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Sustainable and Equitable Retirement in a Life Course Perspective

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Abstract

We argue that long term sustainability of social security systems requires not only a better equilibrium between the proportion in retirement and in employment but also an equitable distribution of the additional financial burden that aging inevitably will require. We examine how a proportional fixed ratios model of burden sharing between the aged and non-aged will establish inter-generational equity. Additionally we address the question of intra-generational equity and argue that the positive association between lifetime income and longevity requires more progressive financing of pensions and of care for the elderly.

Keywords

Generational equity, intra-generational equity, financial sustainability, population aging

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Introduction

As previous chapters demonstrate, population ageing has been with us for more than a century. What is historically genuinely new is that old age now coincides with *retirement*. Retirement in its contemporary sense— permanent withdrawal from employment prior to physiological decline—was, until recently, the privilege of the few. True, in the past rank and file elderly workers were also often ‘retired’, not because they no longer needed work incomes but rather due to disabilities or to lay-offs.¹ Even as late as the 1960s, ‘old age’ was practically synonymous with poverty in many industrial democracies. All this changed in the past quarter century. Old age incomes have been rising, retirement ages have been falling, and the elimination of old age poverty is a very realistic prospect for most developed nations.

The coupling of ageing with retirement provokes, as with most new things, uncertainty. As several chapters in this Handbook show, if we decide to maintain the status quo the financial costs will escalate substantially over the coming decades. This is driven by low fertility, continued gains in life expectancy, and the arrival of huge cohorts approaching retirement age. Assuming no serious relaxation of our commitment to retirement welfare, population aging over the coming three decades will necessitate a pension expenditure increase of roughly 40-50 percent in most OECD countries.

Gains in longevity are producing both qualitative and quantitative changes among the elderly. The fraction of the elderly most at risk of disability, the ‘oldest old’ (80+), grows much faster than the elderly population in general. We must accordingly anticipate a surge in the demand for care. And this will occur against a backdrop of a major decline of the traditional pool of informal care givers (elderly wives, daughters, and daughters-in-law) who now provide about three-quarters of all care to the frail elderly (OECD, 1996: 63). The OECD’s (1996) benchmark estimate is that the aged in general consume 3.2 times more health care than the non-aged, but the ratio rises to 4.1 among those 75+. If care for the frail elderly is mainly non-familial, as in Sweden and Denmark, the cost of universal provision hovers around 3 percent of GDP. Keeping up with demographics would mean a doubling to 6 percent by 2030-40, assuming steady prices for old age care and assuming steady frailty levels. The former will almost inevitably rise in relative terms because of lagging productivity in care services; the latter may abate in view of the improvements in the health of older citizens (Jacobzone, 1999). In brief, substantial additional spending requirements are unavoidable unless we are ready to accept serious welfare erosion among tomorrow’s retirees.

¹ US surveys of new retirees conducted by the Social Security Administration in the 1950s found the vast majority—90 per cent—had ‘retired’ because they were laid off by their last employer or due to poor health. Less than 5 per cent reported retiring voluntarily or to enjoy more leisure. By the 1980s, involuntary layoff and poor health accounted for only 35 per cent of retirees and the majority claimed to have left work voluntarily (Burtless and Quinn, 2001: 384).

1. THE THREE WELFARE PILLARS: THE FAMILY, THE MARKET AND GOVERNMENT

Unsurprisingly, policy makers fear that the coming decades will necessitate unsustainable levels of public expenditure. One response is to ease the expenditure burden by encouraging private pension savings and by inducing family members (daughters largely) to continue caring for their elderly kin. The retirement literature, unfortunately, is overly focused on public finances and this easily produces potentially fallacious conclusions. If we decide to sustain our welfare commitments, shifting the costs to either market transactions or to familial support will not reduce the amount of additional resources that need to be mobilized. The elderly of the future may perhaps absorb less government expenditure, but that does not mean that they will absorb less of the national GDP.

The sum total of a person's welfare combines inputs from family, market, and government. The family provides services (like care), consumption, and also monetary income. Markets furnish work incomes and savings that can be transformed into retirement wealth, and private providers may sell care services and retirement plans. Governments redistribute income and services across the life course and between families. Most retirees receive a mix of all three welfare inputs. Government redistribution is everywhere the dominant pillar in terms of pension incomes (although in some countries private pension plans are quite important).

