SHRINKING LABOUR FORCES AND EARLY RETIREMENT

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On the whole, labour force participation of older workers is declining in the industrialized countries, and in response to high unemployment, many countries expanded early retirement schemes in the 1980s. Despite the common trend toward earlier retirement, however, labour market participation rates differ significantly across countries. The structure of labour markets and employment opportunities is particularly important. Indeed, one of the more important current policy challenges is that early retirement has become commonplace in some countries, even though life expectancy has risen sharply. This combination of earlier retirement and longer life expectancy results in a much longer span of inactivity. Regardless of its causes, the withdrawal of older workers from the labour force leads to an increase in unused production capacity, a reduced tax base, and a heavier load on pension and fiscal systems. If the trend toward earlier retirement were to continue far into the future, it would pose even larger fiscal threats to pension systems, especially those that do not include a penalty for early retirement.

Another problem related to that of early retirement is disability. While mortality rates have been falling in the industrialized countries, morbidity, the inception rate of disability, has declined more slowly. Because morbidity increases with age, the net effect of slow

improvements in morbidity and an aging population has been a rise in the disabled population, which is likely to increase yet further in the next thirty years. Disability benefits are often more generous than ordinary retirement benefits, further increasing the numbers of applicants as well as claimants of disability benefits.
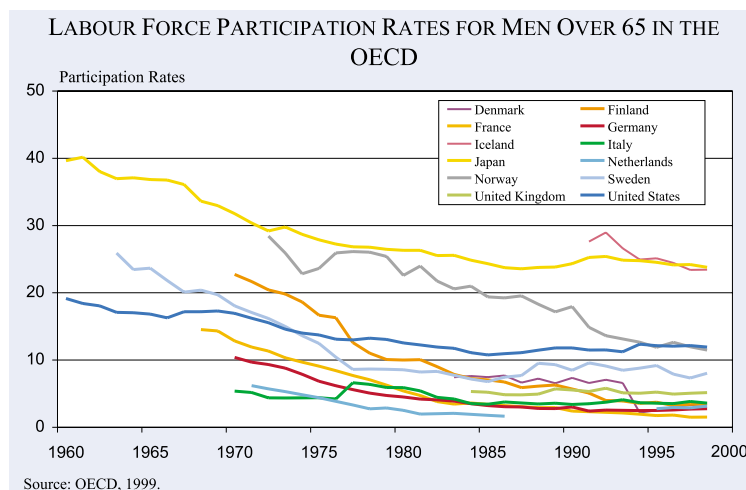
The steady withdrawal of workers from the workforce at an ever younger age suggests that retirement income is gradually increasing, and/or that older workers are increasingly being forced out of the labour market. Unlike his nineteenth-century predecessor, the average worker today has accumulated substantial wealth during his working life. Moreover, incentives built into national social insurance systems often encourage him to retire early. The modern worker can not only afford to retire early but is also willing to do so since recreational opportunities have increased and the relative prices of leisure activities have decreased.

The trend toward earlier retirement and the related issue of disability poses a substantial policy challenge. Despite the political unpopularity of reforming early retirement systems, several countries have already taken steps to tighten eligibility rules and strengthen incentives to retire later. However, even these additional incentives are often weak or clash with supplementary pension

Earlier retirement combined with increased longevity causes economic problems

Figure 1

LABOUR FORCE PARTICIPATION RATES FOR MEN OVER 65 IN THE OECD

Participation Rates

Legend: Denmark, Finland, France, Germany, Iceland, Italy, Japan, Netherlands, Norway, Sweden, United Kingdom, United States

Source: OECD, 1999.

provision. Furthermore, in most countries, few incentives exist to retire late, as reflected in low labour force participation after the formal retirement age.

In seventeen 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, cf. Disney and Whitehouse (1999). Similarly, as illustrated in Figure 1, labour force participation rates for those 65 and above have fallen significantly across all the economies in question.[1]

Although some of the decline in labour market participation is a common trend across the OECD countries, there remain substantial differences across the countries with regard to the level of labour market participation and its rate of decline. For example Continental and Eastern Europe have lower participation rates than the rest of the OECD, but Iceland and Japan have particularly high rates.

