Annuitization: Major issues

Annuitization and alternatives

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Synopsis

This paper seeks to explore ways in which the post-retirement release of funds from defined-contribution pension arrangements can be controlled. It addresses first the reasons for the need or desire for governments to impose any such restrictions, and aims to set out criteria for judging any regime imposed. It considers the current situation in various countries as to controls.

The paper then discusses compulsory annuitization, to the extent that this is made possible by a well-established annuity market. Other possible annuity products are described for possible use in cases where there are no insurers or others offering conventional annuities for life. Alternatives to annuitization in controlling the release of funds from such accounts are discussed, and all proposals are judged against the suggested criteria.

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All views expressed in this paper are my own, and not those of the Government Actuary’s Department or of any other organization.

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1. Introduction

1.1 Recent changes in social security systems in many countries have seen the introduction of individual accounts (whether as “personal pensions” or as defined-contribution occupational schemes), where savings for retirements are at first accumulated and invested, and then used to provide income in retirement. The first phase, the accumulation phase, has been the subject of much attention. Perhaps less widely studied, at least until recently, has been the second stage, the “decumulation stage” or “pension stage”, when the accumulated assets are used to provide retirement income (see Banks and Emmerson, 1999). Annuities provide one way to control the release of funds during the pension stage, and this paper aims to compare annuities with alternative approaches from the perspective of governments.

1.2 Papers that have been written on annuities have tended to concentrate on economic analyses of the annuity markets in certain countries, particularly the United Kingdom (see, among other works, Brown; Brown, 2000; Finkelstein and Poterba, 2000; James and Vittas, 1999 (2); Kapur and Orszag, 2000; Milevsky, 2001; Murthi, M. Orszag and P. Orszag, 1999 (1) and (2); Murthi, M. Orszag and P. Orszag, 2001; M. Orszag, 2000; M. Orszag, 2001; P. Orszag, 1999). Walliser, 1999 presents arguments that governments should require annuitization to cover a certain minimum income, and allow freedom of use of accumulated funds in excess of the cost of that minimum annuity, while James and Vittas, 1999 (1) recommends a more pragmatic evolutionary approach. Valdes-Prieto, 1998 rejects certain arguments for compulsory annuitization without favouring a particular alternative. Yermo, 2001 considers the development of annuity markets in selected OECD countries.

1.3 Section 2 covers the reason why governments should want to control the flow of funds from individual accounts during retirement, and uses some of these ideas to generate criteria for judging different regimes for such control. Section 3 considers briefly the current state of annuitization requirements around the world, in particular contrasting annuitization requirements with tax treatment of defined-contribution funds. Section 4 describes alternative methods of producing income in retirement, while section 5 judges those methods against the criteria developed in section 2. Section 6 presents a few conclusions.

2. What interest could governments have in controlling the pension fund in the "income phase"?

Alleviation of poverty amongst elderly people

2.1 Governments establish pension systems, whether unfunded, funded, or funded and based on individual accounts, in order, by-and-large, to ensure that their citizens have an income in old age. The definition used by the International Social Security Association talks of “income replacement in old age”. The governments will almost certainly have an interest in seeing that the majority of members of the system are guaranteed to have sufficient income throughout old age to avoid poverty. There may be a means-tested (unfunded) safety net payable to those without sufficient resources from a funded system or elsewhere, and an explicit aim of government policy may well be to prevent old people from falling back onto this safety net if different management of pension assets before or during the pension stage would have prevented this.

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2.2 Clearly, one particular danger is that of out-living assets, and annuitization should prevent this by offering insurance against longevity. Annuities can generally provide income to the dependants of the initial annuitants if so designed.

2.3 Annuities also maximize income over pensioners’ lifetimes by eliminating the need to retain assets for the possibility of survival (risk pooling among pensioners with different life spans). One criticism of annuitization from some quarters is that it leads to regressive cross-subsidy from poorer pensioners to richer pensioners as poorer pensioners tend to have lower life expectancies.

