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# Raising Older Workers' Employment Rates in Austria\*

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## 1. The Economic Challenge of Population Aging

For demographic reasons it is necessary to increase employment rates of older workers or – more generally – extend working lives. This is part of a comprehensive strategy to cope with the fact of aging populations in European countries (European Central Bank, 2003). This is reflected in numerous economic policy guidelines and suggestions, for example in the growth strategy of the European Union, the so-called Lisbon Agenda which envisages increasing older workers' employment rates to 50% by 2010.

This survey argues that the pension reforms recently introduced by the Austrian government are important premises to reach this goal. However, it is not certain whether these measures – focussing mainly on reducing retirement incentives – are sufficient because the employability of older workers in the future is far from being assured.

The introductory section starts with some general remarks on population aging and stresses that this process is desirable in principle. However, there are fiscal and macroeconomic challenges to be met. Section 2 puts the current labor market participation of older workers in Austria in an international perspective. While older people worked considerably longer until the 1970s, at present Austria has a particularly low propensity of older people to remain in the workforce which is the effect of generous early retirement provisions introduced in the past decades.

Section 3 discusses the various pathways into retirement and the likely effects of the pension reforms. The literature is dominated by considerations of labor supply and retirement incentives. Section 4, however, deals also with labor demand issues and interactions of labor supply and demand. Section 5 summarizes the main points.

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## 1.1 Demographic Transition and Population Aging

Regularly, contributions on pension reforms older workers' employment incentives are motivated by the foreseeable changes in the population age structure. Almost always, this process of population aging is presented as a serious crisis. Often the underlying rhetoric is alarming and sometimes even apocalyptic.<sup>1</sup>

But we should not forget that the process of population aging is the result of a great progress in human history – the so-called demographic transition. “*Before the start of the demographic transition, life was short, births were many, growth was slow and the population was young. During the transition, first mortality and then fertility declined, causing population growth rates first to accelerate and then to slow again, moving toward low fertility, long life and an old population. The transition began around 1800 with declining mortality in Europe. It has now spread to all parts of the world and is projected to be completed by 2100.*” (Lee, 2003). People do not only live longer they also remain longer in relatively good health (Fogel, 2005).

This process is not synchronized across countries. Whereby the rich countries (say, the OECD member states) are relatively old on average poor countries consist of considerably younger populations. Currently, the “youngest” countries (predominantly African states which are at the same time also among the poorest countries) have a median age of some 15 years whereas the median in the “oldest” countries (European countries which are also among the richest) is between 37 and 41 years.<sup>2</sup>

This clarification is not to deny that the demographic transition is no problem at all. In fact, we are going to face significant challenges in the coming decades which are the result of declining fertility rates, longer life expectancies and the large inflows into retirement when the large babyboom cohorts reach the corresponding age in the not so distant future. Chart 1 shows the declining number of births whereby the magnitude of the decline depends on the starting year. In any case, fertility rates have decreased and remain substantially below the demographic reproduction rate of 2.1.<sup>3</sup>