Labour market participation differs widely across countries

These differences are important for policy makers to the extent that their causes are rooted in economic policy and structure rather than in cultural and environmental factors. However, deriving causal relationships is difficult because early retirement schemes were expanded in the 1980s in many countries, as a way of reducing high youth

[1] The decline in labour force participation has reversed a bit in the past few years. However, as points out, this is not unprecedented and is not necessarily part of a long-run trend.

unemployment. It is therefore difficult to discern whether the increase in early retirement resulted from the early retirement schemes that were in place or were simply an indirect consequence of macroeconomic factors generating the high levels of unemployment. Furthermore, many induatrialized countries have in recent decades attempted to boost job creation by reducing firing costs as Gilles Saint-Paul of DELTA in Paris has pointed out. To buy political support among incumbent workers, unemployment benefits have been raised and early-retirement programs implemented.

Costs of early retirement

The withdrawal of older workers from the labour force creates a variety of economic challenges, including an increase in unused production capacity. Herbertsson and Orszag (2001a) develop a simple framework to assess the cost of early retirement of 55–64 year-olds in the OECD. Table 1 shows the fraction of output lost in the countries in the period 1979–98.

The calculations correct for business cycled effects by using relative labour participation as a benchmark. The total output gap due to a lack of full labour force utilisation is considerably higher, as indeed was noted in . The analysis suggests a cost estimate of early retirement of 5–7 percent of potential annually in the OECD, with higher figures in the EU. The exercise is not very sensitive to reasonable variations in assumptions. This cost rose rapidly after the 1970s in the OECD, peaked

Table 1

Costs of early retirement in OECD countries as a share of potential GDP

in %

	1980	1990	1998		1980	1990	1998
Hungary	–	–	15.9	Ireland	–	6.9	7.4
Belgium	–	15.2	13.5	Australia	7.5	7.5	6.9
Luxembourg	–	12.5	13.0	Canada	5.5	6.7	5.7
Austria	–	–	12.3	Sweden	5.9	4.7	4.8
Germany	7.7	9.5	10.9	USA	5.8	5.4	4.7
Greece	–	10.4	10.5	New Zealand	–	7.9	4.7
Czech Republic	–	–	10.5	Turkey	–	5.0	4.2
France	6.2	11.2	10.5	Japan	2.9	4.3	4.2
Netherlands	8.1	10.5	10.1	Norway	5.0	4.9	3.9
Poland	–	–	10.1	Switzerland	–	–	2.9
Finland	8.2	9.6	9.,7	Korea	–	2.2	2.7
Spain	4.8	9.7	9.2	Mexico	–	–	2.6
Portugal	6.0	9.1	7.7	Iceland	–	–	0.5
Denmark	–	6.9	7.7				
UK	–	7.5	7.6	**OECD Average**	**5.8**	**6.7**	**6.3**

Source: Herbertsson and Orzag (2001a).

in the mid-1980s, and have declined since, although it is still not at the 1970s level. In light of the costs associated with early retirement, it is useful to summarize alternative theories on why people retire early.

Why do people retire early?

The body of research on early retirement has focused on the **supply side** of the labour market and incentives thereof, (see Herbertsson, 2001a and 2001b). Incentives such as wealth, accrual rates, earnings tests, taxes, etc., play a crucial role in determining labour supply of older workers. Boskin (1977) was one of the first to pay close attention to the effects of incentives on early retirement. Other subsequent work includes Quinn et al. (1990). Indeed, incentives are the focus of a huge body of US literature that includes papers by Stock and Wise (1990) and Fields and Mitchell (1984). Empirical work in Europe has also examined early retirement from an incentive-based approach; examples include Börsch-Supan (1992) for Germany and Meghir and Whitehouse (1992) for the UK.

There are also a number of comprehensive studies on incentives and early retirement. These include work by the OECD (1995a; 1995b), which focuses on incentives created on both the supply and the demand side of the labour market, an EU project published in the *European Economy,* and a NBER book edited by Gruber and Wise (1999). The methodology in each of these cases was slightly different. The EU study focuses on replacement rates for different routes out of the labour market, whereas the Gruber/Wise project highlights the concept of pension wealth or accumulated pension assets. The Gruber/Wise approach is notable because it includes comparisons across a large number of countries using the same methodology, and its findings have spurred much policy and academic interest. However, the Gruber/Wise study offers only limited insight into the pension systems of the countries in question because it did not incorporate the general impact of private benefits. It is important to examine private benefits, particularly individual accounts with tax advantages, when considering incentives for early retirement, especially since individual accounts are sometimes used to fund early retirement (see Herbertsson, Orszag, and Orszag, 2000).

