

LIVE LONGER, WORK LONGER: MAKING IT HAPPEN IN THE LABOR MARKET

Milan Vodopivec
The World Bank

and

Primož Dolenc
University of Primorska, Faculty of management Koper, Slovenia

Abstract

Population aging and ensuing shrinking of labor force will create a significant drag on economic growth and may jeopardize economic wellbeing of some old people. Thus working longer is an imperative – but extending working lives has proved difficult, both because workers do not want to work longer and because employers are lukewarm about employment old workers. Among measures to motivate workers to work longer, the paper proposes providing retirement incentives and attractive, flexible working arrangements; and to stimulate employers to hire old workers, it argues for removing obstacles imposed by restrictive labor market institutions, for increasing human capital of workers via life-long learning, and for addressing age discrimination. Chances for extending working lives will also increase with better health of old workers.

July 2007

Living longer is one of the major achievements of modern societies. Perhaps curiously, in developed countries a longer life expectancy has been accompanied by a long-term trend of lowering of the time spent at work. But there are signs that this paradoxical result will have to change. Faced by the prospect of the aging – and shrinking! – labor force, many countries are confronting the challenges of how to mitigate the slowdown of GDP growth and how to fix the ailing old age support systems. Extending the working life would go long way toward addressing these challenges.

The obvious question is how to persuade workers to work longer, and employers to offer jobs to old workers. What incentives should be provided to old workers to attract them to work longer: Higher pensions? Flexible work arrangements? Better skills? Will better health also work as a stimulant for working longer? And what will work on the side of employers: removing institutional obstacles mandating age-related wage increases? Increasing mandatory retirement age? Changing outdated attitudes? Subsidizing training of old workers and promoting life-long learning to improve productivity of old workers? Particularly in developing countries, moreover, there is also a concern to promote choices available to old workers, choices that would both improve job prospects of those who would like to work as well as reduce pressures on those who are forced to work until they are still able to do so.

The objective of the paper is to summarize labor market implications of population aging and to discuss policy options about how to increase employment of old workers.¹ The paper argues that population aging and ensuing shrinking of labor force will create a significant drag on economies of developed, transition, and even some developing countries. Thus working longer is an imperative: unless countered by productivity increases, working longer, or both, population aging and ensuing shrinking of labor force will reduce economic growth and may jeopardize economic wellbeing of some old people. However, extending working lives has proved difficult, both because workers do not want to work longer and because employers are lukewarm about employment old workers. Among measures to motivate workers to work longer, the paper proposes providing retirement incentives and attractive, flexible working arrangements; and to stimulate employers to hire old workers, it argues for removing obstacles imposed by restrictive labor market institutions, for increasing human capital of workers via life-long learning, and for addressing age discrimination. Chances for extending working lives will also increase with better health of old workers.

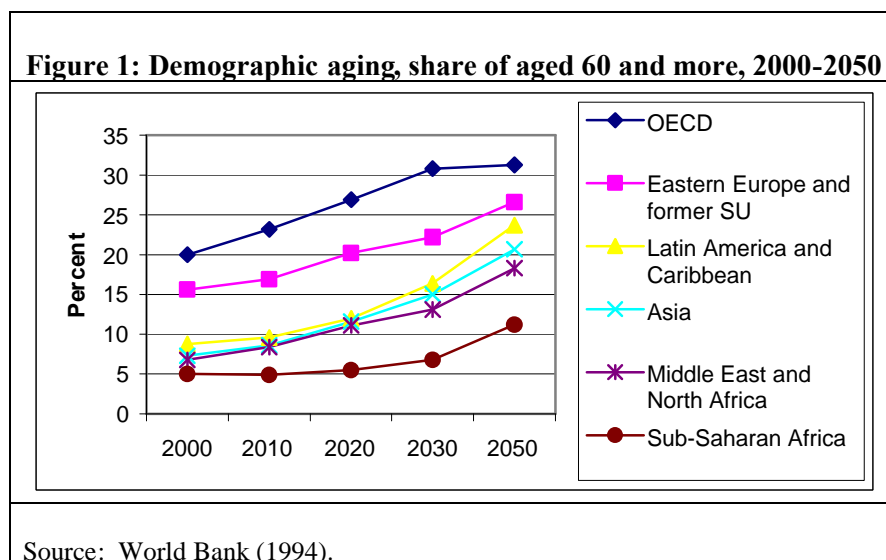
The organization of the paper is as follows. Section 1 discusses the implications of population aging for economic growth. Section 2 discusses factors that stand in the way of longer working lives – why workers opt for early exit from the labor market, and why employers are often lukewarm about employing old workers. In the policy part of the paper, Section 3 discusses possible measures to attract workers to work longer, and Section 4 discusses how to remove institutional obstacles and introduce incentives that would make old workers more appealing to employers.

1. WHAT ARE GROWTH AND WELFARE IMPLICATIONS OF POPULATION AGING – AND HOW TO COUNTER THEM?

Population aging is a universal phenomenon that will create a drag on countries' ability to grow. While developed countries have progressed further in the demographic transition, in the next decades most of developing countries will experience particularly rapid aging (see Figure 1), and the share of population aged 60 years or more in these countries will increase from current 63 percent to 79 percent (UN 2007). Population aging and ensuing reduction of the labor force growth – and, in many countries,

¹ Other important implications of population aging dealing with the provision of old age income support and health and long-term care of old people are not discussed here.

its shrinking – my reduce growth rates of countries by as much as one third in comparison to growth rates under the stagnant population scenario and may jeopardize economic wellbeing of some old people. Aging will loom particularly large for developing countries as by 2050, as many of these countries will have population as old as Europe or Japan today – yet their income per capita will be much smaller.