2.4 In addition, traditional forms of annuitization generally remove investment risk from the pensioner, to a very large extent eliminating the possibility that poor or disastrous investment performance could reduce or remove entirely retirement income, which could happen in self-managed, self-invested arrangements.

2.5 The extent to which annuity providers also invest cautiously, in order to hedge the investment risks that they have assumed (as described in Daykin, 2001), has been a reason for some people to criticize annuities. However, pensioners seeking to protect themselves against the risk of investment failure in self-managed arrangements for generating income in retirement could well seek protection against possible income falls caused by investment returns though very cautious investment.

2.6 Thus annuitization, by transferring both mortality and, in its traditional form, investment risk away from pensioners, offers a very powerful protection against two possible reasons why income may not be sustained for the whole of retirement. Alternatives to annuitization will be explored later in this paper and judged against a criterion based on these aspects and other criteria developed below.

2.7 Inflation (rises in the cost of living) may pose a serious problem for those living on incomes fixed in money terms, which will include pensioners with conventional annuities. Increasingly annuities are being offered which increase in line with rises in the cost of living index. In inflationary times an index-linked annuity may well also offer better protection against devaluation in the real value of retirement income than self-managed arrangements, especially where inflation is unanticipated.

**The role of tax relief**

2.8 In many countries, it may be possible for individuals to choose how much they pay into defined-contribution accounts, perhaps with prescribed minima and maxima, or it may even be that paying into such an account is entirely voluntary. Where such provision, or the amount of such provision, is voluntary, there are very often tax privileges attached to the making of provision or additional provision.

2.9 A typical form of such tax privileges is to allow contributions to be deducted from income before taxes on income are levied, with the pensions being subject to income tax. In addition, investment return is often tax free, or subject to tax at a lower rate than investment return on assets outside pension funds. Such arrangements are often categorized as "EET", the first E indicating that contributions are exempt from tax, the second E indicating that investment return is exempt from tax, with the T indicating that the eventual pensions are taxed (see Whitehouse, 1999). Other variants of tax treatment of pension arrangements can be categorized using the same terminology. In addition, sometimes contributions to pensions are exempt from social security taxes that are levied on other income from labour.

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2.10 Such tax relief can be very costly because of:

- "tax band shifting" – tax relief on contributions at workers’ full marginal tax rates is not fully compensated for by tax on pensions at pensioners’ average tax rates (against a background of increasing marginal rates of income tax);
- the possibility of tax-exempt lump sum withdrawals in some circumstances (even when such lump sums are taxed, it is rarely at a rate adequate to recoup the tax relief, and deferral of tax still gives rise to a cost to government).

Such tax relief goes disproportionately to those making the biggest savings in pensions arrangements. Where pension arrangements or the amount of savings into them is voluntary, the biggest beneficiaries tend to be high earners (Lunnon, 1998 and ONS, 2000 for United Kingdom evidence on this).

2.11 Where costly tax relief is given in order to encourage greater levels of pension provision (with the ultimate aim of reducing poverty in old age), the government may be held legitimately to have an interest in ensuring that such tax-privileged pension saving is indeed used to provide income in retirement. There are various other possibilities for the use of the funds – they could be used for:

- discretionary expenditure before, at the time of retirement, or during the retirement phase;
- expenditure on health care during the retirement phase;
- bequests.

The widespread diversion of tax-privileged pension fund monies away from the provision of retirement income towards purposes such as these has two potential problems. First, for those with barely adequate funds for a retirement income, it could lead to poverty in old age, running counter to the prime objective of government in this area. Second, it could lead to wealthy people taking much greater advantage of the tax privileges attached to voluntary “pension” saving, investing money into pension arrangements when the money was intended for one or more of these non-pension purposes. It is, of course, normally possible to make saving for such purposes in non-pension environments, albeit without the tax privileges.

2.12 A requirement to annuitize pension funds during retirement ensures that the funds are properly used to provide a reasonably stable income during retirement, rather than for any of the other purposes described in the paragraph 2.11.

