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Policy Options and Issues in Reforming European Supplementary Pension Systems

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Abstract

Most industrialized countries are struggling with reforming their retirement income systems. The systems have mainly been based on public pay-as-you-go plans but as the systems have become mature they have increase the fiscal burden of nations and become an inadequate device for financial insurance for the old. Consequently, almost all the European countries will need either to refund their retirement liabilities or reform their retirement systems to reduce or restrict benefits. There is already a significant volume of supplementary pensions in Europe; about 25% of the labour force is covered and more than 2 trillion ECU of funds are under management. The proposed EU occupational pension's directive provides a framework for the growth of some of these supplementary pensions in EU Member States. This paper identifies and discusses ten important economic issues in the design and implementation of supplementary pensions systems.

Ágrip

Flest iðnríki heims kljást um þessar mundir við endurskipulagningu eftirlaunakerfa sinna. Kerfin hafa í megin atriðum verið byggð á skilyrtum greiðslum (e. pay-as-you-go), en eftir því sem aldurssamsetning þjóða hefur þróast hefur fjárhagsleg skuldbinding vaxið umfram það sem hægt er að tryggja eftirlaunaþegum í framtíðinni. Af þessum sökum þurfa flest ríki Evrópu að endurskipuleggja eftirlaunakerfi sín til að skerða eða takmarka réttindi skjólstæðinga sinna. Nú þegar greiða um 25% launþega í Evrópu í viðbótarlífeyrissjóði og vegna þeirra eru meira en 2000 milljarðar evra í vörslu. Stefna Evrópubandalagsins í lífeyrismálum skapar svigrúm fyrir vöxt viðbótarlífeyrissjóða í aðildarríkjum þess. Þessi grein fjallar um tíu mikilvæg hagfræðileg málefni sem taka þarf tillit til við hönnun og hagnýtingu viðbótarlífeyriskerfa.

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1. Introduction

Most European countries are now struggling with challenges to the solvency of their pension systems. At present, 88 per cent of all pensions paid out in the EU are accounted for by pay-as-you-go state pensions and these pension costs represent approximately 10 per cent of GDP in the EU Member States. Given the high reliance on pay-as-you-go systems, the current level of benefits will be difficult to sustain over the next thirty years as the "baby boom" generation retires and the average age of the population increases. In 1990, the ratio of the population aged 20-59 to those over 60 in Europe was about 36 per cent. This figure is projected to increase to 59 per cent by 2040, due to increased life expectancy and falling fertility rates.[2] One example of the magnitude of this problem can be seen in a 1995 study by Axel Boersch-Supan which showed that with a fixed level of social security taxes in Germany, the level of benefits would fall by 40 per cent by 2030 in the absence of reforms.[3]

One approach is public sector saving for the future in order to maintain the same level of benefits. As an example, Ireland has recently set up a government fund, which will receive contributions of at least 1 per cent of GDP per year. The US also prefunds its social security liabilities with a "trust fund" and Sweden and Denmark also have partially funded state pension systems. There are some indications that Belgium and France may also move more in this direction in the future.

Another approach is to recognize the reality that governments will not be able to raise the necessary additional tax revenue to finance such a fund to support the state pension system and that individuals should instead provide for their own retirement in anticipation that benefits might not be as high as expected. Indeed, pre-funding is already occurring to a large degree in some member states. Occupational pension arrangements alone currently cover 25% of the EU labour force, with funds under management over 2 trillion ECU. Individual pension arrangements and voluntary private savings for retirement increase this coverage yet further.

This paper is concerned with the latter approach to prefunding and ten specific economic issues we have identified in designing private supplementary pension systems. These ten economic issues are of course not the only design issues with supplementary pensions but we believe that together they capture the spirit of the issues that need to be raised and debated in order to successfully provide pension arrangements that meet the needs of Europe. Despite their apparent success, private pension arrangements are unnecessarily expensive in some countries. New regulatory frameworks such as the recent proposed EU occupational pensions directive are certainly helpful in addressing these problems but clearly much more needs to be done.

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[2] European Federation for Retirement Provision (1996), European Pension Funds: Their Impact on European Capital Markets and Competitiveness.

[3] Axel Boersch-Supan (1995), "Age and Cohort Effects in Saving and the German Retirement System," *Richeche Economiche* 49. For projections of increased required contribution rates to fund benefits in other European countries, see Daniele Franco and Teresa Munzi (1996), "Public Pension Expenditure Prospects in the European Union: A Survey of National Projections," *European Economy* 3.