In many OECD countries, the welfare of the elderly remains dependent on *familial* provision, in particular with regard to caring services. In Japan, Mediterranean Europe, and also in most Continental European countries, the lion's share of care is given by family members. The Scandinavian countries are unique in terms of the near-universal public coverage of elderly care, while North America stands out with its widespread purchased care services. Co-habitation with children is an indicator of family care giving, but also of economic sustenance more generally. At one end of the spectrum we find Italy and Spain where, roughly, 30 percent of the elderly live with their children. At the other end lies Denmark where cohabitation between generations is practically extinct. If, as many policy-makers conclude (OECD, 2001), maximum female employment is a prerequisite meeting the challenge of population ageing then, obviously, arrangements that concentrate the bulk of care for the elderly within the family are unsustainable.²

The role of markets is also variable across countries. "Private" capital savings inside employer pensions and individual retirement accounts play a large role in most Anglo-Saxon countries, in the Netherlands and, later this century, they will also loom large in Denmark. Still peripheral in most of Europe, their significance may increase as citizens respond to the trimming of public sector plans and to new tax incentives with

² It is often argued that family care is preferable from a welfare point of view. But here we should note two factors. One, increased longevity often implies levels of frailty that require labour intensive, around-the-clock care. Two, externalizing care responsibilities does not automatically imply that familial solidarity evaporates. To the contrary, the level of interaction between frail elderly and their kind is, in Denmark, very frequent (Sarasa, 2004).

larger private savings. Privatization may reduce pressures on the exchequer but it is unlikely to alter the future cost scenario. Public and private pensions are simply alternative ways for working age individuals to register a claim on future production (Barr, 2001). The share of total consumption of the retired will rise irrespective of whether it is financed with public pensions or with investment returns from bonds and equities. As Clark et.al. show in the Introduction to this Handbook, private plans inevitably incur far greater transaction costs than their public sector rivals. And, as Thompson (1998: 44) observes, if group or personal advanced funded accounts were indeed to produce the higher returns to contributions that their advocates promise, the effect will be to *raise* further future retirement spending.

The degree to which the elderly must rely on family support or on markets is undoubtedly a function of government provision – and, of course, vice-versa. Still, one does not automatically substitute for another. Family reliance is often a response to both government and market ‘failure’, i.e. the last resort when government provision is inadequate and when market alternatives are unaffordable. But we cannot readily assume that aid from kin is always available. Likewise, market purchased services are undoubtedly more prominent when government provision is ungenerous but, again, the high entry price implies that they will rarely be perfect substitutes.

Perfect substitutes or not, citizens and institutions adapt to ‘failure’ in one pillar by reallocating their welfare investments and consumption to the remaining. Thus, the decline of familial support over the past century coincided with greater public or market provision. And similarly, it is hardly accidental that private pension incomes are far more prominent in countries, like the US or UK, where public pension systems are rather ungenerous.

At the end of the day, the total *level* of societal resource use for retirement ends up quite convergent among similarly wealthy countries, irrespective of their ‘pillar bias’. This is amply evident from OECD’s calculations of net welfare expenditure, but also from data on retirement household incomes. Retirees’ disposable income converges almost everywhere around 80-100 percent of the national average, be it in a very generous welfare *state* like the Swedish or a in a more market-based model, like the US.

It follows that less government and more markets will not alter much the future scenario in terms of *levels* of financing. All it really implies is from which of two pockets we take the money. This means that the welfare mix will affect welfare *distributions* and will most likely produce different *second-order consequences*.

There is a relationship, albeit not perfect, between degree of market reliance and old age poverty. As Table 1 illustrates, poverty rates are very high in the U.S. and Australia, and the U.K falls at the high end of the European poverty rate distribution. The relationship is not perfect for two reasons. First, public pension systems can vary considerably in their distributional impact. Take Italy, where public retirement schemes are unusually generous and where private plans hardly exist at all. Yet, old age poverty is widespread because Italy’s basic pension guarantee for citizens with

inadequate contribution entitlements is unusually meagre. Second, a prominent presence of private plans may not produce major inequalities among the elderly if, as in Canada, Denmark, and the Netherlands, there exists a basic public pension guarantee that effectively minimizes the risk of poverty.

Table 1. *Poverty Rates among the Population 65+, ca. 2000*

<5%	5–9%	10–14%	15–19%	>20%
	Canada			Ireland
	Denmark			
	Finland	Austria		Australia
Sweden	France	Belgium		US
Netherlands	Germany			
	Luxembourg	Italy		
		Norway		
	Switzerland	Spain		
		UK		

Source: LIS Key Figures, Luxembourg Income Study, 2001. The Danish and French estimates are from the 2001 wave of the European Community Household Panel.