Populations are aging due to increased longevity and decreased fertility – and these trends will continue, although at a slower pace. According to OECD (2006), life expectancy at birth in all OECD countries strongly increased in the last 50 years (from 64 years in 1950 to 77 years in 2000); similarly, average total fertility rate fell from 3.23 in 1950 to 1.78 in 2000. Increases in life expectancy can be traced over longer periods – Oeppen and Vaupel (2002) report a positive, remarkably linear trend for both men and women in some of today’s developed countries over the period 1840– 2000.² For the future, Martins et al (2005) predict a significant slowdown in longevity gains in most developed and transition countries, with estimated gains in life expectancy at birth to be 1.2 years per decade in the next fifty years (compared to 2.2 years per decade in the last 4 decades).

Population aging will affect the size and composition of the labor force. Projections show that in most developed countries, labor force will stop growing in next decade unless participation rates rise (OECD 2006, World Bank 2007). Projections for United States are relatively favorable, but EU25 (the 25 countries constituting the European Union in 2004-2006³) and Japan are at high risk: in EU25, the growth of labor force is likely to be reversed by the end of this decade (*ceteris paribus*), and Japan’s labor force has been declining since the mid-1990s. As a result, the composition on labor force is changing, and the old-age dependency ratio (the ratio of population over 60 years to those aged 15 to 59) and the number of retirees per active workers is increasing. OECD (2006) projections indicate that the number of retirees per worker is likely to double from 2000 to 2050 in most countries. In EU25 area the number of retirees per 100 workers is projected to increase from 50 in 2000 to 100 in 2050 (in Spain and Italy even to 130), compared to much more favorable ratios for the US, where a ratio of 51 per 100 workers is predicted for 2050.

² Such a trend was observed for Australia, Iceland, Japan, the Netherlands, New Zealand, Norway, Switzerland and Sweden. According to Oeppen and Vaupel (2002), the four-decade increase in life expectancy during 1840—2000 was remarkably linear, with a slope equal to 0.24 ($R^2 = 0.992$).

³ Note that with Romania and Bulgaria joining starting 2007, the European Union now consists of 27 member states.

With labor force growth being one of the sources of economic growth, the slowdown of labor force growth and its shrinking may contribute to a slowdown in GDP growth. Because of population aging, the forecast of GDP per capita growth in the OECD area is reduced to around 1.7 percent per year over the next three decades, bringing about 30 percent reduction in comparison to the 1970-2000 growth rate (OECD 2006). Martins et al (2005) estimate that in the next half century, the decline of their workforces will contribute to a reduction of the per annum growth rates by 0.2 to 0.5 percentage points in France and Germany, and by 0.8 percentage points in Japan. Moreover, because of the raising share of inactive population, the economic growth in Japan, France and Germany will slow down by additional 0.2 to 0.3 percentage points, compared to growth under a stable age structure of the population. For comparison, about one quarter of the growth of OECD countries in recent decades has been attributed to labor force growth (Martins et al 2005).

Population aging may also reduce aggregate savings and affect consumption and investment patterns. First, old people tend to spend a higher proportion of their incomes on housing and social services than young people, and they save less (UN 2007).⁴ Lower savings implies lower capital deepening and – ceteris paribus – a smaller labor productivity and overall growth rate. Second, different age groups also have different consumption structure: on average, old people spend more on health care and less on motor vehicles, entertainment and education (Martins et al 2005), and population aging could affect the structure of aggregate demand. Martins et al (2005), however, argue that if labor force participation of old people increases, their consumption patterns could come closer to those of prime-age workers. Third, aging influences aggregate investment decisions because old people are more risk averse, which can impact capital accumulation and allocation, and the structure of financial markets. And fourth, aging and large increases in dependency ratios are likely to place increasing strain on public finances. OECD (2006) estimates that over the coming decades, expenditure on public pensions, and health and long-term care will increase significantly as a proportion of GDP in most countries. Because such public consumption requires less investment, it may contribute to the reduction of capital accumulation.

Population aging, however, may not necessarily reduce economic growth, if countervailing factors prevail – chief among them being the increase of labor force participation rates of old workers. A drag on economic growth created by population aging could be countered by higher overall (multifactor) productivity, increases of labor quality, or increased labor force participation.⁵ Simulations for developed countries reveal that the most powerful countervailing effects can be expected from the latter – more precisely, from the increased labor force participation of old workers. Martins et al (2005) show over the long run, the impact of increased retirement age in line with longevity gains prevails over impact of improved labor quality, and that this effect is particularly large for countries currently having low participation rates of older workers. For example, an increased labor force participation scenario in France would turn a decline in labor supply into an increase in labor supply over the next four decades. In Japan, however, the intensity of aging is such that even the combined effect of quality adjustments and increases in participation rates are sufficient to prevent an absolute decline in labor supply by 2050. Similarly, projections for Eastern and Central European countries show that an increased labor force participation of workers aged 40 to 59 years as well those over 60 years old significantly slows down the shrinking of

⁴ Panel regression analysis performed by Martins et al (2005) on 30 countries in the period from 1970 to 2003 indicates that an increase in the share of the old-age population has a strong negative impact on the saving rate – more than five times greater than the positive impact of increasing the share of prime-age population. Other empirical analyses show that the increase of the old people dependency ratio by 1 percentage point decreased the saving rate up to 1.6 percentage points, but precise estimates are debatable (see Turner et al (1998) for review of studies' results).