Criteria for judging regimes

2.13 Based on the discussion above, the main criteria for judging systems for controlling the release of funds from pension funds will be:

- the role of such controls in ensuring that pensioners have a reasonably secure income throughout retirement; and
- the role of such controls in ensuring that money saved in pension arrangements is actually used for retirement income, and in ensuring that tax revenues are not unduly deferred.
Additionally, consideration will be given to:

- the extent to which such controls inhibit asset allocation and thus may lead to a sub-optimal allocation of capital within the economy as a whole (it will be assumed that there are not other controls on the investment of pension funds such as a requirement to hold at least a proportion in government bonds); and
- administrative ease, including problems posed for pensioners as they age, and problems for insurers with regards to taking on risks and (anti-)selection.

There could, of course, be a range of other points arising from other concerns of governments, but these will not be considered here.

3. Current annuitization requirements around the world

3.1 ISSA, 2001 gives information about the annuitization requirements for complementary occupational pension plans (that is excluding defined-contribution or other account-based approaches which are considered part of the state system as in certain Latin American countries, and excluding to a large extent individual voluntary pension arrangements). The same source gives information on the taxation of occupational pension arrangements. The information is summarized approximately in the table below.

**Annuitization requirements and tax treatment of defined-contribution occupational pension plans**

<table>
<thead>
<tr>
<th>Tax treatment</th>
<th>Form of benefits</th>
<th>Mainly or entirely annuity</th>
<th>Mixture of annuity and lump sum</th>
<th>Mainly or entirely lump sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>EET or largely so</td>
<td>Austria</td>
<td>Canada</td>
<td>Belgium</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brazil</td>
<td>Denmark</td>
<td>United States</td>
<td></td>
</tr>
<tr>
<td></td>
<td>France (some arrangements)</td>
<td>Ireland</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Netherlands</td>
<td>Israel (pension plans)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sweden</td>
<td>Italy (but tax treatment is complicated)</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Norway (considering fixed-term annuity as broadly equivalent to a lump sum)</td>
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<tr>
<td></td>
<td></td>
<td>Portugal</td>
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<tr>
<td></td>
<td></td>
<td>South Africa</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Spain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>United Kingdom</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contributions and investment income taxed (broadly), benefits exempt</td>
<td>France (some arrangements)</td>
<td>Hong Kong</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Israel (provident funds)</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>New Zealand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td>Luxembourg</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(contributions, investment return and benefits all tax exempt)</td>
<td></td>
</tr>
</tbody>
</table>

3.2 What has not been considered here is the availability of annuities for life in the various markets represented by the different countries (Yermo, 2001 addresses this to an extent). Some countries may feel that it is not possible to impose annuitization requirements

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because there is currently no market for such annuities, while it may be that imposing a requirement may be a necessary and sufficient condition for the creation of such a market. This issue is explored in Vittas, 1998.

4. Other ways of producing income in retirement

4.1 The basic principle of providing income from an individual retirement fund is to withdraw a combination of investment return and the underlying capital over the remainder of the future life. A pensioner faces two substantial risks – longevity risk and investment risk. In describing different approaches a key feature will be the extent to which the pensioner insures one or both of these risks. Purchasing a conventional annuity represents the ultimate in risk transfer from the individual pensioner to other institutions.

4.2 The most obvious alternative to annuitization is permitting pensioners to choose investments themselves with no protection from either investment or mortality risks. This paper will refer to this approach as “income drawdown”, as this term is in common usage in the United Kingdom – in Chile the term “programmed withdrawal” is used. Where this is the approach to generating retirement income, a government may wish to impose some controls on the release of funds from the account, with a view to going some way to meet the criteria described in section 3.1. This paper will discuss possible regimes for such controls.

4.3 The full range of alternatives which will be considered is:

**Annuitization**
- **A1**: Conventional annuities (whether fixed in money-terms or escalating in line with some index such as an index of consumer prices or earnings – not investment-linked).
- **A2**: Investment-linked annuities – see paragraph 4.4.
- **A3**: “Pseudo-annuity” products, where there is little, if any, insurance of the investment risk, and only partial insurance of the mortality risk, but at least pooling within a single age cohort – see paragraph 4.5.

