this paper because of a conscious and significant shift away from requiring annuity purchases in most circumstances to allowing a sophisticated package of programmed withdrawal options. Lump sums also being available for personal arrangements.

Social security.

Social security in Canada is in two parts:

- A flat, means-tested pension based on residence; payments are indexed in line with price inflation.
- A pension based on indexed career-average earnings and years of contributions, within an earnings cap of around 150% of average wage; benefits are indexed in line with wage inflation.

An individual with a full working career and an average salary can expect aggregate social security pensions of around 40% of final salary. Retirement benefits from both parts can only be taken in the form of lifetime monthly pensions, with continuing payments to the surviving spouse.

Occupational pension plans (registered pension plan or RPP).

Defined benefit plans dominated until the end of the 1980s. They are still a major force, and there is a concerted effort from the regulators and various interest groups for them to continue. Plans are normally contributory, as employee contributions are tax deductible. Almost all new occupational pension plans are defined contribution, and a typical DC plan would require employee contributions of 5% of earnings and a matching employer contribution. Employer contributions must always equal or exceed employee contributions.

- Occupational DB and DC pension plans are "registered" for tax purposes and are thus referred to as Registered Pension Plans or RPPs. There are upper limits on contributions and on DB benefits.

- EET. Employee and employer contributions to occupational plans are tax deductible. Investment income is tax-sheltered during the accumulation phase. Pension payments are taxed as income.

- Retirement benefits from occupational pension plans can only be taken in the form of a lifetime pension. Probably the most common form is a single life pension with a minimum guarantee of 5 years' payments - an approximation to ensuring a return of the employee's own contributions. By contrast, if the commuted value of the pension is transferred to a locked-in registered retirement savings plan (see below), various programmed withdrawal options become available.

- Occupational pension plans are subject to provincial regulation, with a small number being governed by equivalent federal regulation. Some of the provisions described below may not be representative of all jurisdictions.

Simplified occupational pension plans for small employers.

These tend to take the form of one or a combination of a deferred profit sharing plan (DPSP) and a group registered retirement savings plan (GRRSP). These plans are easy to operate, because they not regulated as occupational pension plans. A DPSP can only be funded by employer contributions, to a maximum of 18% of salary. A registered retirement savings plan (RRSP) is a widely-used and tax-effective personal retirement savings arrangement, as described below. A GRRSP is a group RRSP arrangement used by small employers; the employer is not required to contribute, but can through a salary sacrifice arrangement. *There is full payout flexibility, in that* r*etirement benefits from either plan type can be taken in a lump sum or as programmed withdrawals or applied to purchase a life annuity*. Further details are provided below. Payments (in whatever form) are taxed as income when received.

Personal retirement savings arrangements (including self-employed).

Registered retirement savings plan (RRSP). This is the most common and most tax-effective personal retirement savings arrangement. If the individual is not a member of an occupational pension plan, contributions are tax deductible up to the lesser of 18% of earnings and $19,000 per year (deductions can even be carried forward from prior years). *There is full payout flexibility, in that retirement benefits can be taken in a lump sum or as programmed withdrawals or applied to purchase a life annuity*. Indeed, an RRSP can even be collapsed at any time during the accumulation period and the proceeds then paid in lump sum cash (subject to full taxation). Payments (in whatever form) are taxed as income when received.

Locked-in RRSPs. On termination of membership in an occupational pension plan, the default benefit is a deferred vested pension commencing at normal retirement age. A widely used alternative is to transfer the commuted value of the deferred vested pension directly from the occupational pension fund into a so-called "locked in" RRSP that has been approved for these purposes. The reference to "locking in" means that no withdrawals from these plans are allowed before retirement, and no lump sum payment is allowed at retirement. *The accumulated capital must be used to purchase a life annuity or converted to a Life Income Fund* (a specific form of programmed withdrawal, to be described below). Partial (25%) lump sum payments may be allowed in the future, as well as 100% lump sum payments in the event of financial hardship, reduced life expectancy, etc… In some provinces, locked-in RRSPs are called "locked-in retirement accounts" or LIRAs. [Note that terminating employees who have not satisfied the minimum

vesting requirements can receive a lump sum refund of their own contributions, or the money can be transferred to a conventional RRSP that would not be subject to the locking in requirements.]