Before we review these issues, it is important to clear up one major misconception about a move towards funded pensions. A demographic crisis in itself which indicates that pay-as-you-go systems are in financial trouble is *not* in itself a good reason to shut down these unfunded schemes and move towards mandatory funded systems. The reason lies in the transition costs. A pay-as-you-go system functions with one generation paying for the benefits of another generation. In a transition, the pay-as-you-go benefits of the retiring generation are still unfunded but now the young are contributing to their own funded pension as well as paying for the benefits of the older generation (in the absence of additional government debt). For this reason, the current environment is the absolute worst time for a switch to a mandatory funded system.[4] It is important to be clear before we begin that this paper is only about the issues in prefunding to alleviate these financial problems. The issues of how additional funded pensions interact with a state system are separate and they are not reviewed here.

2. The Issues

The first two of our ten issues deal with consumer protection and costs in private account plans. The third and the fifth issue deal with solvency of funds and investment regulations. The fourth with portability and preservation of benefit rights. The seventh with incentives in different schemes. The eight with redistributional aspects of supplementary pension schemes. Finally, the ninth and the tenth issue are concerned with the role of the employer and taxation of supplementary pensions.

I

Consumer transaction costs. Fees and costs related to any funded pension scheme reduce future benefits and consequently future consumption possibilities of beneficiaries. A considerable amount of research has developed looking at administrative costs in different countries.[5] Private insurance arrangements induce transaction costs, such as search and negotiation costs, which can lead to substantial consumer detriment. In general, the conclusions from recent experience with supplementary pension accounts are that institutional differences in regulation and market structure are very important. Experiences with individual supplementary pension accounts in countries such as Bolivia, Sweden, and Iceland indicate radically different levels of charges to consumers than countries who have taken other

[4] The UK is an exception here in that it does not face a severe demographic or fiscal problem and hence can afford the costs of more radical reforms.

[5] Relevant comparative work includes Olivia Mitchell, Annika Sunden, and Ping-Lung Hsin (1994), "An International Comparison of Social Security Administrative Costs," *International Compensation and Benefits.* Salvador Valdes (1994), "Administrative Charges in Pensions in Chile, Malaysia, Zambia, and the United States," World Bank Policy Research Working Paper No. 1372, October, Olivia Mitchell and Annika Sunden (1994), "An Examination of Social Security Administrative Costs in the United States," Pensions Research Council, Wharton School.

approaches such as the UK, Argentina, and Chile.[6] Group or employer arrangements for supplementary pension arrangements also avoid many transaction costs and hence have considerably lower administrative costs than individual accounts.

In order to understand supplementary pension costs, Murthi *et al.* (1999) identified three different sources of administration costs for individuals:[7]

- *Accumulation costs*, which capture fund management and administrative costs for a worker contributing funds to a single financial provider or pension plan throughout her career.
- *Alteration costs*, which measure the additional costs of failing to contribute consistently to a single financial provider or pension plan over an entire career. It includes any costs from switching from one financial provider, or pension plan, to another or from stopping contributions altogether.
- *Annuitisation costs* reflect the costs of converting an account to a lifetime annuity upon retirement (if required).

Murthi *et al.* (1999) decompose total costs for an individual over a lifetime into the three costs above. The "alteration costs" are particularly significant where there are significant up-front costs which providers recover partially or wholly by "front-loading" charges. These up-front costs are common where either complex advice is required and/or there are inefficient or costly salesforces. High front-loading of costs coupled with high lapse rates can lead to considerable consumer detriment. Front-loaded charges are particularly worrisome for lower income consumers who tend to have higher lapse rates. In many countries, supplementary pensions will not have front-loaded charges because of their simple structure or because they are sold directly or in a particularly simple manner. However, where there is a high degree of front-loading, there is high deadweight loss from consumer turnover. The issue of front-loading is also closely related to that of "portability" of benefits. We discuss portability in more detail below.

To understand provider costs, Murthi *et al.* (1999) suggest three types of provider costs:

- *Acquisition costs* include the costs of new business, which include commission to advisers, compensation to sales forces, and any advertising costs.
- *Administration costs* involve administering on going business, including IT infrastructure costs and back and front office management.
- *Asset management costs* are the costs of managing assets.

