

# Social Policy for an Ageing Society

by

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The ageing society is not new news. We are all aware that life expectancy is increasing, but nevertheless may be surprised to learn that “best practice” life expectancy at birth has increased almost linearly since 1840, according to Oeppen and Vaupel (2002).<sup>1</sup> In fact, this study suggests that the end is still not in sight. Just as the rate of increase of life expectancy tapers off in the leading country a new leader emerges, while past leaders remain close to the top. What is more “recent” news is the fall in country after country in fertility rates to levels lower than the 2.1 children per woman needed to reproduce the population. As recently as 1970 the fertility rate was around 2.2-2.4 in the EU25 (EEC 2006)<sup>2</sup>. Even more recent “news” is that demographic scholars and social policy experts now believe that fertility rates of well under 2.1 are here to stay. The current EU projection assumes a long-run rate of 1.5 for the EU25.

The position taken in this talk is that if increasing longevity and low fertility constitute a “demographic time bomb” it is because countries’ social systems – especially pension policy, but also family policy – are not designed to accommodate today’s and what now appears to be tomorrow’s demographic and economic realities.

## **Family policy**

Let’s take a brief look first at family policy. In Europe, France currently has the highest fertility rate with almost 1.9 children per woman followed by the four Scandinavian countries, the Netherlands and the UK with rates around 1.75. More alarming for the long-term development of country populations are the persistent rates of 1.2-1.4 in some of the more populous European countries, e.g., Germany, Italy, Poland and Spain, and generally in the transition countries of Eastern and Central Europe. Among post-industrial countries the US is a leader with a rate around 2.0, however, the US appears to be more the exception than the rule among developed countries.

Generally speaking, countries in Europe with higher fertility rates, for example, France and the Scandinavian countries are the countries with the most generous family policy. These countries have generous legislation regarding the right to be away from work in conjunction with childbirth while holding on to a job; parents receive compensation from social security while at home during the initial months of childcare; even if they have full-

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<sup>1</sup> “Broken Limits to Life Expectancy”. *Science*. 296(5570), 1029-30.

<sup>2</sup> European Commission 2006. “The impact of ageing on public expenditures.” Report prepared by the Economic Policy Committee and the European Commission (DG ECFIN). Special Report no. 1/2006.

time contracts workers have the right to work less than full time; and in principle all parents have access to subsidized day care centers. Although it is difficult to provide hard facts supporting the hypothesis that generous family policy leads to higher fertility rates, social policy experts tend to attribute relatively high fertility rates in France and Scandinavia to this. The same measures that are associated with high fertility outcomes also help women maintain their attachment to the labor force. The result is, at least up to a point, higher labor force participation for women. Potentially, the effects of generous family policy have, thus, a dual effect by affecting both the size of the working-age population and employment.

In sum, informal analysis comparing countries' outcomes speaks in favour of generous family policy as a means of stimulating higher fertility rates and labor force participation of women. The birth of each child involves a potential loss of income during the early years of childhood as well as the risk of losing one's labor market connection. Family policy can provide compensation for the first loss around birth and can help prevent the latter by providing public ad care or subsidizing private day care services.

## Pension policy

Let's turn now to pension policy. A demographic scenario with increasing longevity and with low fertility would probably be less alarming if countries hadn't first become used to a scenario with high fertility rates. This generated growth of the working age population and labor force growth. The growth in the labor force helped cushion the impact of the aging society. Moreover, pension systems constructed in the second half of the twentieth century were constructed when fertility rates were over 2.1 children per woman and in an era when experts believed longevity increases were soon to come to an end. In the decades immediately following the Second World War, European policy makers were concerned, rightly so, with providing satisfactory benefits to persons who would retire from the 1960s, persons who could not provide for themselves in the aftermath of two wars and a great depression. The course taken in most European countries, and in other parts of the world, was to introduce defined benefit pay-as-you-go schemes with rather generous full-benefit criteria.

