

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

Milan Vodopivec, PhD
The World Bank, Washington

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Primož Dolenc, PhD.
University of Primorska, Faculty of Management
Koper, Slovenia

Abstract

An aging population and the corresponding shrinkage of the labor force will create a significant drag on economic growth and may jeopardize the economic well-being of some of the elderly. Thus working longer is an imperative – but extending working lives has proven difficult, both because workers do not want to work longer and because employers are lukewarm about employing older workers. As measures that can be taken to motivate workers to work longer, the paper proposes providing retirement incentives and attractive, flexible working arrangements. To induce employers to hire old workers, it suggests removing the obstacles imposed by restrictive labor market institutions, an increase in the human capital of workers via life-long learning, and addressing age-discrimination. Chances for extending working lives will also increase as the health of elderly workers is improved.

Key words: aging, retirement incentives, extending working lives

1 Introduction

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 reduced time spent at work. However, there are signs that this paradoxical result will have to change. Faced with the prospect of an aging – and shrinking – workforce, many countries are confronting the challenges of how to mitigate the resulting slow-

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down of GDP growth and how to fix ailing elderly support systems. Extending working life would go a long way toward addressing these challenges.

The obvious question is how to persuade workers to work longer, and employers to offer jobs to older workers. What incentives should be provided to older workers to attract them to work longer? The prospect of higher pensions? Flexible work arrangements? Better skills? Will better health also cause the elderly to work longer? And what will work on the employer side? Removing the institutional obstacles that mandate age-related wage increases? Raising the mandatory retirement age? Changing outdated attitudes? Subsidizing the training of older workers and promoting life-long learning to improve their productivity? Particularly in developing countries, moreover, there is also a concern to promote choices available to older workers, choices that would both improve the job prospects of those who would like to work as well as reduce pressures on those who are forced to work until they are unable to do so any longer.

The objective of the paper is to summarize labor market implications of population aging and to discuss policy options to increase the employment of old workers.¹ The paper argues that population aging and the ensuing shrinking of the workforce will create a significant drag on the 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 the ensuing shrinkage of the labor force will reduce economic growth and may jeopardize the economic well-being of some of the elderly. However, extending working lives has proven difficult, both because workers do not want to work longer and because employers are lukewarm about the employment of older 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 the human capital of workers via life-long learning, and for addressing age discrimination. The chances for extending working lives will also increase with the improving health of older workers.

The paper is organized as follows. Section 2 discusses the implications of population aging for economic growth. Section 3 examines 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 older workers. In the policy part of the paper, Section 4 proposes possible measures to attract workers to working longer, and Section 5 describes how to remove institutional obstacles and introduce incentives to make older workers more appealing to employers.

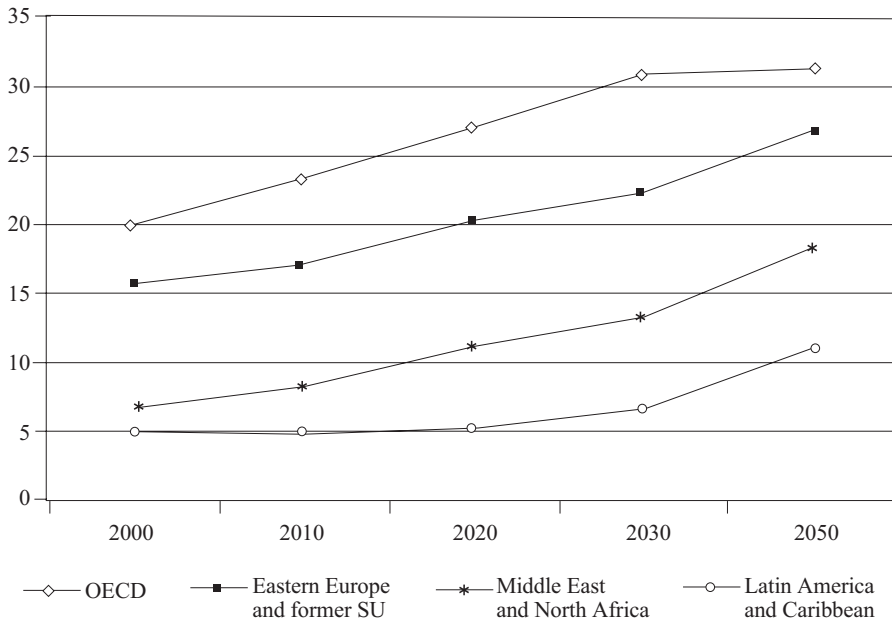
2 What Are the Growth and Welfare Implications of Population Aging and How Can They be Countered?