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[6] See Estelle James , James Smalhout and Dmitri Vittas (1999), "Administrative Costs and the Organization of Individual Account Systems: A Comparative Perspective", paper presented at World Bank conference: New Ideas About Old Age Security, September 14-15, Washington DC. Available at http://www.worldbank.org/knowledge/chiefecon/conferen/papers/smalhout.htm

[7] Mamta Murthi, J. Michael Orszag, and Peter Orszag (1999), "Administrative Costs Under a Decentralized Approach to Individual Accounts: Lessons from the United Kingdom," paper presented at World Bank conference: New Ideas About Old Age Security, September 13-14, Washington DC. Available at http://www.pensions-research.org/uk/costs.

Of these three sources of costs, asset management costs are the smallest component. Complexity of the pension system and the consequent high acquisition costs of consumerscan lead to considerable costs. The UK historical level of costs (including annuitisation costs) for a typical "Personal Pension" account holder is assessed at over 40 per cent by Murthi *et al.* (1999). Responding to concerns about high costs, the Labour government instituted reforms capping the costs of individual accounts at 1 per cent of assets under management in April 2001. As noted in Murthi et al. (2000), this has had a dramatic effect on lowering both the degree of front loading and the overall level of charges.[8]

Economies of scale are also considered by James and Vittas (1999) to be of crucial importance. Mitchell (1999) also finds costs low in Mexico where economies of scale are enforced.[9] On the other hand, an extreme example of a lack of economies of scale is in Iceland where Benediktsson *et al.* (1999) find that charges are considerably lower than historical costs in the UK, or between 2.5 and 12 per cent depending on the provider.[10] The Icelandic system is simple, decentralized, and the sales process unregulated, but the results might also be explained by an immature market in Iceland.

II

Consumer protection. Private supplementary pensions may either be provided by the employer or sold through life insurance companies or other financial institutions. There is at present no single system of sales regulation in Europe, with each country having its own conduct of business rules. This is contrast to the situation whereby signatories to the EU Life Directives who are authorised to provide life insurance products in one country can do so in another under the same solvency regulations.

In competitive markets with perfect information, economic theory suggests no need for regulation of the sales process. However, where there is imperfect information or information is costly for individuals to obtain, there may be welfare gains from regulation either of disclosure of information to particular consumers or of direct regulation of the sales process.

A commonly cited example of the need for sales process regulation is the UK experience with personal pensions "mis-selling". The UK introduced Personal

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[8] Mamta Murthi, J. Michael Orszag and Peter Orszag (2000), The Maturity Structure of Administrative Costs: Theory and UK Experience. Available at http://www.pensions-research.org/papers and forthcoming, OECD Private Pensions Systems and Policy Issues, No. 3, 2000.

[9] Olivia Mitchell (1999), "Evaluating Administrative Costs in Mexico's AFORES System," Pensions Research Council, January.

[10] Haukur C. Benediktsson, Tryggvi Thor Herbertsson, and J. Michael Orszag (1999), "The Charge Ratio on Individual Accounts and Investment Plans in Iceland," Centre for Pensions and Social Insurance, Research Report 1999-06. Available at http://www.pensions-research.org/papers. Forthcoming in *Applied Financial Economics.*

Pensions in 1988 and allowed individuals to transfer funds from occupational schemes to personal pensions. The fact that the UK allowed such single premium transfers provided a powerful incentive for salespeople to earn large commissions from such transfers which in most cases were not advised. The total amount of investor compensation resulting from the mis-selling scandal is estimated to be about £10 billion.

Intermediary regulation is one potential solution to asymmetric information in these markets. However, UK intermediaries have been heavily regulated relative to most other European countries. The Financial Services Act of 1986 introduced strict regulation of the sales process, including a principle of "polarisation" so that independent advisers and salespeople must either sell the product of one company or sell products of all providers.[11] The mis-selling problems of the UK indicates that intermediary regulation, however strict, is not necessarily effective.

Fee-based advice is one solution but in general, individuals have not been willing to pay directly for financial advice in Europe. Fee-based advice is common in the US so one of the issues may be a substantial tax disadvantage for advice remuneration where commission payments are not subject to value added tax. One of the important conceptual problems is that it is difficult to determine the proper market price for information goods such as financial advice because if individuals knew how to calculate the value of the advice, they would not need the advice.

Given that individuals do not know the value of advice in imperfect markets, it is an open economic question whether transparency and disclosure of charges improves consumer welfare. On the one hand, consumers may not buy what is good for them if they know the high commission income, which they are providing, to a salesperson or an independent adviser. On the other hand, disclosure allows consumers to buy the lowest cost products and compare financial services products on cost. The UK originally regulated the sales process for direct sales forces so that voluntary disclosure was limited,[12] but in 1995 a new regime of mandatory disclosure was introduced. In general, disclosure has had a greater effect in reducing the dispersion of costs than in reducing costs overall.