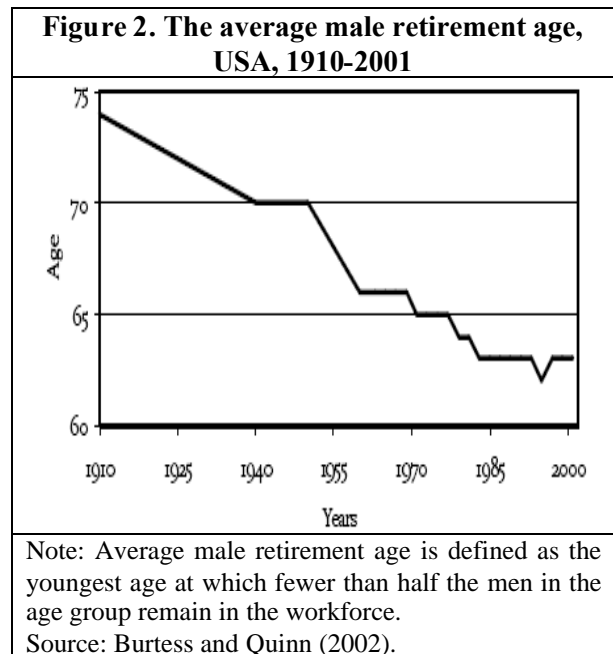
⁵ In most economies, growth is largely driven by developments of multifactor productivity that is mostly affected by factors other than population aging, but could be influenced by aging through shifts in consumption and pressures on public finances as mentioned above.

labor force (Muenz 2007). For the Czech Republic, for example, an increase of participation rate for both men and women older than 65 years that raises participation rates by 6 percent by 2020 compared to 2005 rates halves the reduction of the labor force predicted under the no-participation-rate-change scenario. Similar results are observed for Poland, Bulgaria and the Russian Federation. Even some developing countries face a decline of their labor forces in the coming decades, and the increase of labor force participation would help there, too. For Sri Lanka, for example, it is estimated that the increase of women's participation rate by 20 percent would delay the reduction of labor force – projected to start around 2030 – by 15 years (Vodopivec and Arunatilaka 2007).

Working longer is a triple winner. First, as described above, working longer boosts labor force growth and helps offsetting the negative effect of population aging on economic growth (OECD 2007). Second, longer worklives have a healing effect on public finances as more tax revenues are collected and fewer retirement expenditures are paid out. And third, working longer increases person's current income, allows a person to accumulate more savings (which generate also more interest earnings), and potentially increases pension benefits and shortens the period over which people have to support themselves with their retirement assets.⁶ So why is it difficult to extend working lives and what triggers people to work longer? We discuss these topics in turn below.

2. WHY IS IT DIFFICULT TO EXTEND WORKING LIVES?

Despite increases in life expectancy, **developed world in the last century witnessed people leaving work earlier than ever before** – the trend that occurred irrespective of types of old age support systems and in all developed countries (Kohli et al 1991). For the US, the long term trend of falling retirement age is illustrated in Figure 2. The average male retirement age fell particularly strongly before 1980s and stabilized during 1983-2001. Kohli et al report similar long term falling retirement trends for France, Germany, Sweden, and United Kingdom. Moreover, in the last three decades of the last century even labor force participation rates for men aged 55-64 fell precipitously throughout the developed world (Palacios 2003).⁷ Indeed, since 2000 the number of years men in OECD countries spend out of work has exceeded the number of years spent working (Palacios 2003). In the developed world, these trends helped to galvanize a perception of old age being synonymous with retirement.



⁶ For example, the baby boom generation (currently in their 50's) in United States will retire on much different terms than previous generations, as a smaller share of pre-retirement earnings will be replaced at any given retirement age (Munnell et al 2006). On the other hand, putting off retirement will produce larger increases in retirement income than for workers in the past.

⁷ The trends for women are less uniform, but their labor force participation in developed world, beyond age of 65 has never been significant, and their increasing rates of participation at older ages mask the trend to falling retirement age (see Kohli et al 1991).

With people viewing the retirement as their “entitlement,” extending working lives does not seem to be an easy task. And the problem is not confined to workers – employers, too, are not very eager to employ old workers. Below we discuss the reasons for such preferences.

People want to retire early

The dominant factors behind the trend of earlier retirement have been economic development and changes in social security systems. Economic development and the resulting long-term increase in economic wealth allowed workers to enjoy rising living standards even as they spent a growing percentage of their lives outside the workforce. Another factor encouraging earlier retirement over much of the last century – and, at the same time, itself being the result of underlying economic changes – have been institutional arrangements accommodating such trends, including the introduction of mandatory retirement rules.