Population aging is a universal phenomenon that, unless addressed, will create a drag on countries' ability to grow. While developed countries have progressed further in the de-

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.

mographic transition, in the next decades most developing countries will experience particularly rapid aging (see Figure 1), and the share of the population aged 60 years or more in these countries will increase from the current 63 percent to 79 percent (UN 2007). Population aging and the ensuing reduction of labor force growth – indeed, in many countries, labor force shrinkage – may reduce growth rates by as much as one third in comparison to growth rates under the stagnant population scenario and may jeopardize the economic wellbeing of some old people.² Aging will loom particularly large for developing countries, as soon as 2050, as many of these countries will have populations as old as those of Europe or Japan today – yet their income per capita will be much smaller.

Figure 1 Demographic aging, share of aged 60 and more, 2000-2050



Source: World Bank (1994).

Populations are aging due to increased longevity and decreased fertility – and these trends will continue, although at a slower pace. According to the 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, the 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

² One way through which welfare could be reduced is via stressed pension systems that would scale back their promises and affect individuals with no alternative arrangements.

some of today's developed countries over the period 1840–2000.³ 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 being 1.2 years per decade in the next fifty years (compared to 2.2 years per decade in the last 4 decades). But, deceleration aside, this still represents significant increases in longevity.

Population aging will affect the size and composition of the labor force. Projections show that in most developed countries, the workforce will stop growing in the next decade unless participation rates rise (OECD 2006; World Bank 2007). Projections for the United States are relatively favorable, but the EU25 (the 25 countries constituting the European Union in 2004-2006⁴) and Japan are at high risk: in the EU25, the growth of the labor force is likely to be reversed by the end of this decade (*ceteris paribus*) whereas Japan's has been in decline since the mid-1990s. As a result, the composition of the labor force is changing, producing a larger old-age dependency ratio (the ratio of population over 60 years to population aged 15 to 59) as well as a larger ratio of retirees to active workers. OECD (2006) projections indicate that the number of retirees per worker is likely to double from 2000 to 2050 in most member countries. In the 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.

With labor force growth being one of the sources of economic expansion, the slowdown of workforce growth and its shrinkage may contribute to a slowdown in GDP growth. Because of population aging, GDP per capita growth in the OECD area is forecast to reduce by around 1.7 percent per year over the next three decades, bringing an 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 0.2 to 0.5 percentage point reduction in the per annum growth rates in France and Germany, and a 0.8 percentage point drop in Japan. Moreover, because of the rising share taken by the inactive population, economic growth in Japan, France and Germany will slow down by an additional 0.2 to 0.3 percentage points, compared to growth under a stable age structure of the population. By comparison, about one quarter of the growth of OECD countries in recent decades has been attributed to workforce growth (Martins et al. 2005).

Population aging may also reduce aggregate savings and affect consumption and investment patterns. First, the elderly save less than young people (UN, 2007).⁵ Lower savings imply lower capital formation and – *ceteris paribus* – lower labor productivity and slower overall growth. Second, different age groups have different consumption structu-

³ 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 ($R^2 = 0.992$).

⁴ Note that with Romania and Bulgaria joining in 2007, the European Union now consists of 27 member states.

⁵ 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 an 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 a review of studies' results).

res: on average, old people spend more on housing, social services, and health care; and less on motor vehicles, entertainment, and education (Martins et al. 2005), and thus population aging could affect the structure of aggregate demand. Martins et al. (2005), however, argue that if elderly labor force participation 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 have impacts on capital accumulation and allocation, and the structure of financial markets. And fourth, aging and large increases in dependency ratios are likely to place an increasing strain on public finances. The 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 may come at the cost of investment, it may contribute to the reduction of capital accumulation.