Tax-free savings account (TFSA). The 2008 federal budget proposed the introduction of a new savings arrangement that can be used to complement existing retirement savings plans. Contributions are not tax deductible, but all investment income is tax-exempt, and eventual withdrawals are not taxed. The contribution limit is $5,000 per year, with the ability to carry forward unused amounts. TFSAs are registered accounts, with virtually the same qualified investments as an RRSP. It is expected that a TFSA will be more attractive than an RRSP for individuals in the lower marginal tax brackets, and vice versa. There are no constraints on the time or form of benefit payouts.

Programmed withdrawals.

Annuities certain. The retirement capital from a regular RRSP, but not a locked-in RRSP, can be paid out in the form of an annuity certain for a fixed number of years.

A sophisticated menu of programmed withdrawal options has evolved in Canada in recent years. The main form is a **Registered Retirement Income Fund (RRIF)**. RRIFs are established by directly transferring monies from an RRSP or by a lump-sum transfer from a registered pension plan. Transfers must be made before the individual's 71st birthday. To avoid the RRIF being used as a tax-sheltered succession planning vehicle, a minimum amount must be withdrawn each year, beginning in the year after the RRIF is established. The minimum withdrawal each year is determined as a percentage, depending on the individual's age, of the total value of the RRIF at the beginning of the year (4% at age 65, increasing gradually to 8.75% at age 80 and to 20% at ages 94 and above). Below age 71, which is the upper age limit for the retirement savings accumulation period, it can be seen that the minimum withdrawal is simply equal to the beginning year fund balance divided by '90 minus the individual's age'. Higher amounts can be withdrawn, subject to withholding tax at source. In any event, all payments are taxable income in the year received.

Life Income Fund (LIF). This is similar to a RRIF, except that a Life Income Fund receives funds from a *locked-in* registered retirement savings plan, which in turn represented the transfer of locked-in funds from a registered pension plan. The RRIF *minimum* withdrawal requirements apply equally to a LIF. However, as its name would imply, a LIF also attempts to reproduce payments that will not be exhausted during the retiree's lifetime, so provincial pension benefit acts and the federal Pension Benefits Standards Act impose limits on the *maximum* amount that can be withdrawn from a LIF in a year. For example, in Ontario, the maximum amount that can be withdrawn in any year is equal to the greater of (a) the investment earnings for the prior year and (b) the beginning year fund balance divided by factor equal to the present value of an annuity certain of $1 per year payable until age 90.

Lifetime pensions and life annuities (available forms).

The most common forms are single life pensions with a minimum guarantee of 5 or 10 years' payments and joint and last survivor pensions with a 50%-60% continuation to the surviving spouse. All other regular forms of life annuity are available in the marketplace.

Providers.

DB pension benefits. Occupational DB plans normally retain the annuity obligation within the pension fund, which continues to be subject to actuarial valuations and to the minimum funding requirements established and supervised by the pension regulator. [Note, however, that the large majority of occupational pension plans in Canada are subject to provincial regulation, so there are multiple regulators. The province with the plurality of plan members would regulate the funding requirements.]

DC life annuity purchases. All DC retirement savings arrangements, whether occupational pension plans, DPSPs, RRSPs or group RRSPs must purchase life annuities from a life insurance company – if that is the payout option chosen by the individual. In turn, the life insurance company is subject to the conventional reserving requirements, solvency ratios and capital requirements applied to such institutions.

Life Income Funds, Registered Retirement Income Funds and other forms of programmed withdrawal can be sold by any authorized financial institution, including life insurance companies, banks, trust companies, credit unions and investment companies.