In most developed countries, three main pathways – institutional arrangements bridging the work life and retirement – can be distinguished. First, if they fail to find jobs under regular benefit entitlements, older unemployed workers are often entitled to additional, “bridging” *unemployment benefits*. These benefits consist of cash transfers and/or pension credits for state-sponsored retirement schemes, and are provided until they fulfill retirement conditions for public pensions. Second, older workers may be offered state and/or enterprise sponsored *early retirement schemes*, consisting of lump-sum payments for those who opt to leave the enterprise. In the recent decade, the use of such schemes has been strongly reduced. And third, *sickness and disability pathway* also provides old workers with “interim” cash benefits (one of the most cited examples is the 1970s and 1980s program in the Netherlands, which was used as a tool for exit of worker in troubled industries (de Vrom and Blomsma, 1991). OECD (2006) reviews these pathways for all OECD countries.

The fact these schemes have often not been planned is yet another proof that people want to retire early. Often early retirement pathways emerged as unexpected consequences of marginal adjustments of welfare and social insurance systems (Kohli et al 1991). Indeed, these systems have often been changed so much to be able to accommodate changes needed in the labor market (for example, Kohli et al report the cases of guaranteed income in France in 1972 and the emergence of disability insurance in Netherlands in 1973). Often, as one early-exit program is phased out, another one gains popularity.

That people “are right” in their ambitions to exit the workforce early is in part confirmed by research about the satisfaction and well being of retirees: once retire, people are happier than before retirement. Limited research is available on this topic, but research in US suggests that most individuals are indeed satisfied with their lives in retirement. Among the respondents of a nationally representative sample of the U.S. older population, a majority of persons being fully retired in 2000 stated that their well-being in retirement was better than in the years just before retirement, 33 percent found it about the same, and 17 percent worse than before retirement (Bender and Jivan 2005). Interestingly, according to the same research, the flexibility to choose when to retire significantly improved retirement satisfaction.

Employers have second thoughts about employing old workers

Employers find both advantages but also disadvantages of employing old workers. According to US surveys, employers view old workers as more reliable and as having better skills and work ethic, but they also find them less suitable for training, and resistant to change and to learn new technologies. In particular, one US survey reports the following ten reasons why employers are reluctant to hire old workers: shorter career potential, lack of energy, higher costs of health and life insurance and pensions,

being less flexible/adaptable, higher salary expectations, health risks absences, knowledge and skills obsolescence, blocking career paths of younger workers, suspicion about competence, and fear of discrimination suit (Lahey 2005).

Beyond perceptions, labor market outcomes for old workers are often much worse than for young workers. Evidence about layoffs is instructive: according to Orazem et al (2005), during the early transition to market Slovenia's old workers did not face a greater risk of displacement (that is, of a permanent, involuntary job loss), but they were much less likely to get a job after losing one, and they faced much larger post-displacement wage losses once again reemployed (the wage loss of workers with 25 to 30 years of experience was 36 percent, compared to no wage loss of workers with below 10 years of experience). Similar results are found for other countries.⁸

So what accounts for worse labor market outcomes – are old workers less productive than young ones? This is a highly controversial topic, and although the relationship is non-linear, with large differences across individuals and tasks, one may interpret the evidence as a “mild yes.” Studies find strong evidence that after the age of 50, several aspects of physical and mental abilities (such as reasoning, numerical abilities, short-term and long-term memory) start to decline, with the decline often being progressive and varying substantially from one person to another (OECD 2006). In contrast, some verbal abilities remain virtually unchanged also late in the life cycle.

Strong evidence that older workers are less productive than young ones comes from studies based on matched employer-employee data sets. For example, OECD (2006) summarizes two studies of the productivity of French and American firms found that workers aged 55 and over are less productive than younger workers. Moreover, a similar study on Slovenia finds that over 1992-2001 period, young workers (aged 30 or younger) were 7 percent more productive than workers aged 50 or over, and that the period witnessed a strong reversal of relative productivity: in 1992, older workers were more productive than young workers (the productivity advantage of workers 50 years over workers younger than 30 was 41 percent), but by 2001 they were 13 percent *less* productive (Vodopivec 2007). The reversal occurred because the transition to market forced enterprises to restructure and this process destroyed the advantage of old workers: their job-specific skills (restructuring involved abandoning old production lines and introducing new ones, the process that produced significant worker layoffs – see World Bank 2005) and boosted the advantage of young workers: the ability to adjust to changes in the environment. This result is very telling about the differences in productivity between the old and young workers. Interestingly, Vodopivec (2007) also reports that in 2001, old workers retained their advantage in terms of higher relative wages, with wages of aged 50 or over being 43 percent above the workers younger than 30, other things equal.

But the above findings are also consistent with the claim that individual productivity may not decline with age if additional investments in human capital are made. Indeed, a study on firm-level productivity (a study of a car assembly plant) shows that productivity is monotonically decreasing with age and increasing by job tenure, with the opposing effects approximately cancelling each other (Ilmakunnas et al 2007). And if workers expect their working lives to be longer, they will be more motivated to take training. We turn now to the overall questions of incentives that may entice workers to work longer.

⁸ See, for example, evidence on US workers in Jacobson, LaLonde and Sullivan (1993) and Kletzer and Fairlie (2003), and OECD (1998) for OECD countries.