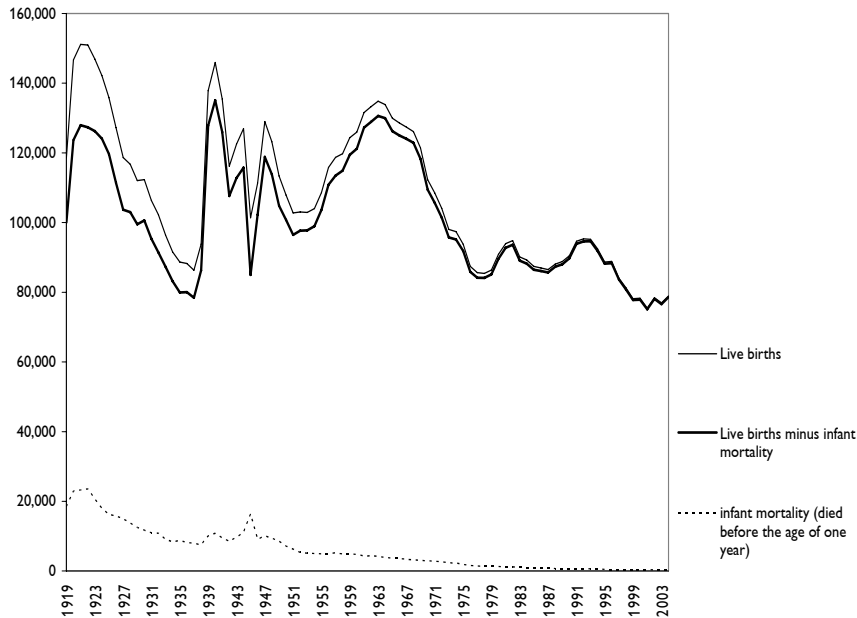
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<sup>1</sup> The word “aging” is regularly accompanied by the adjectives “dramatic” or “rapid”. In German, the use of “*Überalterung*” (*over-aging*) is almost as widespread as the neutral term “*Alterung*” itself, as a Google search reveals. (“*Überalterung*” is also used on the German Eurostat website on structural indicators). Politicians, feature-writers and labor statisticians are magnetized by the question in which particular year the population is going to *shrink* as if an ever increasing population were a key economic goal (cf. The Economist, January 7, 2006).

<sup>2</sup> In 2000, the five countries with the lowest median age were: Burkina Faso, Mali, Niger, Uganda and Yemen. Germany, Italy, Japan, Sweden and Switzerland had the highest median age (United Nations, 2004).

<sup>3</sup> Several features are quite noticeable: the large fluctuations, the sustained decrease from 1920 to 1938 (the First Republic), the sudden increase after the “Anschluss” (the annexation to the Third Reich) in 1938, the subsequent drop at the end of World War II and the distinctive “hump” of the babyboom generation (approximately those born between 1955 and 1970). The trend decline is weaker when the decrease in infant mortality is taken into account. (However,

Chart 1: Live Births in Austria 1919–2004



Source: Statistics Austria (Statistical Yearbook 2006, Tab. 2.21).

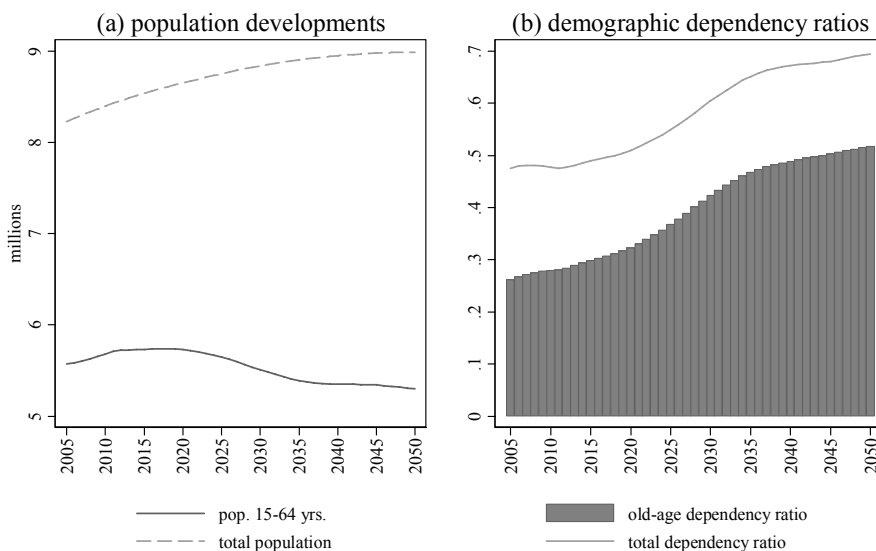
Even in the short time span since 1970 life expectancy at birth has increased from 70 to 78 years. Between 1960 and 2002, the life expectancy of a person aged 60 has increased by approximately five years. Moreover, while longer life expectancy and decreased fertility rates are rather gradually evolving processes, in the next three decades population aging will be accelerated when the baby-boom generation is going to retire.

As a result, the Austrian population will become older: The working-age population (those aged between 15 and 64 years) which is growing only slowly at present will start to decrease from the 2020s onward. According to the current population projections, the old-age dependency ratio will increase from 26% to approximately 46% in 2050 (chart 2).