Comments.

Canada is clearly a country that places a high priority on retirement benefits being paid as lifetime pensions. Retirement benefits received from the various levels of social security and directly received from registered (occupational) pension plans must be taken in this form. Furthermore, life annuity purchases are allowed options under all other retirement savings arrangements. Programmed withdrawals impose minimum and maximum payout limits that are largely aimed at imitating lifetime pensions.

There is a clear coherence between the various levels of retirement income. At the level of social security, retirement benefits must be taken in the form of lifetime pensions. At the level of DC occupational plans, the individual must purchase a life annuity or a programmed withdrawal product that attempts to replicate a life annuity. Finally, almost complete flexibility is allowed regarding personal retirement savings.

There is a coherence of tax policies in that contribution limits for occupational and personal savings arrangements are interwoven. All benefit payments are taxed as income, although it can be argued that the tax treatment favors periodic payments over lump sums - as lump sum payments tend to bring the taxpayer into higher tax rate bands that would otherwise have been the case.

CHILE

	Lump sums	Programmed withdrawals	Life annuities	Tax
Mandatory individual accounts:	No	**Yes**	**Yes**	EET
Personal plans:	Yes[1]	Yes	Yes	EET

[1] Subject to the payment of a special 10% excise tax (and regular income taxes).

Highlights.

Chile is an obvious country for inclusion in the list selected for their different characteristics regarding the operation of DC pension plans and the details of their payment options. Indeed, it is the source of the mandatory individual account model that has since been adopted in other Latin American countries and, with modifications, in some Central & Eastern European countries. But, it is recent developments that make Chile an even more interesting country to study. Chile now has almost 30 years of experience regarding the operation of its mandatory accounts, so it is a natural time to be reviewing the lessons to be learned. One major change is currently being implemented in regard to social security. It should provide interesting supplements to a large portion of the population who *do* participate in the mandatory accounts, *do* generate benefits higher than the social security guaranteed minimum, *but* who are still in the poorest 60% of the population. Even more directly related to this paper, the Chilean authorities are actively reviewing their retirement payment options, including the possibility of introducing longevity insurance.

Social security benefits and supplements.

Congress approved the social security reform on 16 January 2008, with an effective date of 1 July 2008 and a transition period ending in 2012. This summary is based on the latest available information, whilst acknowledging that some of the finer details are still being clarified. The reform involves the creation of a new pillar, known as *Sistema de Pensiones Solidarias* (SPS). It will provide a pension of 75,000 pesos per month (about half of the minimum wage) to anyone without any other pension – as long as the person is over age 65 and has lived in Chile for at least 20 years (including four of the five years preceding the request for a benefit). Furthermore, it will eventually provide a supplement to anyone who has pension income of less than 255,000 per month and who is among the poorest 60% of the population. The monthly pension supplement will be 75,000 less 29.412% of other pension income. Thus, someone with an AFP[22] monthly pension of 120,000 pesos will receive a supplement of 39,706 pesos, for total monthly pension income of 159,706 pesos. This supplement will be of major interest to individuals who conscientiously participated in the mandatory accounts system and generate retirement income that is above the minimum social security benefit but still inadequate for a decent standard of living.

[22] Administradoras de Fondos de Pensiones (AFPs), the private pension institutions managing mandatory contributions.

Mandatory individual pension accounts.

Employees must contribute 10% of their salary to an authorized pension fund management institution (AFP). Each AFP must offer a choice of four investment funds with varying investment objectives, as well as a fixed interest fund. At retirement, a life annuity can be purchased if it generates a monthly payment of at least 75,000 pesos. Otherwise, the standard payout form is programmed withdrawals. A third alternative is the purchase of a deferred life annuity coupled with programmed withdrawals for the period between the retirement age and the starting age of the deferred annuity.

Personal retirement savings arrangements.