Another way of reducing consumer information costs in the sales process is to regulate product design. The UK's new Stakeholder Pensions have a mandatory maximum 1 per cent annual charge and no other charges can be imposed. Such simple, commoditised products lead providers to compete on price rather than product characteristics. Single-premium retirement annuities are another example of simple commoditised products. The economic issue with such commoditised products is that while margins can be driven down, consumers can also be worse off with product regulation if they gain from the product diversity (for example, non-standard asset allocation to reflect risk preference).

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[11] An excellent review of the regulatory issues behind the UK Financial Services Act 1986 is: Barry Rider, Charles Abrams, and Michael Ashe (1989), Guide to Financial Services Regulation, CCH.

[12] Securities and Investments Board (1986), *Life Assurance Companies Disclosure of Expenses and Charges*, December, is a publication which reviews the initial considerations on disclosure.

Companies are also very sophisticated at marketing to the most profitable consumers and cost or product regulation very often hurts the least profitable consumers who are also the least well off.[13]

III

Solvency regulation. An important issue for supplementary provision in Europe is protection of accumulated contributions held by pension funds or insurers. The Maxwell scandal of the early 1990s in Britain and the Studebaker Company in the US in 1964 are just the most prominent of a number of key examples where individual pension rights were compromised by corporate performance and reliance on pension funds as a source of capital.

A number of different approaches are used in Europe to insure solvency of accumulated pension funds. For those funds held with life insurers, the EU-wide solvency regulations and reserving requirements apply. These regulations provide security of capital for individual investors and insured corporate pensions. These solvency guarantees are particularly important for book reserve pensions.

Solvency regulations for pension funds can be much different than life insurance solvency regulations and differ considerably across EU countries. These heterogeneous solvency and funding regulations create difficulties for pan-European pension harmonisation. In 1997 the Minimum Funding Requirement (MFR) rule, was introduced in the UK. Under the MFR, if a scheme is underfunded by too high a margin, a more rapid schedule of contributions is required. MFR calculations use a prescribed calculation method. There is also a Pension Compensation Fund to make up shortfalls as well as criminal penalties for employers failing to make contributions to a scheme on time.

In other countries, pension funds are insured or guaranteed centrally. Smalhout (1996) reviews the economics of pension guarantees and examples from throughout the world.[14] The German Pensions-Sicherungs-Verein (PSVaG) insures book reserve pensions on an essentially pay-as-you-go basis. Other countries with insurance arrangements for pension fund insolvency include Finland, Netherlands, Sweden, and Switzerland. General lessons about guarantee programs seem to be:

- These arrangements come under pressure primarily when there are large aggregate shocks, which create large numbers of employer insolvencies. In Finland, claims against the insurance fund rose by a factor of 40 between 1988 and 1992.[15] If the guarantee system is privatised, some sort of central government guarantee or external reinsurance program is important to insure against aggregate risks.
- Risk-related insurance premia are important in reducing disincentive effects of employers to underfund. Without risk-related premia, there is a subsidy to

[13] John Marsh (1988), Managing Financial Services Marketing, Pitman.

[14] James Smalhout (1996), *The Uncertain Retirement*, Irwin.

[15] Op. cit., p. 217.

underfunded schemes (bad risks) and problems may be exacerbated by windups of solvent schemes.
- Solvency regulation and intervention/supervisory powers are also very important.
- Public disclosure of funding status can also be useful. The Netherlands are illustrative in this respect.[16]

Providing guarantees for pension benefits is a complex economic area, not only because any form of insurance introduces incentive problems, but because the risks are not only aggregate but also long-term in nature. Private solutions for guarantees have been tried in many countries but are most successful if backed up by additional regulation and government guarantees. An important part of developing pan-European supplementary pensions is developing appropriate guarantees and solvency regulation. Given the diversity of solutions in different countries, instituting a pan-European guarantee and solvency system would seem to be difficult.

IV

Portability and preservation. Pensions were traditionally provided as a reward for a full career of service to the employer. Lee (1986) relates a story of a "early leaver" to Anthony Trollope who left the UK Post Office in 1867 after 33 years of service and received no pension.[17] While there has been a dramatic improvement in the rights of early leavers from occupational schemes since then, early leavers still suffer portability losses but the extent differs across countries.

In the example above, pension benefits were not vested even after 33 years whereas the current maximum vesting period in the UK is 2 years and 1 year in the Netherlands. On the other hand, German book reserve pensions do not vest for 10 years or until the employee is age 35.