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one must also take into account that the total population has increased: It was 6.5 million at the beginning of the 1920s; currently it stands at 8.1million.) At present, there are approximately 80,000 births per year – a number which is extrapolated in the most recent population projection by Statistics Austria (Hanika, 2005).

Chart 2: Statistics Austria Autumn 2005 Population Projection



Source: ISIS database; author's calculations.

## 1.2 Fiscal Consequences of Aging Populations

The demographic developments will put pressure on social security systems, most notably healthcare and pension systems. This is evident in the case of the pay-as-you-go pension system where a growing number of older people in retirement is supported by payments of a shrinking working-age population.<sup>4</sup>

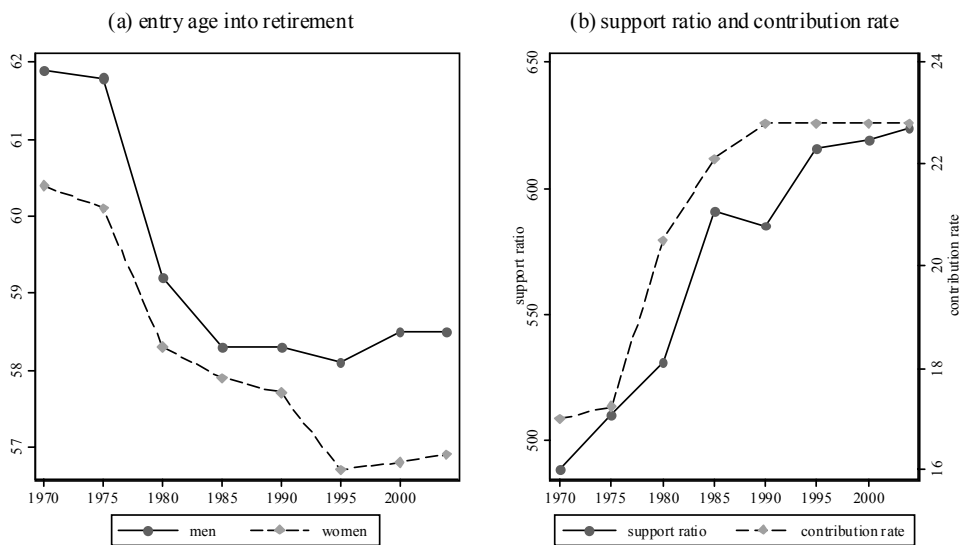
At the beginning of the 1970s, 1,000 employees were supporting 488 retirees. By 2004, this ratio has increased to 624 (+27.9%). There are several reasons for this development: Whereas the demographic developments (old-age dependency ratios were decreasing until the mid-1980s and have been increasing since then) and rising employment rates (especially of females) have long been favorable for the pension system, lower retirement ages and higher entry ages into employment were contributing to a deterioration of the support ratio.

Chart 3 shows that the average retirement age of both men and women has decreased by some three years since 1970 (left panel). In the past, rising pension expenditures were compensated by higher contribution rates. Since 1970, the pension contribution rate (which is a part of the total social security contribution rate) rose from 17 to 22.8%

<sup>4</sup> I do not want to suggest that pay-as-you-go systems are the only kind of old-age provision which faces a population-aging challenge (cf. Schmitz, 2005 on demographic problems of funded systems).

(+34.1%; right panel).<sup>5</sup> Further increases are probably not feasible in the light of increased unemployment and substantial competition from transition countries.

*Chart 3: Trends in the Statutory Austrian Pension System 1970–2004*



Source: Association of Social Insurance Providers, OeNB.

The Economic Policy Committee of the European Commission has repeatedly presented estimates on the fiscal consequences of population aging. According to the most recent report (Economic Policy Committee and European Commission, 2006) which takes into account the pension reforms enacted in the recent years total expenditures for statutory pensions are projected to decrease slightly as a percentage of GDP until 2050 (–1.2 percentage points from their initial level of 13.4%).<sup>6</sup> This welcome result hinges on the lower replacement rates of the new pension system as well as on the assumption of higher employment rates of both older workers and women in general.<sup>7</sup>

<sup>5</sup> Since 1960, contribution rates have roughly doubled. The last increase took place in 1988 (Source: OeNB documentation).