**Combination approaches**
- **B1**: Requirement to secure a certain minimum income with an annuity, with income drawdown permitted on funds remaining after annuity purchase – see paragraph 4.6.
- **B2**: Income drawdown, but with requirement to annuitize if fund is or falls below a given level – see paragraph 4.7.
- **B3**: Requirement to annuitize before a certain age, but the possibility of using income drawdown before that age (the current approach in the United Kingdom) – see paragraph 4.8.

**Income drawdown** – see paragraph 4.9 et seq.
- **C1**: Income drawdown with controls based on age or interest rates or both.
- **C2**: Income drawdown with more arbitrary controls.
- **C3**: Income drawdown with no controls.

Where the usual option available is a return to the pensioner of the accumulated account as a lump sum at the date of retirement, this will be considered alongside the situation of income drawdown with no controls. In the extreme case income drawdown without controls would permit the taking of the whole fund as a lump sum on retirement, thus justifying this
treatment of the two approaches as equivalents. The International Labour Organization recommends against lump sum distributions (as noted in Valdes-Prieto, 1998).

4.4 Investment-linked annuities have been available in the United Kingdom for a number of years. Those available on a with-profits basis imply a high degree of guarantee by the annuity provider. “Unit-linked” annuities offer investment in an open unitized fund with income provided at regular intervals by the sale of a fixed number of units. For details see Hadfield, 2001 and Annuity Bureau, 2001, especially www.annuity-bureau.co.uk/annuity-profit.html and www.annuity-bureau.co.uk/annuity-unit.html. In the United States, unit-linked annuities have been available for a number of years from the TIAA-CREF (Teachers Insurance and Annuity Association College Retirement Equities Fund) organization, and are called CREF annuities (Valdes-Prieto, 1998).

4.5 The main proposal considered under the heading A3 is set out in the Wadsworth et al., 2001. This is an “annuitized fund”, a unitized fund, with a choice of investment options (with a range of risk levels). Maximum and minimum income levels are calculated for a given period, with a view to expected future mortality at the time, and income chosen between these levels generated by selling the appropriate number of units. However members of the “annuitized fund” in effect pool their mortality risks as units held in respect of members who die are redistributed among those still living by means of “survival credits”. Annuitization with a conventional annuity is needed at some certain (high) age, say 85.

4.6 The options outlined above as B1 and B2 are designed to ensure that the pensioner is required to annuitize at least broadly to an extent to cover the minimum income that would be payable to retired people on a means-tested basis. Approach B1 requires such annuitization at retirement – the pensioner would be required to buy an annuity which should exceed the means-tested benefit throughout retirement. This approach was recommended generally in Walliser, 1999, and specifically for the United Kingdom in McDonald et al., 2000.

4.7 Approach B2 requires annuitization when and if a self-managed fund falls below the level needed to buy an annuity of a minimum amount (after consideration of any other income sources) – this may well be at retirement age where the funds at retirement are typically small. Full details are given in Gray et al., 2001, where the approach is called a “personal distribution plan”.

4.8 The system of the United Kingdom, considered in B3, permits drawdown from defined-contribution pension funds until age 75, by which time an annuity must be purchased. In order to guard the fund against depletion there is an upper limit on the income that can be drawn each year: in order to prevent undue deferral of income (and thus tax), there is also a lower limit. The maximum is broadly the income that could be obtained by buying a single-life non-increasing annuity from a reasonably competitive insurance company. The minimum income is 35% of the maximum. The limits on income for an individual are reviewed every three years.

4.9 Pure income drawdown arrangements (options C1, C2 and C3) could require the drawing of stipulated exact amounts, or allow the drawing of an income between stipulated maximum and minimum limits, or allow unconstrained drawing on funds. The Chilean defined-contribution system permits a type of income drawdown called “programmed withdrawal” as an alternative to annuitization, with the amount that may be drawn fixed at outset and based on life expectancy and investment returns. For more details see Muñoz, 1996. Drawdown as an option may exacerbate selection problems in residual annuity markets, but this issue will not be considered here further.