Depending on the welfare mix, there may also be important *second order* effects. Strong reliance on familial care will translate into lower female employment and, hence, a narrower tax-base. And if women are compelled to interrupt their careers, this will have adverse effects not only on their individual lifetime incomes, but also on household incomes since the income from a second earner is increasingly needed to avert poverty. Since women’s employment is key both to long-term financial sustainability and to household welfare, continued reliance on the family seems directly counterproductive.

2. TOWARDS A NEW GENERATIONAL CONTRACT

Most of the debate on ageing has centred on how to ensure long-term financial sustainability. Much suggests that we have allowed ourselves to get bogged down in demographic and actuarial arithmetic at the expense of grander visions of a good, just and productive society in which, it so happens, the aged loom large. Beginning with actuarialism is like putting the cart before the horse. Accountants are only useful once we have a clear idea of which objectives we wish to pursue.

The challenge is many-fold. We need to identify a stable and equitable inter-generational contract that assures the well-being of the elderly *without* crowding out resources for the young. The median voter is aging and, as many fear, this may trigger a generational clash as the balance of power favours the interests of retirees. Again, we need to ensure against adverse second-order effects. If additional financing raises fixed labour costs, for example, the result may be impaired job performance.

The challenge is to define a formula for how to allocate fairly the *additional* costs associated with population aging. Considering the total welfare mix, we need to adopt an accounting procedure which is not myopically limited to public expenditure but to total *GDP-use*, be it financed from taxation or from citizens' own pockets. The costs will, roughly speaking, amount to an additional 5-8 percent of GDP over the coming decades. The important questions to answer are a) how can we devise an equitable burden sharing? And, b) what happens if we pursue one or another public-private mix?

If our concern is with equity, there is a lot to be said for the Musgrave rule of fixed proportional shares (Musgrave, 1986; Myles, 2002). To illustrate its relevance, let us imagine two idealized scenarios. In the first, we continue unabated with the conventional PAY-GO, defined benefit pension model. In this case, all the additional costs of aging will fall on the working population. This will necessitate substantially higher employment taxes. To illustrate, in this scenario German contribution rates are projected to rise from 22 to 38 percent of wages. Imagine now a second scenario where we fix the contribution rate at current levels with no further increments to account for population aging. In this scenario the additional burden would fall squarely on the retirees themselves. Neither of these two extreme scenarios would ensure equity – and both would inevitably be accompanied by very negative second-order effects. In other words, neither is likely to constitute a viable social contract.

How might a three-generation household committed to intergenerational risk sharing resolve this dilemma? If citizens are content with the status quo (they are happy with the relative levels of consumption of the generations that now obtain), they would undoubtedly opt for a fixed ratio or fixed relative position (FRP) model akin to that advocated by Musgrave (1986).³ Contributions and benefits are set so as to hold *constant* the ratio of per capita earnings of those in the working population (net of contributions) to the per capita benefits (net of taxes) of retirees. Once the ratio is fixed, the tax rate is adjusted periodically to reflect both population and productivity changes. As the population ages, the tax rate rises but benefits also fall so that both parties 'lose' at the same rate (i.e. both net earnings and benefits rise more slowly than they would in the absence of population ageing). Simply put, the Musgrave rule is a means to allocate the additional burden equitably between the generations. Its starting point is to fix proportionally the *per capita* incomes of old and young, i.e. of workers

³ The FRP principle, however, would not satisfy a concept of fairness defined by the notion that each generation ought to pay the same proportion of salary to get the same level of pension rights during retirement. On a three generational 'family farm,' for example, the *share* of output required to support ageing parents in retirement under FRP will be larger when there are two producers in the working age generation than when there are four.

and retirees. Any additional expenditure would, according to the rule, be allocated according to these proportions.

If we shift our perspective from a ‘point-in-time’ to a life course framework, the case for Musgrave’s solution is even more persuasive. What are the implications of the three alternative pension models from the point of view of the *entire* life course of cohorts born today and in the future? What will be the legacy that we leave to our children and grandchildren?

Under existing PAYGO defined benefit rules, future cohorts would experience declining living standards in childhood and during their working years, but then they would enjoy a relatively affluent old age. If contribution rates are fixed, now the strategy in several countries, future generations will enjoy prosperous childhoods and working lives but relative penury in old age. The Musgrave strategy, in contrast, effectively smoothes the change across the entire life course and maintains the status quo with respect to the lifetime distribution of income. In this respect, Musgrave’s is a “conservative” strategy based on the assumption that, on average, the lifetime distribution of income available to current generations should be preserved more or less intact into the future. Future generations may of course disagree with our judgements and conclude they want a different allocation of income over the life course. The point to note here is that if it is possible to agree on a fair proportionality, the future financial scenario will be stable and also perceived as inter-generationally fair.