Blake and Orszag (1997) divided portability losses into two components: [18]

- *Cash equivalent losses* which arise because the early leaver's leaving salary is revalued to retirement age at a less favourable rate than used to determine the projected final salary.
- *Backloading losses* due to the implicit backloading of contributions in a defined benefit scheme which can cause losses to those who switch to schemes which do not backload contributions or have level contributions as is typically the case with money purchase schemes.

In the UK, workers in private schemes now receive limited inflation protection so cash equivalent losses amount to losses in average real wage growth. Full

[16] Op. cit., p. 195-200.

[17] E.M. Lee (1986), *An Introduction to Pension Schemes*, Institute and Faculty of Actuaries.

[18] David Blake and J. Michael Orszag (1998), *Portability and Preservation of Pension Rights in the United Kingdom*, Report for UK Office of Fair Trading's Pensions Inquiry.

preservation is viewed as costly and risky for employers to provide. Nevertheless, the UK public sector and the Netherlands have transfer arrangements, which essentially provide full preservation of pension rights for early leavers. The problem with this is that such transfer arrangements effectively require homogeneity in scheme design and there are no financial securities available to hedge some of the risks (aggregate wage growth).

Backloading losses can be more significant and can be particularly relevant in an environment where there is a switch from defined benefit to defined contribution arrangements. The reason for this is that most commonly occupational defined benefit schemes are funded on a accrued-rights basis and it takes a larger contribution to fund the marginal accrued rights of an older worker. This is because there is a smaller length of time for investment income to accumulate.

Defined contribution schemes are generally regarded as better for workers in a flexible labour market. However, there can be significant transitional costs of a move to pure defined contribution pensions from a world in which there are pre-existing defined benefit supplementary pensions.

V

Investment regulation. Various restrictions exist on portfolios of pension funds in Europe. In particular, Germany, Switzerland, and Denmark have very stringent asset allocation rules. While these might appear at first glance to be regulatory constraints, which unambiguously lower consumer welfare, the issues of investment freedom and solvency regulation for pension funds can be quite intertwined. For instance, if pension liabilities are in one currency, there may be some justification in mandating these liabilities to be appropriately matched with assets of an appropriate risk class denominated in the same currency. This particularly applies if there are implicit or explicit government guarantees.

At the same time, international investment of pension funds conveys many important benefits, including:

- *Potentially higher returns.* A wider variety of investment opportunities increases the scope for high asset returns
- *Better risk reduction.* By moving investment funds abroad, pension funds can effectively insure against adverse country-specific shocks.

As little as ten years ago, the share of international assets in European pension fund portfolios was quite limited, with the exception of the UK and the Netherlands. Furthermore, the majority of European pension fund equity holdings are from UK equity holdings.[19] However, there are several key economic arguments leading to more international investment of pension funds:

[19] At the end of 1993, UK pension funds held 86 per cent of the total equity of EU pension funds, cf. EFRP, op. cit., p. 29.

- *Lighter regulation.* Regulation on asset allocation has become less severe in Europe under implicit suasion from the European Union.
- *The Euro.* As pension liabilities become denominated in a single currency, investing abroad does not induce the same asset-liability mismatch and is hence more attractive.
- *Growth of defined contribution funds.* Defined contribution funds do not have explicit home currency liabilities and hence again there is not a problem with asset-liability mismatch.

As another example of the idea that investment freedom regulation is closely intertwined with solvency regulation, are restrictions that pension funds of employers cannot invest too much in the sponsoring employers' business. The Maxwell scandal points to the importance of careful regulation of the custody of pension fund assets. Important aspects of this are restrictions that no more than a small percentage of assets can be held with the employer.

Such asset restrictions are good for solvency but can be a problem for small and medium size enterprises, which may find pensions a good source of capital for business expansion. The UK has lighter employer investment regulation for very small pension funds, called SSASs, which are self-administered schemes for groups of 12 or fewer individuals. There are similar provisions in other countries for small and medium size enterprises to help provide them with low cost access to capital, with the extreme example being the book reserve systems of Germany, Luxembourg, and Austria. On the other hand, setting up of book reserve schemes is no longer permitted in Spain. The trade-off between the costs of capital and the security of it, is hence an important one to consider in the design of supplementary pensions. The capital needs of small businesses, particularly in underdeveloped financial markets, are important to consider in such design. There is still the issue as to whether pension funds of employees are the appropriate vehicle to solve problems of capital market imperfections or whether other forms of explicit or implicit subsidy might be better. Easy access to capital may deter competitiveness and slow down development of capital markets. It has naturally been claimed that the book reserve system in Germany is partly responsible for the lack of development of German equity capital markets.[20]

VI

Individual risks. The amount of income risk individuals bear differs substantially across types of supplementary pension provision. The sources of risks to individuals include:

[20] Cf. Dick Taverne (1995), *The Pension Time Bomb in Europe*, A Federal Trust Report, Federal Trust, London, p. 13.