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4.10 Failure to review maxima and minima or fixed withdrawal amounts could lead to fund depletion in the case of poor investment performance. However reviews can be administratively complex and expensive, and confusing or worrying for the pensioner (possibly also associated with the need to obtain additional expensive financial advice). The Argentine option for “drawn-down periodic payments” requires an annual re-appraisal of the maximum income that can be taken, based on the income that could be generated by purchase of an annuity (Rofman, 2001).

5. Ways of controlling the release of funds

5.1 Consider each of the options identified in paragraph 4.3 against the criteria set out in paragraph 2.13:

<table>
<thead>
<tr>
<th>Option</th>
<th>Does it ensure that pensioners have a reasonably secure income throughout retirement?</th>
<th>Does it ensure that money saved in (tax-privileged) pension arrangements is actually used for retirement income?</th>
<th>Does it inhibit asset allocation?</th>
<th>How easy is it to administer?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A1 – annuitization with conventional annuities</strong></td>
<td>Yes – very much so</td>
<td>Yes – no scope for “dipping into the pot”</td>
<td>Possibly, although this needs to be considered in the light of the investments which typical (risk averse?) pensioners would make if they had investment freedom</td>
<td>Very – no reviews for pensioners or fear of changing income</td>
</tr>
<tr>
<td><strong>Option A2 – annuitisation with investment-linked annuities</strong></td>
<td>Depends in part on investments chosen (for unit-linked annuities). With-profits annuities should offer high levels of guarantees</td>
<td>By and large as for conventional annuities</td>
<td>More scope for investment diversification than with conventional annuities</td>
<td>Less easy than for conventional annuities. Need for pensioners to monitor investments in unit-linked annuities</td>
</tr>
<tr>
<td><strong>Option A3 – “pseudo-annuity” products</strong></td>
<td>Slightly greater risk than for a unit-linked annuity because of no insurance against increases in longevity. Choice for pensioner as to risk level of investments</td>
<td>Generally yes – but some scope for income (and therefore tax) deferral</td>
<td>Not really – as for investment-linked annuities</td>
<td>Rather more complex than for conventional annuities. Looking into a conventional annuity at the highest ages may reduce worries at that time</td>
</tr>
<tr>
<td><strong>Option B1 – annuitization to provide minimum income, drawdown permitted on remainder</strong></td>
<td>Security for minimum income level (possibly including inflation protection). Income above minimum level insecure</td>
<td>Not really – depends on controls, if any on release of money not used to secure minimum income. Could be very considerable flexibility, including possibility of substantial tax deferral</td>
<td>Purchase of (index-linked) minimum annuity would serve to constrain asset allocation. Considerable freedom on money not used to secure minimum income</td>
<td>Managing investment and drawdown of money not used to secure minimum income could cause considerable problems (but perhaps any problems would be less serious than with full drawdown)</td>
</tr>
<tr>
<td>Option</td>
<td>Does it ensure that pensioners have a reasonably secure income throughout retirement?</td>
<td>Does it ensure that money saved in (tax-privileged) pension arrangements is actually used for retirement income?</td>
<td>Does it inhibit asset allocation?</td>
<td>How easy is it to administer?</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Option B2 – income drawdown but requirement to annuitize if fund falls below minimum level</td>
<td>It should do, but very sudden falls in value of fund or increases in cost of annuity which trigger annuity purchase may see some pensioners with less than minimum income</td>
<td>Not really – depends on controls, if any on release of money before purchase of minimum income. Could be very considerable flexibility, including possibility of substantial tax deferral</td>
<td>Permits free investment of entire fund for those not forced to buy minimum annuity. Those pensioners for whom purchase of minimum annuity is necessary will have fewer assets and therefore should probably be investing more cautiously anyway</td>
<td>The definition of the trigger for annuity purchase is potentially problematic. Non-annuitized pensioners need on-going investment advice (as with other B1 and C options)</td>
</tr>
<tr>
<td>Option B3 – requirement to annuitize at or before a certain age, with drawdown until that age</td>
<td>Depends on regime for controlling release of assets during drawdown phase. Income may drop at annuity purchase if investments have been mismatched (but little gain from drawdown if no mismatching)</td>
<td>Eventual annuitization deters over-funding of pensions to provide bequests. Tax deferral constrained by drawdown regime</td>
<td>Not during drawdown phase, other than by desire not to be mismatched against eventual annuity cost. In annuity phase as for A options (but older pensioners probably should be more conservatively invested)</td>
<td>A mixture of difficulties of annuities and drawdown (investment management, reviews etc.)</td>
</tr>
<tr>
<td>Option C1 – income drawdown with controls based on age or interest rates or both</td>
<td>Not at high ages, where managing the fund will become very difficult (those surviving each period will tend to face falling income because of loss of mortality cross subsidy). Potential risk from failure of assets (as with all pure drawdown options)</td>
<td>Considerable scope for tax deferral, but controls should ensure not too much “leakage” into non-retirement income uses of pension money</td>
<td>Complete freedom for pensioners to choose their asset allocation (unless wish to match method for reviewing limits)</td>
<td>Pensioners must make investment decisions (in light of method for reviewing limits). Possibly potentially difficult for older pensioners</td>
</tr>
<tr>
<td>Option C2 – income drawdown with arbitrary controls</td>
<td>As fixed withdrawals or limits unrelated to investment conditions, poor investment return may lead to fund depletion (in addition to risk of “catastrophic” asset failure)</td>
<td>As for C1, though perhaps with greater scope for pensioners contriving to use pension funds as sources of bequests if minimum income limit set too low</td>
<td>Complete freedom of investment possible</td>
<td>Simpler than C1, but problem of managing investments in very old age remains</td>
</tr>
<tr>
<td>Option C3 – income drawdown with no controls (or, equivalently, a lump sum)</td>
<td>No. Temptation to take and use lump sums may further reduce retirement income. Entire fund could be spent just after retirement, with recourse to means-tested benefits (as happens in Australia?). Mismanagement of assets also a considerable risk</td>
<td>Great scope for abuse of tax privileges by taking retirement money and using it for discretionary expenditure or bequests</td>
<td>Complete freedom would seem to be possible (but savings of those after retirement might be reduced, leading to less investment in total, whether efficient or not)</td>
<td>Very simple, though prudent pensioners will have to manage their assets and withdrawals without any guidance</td>
</tr>
</tbody>
</table>