But only up to a point. First, the Musgrave rule is easy to apply to a government dominated pension regime, but encounters obstacles where private schemes proliferate. Indeed, the equity pursued in the public pension domain may very easily become undone in the private domain. In brief, it is only a realistic solution if private plans are somehow co-integrated into an overall accounting scheme. The often very favourable tax treatment of second and third tier retirement plans clearly warrants that they, too, be charged with social goals.

Second, the Musgrave principle will remain equitable only if relative prices in the consumer basket of the young and old also remain stable. This is where the future of pensions and health come together. If health and caring services are prone to price inflation, the inter-generational ‘pension’ contract will be in jeopardy. Indeed, if so, there is a case to be made that inter-generational equity will require that the elderly receive a larger *per capita* share of national income.⁴ This is all the more so since we know that pension incomes decline with age – although the prevalence of low incomes among the elderly varies hugely by gender (being concentrated among women living alone) and by country.⁵ In other words, when care services are most needed is exactly when retirees least can afford them.

⁴ This point was first raised by Frank Vandembroucke (2002).

⁵ In the United States, 35 percent of the aged 75+ fall in the lowest income quintile. In Europe, low incomes among 75+ aged male-headed households are prevalent only in the U.K. (estimates from the ECHP).

Third, the Musgrave rule addresses only the quest for inter-generational equity and thereby ignores the much larger problems of distribution *within* generations. As Wolfson et al. (1998) demonstrate, the enormous heterogeneity within generations (or cohorts) dwarfs the differences between generations in the distribution of ‘winners’ and ‘losers’ that can result from population ageing. Indeed, it is possible that policies in favour of inter-generational equity may exacerbate intra-generational inequities. To illustrate this, let us examine the possible ramifications of postponing retirement age, on one hand, and on pension financing, on the other hand.

Working Longer

Most now agree that by far the most effective policy is to postpone the age of retirement. Considering the gains in longevity, such a strategy is entirely consistent with the Musgrave rule. Assuming that workers will not acquire additional pension claims from additional work years, OECD (2001:69) estimates that a ten-month postponement is financially equivalent to a ten percent cut in pension benefits (OECD, 2001:69). The Danish government’s recent Welfare Commission estimates that a one month per year increase in retirement age over the coming three decades (equivalent to a little less than 3 years in total) would ensure sustainability at present welfare levels (Velfaerdskommissionen, 2004). Available prognoses and simulations yield divergent results but, all else constant, a return to age 65 as the norm would probably come close to ‘balancing the books’. Delaying retirement is a very effective tool because it cuts both ways: reducing pension years while simultaneously raising contribution years.

Raising the retirement age is equitable from an inter-generational perspective but it may easily produce intra-generational injustice. Just as an additional year of retirement represents a larger proportional gain for someone with a 7-year life expectancy than for someone with a 12-year life expectancy, an additional year of employment represents a proportionately greater loss for those with shorter life expectancies. Since health (life expectancy, disability) and wealth tend to be correlated, the equity problem is compounded. Moreover, the recent gains in longevity have gone disproportionately to the most affluent (Hattersely 1999), thus reinforcing the association.⁶ If the ‘rich’ are the main consumers of future high-cost items, such as pensions, health, and long-term care, systems of finance will need to tax more progressively according to risk – especially to the probability of survival.⁷

⁶ Recent French estimates show that at age 60, a male manager will live three years longer than a male manual worker (at age 35 the gap is 5.4 years) (Cambois et.al., 2001: Table 3). The gap is even wider (about 7 years, and worsening) in Britain according to Wilkinson’s (forthcoming) data.

⁷ The probability of survival is substantially higher among the rich, but so is also their expectancy of disability-free years. At the age of 60, French managers can expect 4 more disability free years than a manual worker. Also, it is worth noting that the ‘disability-gap’ between the two groups is widening over time (Cambois et.al., 2001: Table 5).