<sup>6</sup> Total expenditures continue to be covered mainly by pension contributions. Currently, approximately 22% of total expenditures for statutory pensions are financed by general tax revenues. This corresponds to 2.2% of GDP. According to an estimate by the social security administration this ratio is expected to increase to about 3% of GDP in 2050 (Stefanits and Königsreiter, 2005).

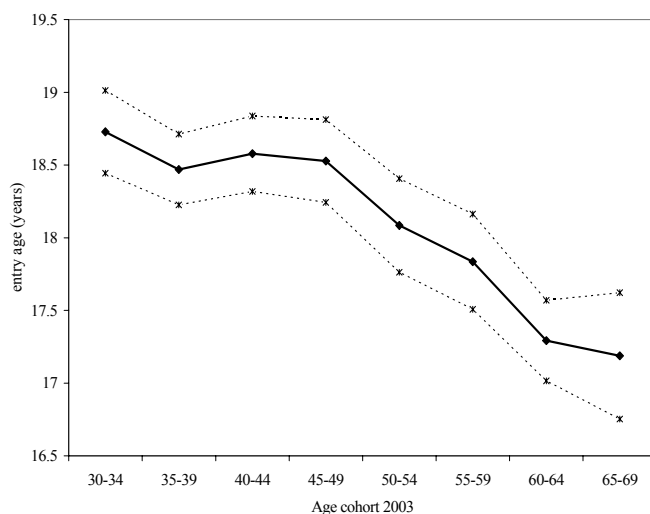
<sup>7</sup> The EPC projections are based on the assumption that the participation rate of older workers (15-64 years) will increase from about 30% to 42.5% in 2010 and to 54.4% in 2020.

### 1.3 Longer Working Lives

Older workers' employment rates were decreasing continuously during the past three decades. Especially at the end of the 1970s and the mid-1980s there was a deliberate policy to reduce labor supply in order to prevent unemployment from rising. Moreover, years of study have increased. Data from the EU Survey of Income and Living Conditions (SILC) suggest that the average entry age into employment has increased by approximately two years since 1970 (chart 4). This shortening of the working life "from both ends" can be tracked in a number of EU countries (European Commission, 2003; Brugiavini and Peracchi, 2005).

In the light of increasing life expectancies it is consequential to try to reverse the trend to shorter working lives. As part of its Lisbon Agenda, the European Union wants to increase the employment rate of older workers (aged 15 to 64 years) to 50% by 2010 ("Stockholm target"). A complementary target is an increase of the average exit age into retirement by five years ("Barcelona target").

*Chart 4: Average Entry Age into the Labor Force by Age Cohorts*



Source: EU Survey of Income and Living Conditions 2003, author's calculations<sup>8</sup>.

<sup>8</sup> Entry ages into employment of those being employed, unemployed or retired at the time of the survey as indicated by the respondents. In cases where the entry age were lower than the age when the first continuous formal education was completed the entry age was replaced by the latter variable.

Over and above these goals it is reasonable to think of ways to shorten educational periods and years of study (cf. Skirbekk, 2005a<sup>9</sup>). Otherwise rising numbers of labor market entrants with tertiary education (which are another explicit goal of economic policy) will tend to shorten working lives further.

Older workers with higher educational attainment tend to have higher employment propensities than workers with lower skills. Does this mean that the increasing numbers of university graduates will automatically solve the problem of low employment rates in higher ages? Vandenberghe (2005) shows that the theoretical impact of higher human capital on the length of working lives is ambiguous. His empirical results show that high-skilled workers do not work *longer* than their medium- or low-skilled colleagues (although they tend to retire *later*).