- *Replacement rates.* While the studies mentioned above accurately characterize the incentive issues and the structure of early retirement benefits, causal explanation is lacking. It is generally difficult to find evidence that can link a microeconomic labour supply response to the incentives in question, and it may well be that weak incentives to continued work are a policy response to labour demand shocks. For example, Blöndahl and Scarpetta (1998) find no clear relationship between high replacement rates and early retirement. Johnson (2000), however, has had greater success in his search. He reports that historical data from thirteen industrialised countries show a rapid fall in labour force participation of male workers aged 60–64 after pensions were extended to them. Johnson estimates the participation elasticity to be – 0.06 with respect to replacement rates – the average pension benefits of couples/average wages of male ratio – and 0.19 to the net-of-tax wage. Furthermore, he estimates that the growth of old-age insurance explains about 11 percent of the reduction in labour force participation of males aged 60–64 since 1920, and he concludes by stating that greater private wealth probably explains most of the remainder.

- *Wealth effects.* Costa (1998) reports that higher private wealth, such as increased home ownership, is the major explanation for the long downward trend in labour force participation of older-age male workers. Increased female labour force participation might contribute to more widespread early retirement of males, as higher female participation adds to household wealth. Costa surveys a number of studies on early retirement in the US and reports an elasticity of labour force non-participation with respect to income (wealth) from disability, old age and survivors pensions and assets. His conclusion is that the effect from a dollar in private pension on retirement is very different from a dollar in social security wealth, which in turn is very different from a dollar in asset holdings. Furthermore, Costa reports that the responsiveness of retirement to income has been falling in the last century.

- *Disability and unemployment benefits.* The importance of disability in explaining changes in labour market participation is controversial.[2] In the US literature, many researchers have argued

Causes of early retirement are difficult to establish

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[2] Aarts and DeJong (1999) examine broad issues of disability within a multipillar framework.

that while disability benefits have led to decreased labour market participation, the primary explanation lies elsewhere. Bound and Waidmann (1992) use data on self-reported disability to conclude that only about a third of the drop in labour force participation in US is due to enhanced disability benefits. Bound (1989) also casts doubts on how strong disincentive effects disability insurance creates by looking at the labour market behaviour of rejected applicants. The literature on Europe, on the other hand, often finds stronger disincentive effects from disability insurance. This difference may not be surprising, given that disability systems are often more generous in Europe than in the United States. It is a well known fact the morbidity increases with longevity; consequently, the average labour supply of older-age participants might decrease, as a greater proportion of each generation will reach a higher age. This could result in increased pressure on disability and early retirement programs. Wealth effects and, consequently, increased early retirement can be created by disability pensions and special unemployment benefits for the old, especially low-income households. Disability benefits are often substitutes for early retirement pensions as a youth-unemployment reduction mechanism. If this were the case, one would potentially be able to find a relationship between non-employment benefits, such as disability and unemployment benefits, and unemployment. However, Blöndahl and Scarpetta (1998) report that, when comparing disability and unemployment benefits and unemployment, no apparent relationship is to be seen between the levels of non-employment benefits and unemployment, neither in total nor elderly male unemployment.

- *Recessions*. Economic downturns affect early retirement since the probability of becoming unemployed rises during recession. Consequently, people near retirement age are more willing to leave the labour force and go into early retirement. Lower real-wages during recessions can also contribute to early retirement since the opportunity cost of retiring (measured in forgone wages) is lower during recessions. A fall in asset prices during recessions works in the opposite direction, as people might postpone their retirement when private wealth decreases.

- *Design of pension schemes*. Workers in public defined benefit plans may have an incentive 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 the type of salary scheme that forms the basis for the contributions and age-earning profiles. The theory predicts that in systems with high replacement ratios, workers would be tempted to retire early. But, as is mentioned above, not all empirical studies have been successful in confirming this relationship. This can be explained in part by the fact that, in some countries, workers who retire early are penalised by actuarial adjustments. On the other hand, accrual rates at older ages seem to have a significant impact on the retirement decision, cf. Herbertsson and Orszag (2001b).

- *Increased recreation opportunities*. It is a well-established fact that labour supply decisions depend on the preference for leisure, which usually becomes stronger with higher income and advanced age. Consequently, as private wealth increases, the preferences for leisure become an important motivation for leaving the labour force. Not only can a greater number of older workers afford to retire early, it has become more socially acceptable to do so. Costa (1998) reports that elasticity for recreation has declined in the US since the turn of the century, speculating that this decline was in part driven by an increased demand for leisure fuelled by rising incomes and by the increase in the variety of low-cost leisure-time activities.