Financing

On the contribution side, today's pay-as-you-go pensions are financed with a payroll tax while income from capital and transfers (including pension income) are exempt.⁸ The payroll tax is a flat tax, often with a wage ceiling that makes it regressive. There are typically no exemptions and no allowances for family size. These effects are compounded to the extent that high payroll taxes discourage employment, especially at the lower end of the labour market. In effect, charging the additional costs of ageing to payroll taxes creates a huge problem of intragenerational equity among the working age population since the distribution of the additional costs in no way reflects ability to pay.

The real challenge we face is that for such a contract to be both stable and broadly legitimate, it will have to establish allocation rules that are also intra-generationally equitable among the retired as well as the working population. If the cost of being old rises disproportionately, then a Musgrave-type fixed proportions rule will end up unfair. If, moreover, the rich consume more pensions, health or care services then, once again, a purely *inter*-generational contract will result in inequitable burden-sharing.

To ensure equitable burden-sharing, one would clearly need to undertake major revisions of tax and contribution schedules, not only in terms of raising the progressiveness of public revenues targeted to the aged, but also of diminishing the regressive nature of tax subsidies that benefit private retirement plans.

If, as is clearly required, we take a longer perspective, both the future financial burden and its associated distributional consequences will depend primarily on the kinds of lives that the coming cohorts will have. If we begin to reform pension systems today this will probably not affect today's or even tomorrow's elderly. Those most affected will be our children and grandchildren. At mid-century, those who are now children will approach retirement. The real challenge we face is to realistically project how these new generations will fare in the coming half century. Happily, we can rely on more than fortune tellers and crystal balls.

3. Pension reform with our children in mind: beyond the generational contract

Over a decade ago, political scientist Hugh Heclo (1988) pointed out that the great debate over intergenerational 'class war' and equity in the U.S. had largely passed

⁸ For purposes of this discussion, we adopt the standard assumption that payroll taxes, even when borne by the employer, are additions to labour costs that are ultimately born by employees, typically in the form of lower wages.

Europe by. The difference, he speculated, has to do with Europeans' greater inclination towards "life course" thinking when tackling issues about inequality: childhood and old age are simply *different moments in the lives of the same people*. Americans, he argued, are more inclined to consider the elderly and children as more or less static, distinct social groups that, in turn, divide into yet other groups based on race, disability status, and so forth. For Americans, thinking about childhood and old age as raising a distributional problem over a single life course seems distinctly foreign.

Whether Heclo has captured the true mindset of Americans and Europeans correctly is not important. His essential point can be illustrated by comparing two historical cohorts. Turning the clock back to the 1950s and 1960s, we would find widespread poverty among the elderly in all OECD countries. They were poor not only because public retirement plans were ungenerous, and private plans underdeveloped, but also because they were 'unlucky' generations. Born at the close of the 19th Century, their youth was marred by World War I; their careers straddled the difficult 20s, the depression of the 1930s, and the came World War II. In brief, the retirement cohorts of the 1950s were poor mainly because many had led poor lives.

Moving forward, today's retirees are broadly well-off, with a disposable income typically around 80 percent of the national mean. They do well in large part because of historical fortune: beginning their careers during the booming post-war decades, generally enjoying job security and rising real wages, most have accumulated substantial savings and resources. As Burtless and Quinn (2001: 385) conclude, the "simplest and probably most powerful explanation for earlier retirement is rising wealth." In some nations most of this "wealth" is stored up in national public pension schemes while in others so-called "private" employer schemes and individual savings matter more. The remarkable fact is that average living standards of the elderly differ little across countries (OECD, 2001) irrespective of which kind of pension mix prevails.

A secure retirement then is very much dependent on how we fared during our working lives and this, in turn, correlates powerfully with the quality of our childhood and youth. The retirement prospects for our children and grandchildren 40 or 50 years from now, as well their ability to finance *our* retirement and care needs until then, are similarly contingent on the kinds of lives they will have. In short, securing retirement for the year 2040 or 2050 depends more on the quality, quantity and *distribution* of the stock of productive assets -- physical, human and environmental -- that our children inherit than on any reforms we make now to the design of our pension systems.

To illustrate, consider the retirement prospects of the cohorts likely to retire in 2040. They turn 30 in 2005, old enough for us to discern who will and who won't be well placed to provide themselves (and their aged co-citizens) with a secure retirement. The welfare state edifice that we know today was created in response to a profile of risks and needs that prevailed in the age of our grandparents, parents and those of us who came to maturity in the postwar decades. Today's young workers face a very different risk profile, and this needs to be factored into our retirement projections for mid-Century.