From the perspective of fiscal sustainability of the pension system the newly enacted system does account for the length of the working life more strongly than in previous years (where times spent at the university were partly counted as times insured.)<sup>10</sup>

## 2. Labor Force Participation of Older Workers in Austria

### 2.1 Austria Compared to Other European Countries

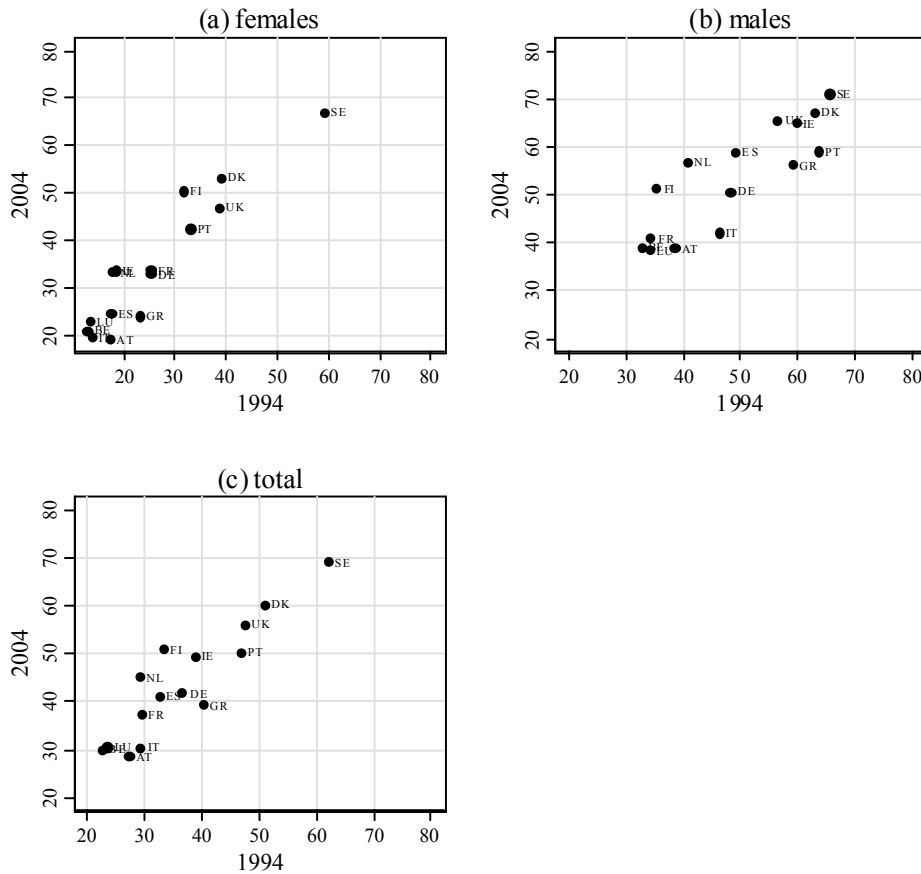
In 2004 the older workers' employment rate was 28.8%. This was the lowest figure of all EU-15 Member States (the EU-15 average was 42.5%). Women retire particularly early in Austria. One reason for that is the lower statutory retirement age (whereas in most OECD countries legal retirement ages are the same for men and women; cf. OECD, 2005b). But also men retire comparably early (see chart 5).

<sup>9</sup> This author stresses the positive consequences of shorter educational periods on productivity and fertility. Because of declining skills and learning capacities at older ages Skirbekk considers "starting earlier" as much more important than "stopping later". (See section 4 on more details on the age-productivity relationship.)

<sup>10</sup> For example, in 1993 higher secondary education (Gymnasium) was counted as 24 months of pension insurance. A university study was given credit of up to 48 months.



Chart 5: Employment Rates of Older Workers (2004 vs. 1994)



Source: European Commission (2005).

Similarly to Belgium, Luxemburg and Italy older workers in Austria do not remain in the workforce in large numbers. On the other hand, in Sweden, Denmark and the United Kingdom employment rates of the elderly do already exceed the Stockholm target. Moreover, while in most countries older workers' employment rates are on the rise, the corresponding figures are stagnant<sup>11</sup> for Austria (European Commission, 2005).

Low employment rates of the elderly may result from a variety of factors which is demonstrated subsequently with disaggregated data. As I do not dispose of the individual labor force survey data I use data from the new Survey of Health, Ageing and Retirement in Europe (SHARE), a multidisciplinary longitudinal study of the living conditions of people aged 50 or more in a number of European countries (of which 10 are Member States of the EU-15).