- *Changing age structures*. Because of the broad dissemination of medical knowledge and declining fertility, the populations in industrialised countries are constantly growing older. Increased longevity contributes to a fall in the relative supply of healthy workers. As life expectancy increases, more disabled people will survive to adulthood, and a larger fraction of the population will be disabled. For this reason inactivity will rise with changing age structures.

I have now spelled out various explanations for early retirement that can be traced to the supply side of the labour market. Most of the explanations evolve around planned-voluntary retirement decisions. But early retirement can also be traced to the **demand side** of the market and involuntary retirement. A worker who enters the labour market at a young age initially has a high probability of entering the unemployment pool, but the probability falls as the worker gets older, takes on family

responsibilities, and loses parental support. This effect is more pronounced as the number of children increases and the income of the spouse decreases. However, with the passage of time, this effect is reversed as the children leave home and accumulated savings and pension rights create a soft cushion in case of dismissal or voluntary quitting. This development eventually leads to retirement from the labour market. So a typical worker begins and ends his labour-market participation by depending on non-wage income in different forms.

- *Age-structure.* Job security rises with increased tenure and hence, *ceteris paribus,* with age. Herbertsson, Phelps, and Zoega (2001) report that the unemployment rate of the young, 15–24 year-olds, was higher than that of the older generations in all of the OECD economies in 1998, except in Germany, where unemployment of the age group 55+ is higher than in the youngest age groups. As Lazear (1979) points out, if firms offer wages commensurate with seniority rather than marginal product, they might encourage older workers to retire early or even lay them off before younger workers. Since it is more difficult to dismiss an old worker, the sensitivity of employment to shocks could be a decreasing function of the size of the older cohorts in an economy. The age structure and the institutional framework may interact in such way that the protection against dismissal increases with age. However, firms may opt for early retirement instead of dismissals; thus corporate restructuring would show up in lower labour-force participation instead of unemployment. Furthermore, a transitory shock is more likely to lead to the dismissal of an older worker because of his shorter expected post-depression tenure. Thus the level of labour hoarding may be smaller for the older workers due to their shorter remaining work life. This would make the sensitivity to shocks greater. Older workers may find it more difficult to find another job, as their remaining tenure is shorter. They may also be more resistant to real wage moderation because their accumulated wealth reduces their dependence on employment. This raises the possibility that real-wage cuts are less likely, as the proportion of older workers is higher. They are therefore more likely to become unemployed for the long term. As a result, the higher the proportion of older workers in the labour force, the more likely a transitory shock is to have a persistent effect on employment and push people into early retirement.

- *Transitional effects.* Older workers who started their career in a growing industry might find themselves in a declining industry as they near the age of retirement. If older workers were laid off, they would also find themselves competing with better-educated and younger workers for jobs in new and growing industries. As the average unemployment spell rises for all workers, this might encourage older workers to go into early retirement rather than continue their search for new jobs – the discouraged worker effect. Many countries have reacted to this problem by designing programs that transfer older workers from long-term unemployment into retirement.

Shrinking labour forces and unemployment

The political environment in the 1980s was very much influenced by the *early-retirement-as-youth-unemployment-reduction-mechanism* doctrine and the *lump-of-labour-fallacy.* It was widely believed that in order to reduce youth unemployment older workers had to leave the labour market to make room for the young. Furthermore, early retirement is closely connected to the age distribution. As more people reach the age of early retirement, defined here as the ages between 55 and 64, a greater proportion of the populations is willing to retire early. This is not only because of higher rates of disability, wealth effects, and unemployment, but also because in most leisure activities, one needs a companion. The greater the pool of potential companions, the higher the probability of early retirement – you do not want to be the only one retiring early.[3] Also, the larger the fraction of people at an early retirement age relative to the total population, the greater the political pressure on implementation of early retirement schemes paid for by the public – as the potential early retirees become a stronger force in the political process. It is postulated here that the development of many of the early retirement schemes in Europe (and consequently a decrease in the labour force participation of older workers) can be traced to these facts.
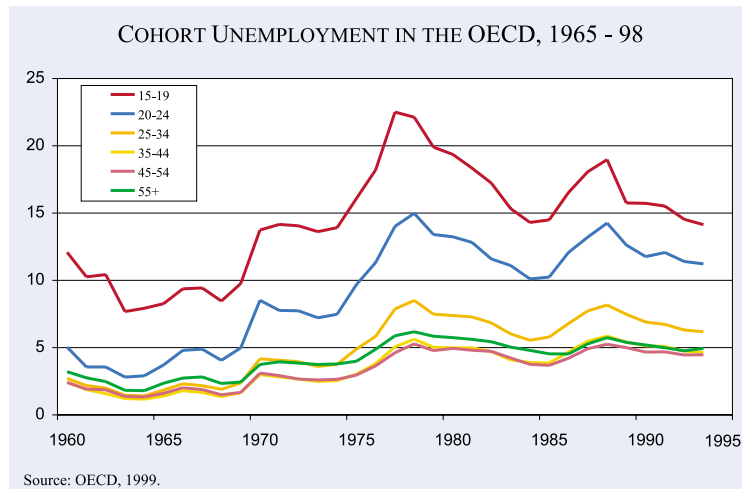
Figure 2 shows the average age-specific unemployment rate in the OECD in the last three decades. As can be seen from the figure, the unemployment