3. HOW TO IMPROVE INCENTIVES OF PEOPLE TO WORK LONGER – AND THEIR WORKPLACE CHOICES?

The above trend of a steadily decreasing retirement age is a result of people “voting by feet” – but shouldn’t we also listen to their voice? Interestingly, a large HSBC survey of over 21,000 adults, some of whom are identified as “trendsetters,” in 20 countries across five continents, suggests that **people may be changing their vision of later life and opting for more active aging**. When asked how they want to spend retirement, more than half of the people in each country included paid work in their ideal plan (with Japan with 95 percent at the top and Hong Kong with 57 percent at the bottom). Perhaps surprisingly, a higher share of people in developed countries than in less affluent countries wants to carry on working in retirement. Earning money was the most prevalent reason, but other important reasons were also having a mental stimulation, having something valuable and meaningful to do, and connecting with others. In general, while mostly they want their retirement centered on families, friends and fitness, the results of the survey suggest that people are increasingly viewing retirement as an opportunity “for a whole new chapter in life” (see Box 1 for summary of the views across countries).

Box 1: How different countries view old age and retirement

Canadians view their later years as a time of reinvention, ambition, and close relationships with friends and family.

Americans view their later years as a time for opportunity, new careers, and spiritual fulfilment, but are less focused on family or health than other countries.

The French view these years as a time of dreams and aspirations, but also as a time of worry, and they are concerned about being a burden to their families.

People in the UK view later life as a time of self-sufficiency, independence, and personal responsibility, counting on neither government nor family to care for them.

Brazilians view later life as a time for slowing down, relaxing, and spending time with their families, relatives, and friends, and they expect significant support from their children.

Mexicans see it as a time for continued work and hard-earned financial stability.

In China, younger generations view retirement as an opportunity for a new life but continued careers, while older generations want to stop working and relax. All Chinese people view family as an important source of happiness and support.

Respondents from Hong Kong view it as a time for rest, relaxation, and the enjoyment of accumulated wealth, which is seen as the cornerstone of well-being .

Indians view later life as a time to live with and be cared for by their families.

The Japanese look forward to their later years as a time of good health, family considerations and continued fulfillment from work.

Source: HSBC (2005).

Perhaps the above views are too optimistic, but this section argues that **it is possible to motivate workers to work longer if they face suitable retirement incentives, if they are offered attractive and flexible work arrangements, and if they are in good health**. Among the considerations that influence decisions about work and retirement, this section thus mostly focuses on the so-called pull factors of retirement, with the push factors being addressed in the next section (see Box 2 on the distinction between push and pull factors). In developing countries, the ways to improve choice of workers identified above are relevant primarily for formal sector workers; many informal sector workers would benefit from a different type of choice – the ability to withdraw from the labor market, the choice many of them are denied.

Improving financial incentives to work

One of the most important incentives to work longer is provided by the financial benefit of staying active. **A high replacement rate and consequently a high implicit tax on continued work pushes workers towards an early labor market withdrawal** (Duval 2003).⁹ In OECD countries, the implicit tax rate is the highest in Italy, the Netherlands, France and Luxembourg – and these countries also witness the strongest reductions of participation rates of workers aged 65 years or more. On the other hand, in countries with low implicit tax on continued work (such as Korea, Sweden, United States, where the implicit tax rate is below 10 percent) the reduction of participation rates of higher age groups is much smaller.

Box 2: Push and pull factors of labor market withdrawal

Several “pull” or “push” factors influence work and retirement decisions of old workers. Pull factors are associated primarily with financial incentives facing the individual, and push factors with circumstances that restrict job opportunities available to an individual.

Among the most common factors that pull workers into retirement are financial incentives provided by pension schemes and other formal or informal early retirement schemes. In this regard, the age at which pension funds are accessible, their generosity and how additional years of work change the present value of net pension wealth play key roles in influencing retirement decision of workers. In many developed countries other welfare schemes – such as unemployment benefits and disability benefits – are also often used by workers as a means of early exit from work. In addition, private pension arrangements and joint retirement decisions of couples may also pull workers into retirement in some countries, particularly for those who value leisure. In developing countries, family obligations – such as helping with childcare of grand children – also pull workers into retirement.

“Push” factors include both firm and individual circumstances that restrict suitable job opportunities. At the firm level these include negative perceptions about the capacities of old workers, labor costs exceeding contribution to output by old workers, and difficulties firms face in adjusting employment as a result of employment protection rules. At the individual level these include skills mismatch in the face of technological and structural changes in labor demand, perceptions on low returns to further training, work related stress, poor health and inflexibility to change working hours.

Source: OECD (2006).