A system of voluntary savings plans (*Ahorro Previsional Voluntario* or APV), administered by banks, mutual funds, insurance companies and AFPs, was introduced in 2002. Individuals make tax-deductible contributions, subject to an upper limit. These plans can be cashed in at any time prior to retirement, but a 10% special excise tax is then payable – in addition to any applicable income taxes. The tax-preferred status is only maintained if the accumulated capital is subsequently transferred to an AFP and the payments are eventually taken in the form of a life annuity or programmed withdrawals.

Programmed withdrawals.

The regulations governing programmed withdrawals are highly prescriptive. The annual payment is obtained by dividing the retirement capital by the family group's life expectancy. The calculation is repeated at the beginning of each year. If the calculation generates a payment of less than 75,000 pesos per month, then an amount of 75,000 pesos must be paid – leading to a more rapid erosion of the retirement capital. When the retirement capital is exhausted, the state continues payments to the retiree and family at the aforementioned minimum level of 75,000 pesos per month.

Lifetime pensions and life annuities (available forms).

The form of life annuity is also heavily prescribed. It must include survivor benefits and must be indexed.

Providers.

Programmed withdrawals. These are paid directly by the AFP with which the retirement capital had been accumulated.

Life annuities. These must be paid by a life insurance company. Life annuities cannot be paid by the AFP itself. Thus, the individual's retirement capital is transferred from the AFP to the life insurance company at retirement, or indeed at any later date.

HUNGARY

	Lump sums	Programmed withdrawals	Life annuities	Tax
Social security				
PAYG	**NO**	NO	**YES**	E--T[2]
Mandatory funded DC	YES[1]	NO	**YES**	[3]
Voluntary occupational plans (VPMFs)	**YES**	NO	**YES**	[3]

[1] Lump sums are only allowed for those with less than 15 years of contributions.

[2] Social security benefits will become taxable from 2013.

[3] The tax treatment of mandatory and voluntary pension funds is complicated.

Highlights.

There are a number of reasons why Hungary is an important country for the purposes of this paper, including being at the forefront of social security and occupational pension reform in Central and Eastern Europe. Also, because it is one of a small, but apparently growing number of countries that allows the life annuity obligation to be retained within the pension fund.

Social security and mandatory pension funds.

The social security system was completely overhauled in 1998. Consistent with the objectives of the report, this summary will ignore the provisions applying to the closed group of workers who were allowed, and who chose, to stay in the old system. The new system has two pillars. The first continues the basic thrust of the old system, providing defined benefit *pensions* based on earnings and years of contributions – but at a more modest level. It is financed by employer contributions and, for individuals within the new system, by a very small employee contribution. If the individual has made contributions into the new system for 15 or more years – not possible before 2013 - the retirement benefit must be taken in the form of a life annuity. Otherwise, the retiree can choose between a lump sum payment and a life annuity.

Mandatory pension funds, also known as private pension funds (PPFs), are independent legal entities owned by their members. They may be established by employers, financial institutions, chambers of commerce, professional associations, employee interest organizations or regional governments. Both open and closed funds are to be found. The investment of the assets can be managed internally or outsourced. Although these are DC funds, an actuary must still be appointed. One of the reasons will become apparent, namely the ability of the pension fund to retain the life annuity obligation.

Occupational pension plans (VMPFs).

There is a growing trend for employers to provide access to a "Voluntary Mutual Pension Fund" (VMPF) for their employees. The funds can be single employer or multi-employer, with the latter being especially attractive for SMEs. The plans are usually DC, and employers typically contribute around 4% to 8% of monthly salary; employee contributions are usually voluntary. Withdrawals are only permitted after at least 10 years of membership. Employees contributing for a minimum of four years may use up to

30% of their accumulated pension assets as a one-year loan. Those who contributed for 10 or more years can use up to 50% of their pension savings as loan collateral. Although not part of social security, the government offers a 30% matching contribution (in the form of a tax credit) for investments up to a maximum of HUF 100,000. The retirement benefit can be taken either as a lump sum or as a life annuity, or as a combination of both.