4. THE CHANGING LIFE COURSE AND THE NEW INEQUALITIES OF RETIREMENT

In a 1944 League of Nations report on postwar labour needs, a group of Princeton demographers worried about the economic impact of population aging because they assumed that, in “industrial societies”, maximum productivity is reached by age 35 (Notestein et al., 1944). The success of industrial economies depended, in their view on large numbers of muscular young men. Since the age of leaving the parental home, marriage and childbirth – markers of achieving economic independence – all fell over the first six decades of the 20th century, it would seem that industrializing economies did indeed place a high economic value on young workers (Beaujot, 2004; Corijn and Lijzing 2001). As a result, the contemporary cohorts of retirees reached social and economic maturity relatively early in the life course.

4.1. The changing life course

All this has changed for recent cohorts with dramatic implications for the types of careers and family life they will experience as they progress toward their retirement years. Indeed, the revolution in life course patterns of young adults in the past 40 years – the “second demographic transition” (Lesthaege 1995) -- is as much a part of the phenomenon of “population ageing” as is the much-vaunted arrival of the baby boom. Postponed independence, longer education, and later union formation inevitably lead to lower levels of child-bearing. Hence the very low fertility of 1.2 or less we now see in many advanced countries, particularly in Southern and Eastern Europe. This is linked, on the one hand, to the revolution in female employment and to the rise in education and skill requirements and, on the other hand, to the deteriorating career opportunities for those with insufficient skills.

As with any major change there is good news for some and bad news for others. Starting later means fewer years in the labour market with less opportunity to save or earn benefits early in the life course. Future cohorts may therefore need to postpone retirement. However, starting late has always been the case among the highly educated. Retirement decisions clearly depend on other factors.

First, while total hours and years worked by individuals have fallen this is not the case for families since women’s labour supply has grown sharply. The rise in ‘family’ years and hours worked helps pay for more years of retirement (Burtless and Quinn 2001). This implies that stable two-income couples will arrive at age 65 well positioned to enjoy a secure retirement while single-earner households and the rising number of never married and divorced will face greater risks. Butrica, Iams and Smith (2003: 46) estimate that the share of never married and divorced persons among the elderly poor in the U.S. will rise from its current level of 33 percent to 48 percent when the baby boom retires.

The second divide that will persist over the working lives of current cohorts has two sources: the division between the educationally advantaged and disadvantaged and the

multiplier effect of marital homogamy in a world of high female labour force participation. Well-educated men and women tend to marry one another, forming families with high earnings and few risks of unemployment. Less well-educated couples will have lower wages and are far more likely to experience periods without work. Marital selection based on education is rising dramatically and is unlikely to abate. In the 1950s, there were very few highly educated women. The doctor married his nurse or his secretary. Today s/he is more likely to be married to another doctor or to a lawyer.

Morrisette and Johnson (2004) show that while the rise in the earnings gap among more and less educated *individual* workers has been negligible in Canada, the corresponding family earnings gap rose substantially between 1980 and 2000. Couples with two university graduates saw their average annual earnings rise by 14% to 22% while couples where both had high school or less had stagnant or declining earnings.

The growing income gap between households will of course be compounded in countries like Britain and the U.S. where earnings differentials between more and less educated individuals have also widened. Butrica, Iams and Smith (2003), for example, estimate that incomes among top quintile retirees in the U.S., currently about eight times those of the bottom quintile, will rise to ten times those of the bottom quintile when the baby boom retires – simply as a result of greater earnings inequality. Among current U.S. retirees, the income of high school dropouts is 68 percent of the mean of their age cohort. The rising earnings gap means this figure will fall to 53 percent when the baby boom retires.

It is virtually certain, then, that the stable, dual-earner, university educated couples of today will be able to retire in relative affluence in 2040 *irrespective* of what happens to national pension systems. And well-educated childless couples will be the best positioned of all.

The fate of low educated couples is bleak. They have, of course, potentially more working years but they will require high demand for low skilled labour over most of their working lives to accumulate the wealth necessary for retirement at 65. It is also far from certain that more years employed helps increase peoples' human capital (Klerman and Karoly 1994)

There are two paradoxes associated with this scenario. First, we would reap the largest economic gains if the most productive workers delay retirement and remain in employment longer; yet they are the very people who will be the best positioned to retire early. High income earners with greater pension and private wealth outside public plans will be particularly immune to public sector efforts to induce later retirement.

Second, as we have noted, it is the well educated whose retirement will cost the most simply because their life expectancy is far longer (Hattersley 1999). They will consume a larger share of the national retirement budget and incur the larger health

and care costs that arise as a result of increasing frailty at advanced old age. And the childless will require the most assistance of all.