With high rates of growth in the post-war reconstruction period, countries' real wage bases grew rapidly into the mid-1970s. As recently as 1995, within the OECD (as it was comprised at the time) men exited the labor force at the age of 59-61, with an expected benefit period (then) of 17-19 years. Women exited at the age of 56-60, with an expected benefit period of 23-27 years (Palmer 1999).<sup>3</sup> Some simple arithmetic reveals that if the average worker contributes during 40 years and receives a benefit with a compensation rate of 50 percent for 22 years – a figure between that for men and women - the contribution rate needed to support this result is 27.5 percent.<sup>4</sup>

In other words, with the ratio of expected years of retirement to years of work that had emerged by the mid-1990s, pension systems were in for clear financial difficulty in coming years. To begin with it was obvious that the pension age in pay-as-you-go schemes would have to increase, and considerably so. Countries not already there began to target 65-67 as a normal pension age for defined benefit schemes, for both men and women. The US was the first to realize this and to schedule an increase. Others followed. Countries also began to

<sup>3</sup> "Exit from the Labor Force of Older Workers; Can the NDC Pension System Help?" *The Geneva Papers on Risk and Insurance*, Vol 4, No. 24, October 1999, pp.461-473.

<sup>4</sup>  $Contribution\ rate = \frac{\bar{p}}{w} * \frac{years\ in\ retirement}{years\ of\ work}$  where  $\frac{\bar{p}}{w}$  is the ratio of the average pension to the average wage. The same formula indicates that a replacement rate of 70 percent for the whole workforce would cost 38.5 percent under the same assumption for years of work and retirement.

increase the number of covered years required to receive a full benefit in order to slow down projected cost increases.

Financial account systems have always provided an alternative that insulates from demographic risks. In 1994, a new idea emerged, which has come to be called notional or non-financial defined contribution (NDC). This is a pay-as-you-go pension scheme that emulates financial defined contribution (FDC) schemes, and which by virtue of its technical design also provides insulation from demographic risks. Not surprisingly, over two dozen pension reforms in the past ten years have been DC (NDC and FDC) reforms. NDC is probably more appropriate for reform of European pension schemes owing to the large existing pay-as-you-go commitments.

Both NDC and FDC are schemes in which contributions to accounts are defined in terms of a *fixed* contribution rate on individual earnings. Participants pay contributions on earnings throughout their working career and receive an annuity at retirement. The annuity is based on the individual's account balance at retirement and the life expectancy of participants in the same birth cohort.

FDC accounts earn a financial market rate of return and NDC accounts earn an economic rate of return. The NDC rate of return is determined by what the system can afford to pay while keeping long-term balance between system liabilities and assets. This is a function of growth in the average real wage of covered participants, the change in the number of participants, and parameters determining the timing of payments into and out of the system.

A generic NDC scheme neutralizes changes in demography. To maintain balance between assets and liabilities NDC avails three principal mechanisms: 1) The first is the use of life expectancy (LE) in computing the annuity, which provides a constant adjustment in newly granted benefits for changing LE. 2) The second is indexation with an index based on the rate of growth of the covered real wage per person, driven by the development of productivity, and the rate of growth of the covered labor force. 3) The third mechanism is a balancing mechanism that captures the possible effect in changes in the time money is in the pension system, as well as other factors that may contribute to imbalance.

There are different ways to put this package together. For example, in Sweden, which has the most technically comprehensive NDC scheme to date, indexation is based solely on the covered per capita real wage and the effect of changes in the labor force is picked up by an automatic balancing mechanism. There are now several studies that show how NDC schemes can maintain a fixed contribution rate. What all the existing schemes have in common is that they utilize mechanisms 1)-3) to maintain financial stability.

How does NDC counterbalance demographic risks in practice? Let us begin with the computation of annuities using life expectancy. Table 1 demonstrates the effect of changing life expectancy on benefits at age 65, all other things equal, and shows how much longer participants have to work to maintain a benefit of a given size. All other things equal, with present life expectancy estimates, persons born in 1980 will have to work two years longer than persons born in 1940 in order to receive the same benefit stream.

Table 1. Sweden's NDC Scheme. Average life expectancy, age of retirement and effect on pension benefits.