Fitting jobs to old workers: making work arrangements more flexible

Alternative, flexible work arrangements can encourage elderly to work longer. At the individual level, the likelihood of employment depends on the interaction between individual’s functional capacity, the nature of the work, his or her state of health, and the possibilities for work accommodation. Therefore, it should come as no surprise that among factors that help explain the rising participation rate of old people after 2001 in the United States, Friedberg (2007) singled out more flexible arrangements that increased the choice of old workers. Similarly, Ruhm (1990) and Friedberg (2004) found that old workers preferred more flexible format of work (that is, part-time or shorter-hour jobs) as such “bridge” jobs suit old workers on their path to retirement. This increase was particularly notable among relatively educated and well-off workers. Moreover, Buddelmeyer, Mourre and Ward (2005) showed that increasing the flexibility of labor markets by stimulating part-time employment as an alternative to full-time employment prolonged labor force participation of old workers by several years. Such jobs offer hourly

⁹ Replacement rate is the proportion of retirement income as compared to pre-retirement income. The implicit tax is the sum of the actual taxes paid on earnings and the reduction of retirement payments due to »in-retirement activity«.

wage rate below ones offered to full-time workers (OECD 1999) – but given the choice of more flexible work arrangements, the price many of old workers are willing to pay. Moreover, OECD (2006) notes that better working conditions also play a key role in encouraging longer working lives.

Making old people healthier

Making old people healthier will also contribute to their desire to work longer. Not surprisingly, research shows that poor health has a negative effect on the likelihood of being in the labor force, on the expected retirement age, as well as hours worked and wages (for a survey, see Currie and Madrian 1999). But while it is clear that people's health affects their ability to work, it surely must affect also their desire to work: if poor health leads people to withdraw from the labor force by making even simple tasks painful and by rendering people less productive (which affects, among others, their wages), then good health does just the reverse. By implication, improving health of old workers, coupled by the fact that jobs are becoming less physically demanding than they were in the past, will thus contribute to the desire of old workers to work longer, as well as – if opportunities exist – lead to their longer working lives.

Recent research suggests that people indeed not only live longer, but they also live longer healthy – the so-called “healthy aging” hypothesis, that is, the regime where longevity gains translate one-to-one into years of being in good health. For the period since the early 1980s, Munnell and Libby (2007) show that in the US there has been a steady reduction of the percent of men aged 45-64 with activity limitations and disabilities, the research corroborated by Dormont, Martins, Pelgrin and Suhrcke (2007) for Europe and Japan. However, Dormont et al (2007) caution that keeping the “healthy aging” regime in the future may call for “large investments in health care, which to be sustainable may require in turn a careful design of insurance mechanisms and use of technological progress.”¹⁰

In developing countries, increasing choice often means helping old workers to withdraw from the labor market if they opt to do so. Evidence shows that labor market duality, the hallmark of many developing countries, carries over to old age and importantly determines the fate of old workers: in contrast to formal sector workers who retire before they reach 60, mostly because they are mandated to do so, informal sector workers (such as self-employed and casual workers) continue to work full-time into very old ages, and exit mostly for health reasons (for the example of Sri Lanka, see Vodopivec and Arunatilaka 2007). Improving choices of old workers thus requires both improving their health and removing mandatory retirement provisions, to help them to continue working, as well as providing them independent sources of income (via extending the coverage of old age income support systems), to enable them to resign from work, if they wish so.

4. HOW TO STIMULATE EMPLOYERS TO OFFER MORE JOBS TO OLD WORKERS?

Above we discussed how to make working places more appealing to workers and how to improve choices of workers. We now turn to possible measure that will increase the demand for old workers, focusing on labor market institutions and skills of old workers.

Removing institutional obstacles

Introducing flexible wage determination can help employability of old workers, if institutional rigidities prevent wages adjusting to changes in life-cycle productivity of workers. As discussed

¹⁰ Dormont et al (2007) contrast the “healthy aging” regime with two extremes: (i) an optimistic “compression of morbidity” hypothesis, maintaining that there would be a reduction in morbidity and disability in the last years of life that would make life expectancy similar to disease- and disability-free life expectancy, and (ii) a pessimistic “expansion of morbidity” hypothesis, where all gains in longevity translate into years in poor health.

above, on average, productivity of a worker eventually decreases as he or she ages. If changes in the wage level across individual's worklife do not adjust to reflect such changes in his or her productivity, employers are likely to be reluctant to retain old workers and to prefer hiring of young workers. Reflecting individuals' productivity profiles, wage-age profiles in many countries are indeed hump-shaped and are thus consistent with employability of old workers (see OECD 2006 for a description of profiles in OECD countries).¹¹ In some countries, however, rigidities embedded in the wage determination system prevent relative wages of old workers to reflect underlying productivities, thus undermining employment opportunities of old workers: OECD (2006) singles out Austria, Belgium, the Netherlands and Spain, and above we showed evidence for Slovenia (where, similar to other successor states of Yugoslavia, the law mandates a 0.5 percent increases of wage level per year of work experience). Based on cross-country analysis, OECD (2006) provides evidence of a negative impact of high relative wages on employment opportunities of old workers (drop in retention and hiring rates of male older workers).¹² To circumvent such seniority bonuses, most workers in Japan in Korea are forced to retire from their career jobs at the age of 60 or 55, and many of them continue working by taking lower-paying jobs with the same or other firms, shift to part-time or temporary work, or start self-employment (OECD 2006, Williamson and Higo 2007).