Since, by definition and design, old age *insurance* transfers income from those with shorter life expectancy to those with greater life expectancy, these two features raise important questions of *intra-cohort* distributive justice, in particular because mechanisms of social inheritance help reproduce inequalities from generation to generation.

4.2. Life chances from childhood

An individual's life chances are to a great extent a product of social origins and early childhood experiences. Children's educational attainment continues to be strongly correlated with parental income and education, and the cognitive skills they develop are similarly related to the parent's cultural resources (Shavit and Blossfeld, 1993; Esping-Andersen, 2004). As the knowledge intensity of our economies increases, citizens with low education and insufficient cognitive skills will, with growing likelihood, find themselves locked into a life of low wages and precarious employment. The risk of unemployment triples among those with less than secondary education, compared to those with some college (OECD, 2003). A problematic working life in the coming decades will raise the likelihood of poverty in old age to a greater degree than among today's retirees.

Intergenerational transfers of wealth (both *inter vivos* while the parents are alive and in the form of bequests on their death) are also influenced by the new demographics. Low fertility raises the potential transfer to the next generation since the parents' wealth will be divided among fewer siblings. Since fertility is inversely related to education and income, inequalities due to social inheritance are likely to be far greater. Since well-off parents have fewer children, they can invest far greater resources *per child* during childhood and youth and later they will leave disproportionately greater *per child* bequests.

5. PUBLIC POLICY FOR EQUITABLE AND SUSTAINABLE RETIREMENT

Securing retirement for mid-century will depend as much on the quality, quantity, and allocation of our productive assets -- physical, human and environmental -- as on any reforms we make now to the design of our pension systems. Higher productivity will help us to pay the additional costs of population aging but it will not solve the associated distributional issues. And we know that high productivity economies are not necessarily the most equitable in distributional terms.

Paradoxically, then, there is a sound argument that good retirement policy must begin with babies. The distribution of welfare among tomorrow's retirees will above all hinge on the inequalities in life chances among today's children. If policy makers are seriously concerned about equitable retirement in the future, the obvious first step would be to ensure more equality now of cognitive stimulation and educational attainment in childhood.

We are, fortunately, well-positioned to know how to invest effectively in children's life chances. Minimizing child poverty is *sine qua non* and would from a public finance perspective cost very little, in particularly if employment among mothers becomes universal (Esping-Andersen, 2002). Early intervention programmes, like the U.S. Head Start, can be very effective in minimizing the potential damages of a problematic and underprivileged childhood (Heckman, 1999). And it is equally clear that universal, high-quality pre-school care can have a strong levelling effect on children's cognitive and motivational development (Waldvogel, 2002; Duncan and Brooks-Gunn, 1996). It has been amply demonstrated that social inequalities in school performance and educational attainment have their roots in children's *pre-school* experience. Hence, early childhood investments equalize opportunities over the entire life course. Child care provision is a win-win policy as it also helps reconcile motherhood and employment.

But our legacy to the next generation also includes the real welfare gains embedded in the social institutions inherited from the past, including those that enable the young to care for the old. As Schokkaert and Van Parijs (2003) highlight, the traditional family structure in which parents care for children when they are too young to work and children support their parents when they are too old and frail to work are important characteristics of the human species, probably with deep biological roots. Contemporary historiography (Haber and Gratton, 1994) confirms that the emergence of mandatory public pensions was as important for the young as for the old, a form of risk sharing not only against the risk of one's *own* longevity but also against the risk of *one's parents'* longevity and the imperative of supporting parents financially through an extended old age. For a species motivated by "filial piety," old age insurance is also insurance for the young. Rising pension costs may lead our children to complain about high taxes or to ask us to retire later. It is unlikely, however, that they will be grateful if we expose them to the risk of supporting us directly to the age of 95. Just as inter-generational justice requires us to leave them with a sustainable environment, it also requires us to leave them with institutions at least as good as those we have had to care for our parents in their old age.

If this is our bottom-line criterion for policy, how then might an 'at least as good' institutional environment be assured? As far as pension reform is concerned, most experts agree on a set of core fundamentals. First and foremost, sustainability requires raising the retirement age. Most would probably advocate a return to age 65 as a benchmark target. There is much to be said for this: people begin their careers later, the health status of older workers is improving for each new cohort approaching retirement age, and the education and skills -gap that until now was huge between older and younger workers is rapidly closing. Put differently, there is good news both

on the pull and push side. Workers are less compelled to retire for health reasons, and employers will be less eager to shed themselves of older personnel.