Population aging, however, may not necessarily reduce economic growth, if countervailing factors prevail – the most important among them being the increase of workforce participation rates for 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.⁶ 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 that over the long run, the impact of increased retirement age in line with longevity gains prevails over the 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 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 insufficient 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 the workforce (Muenz, 2007). For the Czech Republic, for example, an increase in the participation rate for both men and women older than 65 years that raised participation rates by 6 percentage points by 2020 as compared to the 2005 rates would halve the reduction of the workforce 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 in their workforces in the coming decades, and the increase of labor force participation would help there, too. For Sri Lanka, for example, it is estimated that an increase of women's participation rate by 20 percent would delay the reduction of the workforce – projected to start around 2030 – by 15 years (Vodopivec and Arunatilaka, 2007).

Working longer is a win-win-win option. First, as described above, working longer boosts workforce growth and helps to offset the negative effect of population aging on economic growth (OECD, 2007). Second, longer working lives strengthen public finan-

⁶ 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.

ces as more tax revenues are collected and fewer retirement-related expenditures are paid out. And third, working longer increases current incomes, allowing the elderly to accumulate more savings (which generate also more interest earnings) which can provide larger retirement income over a shorter period of inactivity.⁷ So why is it difficult to extend working lives and what encourages people to withdraw from the labor force even when they are able to work? We discuss these topics in turn below.

3 Why Is It Difficult to Extend Working Lives?

Despite increases in life expectancy, the developed world in the last century witnessed people leaving work earlier than ever before – a trend that occurred irrespective of types of old age support systems and in all developed countries (Kohli and Rein, 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 the 1980s and stabilized during 1983-2001. Authors report similar long-term falling retirement age 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).⁸ Indeed, since 2000 the number of years men in OECD countries spend out of work has exceeded the number of years spent working (*ibid.*). In the developed world, these trends helped to solidify the perception that old age is synonymous with retirement.

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

3.1 People want to retire early

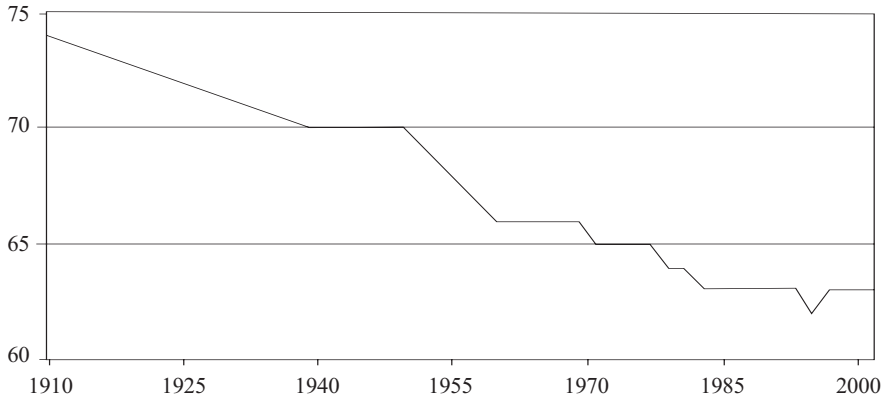
The dominant factors behind the trend of earlier retirement have been economic development and changes in social security systems. Economic development and the resulting long-term increase in wealth allowed workers to enjoy rising living standards even as they spent a growing percentage of their lives outside the workforce. Another factor encouraging earlier retirement over much of the last century – itself 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 paths to retirement – i.e., institutional arrangements bridging 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 ful-

⁷ For example, the baby-boom generation (currently in their 50s) in the 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.

⁸ The trends for women are less uniform, but their participation in the workforce in the developed world, beyond the age of 65 has never been significant, and their increasing rates of participation at older ages mask the trend to a drop in the retirement age (see Kohli et al., 1991).

Figure 2 The average male retirement age, USA, 1910-2001



Note: Average male retirement age is defined as the youngest age at which fewer than half the men in the age group remain in the workforce.

Source: Burtless and Quinn (2002)

fill 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 last decade, the use of such schemes has been strongly reduced. And third, the 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 the exit of workers in troubled industries (de Vrom and Blomsma, 1991). The OECD (2006) reviewed these pathways for all OECD countries.