Personal retirement savings arrangements.

Personal retirement savings are encouraged by tax-incentivised voluntary contributions to either a VMPF or a private individual pension plan. Limits apply on the available tax deductions.

Programmed withdrawals.

Not allowed under current legislation, although the whole issue of permissible forms of retirement benefit payout is under review.

Lifetime pensions and life annuities (available forms).

The retiree can choose between a single life annuity and a joint and survivor annuity, and between an annuity without or with minimum guarantees. Life annuities are indexed in the same form as the basic state pension, i.e. the average of price and wage inflation.

Life annuity providers.

The life annuity provider can be the pension fund itself, if it is of a certain size (e.g. at least 25,000 members. Alternatively, either the pension fund or the retiree can purchase a life annuity from an insurance company. As annuitization will not be mandatory before the year 2013, and as most current retirees are choosing the lump sum option, there is little accumulated experience regarding the provision of life annuities. The rest of this description relates only to the issues surrounding the pension fund retaining the annuity obligation, and is based on information presented at a conference in Budapest in March 2008 by Dr. József Banyár:

- There are no solvency capital requirements for a fund assuming the life annuity obligation.
- The actuary of the fund decides on the mortality table.
- The maximum permissible technical interest rate changes annually and is high.
- The annuity rate must be the same for men and women.
- To date, there are no regulations regarding how to address any actuarial deficits arising from inadequate reserving (poor investment returns and/or increasing longevity). In the event of favourable experience, the fund can decide to award increases to pension-in-payment.

The regulators are keenly aware of all the questions that need to be answered and the challenges that still need to be addressed. Further debate and subsequent regulation can be expected.

UK

	Lump sums	Programmed withdrawals	Life annuities	Tax
Social security	No	No	Mandatory	T[1] - T
Occupational plans:	**Partial**	**Yes to age 75**	**Yes**	EE[2]T[3]
Personal and stakeholder plans:	Partial	Yes to age 75	Yes	EET[3]

[1] Employee contributions are not tax deductible. Employer contributions are a tax-deductible business expense and do not create a taxable benefit for the employee.

[2] Since 1997, pension funds are unable to recover the withholding tax (Advance Corporation Tax) on dividend income - with the consequent impact on investment returns.

[3] Partial lump sum payments are tax free.

Highlights.

It is claimed that the UK has the most sophisticated life annuity market in the world. Recent government studies, such as the 2006 HM Treasury report on "The Annuities Market", also seem to confirm the government's preference for retirement benefits from occupational pension plans and personal retirement savings plans be taken in the form of life annuities. The UK was nevertheless one of the first countries in Western Europe to expand the list of available options for retirement benefit payouts. One way or another, it is committed to individuals making more considered decisions at retirement (e.g. a large percentage of retirees take the life annuity offered by the accumulation phase provider, without shopping around for better prices).

Social security.

Social security in the UK is financed by employee and employer national insurance contributions and is in two parts:

- A flat rate old age pension. The full benefit is available for those who have contributed for about 90% of their working life. The benefit for a single person is approximately 50% of the minimum wage. It is 60% higher for a married couple, i.e. around 80% of the minimum wage.

- An earnings related pension called the state second pension (S2P), previously called the SERP. The maximum pension is gradually being reduced from around 25% to 20% of maximum covered earnings.

Occupational pension plans.

Occupational pension plans are widespread. Traditionally of the final-average earnings defined benefit type, there has been a significant move in recent years to pure defined contribution plans. This swing to the other end of the risk-sharing pendulum has largely bypassed third way solutions such as hybrid plans. Traditional DB plans generally "contract-out" of the social security S2P, thus guaranteeing equivalent or better benefits from the company plan and obtaining reduced employee and employer national insurance contributions. This contracting out is not so prevalent under DC plans, and the transformation of the SERP into the S2P has further encouraged the so-called "contracting-in" approach.

Stakeholder pensions.