Our institutions need, however, to adapt to postponed retirement. Pension accruals in many countries' retirement systems implicitly urge workers to take early retirement. Also wage bargaining systems based on seniority wage hikes need to be changed to avoid older workers being priced out of the market. An extreme example is France where a 60-year old worker, simply due to seniority, earns 40 percent more than a worker aged 35. As pension entitlements are increasingly based on full-career earnings, rather than over the years immediately preceding retirement, the pressure behind seniority wages should ease considerably.

Raising the retirement age is one logical ingredient in a Musgrave-inspired Fixed Relative Proportions (FRP) model. But as we have discussed, it may have adverse consequences for equity if applied across-the board since life expectancy is positively related to lifetime income. To pursue equity, incentives for delaying retirement would have to be graded positively to income. The dilemma here is that high-income earners are likely to have large private pension savings that make them relatively immune to incentives in public schemes. If equity is a serious concern, there is a clear case for some harmonization of public and private pension plans. Since, in any case, private plans enjoy substantial tax subsidies it is legitimate to insist that they, too, act in the common good.

As Guillemard (2003) so persuasively shows, the "one size fits all" model of retirement of the post-war era is no longer adequate. Its understanding of "universality" was the product of highly *standardized* life courses characteristic of the uniformity of work lives in the age of high industrialism. The far more differentiated life courses of post-industrial economies require a different understanding of universality, one that allows for multiple and more flexible pathways into retirement including active labour market and partial retirement instruments.

Secondly, virtually all are agreed that maximizing future employment levels is key to securing future pensions. Again, this is clearly also a principal ingredient in any sustainable FRP model. The *per capita* additional burden that will fall on the 'young' will decline in proportion to the number of active workers. In part, the active labour force will automatically increase with delayed retirement. And, in part, the attainment of maximum employment will mainly have to come from female labour supply. This is perhaps the least challenging ingredient in any future scenario, simply because women's labour supply is growing very rapidly everywhere. Pissaridis et.al. (2003) have argued that the Italian and Spanish pension systems may be more sustainable than one would think, considering very low fertility, simply because female employment in young cohorts is rapidly approaching universality. However, to ensure maximum

female employment most OECD countries will have to invest heavily in day care services – at least if they aspire to raise fertility.

Female employment may provoke new dilemmas about equity. It will help close the gap with men in terms of accumulated pension rights. But marital selection implies a widening income gap between high and low earner couples that will influence not only joint pension income but also the age of retirement.

Maximum employment levels may not automatically translate into good and stable careers for all. Indeed, the new economy is likely to create far greater heterogeneity of life chances as wage differentials grow and job security wanes. The challenge here is that future generations may retire on a far more unequal footing in terms of accumulated savings and entitlements. Since those who now start adult life with less than secondary level schooling or with inadequate cognitive skills face the prospect of a precarious career, they are likely to risk poverty in old age. If we believe that bad careers are mainly self-inflicted, then we need not worry about equity. The evidence, however, suggests otherwise. Clearly, early childhood investments are the most effective policy but it is unrealistic to assume that these will fully eradicate all risks. A good case can therefore be made in favour of some kind of basic, revenue financed pension guarantee as the bottom tier of any pension regime. As private pension plans will grow in importance, this will heighten the degree of insecurity attached to future retirement income. Here, then, is a second good case for a basic pension guarantee. As Myles (2002) shows, this would incur very modest additional public expenditure if the guarantee were to be set just above the poverty line.

A basic pension guarantee, financed from general revenue, is an effective tool against poverty in old age but it has the added advantage of helping to diversify the financial base of pension expenditures. Payroll financing implies a relatively narrow (and potentially regressive) tax base and, indirectly, a narrow system of risk-sharing. And, as spending requirements will rise substantially over the next decades, so will payroll taxes and fixed labour costs.

A system overly reliant on payroll taxation has demonstrably adverse second-order effects, in terms of distribution, equity, and employment. Inducing more private pension plans will of course help to diversify the financial base, but these will hardly satisfy criteria of efficiency and equity and will also, most probably, generate more insecurity. If increased longevity is skewed in favour of the privileged and if, additionally, the current trend towards rising income inequality continues into the future, the case for more progressive financing of benefits is stronger than ever.

And if our first priorities are equity and security in old age it would be logical to propose that publicly financed programmes, such as a guaranteed basic pension, should expand in direct proportion to the growth of private plans.

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