That these schemes have often not been planned is yet further proof that people want to retire early. Often, early retirement pathways emerged as unexpected consequences of marginal adjustments to welfare and social insurance systems (Kohli and Rein, 1991). Indeed, these systems have often been changed precisely in order 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 retired, people are happier than before retirement. Limited research is available on this topic, but research in the 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. elderly population, a majority of persons 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.

3.2 Employers have second thoughts about employing old workers

Employers find both advantages and disadvantages to employing old workers. According to US surveys, employers view old workers as more reliable and as having better skills and a better work ethic, but also find them less suitable for training, resistant to change and reluctant 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, less flexibility/adaptability, higher salary expectations, health risks absences, knowledge and skills obsolescence, blocking career paths of younger workers, suspicion about competence, and fear of age-discrimination lawsuits (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 years of transition Slovenia's older 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 re-employed (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.⁹

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 though 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, which found that workers aged 55 and over are less productive than younger workers. Moreover, a similar study on Slovenia finds that over the 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 a market economy 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, a process that produced significant worker layoffs – see World Bank, 2005), and boosted the advantage of young workers, namely the ability to adjust to changes in the environment. This result tells of the differences in productivity between older and young

⁹ See, for example, evidence on US workers in Jacobson, LaLonde and Sullivan (1993) and Kletzer and Fairlie (2003), and OECD (1998) for OECD countries.

workers. Interestingly, Vodopivec (2007) also reports that in 2001, older workers retained their advantage in terms of higher relative wages, with wages of workers aged 50 or over 43 percent above those of workers younger than 30, all other things being equal.

However, 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 monotonically decreases with age and increases commensurate with job tenure, with the opposing effects approximately canceling out (Ilmakunnas et al., 2007). Furthermore 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.

4 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 with their 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).

Optimistic though the above views may be, this section argues that it is possible to motivate people to work longer if they are provided with suitable incentives, if they are offered attractive and flexible working 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 the 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, a choice many of them are denied.

4.1 Improving financial incentives to work

One of the most important incentives to working longer is provided by the financial benefit of staying active. A high replacement rate and consequently a high implicit tax on

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 fulfillment, 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 *Great Britain* 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).

continued work pushes workers towards early labor market withdrawal (Duval 2003).¹⁰ In OECD countries, the implicit tax rate is 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 a 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.

4.2 Fitting jobs to old workers: making work arrangements more flexible

Alternative, flexible work arrangements can encourage the elderly to work longer. At the individual level, the likelihood of employment depends on the interaction between an individual's functional capacity, the nature of the work, his or her state of health, and

¹⁰ 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".

Box 2: Push and pull factors of labor market withdrawal

Several “pull” and “push” factors influence the work and retirement decisions of older 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 decisions 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 older 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 of low returns on further training, work related stress, poor health and inflexibility to change working hours.

Source: OECD (2006).

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 (2007) found that older workers preferred more flexible work arrangements (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 the labor force participation of old workers by several years. Such jobs offer hourly wage rates below those offered to full-time workers (OECD 1999) – but given the choice of more flexible work arrangements, this is a price many of the older workers are willing to pay. Moreover, the OECD (2006) notes that better working conditions also play a key role in encouraging longer working lives.

4.3 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 workforce, 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 also affect 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 other things, their wages), then good health does just the reverse. By implication, improving the health of old workers, coupled with 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 also live longer healthy – the so-called “healthy aging” hypothesis, that is, the regime where longevity gains translate into gains in healthy life years. For the period since the early 1980s, Munnell and Libby (2007) show that in the US there has been a steady reduction of the proportion of men aged 45-64 with activity limitations and disabilities; research which has been corroborated by Dormont et al. (2007) for Europe and Japan. However, they 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.”¹¹

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 older 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 Arunatillaka, 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.

5 How to Stimulate Employers to Offer More Jobs to Old Workers?

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

¹¹ Dormont et al., (2007) contrast the “healthy aging” regime with two extremes: (i) an optimistic “compression of morbidity” hypothesis, maintaining that there is a reduction in morbidity and disability in the last years of life that makes 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.