Stakeholder pensions are a form of personal pension arrangement that meets certain government standards regarding flexibility and administrative charges. All companies with five or more employees must offer such a Stakeholder plan if they do not provide a conventional occupational pension plan with employer contributions of at least 3% of salaries (equivalent to the minimum employer contribution to a stakeholder plan). Guidelines are set by the Department of Works and Pensions.

Simplified occupational pension plans for small employers.

Grouped personal pensions (stakeholder pensions) are one obvious approach for SMEs to provide their employees with occupational retirement benefits. Another approach is a conventional occupational DC pension plan directly using insurance contracts (without the need for a trust) or using investment products and a master trust arrangement offered by a life insurance company or other qualified financial institution.

Personal retirement savings arrangements.

Additional voluntary contributions (AVCs) to either the employer's occupational pension plan or to so-called free-standing AVCs have been the traditional approaches for setting aside additional and tax-effective personal retirement savings. However, since the advent of personal pensions and stakeholder pensions, individuals have a much wider set of options.

Programmed withdrawals.

Programmed withdrawals are allowed under both occupational DC and personal pension plans. The retiree can "draw down" a part of the retirement capital each year. The maximum annual withdrawal is equal to 120% of the amount of a level single life annuity. The minimum withdrawal requirement has been abolished. Programmed withdrawals cannot extend beyond age 75. At or before the age of 75, the retiree must use all the remaining retirement capital to purchase a life annuity.

Life annuities (available forms).

The forms of lifetime pension available from a defined benefit plan are defined by the plan rules. In contrast, there is a very wide selection of life annuities that are available for DC and personal pension plan retirement capital. The following list is taken from an HM Treasury publication on the UK annuities market[23] :

- Single-level annuities.

[23] HM Treasury, December 2006, *The Annuities Market*.

- Guaranteed annuities paying out an annuity payment each month for at least the length of the guarantee period, even if the annuitant dies before the end of the guarantee period; in which case the guaranteed annuity payments are made into the annuitant's estate. The maximum guarantee is ten years.

- Inflation-linked annuities where the annual payments increase by the rate of increase in the Retail Prices Index (RPI).

- Escalating annuities that increase by a fixed rate of around 3% to 5% per year.

- Joint-life or last-survivor annuities pay an agreed annuity payment to an annuitant and the annuitant's partner while both are alive. Following the death of the annuitant the contract pays either the same amount or an agreed reduced amount each month until the partner dies. The reduction in last-survivor annuities is typically one third to a half.

- Investment-linked annuities where the fund backing the annuity is invested in an equity product. The annuitant receives an annuity payment that is related to the performance of the equity market.

- Impaired-life annuities paying an increased annuity payment if the annuitant has health problems, such as cancer, chronic asthma, diabetes, heart attack, high blood pressure, kidney failure, multiple sclerosis or stroke. Enhanced annuities pay a higher annuity payment related to actuarial considerations.

- Phased-retirement or staggered-vesting annuities where withdrawals are staggered over several years. This is achieved by splitting the retirement capital into many separate segments.

- With-profits annuities that directly link pension income to the performance of the insurance company's with profits funds. Income is typically made up of two parts: a minimum starting income and bonuses.

- Short-term annuities allow an individual before age 75 to use part of the retirement capital to buy a fixed-term annuity (annuity certain) lasting up to five years.

- Value-protected annuities (full cash refund annuities) that pay a lump sum on death equal to the difference between the original purchase price and total payments made. They are only available until aged 75.

Providers.

DB pension benefits are generally paid directly by the pension fund. DC life annuities are purchased from a life insurance company. This is often the life insurance company used during the accumulation phase or a life insurance company otherwise associated with the pension fund. Through its Open Market Option programme (OMO) discussed in Section 15, the government is trying to encourage retirees to shop around for the best life annuity rate.

Programmed withdrawals are paid from the pension fund, although the retirement capital can be invested in an alternative investment fund or transferred to another provider.