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6. Conclusions

6.1 The primary aim of government policy in regulating the decumulation phase of pension arrangements should probably be the avoidance of pensioner poverty. Tax relief may be given on contributions to and investment in pensions. Where this is done, another aim of decumulation stage policy may be to ensure that pension funds are indeed used for income in retirement. Governments may also be concerned about the efficient allocation of investment within economies and other effects (for example, protection of vulnerable old people from having to make complex decisions).

6.2 Conventional annuities offer a solution for providing income in retirement that scores highly against the first two and the last criteria, but less well against the criterion of not constraining investment. New forms of annuitization, under which some of the investment risk is retained by the annuitant, do better in this respect, and can be associated with only modest weakening of income protection.

6.3 Conversely, arrangements whereby income is drawn from a non-annuitized fund (drawdown) tend to offer protection neither against fund depletion and possible exhaustion, nor against the risk of over-funding of pensions, taking advantage of expensive tax privileges, where funds are to be used to provide for things other than retirement income. Mixed systems with some requirements to annuitize and some availability of drawdown also seem to have these disadvantages compared to the requirement for complete annuitization.

6.4 The extent that these conclusions differ from those offered in Valdes-Prieto, 1998; James and Vittas, 1998 (1) and Walliser, 1999 can be explained largely by the consideration of the role of annuitization in constraining the cost of tax privileges granted to pensions.

6.5 Empirical evidence from around the world suggests that “EET” tax treatment of pension arrangements is very frequently found with at least some annuitization requirement, while countries where there is no tax privileging of pension funds tend not to require annuitization.

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