Demand-side causes: age structure and transition effects

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[3] See Hurd (1988) and Johnson and Favreault (2001) for a discussion of the joint retirement decisions of husbands and wives.

Figure 2

COHORT UNEMPLOYMENT IN THE OECD, 1965 - 98

Source: OECD, 1999.

workers at early retirement ages. Panel regressions were conducted, using available data from all OECD countries.

The first regression tests the "early-retirement as a youth-unemployment reduction mechanism" hypothesis, the second and the third the "discouraged worker effect" hypothesis, the fourth the "older worker as a pressure group" hypothesis, and the fifth a mixture of the latter two.

rate is age dependent. As the workers enter the labour force at young ages, there is a higher probability of being unemployed than at older ages. Since it is more difficult to dismiss older workers, the sensitivity of employment to shocks could be a decreasing function of the size of older cohorts. The age structure and the institutional framework may interact in such a way that employment-protection legislation may be more effective as the average age of workers increases.

Note that unemployment is highest for the 15–19 and 20–24 age groups. Surprisingly it is also higher for the 25–34 group than it is for the older groups. The group over 55 has a slightly higher rate than the 35–55 group but the difference is only moderate.

Table 2 shows the effects of unemployment and age structure on the labour force participation of

Youth unemployment is highest and closely related to early retirement

It is apparent from the table that there is a strong relationship between youth unemployment and labour force participation of older workers. The negative sign in the first regression indicates that as more young males are unemployed a greater number of older workers leave the labour force. According to the point estimate, a 5-percentage point rise in youth unemployment would reduce the labour force participation of older workers by 1.5 percentage points. Similarly, the discouraged worker effect seems to be strong. Regressions (2) and (3) indicate that a 5 percentage point increase in elderly unemployment results in a 2.5 percentage point reduction in the participation rate, *ceteris paribus,* and a 3 percentage point reduction when total unemployment is used as a regressor. Regression (4) supports the hypothesis that older workers organize when they are relatively many. A rise in the dependency ratio of 5 percentage points, which would of course take many years, would, according to our point estimate, reduce the participation rate by 3.5 percentage points.

Conclusions

The withdrawal of older workers from the labour force creates a variety of economic challenges, including an increase in unused production capacity. Costs due to early retirement measured in terms of forgone output averaged 6.3 percent of potential gross domestic prod-

Table 2

Participation and unemployment

	Dependent variable, participation rate, males 55–64				
	(1)	(2)	(3)	(4)	(5)
Unemployment, males 16–24	– 0.30 (6.37)				
Unemployment, males 55–64		– 0.51 (5.65)			
Total male unemployment			0.60 (6.56)		0.55 (5.98)
Dependency ratio 65+/25–64				– 0.71 (4.13)	– 0.58 (3.54)
R^2	0.93	0.92	0.92	0.92	0.92
Note: Unbalanced panel of OECD countries, 1979–1998. Estimation method fixed effects.					

Source: Herbertsson (2001b).

uct in the OECD in 1998. These costs, which vary greatly from country to country, are highest in Hungary (15.9 percent of potential output) and lowest in Iceland (0.5 percent). These differences are important for policy makers to the extent that their causes are rooted in economic policy and structure rather than in cultural and environmental factors. In light of these costs, this paper attempts to summarize and discuss alternative theories on why people retire early and how early retirement programs came about, in order to understand better the roots of the problem.

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