- *Investment risk.* Equity returns are volatile and therefore the value of the accumulated fund has a high variance.
- *Labour market risk.* Workers face risks associated with the imperfect predictability of their wages and labour market status, both of which contribute to their pension.
- *Annuitization/longevity risk.* Annuity rates are closely tied to rates on the underlying investment vehicle. The investment portfolio for annuities has typically less risk than the investment portfolio during the accumulation stage. If the individual does not annuitise, he bears longevity risk.
- *Inflation risk* arising from incomplete indexation of benefits. Inflation also erodes the value of normal annuities.

For defined benefit supplementary pensions, the largest risks are labour market risks and inflation. With pensions based on wages and years of service, the individual's pension is affected directly by lack of promotion or loss of job. In addition, pensions in payment or deferred pensions may be incompletely indexed so inflation risk may be important. On the other hand, investment and annuitization/longevity risks are restricted to indirect effects which feed through to changes in contribution rates and discretionary benefit increases.

In defined contribution pensions, individuals typically will bear investment and annuitization/longevity risks which in defined benefit plans are partially at least employer risks. Workers retiring in years when equity and bond markets are booming would obtain a much higher pension than when they are stagnating. To illustrate this, workers who had invested their balances in personal plans in the US and retired in 1999 would have obtained 180 per cent higher replacement ratios than workers retiring in 1995, cf. Alier and Vittas (1999).[21]

The risks embodied in equity investments by individuals are underlined by some recent work of Gary Burtless of the Brookings Institution in the US.[22] Burtless studied the pensions that US workers would have achieved if they had invested 2 per cent of their earnings in stock index funds each year over a 40-year work career and converted the accumulated balance to a retirement annuity upon reaching age 62. Workers reaching age 62 in 1968 would have earned a pension of 39 per cent of final salary whereas a worker retiring only six years later would have received a pension of only 17 per cent of final salary. While such estimates are subject to criticism,[23] there is a high degree of risk in defined contribution arrangements where individuals invest in equities.

Given the degree of risk, there is some concern that individuals make appropriate investment choices. Even in the US where there is a high level of

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[21] Max Alier and Dimitri Vittas (1999), "Personal Pension Plans and Stockmarket Volatility," paper presented at World Bank conference: New Ideas About Old Age Security, September 14-15, Washington DC.

[22] Gary Burtless (1998), Testimony before the Committee on Ways and Means, Subcommittee on Social Security, U.S. House of Representatives, June 18, available at www.house.gov/ways_means/.

[23] For a discussion of these calculations, see Henry J. Aaron and Robert D. Reischauer (1998), *Countdown to Reform*, Century Foundation Press, New York, p. 32-36.

financial education, more than half of all adults do not know the difference between a stock and a bond.[24] One policy option here is of course to restrict the investment choices of individuals but the policy recommendations here often involve mandatory investment in index funds. Such a policy which may leave workers with excess risks relative to their optimal portfolio and also may lead to capital market distortions.

One way in which risks to individuals may be reduced is through smoothing returns through a participating policy where reserves are built up when equity returns are high and drawn down to provide better payoffs when equity returns are low. A substantial fraction of personal pensions in the UK were traditionally issued on such a *with profits basis.* The problem here though is a potential lack of transparency as well as the capital costs of smoothing returns.

VII

Incentives to retire. It is a well established fact that disincentives to work depends on the preferences for leisure, which usually become more stronger with higher income and older age. The trend in most industrialised counties is that labor force participation of older workers is declining. In 17 OECD countries, for which data is available, the proportion of the 55-64 age cohort of employed males fell by an average of more than 10 percentage points between 1980 and 1996.[25] This huge fall in labor force participation of the oldest constitutes a rise in unused production capacity in the economy, lower tax base, and increase burden on pension and fiscal systems. It is therefore of critical importance to design pension systems that do not encourage incentives for early retirement and provide appropriate incentives for delaying retirement.