Restrictive employment protection legislation (EPL) may create disincentives for employment of old workers. Although in principle it is not possible to predict the impact of strict EPL on labor market outcomes for old workers, as such provisions may lead to both greater retention of old workers as well as to the reduction in their hiring. While the empirical evidence is weak, some recent studies report negative effects of strict EPL on employment of old workers. For example, OECD (2006) shows a statistically significant association of strict EPL with reduction of employment and hiring rate of workers aged 50-64 based on cross-section analysis for OECD countries, reports a number of country studies which identified strict EPL as a barrier to the hiring or retention of older workers (for Belgium, Czech Republic, France, Germany, Japan, Korea, Netherlands, Norway, and Spain). Note that by reducing the flows in and out of workforce, strict EPL also contributes to a "compression" of working lives, the compression that is increasingly identified as an obstacle for a better reconciliation of work and family as well as for the investment in human capital (Bovemberg 2007).

Preventing age discrimination is also an important objective – via antidiscrimination legislation as well as waging information campaigns and promoting guidelines about employment of old workers. While difficult to prove, survey evidence in OECD suggests that workplace age discrimination exists, as 1-14 percent of workers reported that during the previous 12 months they either personally experienced or witnessed it.¹³ But antidiscrimination laws may not always be effective, and they may have significant unintended effects.¹⁴ OECD (2006) thus argues for the combination of antidiscrimination laws and information campaigns and guidelines. The UK Age Positive campaign is one example – the campaign Promoting age diversity at work through a practical guide for business in the areas of recruitment,

¹¹ Note, however, that wage-age profiles based on cross-sectional data reflect not only life-cycle changes in wage levels but also changes in the composition of the workforce.

¹² Daniel and Heywood (2007) also show that U.K. firms that use seniority bonuses hire a smaller share of old workers.

¹³ Based on an experiment to test for age discrimination (sending out resumes for job applicants with different ages and measuring the response rate of employers asking for interviews), Lahey (2005) determined that employers clearly treated older workers differently. For example, she found that to receive a job offer for a clerical position, it would take 1-10 weeks for a worker aged about 35 and 14-20 weeks for a worker aged about 60.

¹⁴ For example, in US a law prohibits age-based discrimination of hiring, firing, layoffs, and compensation, but as one researcher noted, in practice, "the law may have only limited benefits and significant costs. Although the laws provide a boon for older men who remain in their jobs and are more difficult to fire, they harm those seeking new employment."

selection of candidates, promotion, training and development, layoffs, and retirement, with detailed explanation of the guidelines and indicators for assessing conformity with them (UK 2007).

Improving employability of old workers

To increase the attractiveness of old workers to employers, new generations old workers should possess better skills, which calls for their life-long learning – including learning toward the end of work career. Indeed, several considerations speak in favor of such development. First, if the anticipated age of retirement increases, the “break even” age of training increases, as the payoffs to training are spread over longer work period. Second, OECD (1998) also argues that if workers undergo continued training throughout the career, it is unlikely that they would experience a decline in their trainability in the old age. Third, because retention rates of old workers are higher, training of old workers may be as profitable as training of younger workers. Indeed, OECD (1998) reports that retention rates of workers aged 45 years or more were higher than those of younger workers in the six out of nine OECD countries studied, and consistent with this, that incidence rates of training among those aged 45 to 54 years was about as high as the incidence for those aged 25 to 44 years (21 vs. 23 percent for unweighted country averages).

Better reconciliation of work and family also calls for continual investment in human capital. Recent socio-economic developments, especially feminization of work, have changed the sharing of family responsibilities and Bovemberg (2007) argues that a key challenge is a need to maintain highly skilled workforce while allowing parents to strengthen their family life. The changing nature of risks over the life cycle will thus make life-long learning a key factor to reconcile sometimes conflicting requirements of work and family, because well-trained workers are better able to both pursue personal fulfillment and stable personal relationships, as well as to supply highly productive labor and thus contribute to high levels of employment and labor productivity on a macro level. Higher investments in human capital throughout the working career will also facilitate and motivate workers to work longer. Moreover, we believe that there is also a powerful reverse causality at work: if their working life is expected to last longer, workers will be eager to make investments in their skills, and employers will also find it profitable to support these investments.

REFERENCES.

- Bender, K.A, N.A. Jivan. 2005. “What Makes Retirees Happy?” *An Issue in Brief* 25(5). Boston: Center for Retirement Research at Boston College.
- Bovemeberg, A.L. 2007. *The Life-Course Perspective and Social Policies: an Overview of the Issues*. Tilburg University, processed.
- Buddelmeyer, H., G. Mourre, M. Ward. 2005. *Recent Developments in Part-time Work in EU Countries: Trends and Policy*. IZA Discussion Paper No. 1415. Bonn: IZA.
- Burtless, G., J.F. Quinn. 2002. “Is Working Longer the Answer for an Aging Workforce?” *Issue brief* 11(12). Boston: Center for Retirement Research at Boston College.
- Currie, J. and B.C. Madrian. 1999. “Health, Health Insurance, and the Labor Market.” In O.C. Ashenfelter and D. Card, eds. *Handbook of Labor Economics. Volume 3C*. Amsterdam: Elsevier Science Publishers BV.