Cohort born in	Reaches 65 in	Projected annuity divisor at 65	Effect of life expectancy on pension at 65	Retirement age to neutralise life-expectancy effect on pensions	... implying an expected length of retirement
1940	2005	15.7	-	65	18 years, 6 months
1950	2015	16.4	- 4%	65, 8 month	18 years, 7 months
1960	2025	17.0	- 8%	66, 2 month	19 years, 1 month
1970	2035	17.5	- 10%	66, 7 month	19 years, 4 months
1980	2045	17.9	- 12%	67	19 years, 6 month
1990	2055	18.1	- 14%	67, 2 month	19 years, 10 month

Source: *The Swedish Pension System Annual Report 2005*. Swedish Social Insurance Agency (2005).

Table 2, which shows the average development of the EU's economies into the middle of this century, can be used to demonstrate how the two important NDC indexation parameters - the per capita wage (productivity) and the growth of the labor force (employment) - contribute to maintain a constant contribution rate. To begin with, we note that the EU calculations presume an inflow of around 850 000 immigrants per year or a total increase in the EU labor force of 40 million persons through the year 2050 through net immigration. This long-term net inflow helps considerably to bolster employment despite the decline in fertility (1.5 for most of the projection period) and growth of the internal population.

With these assumptions the EU goes through three phases. The first involves both an increase in the working age population and the rate of employment through 2010. The second, 2011-20307, is a period during which continued rising employment is offset by a declining working age population. The turning point comes around 2020. The third period is a period during which the ageing effect clearly dominates and the number of contributors decreases dramatically.<sup>5</sup> In other words, the demographic drag on the economy begins around the year 2020 and increases in strength thereafter.

Table 2. Projected Potential Growth and Determinants

	Potential Growth			Labor Productivity			Employment		
	2004-2010	2011-2030	2031-2050	2004-2010	2011-2030	2031-2050	2004-2010	2011-2030	2031-2050
EU25	2.4	1.9	1.2	1.5	2.0	1.7	0.9	-0.1	-0.5
Euro Area	2.1	1.7	1.2	1.1	1.8	1.7	1.0	-0.1	-0.5

Source: European Commission 2006. "The impact of ageing on public expenditures." Report prepared by the Economic Policy Committee and the European Commission (DG ECFIN). Special Report no. 1/2006.

Clearly, beginning around 2010, the number of contributors to European pension schemes will begin to decline and will pick up strength after 2020. Since indexation of the

<sup>5</sup> European Commission 2006, *op.cit.*

NDC accounts of workers and pensioners is based on both the rate of growth of productivity and covered employment. All other things equal, if growth of covered employment is positive, benefits can grow at the same rate as the economy, which is determined by the rate of growth of both productivity and employment. If real employment growth is negative, balances of workers and pensioners must grow at a rate equal to the rate of growth of productivity adjusted downwards for the negative rate of growth of employment. This means that the average pension must grow at a slower rate than the average wage.<sup>6</sup> According to Table 2, the average pension in the EU can grow at a real rate of 1.2 percent, compared to wage growth of 1.7 percent, from 2030. This is what is required to maintain balance between assets and liabilities in the pension system. This distributional result can be changed through the tax-transfer system, if so desired. In countries with tax-financed universal health care some redistribution is bound to occur anyway as persons over 65 are expected to be heavier users of the health care system.

In sum, the demographic risks can be managed. What is needed is family policy that subsidizes child birth and supports female labor force participation, and pension system design that counterbalances the effects of increasing longevity and low fertility on pensions. Both FDC and NDC schemes accomplish this, albeit in different ways. Although it hasn't been discussed here, DC schemes have the advantage over DB schemes that they are amenable to flexible retirement, which can promote longer working careers for older workers, while they are neutral with respect to labor mobility.

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<sup>6</sup> This is easy to see. The contribution rate is  $C = \frac{P (1+g)(1+\lambda) R}{w (1+g)(1+\lambda) L}$  where R is the number of

pensioners, L the number of covered employed, g the rate of growth of the covered average per capita wage (productivity) and  $\lambda$  the rate of growth of covered employees (employment).