Workers in public defined benefit plans may have incentives to retire earlier than workers in defined contribution plans if the early retirement penalties are too light, as they typically are. The exact effects depend on what kind of salary scheme the contributions are based on and on the age earning profiles. The theory predicts that in systems with high replacement ratios, workers would be tempted to retire early. In a recent study, Blöndal and Scarpetta (1998) find no clear relationship between high replacement rates and early retirement.[26] This can partly be explained by the fact that in some countries when workers retire early they are penalised by actuarial adjustments. On the other hand accrual rates at older ages seem to have a significant impact on the retirement decision.

When the income-tax system is progressive the difference between the tax on earned income and the tax on income from pensions distorts in favour of early retirement. Also, if taxes on earned income are higher than taxes on pension benefits an incentive for early retirement is created.

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[24] Arthur Levitt (1998), speech at the John F. Kennedy School of Government, Harvard University, October 19.

[25] Richard Disney and Edward Whitehouse (1999), "Pension Plans and Retirement Incentives," SP Discussion Paper No. 9924, World Bank, August.

[26] Blöndal and Scarpetta (1998), "The Retirement Decision in the OECD Countries," Economics Department Working Paper No. 202, OECD, Paris.

A related issue, which comes up in the context of private occupational defined benefit schemes, is that older workers can be quite expensive in terms of their pension costs. Therefore, early retirements are a particularly effective manner of cutting business costs for firms. Firms do not bear the external costs to the public system of any extra benefit costs and lost tax revenue to the government associated with early retirement, thereby compounding the early retirement problem. Because firms do not internalise the costs there are more who retire early, leading to higher costs to the state, than if firms were forced to bear the cost burden.

An important aspect of the early retirement/incentive problem, particularly in countries such as the Netherlands, is disability. Disability benefits are often substitutes for early retirement pensions as an unemployment reduction mechanism for the young.

VIII

Redistribution. Systems for preventing old age poverty can be found in all the European countries. In the context of multipillar pension systems it is typically in the first pillar that redistribution takes place since the lifetime poor do not contribute enough (while working) in occupational pension schemes to sustain minimum standards of living (while retired), let alone save enough. For example, approximately 29 per cent of households in the poorest quintile of households in selected OECD countries received some 3.4 per cent of their gross income from occupational pensions on average while 46 per cent of the richest quintile received 23 per cent of income from the same source.[27] The scope of redistribution within public systems is usually a function of how much is paid in benefits. The UK National Insurance tax system has a high degree of redistribution, as does the US whereas countries with larger public systems such as France and Germany have considerably less redistribution.

Redistribution is also a significant issue within the context of supplementary pensions. In defined benefit pensions, there can be the following types of redistribution:

- *Redistribution from young to old*. Older workers often receive higher marginal increments to pension wealth than younger workers do in defined benefit plans. This also can make older workers more expensive and hence more likely to be replaced.
- *Redistribution from leavers to stayers*. Workers who change jobs often suffer portability losses (cf. above) relative to those who stay in the scheme their whole career.
- *Redistribution from low-wage growth to high wage growth*. Because contributions to defined benefit plans are based on current salary, not anticipated wage growth, there is a cross-subsidy from those with low wage growth to those

[27] World Bank (1994), *Adverting the Old Age Crisis: Policies to Protect the Old and Promote Growth*, A World Bank Policy Research Report, Oxford University Press, p. 185.

with high wage growth. This cross-subsidy can be quite significant in final salary schemes.

- *Redistribution between low and high earners.* Scheme designs may benefit the low earners by explicit or implicit redistribution of pensions in payment.

There is a fundamental conflict in employer pension schemes providing redistribution in that employers want to maximise incentives for workers to stay on the job and work hard. Final salary schemes tend to have the best incentives but the worst redistributive properties. Career revalued schemes are less redistributive but have worse incentives and therefore are found much less in practice.

Defined contribution schemes also have redistribution, in particular, during the annuitisation phase where there may be complex socio-economic cross-subsidies. However, it is generally acknowledged that redistribution in pure defined contribution schemes is less severe than in defined benefit schemes. At the same time, defined contribution schemes may have guarantees or other features such as smoothing of returns which introduce redistribution either between cohorts or income classes.

IX

Taxation. Because pensions are less liquid than other financial investments, investment in a supplementary pension is disadvantageous for the individual, or firm, relative to other investment vehicles if tax treatment is equivalent. Tax advantages for savings for retirement are hence important in encouraging the growth of supplementary pension. Such tax relief can have important *deadweight losses* in which individuals who would ordinarily have saved for retirement receive inefficiently high levels of tax relief.