- Daniel, K. and J.S. Heywood. 2007. The determinants of hiring of old workers: UK Evidence. *Labor Economics* 14: 35-51.
- Dormont, B., J.O. Martins, F. Pelgrin, M. Suhrcke. 2007. *Health Expenditures, Longevity and Growth*. Paper presented at the IX European Conference of the Fondazione Rodolfo DeBenedetti on “Health, Longevity and Productivity”. Available online: http://www.frdb.org/images/customer/copy_0_frdb_draft_dormont_oliveira_pelgrin_suhrcke_v2.pdf.
- Duval, R. 2003. *The Retirement Effects of Old-Age Pension and Early Retirement Schemes in OECD Countries*. Economics Department Working Papers No. 370. Paris: OECD.
- Friedberg, L. 2004. *The Trend Towards Part-Time Work among Older Workers*. Unpublished paper, University of Virginia.
- Friedberg, L., 2007. “The Recent Trend Towards Later Retirement,” *An Issue in Brief* 9(3). Boston: Center for Retirement Research at Boston College.
- HSBC. 2005. *Future of Retirement: What the People Want*. Available On-Line: <https://www.agingforum.org/content/2005researchsummary.aspx>.
- Ilmakunnas, P., V. Skirbekk, J.C. van Ours, and M. Weiss. 2007. Ageing and Productivity. Paper presented at the DeBenedetti conference, Limone, May 26, 2007.
- Jacobson, L., LaLonde, R. and Sullivan, D. (1993a). Earnings Losses of Displaced Workers, *American Economic Review*, 83(4), pp. 685–709.
- Kletzer, L. G. and Fairlie, R. W. (2003). The Long-Term Costs of Job Displacement for Young Adult Workers, *Industrial and Labor Relations Review*, 56, pp. 682–98.
- Kohli, M. and M. Rein. 1991. The Changing Balance of Work and Retirement. In M. Kohli, M. Rein, AM Guillemard, and H. van Gunsteren, *Time for Retirement. Comparative Studies of Early Exit from the Labor Force*, Cambridge University Press.
- Lahey J.N. 2005. “Do Older Workers Face Discrimination?” *An Issue in Brief* 33(7). Boston: Center for Retirement Research at Boston College.
- Martins, J.O., F. Gonand, P. Antolin, C. de la Maisonneuve, K.Y. Yoo. 2005. *The Impact of Aging on Demand, Factor Markets and Growth*. Economics Working Papers No. 420. Paris: OECD.
- Muenz, R. 2007. Aging and Demographic Change in European Societies: Main Trends and Alternative Policy Options. Social Protection Discussion Paper No. 03/07. Washington D.C.: The Worldbank.
- Munnell, A.H., J. Libby. 2007. “Will People Be Healthy Enough to Work Longer?” *An Issue in Brief* 7(3). Boston: Center for Retirement Research at Boston College.
- Munnell, A.H., S.A. Sass, J.-P. Aubry. 2006. “Employer Survey: 1 of 4 Boomers Won’t Retire Because They Can’t” *An Issue in Brief* 6(12). Boston: Center for Retirement Research at Boston College.
- OECD 1998. OECD Employment Outlook. Paris: OECD.
- OECD. 1999. *Focus on part-time work*. Paris: OECD.

- OECD. 2006. *Live Longer, Work Longer*. Paris: OECD.
- Oeppen, J., J. W. Vaupel. 2002. "Broken limits to life expectancy," *Science* 296(5570): 1029–1031.
- Orazem, P., M. Vodopivec, and R. Wu. 2005. Worker Displacement during the Transition: Experience from Slovenia. *Economics of Transition*, Vol. 13, No. 2, pp. 311-340.
- Palacios, R. 2003. "The Future of Global Aging," *International Journal of Epidemiology* 31: 786-791.
- Ruhm, C. 1990. "Bridge Jobs and Partial Retirement." *Journal of Labor Economics* 8(4): 482-501.
- Turner, D., C. Giorno, A. de Serres, A. Vourc'h, P. Richardson. 1998. The Macroeconomic Implications of Aging in a Global Context. Economics Department Working Papers No. 193. Paris: OECD.
- UK. 2007. *Age at Work: a Practical Guide for Business*. Available On-Line: <http://www.agepositive.gov.uk/pdf/AgeDiversityAtWork2006.pdf>.
- UN. 2007. *World Economic and Social Survey 2007. Development in an Aging World*. New York: United Nations.
- Vodopivec Matija. 2007. "Equal Pay for Equal Work? Wage and Productivity Differentials During Slovenia's Transition." Macalester College, processed.
- Vodopivec, Milan and N. Arunatilake. 2007. *Population Aging and the Labor Market: The Case of Sri Lanka*. Paper presented at the Economist Forum, World Bank, April 2007.
- De Vroom B. and M. Blomsma. 1991. The Netherlands: An Extreme Case. In M. Kohli, M. Rein, AM Guillemard, and H. van Gunsteren, *Time for Retirement. Comparative Studies of Early Exit from the Labor Force*, Cambridge University Press.
- Williamson J.B. and M. Higo. 2007. Older Workers: Lessons From Japan. ?" *An Issue in Brief* No. 11. Boston: Center for Retirement Research at Boston College.
- World Bank. 1994. *Averting the Old Age Crisis. Policies to Protect the Old and Promote Growth*. Washington, DC: The World Bank.
- World Bank. 2005. *Enhancing Job Opportunities: Eastern Europe and the Former Soviet Union*. The World Bank.
- World Bank. 2007. *From Red to Gray. The "Third Transition" of Aging Populations in Eastern Europe and Former Soviet Union*. Washington, DC: The World Bank.