5.1 Removing institutional obstacles

If institutional rigidities prevent wages adjusting to changes in life-cycle productivity of workers, the introduction of flexible wage determination can increase the employability of old workers. As discussed above, on average, the productivity of a worker eventually decreases as he or she ages. If changes in the wage level across an individual's working life 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 young workers. Reflecting individuals' productivity profiles, wage-age profiles in many countries are indeed hump-shaped and are thus consistent with the employability of old workers (see OECD 2006 for a description of profiles in OECD countries).¹² In some countries, however, rigidities embedded in the wage determination system prevent relative wages of old workers from reflecting underlying productivities, thus undermining employment opportunities for old workers: OECD (2006) singles out Austria, Belgium, the Netherlands and Spain, and above we showed evidence for Slovenia (where, as in other successor states of Yugoslavia, the law mandates a 0.5 percent increase 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).¹³ To circumvent such seniority bonuses, most workers in Japan and Korea are forced to retire from their career jobs at the age of 60 or 55; 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. 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 older workers and a 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) found a statistically significant association of strict EPL with reduction of employment and hiring rate of workers aged 50-64 based on a cross-section analysis for OECD countries, and reports a number of country studies which identified strict EPL as a barrier to the hiring or retention of older workers (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 the enactment of anti-discrimination legislation as well as the conduct of information campaigns and promotion of guidelines about the employment of old workers. While difficult to prove, survey evidence in OECD countries suggests that workplace age discrimination exists, as 1-

¹² 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.

¹³ Daniel and Heywood (2007) also show that U.K. firms that use seniority bonuses hire a smaller share of old workers.

14 percent of workers reported that during the previous 12 months they either personally experienced or witnessed it.¹⁴ But anti-discrimination laws may not always be effective, and they may have significant unintended effects.¹⁵ The OECD (2006) thus argues for the combination of anti-discrimination laws with information campaigns and guidelines. The UK Age Positive campaign is one example; this campaign promotes age diversity at work through a practical guide for business in the areas of recruitment, 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).

5.2 Improving employability of old workers

To increase the attractiveness of old workers to employers, new generations older workers should possess better skills, which calls for life-long learning – including learning toward the end of the 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 a longer work period. Second, OECD (1998) also argues that if workers undergo continued training throughout the career, it is unlikely that they will experience a decline in their trainability in the old age. Third, because the retention rates of old workers are high, training older workers may be as profitable as training younger ones. Indeed, OECD (1998) reports that retention rates of workers aged 45 years or more were higher than those of younger workers in six out of the nine OECD countries studied, and, unsurprisingly, 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 the need to maintain a 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 in reconciling the occasionally 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 enable 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.

¹⁴ 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.

¹⁵ For example, in the 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.”

6 Concluding remarks

The above discussion suggests that the perplexing long-term trend of reduced time spent at work – a paradoxical result in light of persistent gains in longevity – will have to change: working longer is an imperative, because it boosts workforce growth, strengthens public finances, and increases retirement incomes. The paper claims that to achieve the goal of working longer, policies should stimulate both the supply of labor by old workers – by making work in old age more attractive in financial and non-financial terms (the latter, among others, by offering flexible working arrangements and by improving health of old workers), and the demand for it by employers – by removing restrictive labor market institutions, fostering life-long learning, and addressing age discrimination.

When implemented in conjunction with each other, the proposed policy measures would be mutually reinforcing and create synergies. Improvements in the health of older workers would allow many to continue earning and postpone retirement, an outcome that would be facilitated by employers offering more flexible working conditions as well as by workers undergoing life-long learning that would enhance their employability. Moreover, the resulting lighter pressure on pension systems would positively affect public finances and overall economic growth. And better health, enhanced old-age income support and the ability to choose when to retire would all contribute to better intergenerational relations and improved attitudes towards old people.

Despite promising signs of change in some countries and in view of the technological advances that allow for more flexible work arrangements (such as advances in information and communication technology), formulating and fine-tuning the policies to promote working longer remains a task for future research. Above all, research should shed light on the best ways to foster life-long learning among workers (on the type of training and modalities of financing), what kind of financial incentives and work arrangements are best suited to keep workers in the workforce, and what are the best ways to combat age discrimination. Moreover, better understanding of how to prevent early exits from main lifetime jobs is also called for, particularly in countries where workers after exiting from such jobs continue to work, but in much less productive employment. In many countries, postponing early exit from lifetime jobs calls for the removal of rigidities in the wage-setting process; this is not an easy task, yet the large potential gains to both employers and workers should make such adjustments possible.