Taxes can be imposed on pensions either at the time of payment into the scheme, during accumulation or at retirement. Consider an individual who uses a non-pension vehicle to save for retirement. Contributions to this non-pension vehicle are not tax deductible and accrue tax during accumulation but not at withdrawal. Taxes on pensions are usually quite different. Contributions are deductible from taxes in most countries accumulation period has at least some tax relief, with the most taxation at the withdrawal stage.

One of the key economic risks individuals face with taxes is political risk. Taxes might be changed. However, different timing of taxes on pensions and ordinary savings helps to hedge this political risk. If the government taxed contributions to pension funds, there would be no guarantee that a later government would not change the tax treatment and tax the accumulated funds or the withdrawals. By deferring taxes to retirement, the government reduces the risks to the individual to one as to whether the government raises the level of tax on benefits at the decumulation stage. Such risk may reduce the attractiveness of investment in supplementary pensions, but the current level of tax relief in Europe is significant so the changes in future taxes would

need to be large in order to make a supplementary pension unattractive on a pure rate of return basis.

Another key issue with taxation of pensions is the more conventional one of tax arbitrage. With differing tax restrictions, pension funds and individuals with pension accounts may try to transfer funds to countries with the most advantageous regulations. For instance, Ireland's new rules lifting mandatory annuitisation for those with enough capital may lead to demands for pension transfers to Ireland. Although the EU occupational pensions directive works within the constraint of inconsistent tax treatments in different countries, the lack of a common tax policy on pensions would seem to pose some important problems for pan-European pensions.

X

The role of the employer. An important issue in supplementary pension provision is the role of the employer. On the one hand, employer provision can introduce portability problems, which may serve to reduce flexibility in what are often already inflexible labour markets in Europe. On the other hand, employer provision can result in substantially lower costs. We have reviewed the economics of portability so here we focus on the potentially lower costs from employer provision.

Lower costs from employer provision come from two factors:

- *Economies of scale.* Group arrangement of pensions eliminates duplication in sales and administration. Furthermore, payments can be made to a pension fund directly from payroll, which increases efficiency.
- *Selection.* Group underwriting of insurance aspects of pension policies such as disability cover is substantially cheaper and has less selection effects than individual underwriting. With individually underwritten policies, more bad risks with private information on their risk class will choose to purchase policies, resulting in raised premia for all customers.

A group defined contribution policy may have fewer portability problems than defined benefit policies while retaining the advantages of lower costs. However, group defined contribution policies are not always completely portable. First, costs may be front-loaded to some degree. Second, many auxiliary insurance products such as disability insurance may be tied to the specific scheme/employer and difficult to move across employers.

The US 401(k) plans are the most often cited examples of successful group defined contribution policies but there are many examples as well in Europe. These examples include, for instance, group personal pensions (GPPs) in the UK, group insurance contracts in Belgium, Danish defined contribution schemes, and new defined contribution arrangements in Spain.[28]

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[28] David Collinson (ed.) (1999), *Defined Contribution Arrangements in Europe*, Groupe Consultatif, summarizes company and individual defined contribution arrangements in different European countries.

Many of the advantages of employer schemes can also be captured through schemes run at an industry level, or through affinity groups such as trade unions. When they are defined benefit, these schemes tend to be career-revalued rather than final salary because of the emphasis on redistribution and insurance as opposed to incentives. These schemes can also provide better portability for members. On the other hand, industry-wide schemes can be daunting to administer. Late payment of contributions by participating employers may also be a particular problem. Finally, another way of lowering costs without reliance on direct employer provision is through clearinghouse arrangements such as in Sweden.

3. Conclusion

This paper has reviewed ten key issues, which suggest areas for future review. In particular, we have raised issues of individual risk, consumer protection, administrative costs, and tax complexity. On the other hand, a number of the issues we addressed are greatly simplified with defined contribution accounts such as portability and investment regulation. However, many of these points can easily be overstated. Portability is not perfect with defined contribution schemes and defined benefit schemes can have just as good portability in theory and in practice. Furthermore, with accrued liabilities in a single currency, the economic rationale for country-specific investment regulation of defined benefit funds in the EU is considerably weaker, at least for pan-European investments.

Savings, risk, redistribution, incentives, and insurance are the five key factors to pay attention to in assessing the welfare impact of a pension system. Defined contribution arrangements are perhaps optimal if one focuses on the first objective at the expense of the last four. In a world where capital markets are imperfect, consumer education is limited, individuals are risk averse and firms need to provide incentives to workers, these other considerations are important as well.

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