LITERATURE

Bender, K. A. and Jivan, N. A., 2005. “What Makes Retirees Happy?” [online]. *An Issue in Brief*, 25(5). Boston: Center for Retirement Research at Boston College. Available from: [http://www.bc.edu/centers/crr/issues/ib_28.pdf].

Bovemeberg, A. L., 2007. *The Life-Course Perspective and Social Policies: an Overview of the Issues*. Tilburg: Tilburg University, u pripremi.

Buddelmeyer, H., Mourre, G. and Ward, A., 2005. „Recent Developments in Part-time Work in EU Countries: Trends and Policy“. *IZA Discussion Paper*, No. 1415. Bonn: IZA.

Burtless, G. and Quinn, J. F., 2002. "Is Working Longer the Answer for an Aging Workforce" [online]. *Issue brief*, 11(12). Available from: [<http://fmwww.bc.edu/EC-P/WP550.pdf>]. Boston: Center for Retirement Research at Boston College.

Currie, J. and Madrian, B. C., 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, 3309-3416.

Daniel, K. and Heywood, J. S., 2007. "The determinants of hiring of old workers: UK Evidence". *Labor Economics*, 14 (1), 35-51.

De Vroom, B. and Blomsma, M., 1991. "The Netherlands: An Extreme Case" in: M. Kohli [et al.]. *Time for Retirement. Comparative Studies of Early Exit from the Workforce*. Cambridge: Cambridge University Press.

Dormont, B. [et al.], 2007. "Health Expenditures, Longevity and Growth". Rad predstavljjen na IX European Conference of the Fondazione Rodolfo De Benedetti na temu "Health, Longevity and Productivity". Available from: [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" [online]. *Economics Department Working Papers*, No. 370. Paris: OECD. Available from: [<http://www.oecd.org/dataoecd/58/47/32124786.pdf>].

Friedberg, L., 2007. "The Recent Trend Towards Later Retirement" [online]. *An Issue in Brief*, 9 (3). Boston: Center for Retirement Research at Boston College. Available from: [http://www.bc.edu/centers/crr/issues/wob_9.pdf].

HSBC, 2005. *Future of Retirement: What the People Want* [online]. Available from: [<https://www.agingforum.org/content/2005researchsummary.aspx>].

Ilmakunnas, P. [et al.], 2007. "Ageing and Productivity". Rad predstavljjen na De Benedetti konferenciji, Limone, May 26, 2007.

Jacobson, L., LaLonde, R. and Sullivan, D., 1993. "Earnings Losses of Displaced Workers". *American Economic Review*, 83 (4), 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, 682-698.

Kohli, M. and Rein, M., 1991. "The Changing Balance of Work and Retirement" in: M. Kohli [et al.]. *Time for Retirement. Comparative Studies of Early Exit from the Workforce*. Cambridge: 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. [et al.], 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 World Bank.

Munnell, A. H. and Libby, J., 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., Sass, S. A. and Aubry, J.-P., 2006. “Employer Survey: 1 of 4 Boomers Won’t Retire Because They Can’t” [online]. *An Issue in Brief*, 6 (12). Boston: Center for Retirement Research at Boston College. Available from: [http://www.bc.edu/centers/crr/issues/wob_6.pdf].

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. and Vaupel, J. W., 2002. “Broken limits to life expectancy”. *Science*, 296 (5570), 1029-1031.

Orazem, P., Vodopivec, M. and Wu, Wu., 2005. „Worker Displacement during the Transition: Experience from Slovenia“. *Economics of Transition*, 13 (2), 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. [et al.], 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* [online]. Available from: [<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, M. and Arunatilake, N., 2007. „Population Aging and the Labor Market: The Case of Sri Lanka“. Rad predstavljen na *Economist Forum*, World Bank.

Vodopivec, M., 2007. *Equal Pay for Equal Work? Wage and Productivity Differentials During Slovenia’s Transition*. Macalester College, u pripremi.

Williamson, J. B. and Higo, M., 2007. „Older Workers: Lessons From Japan” [online]. *An Issue in Brief*, No. 11. Boston: Center for Retirement Research at Boston College. Available from: [<http://www.globalaging.org/elderrights/world/2007/olderwork-japan.pdf>].

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*. Washington, DC: 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.