Table 1 shows the results of probit regressions of the participation (or employment) probabilities for men and women separately. Control variables are country dummies, age-class dummies as well as interactions between age classes and countries. In the following, I refer to the results for participation rates (results for employment probabilities are very similar).

There are substantial differences by age classes and gender. For older men, the participation propensity is lowest in Austria, Spain and Italy (the reference category is Sweden, a country with a particularly high participation rate of older workers). Older Austrian women are also less likely to participate in the labor market than their Swedish counterparts, but the difference is substantially higher in mediterranean countries like Spain, Italy and Greece. Some of the results for the interaction between country and age classes are quite interesting. These variables indicate deviations from the general tendency of country and age patterns. One can see easily that Danish men aged 55 to 59 have a very high participation rate whereas Austrian and French men in the age class 60 plus have a very low participation probability. When looking at Austrian women one detects that these have not only comparably low participation rates beyond 60 (which would not be surprising) but also between 55 and 59 years.

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<sup>11</sup> However, the drop in the employment rate from 2003 to 2004 is due to a methodical change in the Austrian labor force. Prior to 2004, employment rates were overestimated somewhat (Kytir and Stadler, 2004).

*Table 1: Labor Force Participation and Employment Probabilities of Men and Women Aged 50 to 64 in SHARE Countries*

Probit regressions

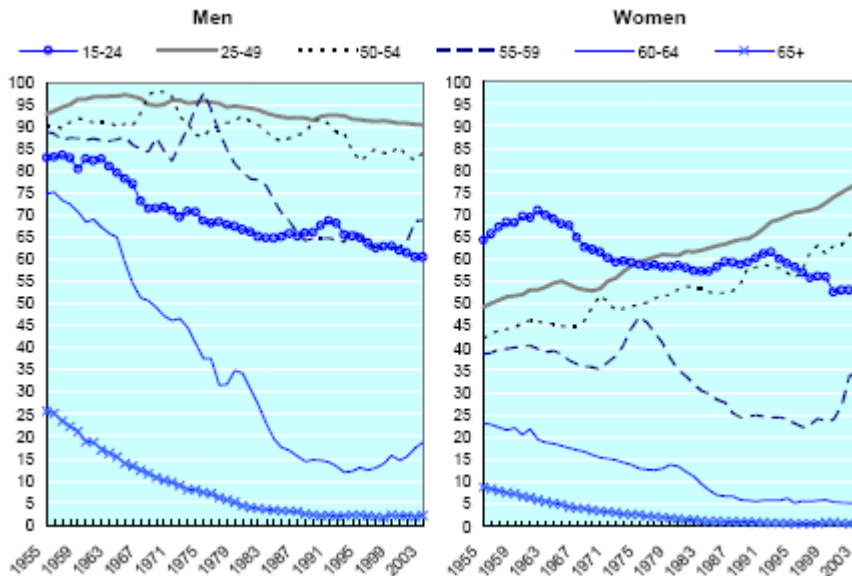
	participation				employment			
	men		women		men		women	
<u>Country</u>								
(reference: Sweden)								
Austria	-0.307	(3.87)**	-0.197	(3.78)**	-0.293	(4.37)**	-0.202	(4.25)**
Germany	-0.098	(1.33)	-0.040	(0.84)	-0.228	(3.79)**	-0.085	(1.99)*
Netherlands	-0.229	(3.21)**	-0.251	(6.02)**	-0.155	(2.54)*	-0.228	(5.91)**
Spain	-0.307	(3.94)**	-0.329	(8.07)**	-0.248	(3.70)**	-0.315	(8.56)**
Italy	-0.304	(3.84)**	-0.324	(7.55)**	-0.244	(3.56)**	-0.285	(7.12)**
France	-0.197	(2.57)*	-0.115	(2.22)*	-0.157	(2.40)*	-0.119	(2.50)*
Denmark	-0.220	(2.85)**	0.087	(1.40)	-0.212	(3.27)**	0.019	(-0.34)
Greece	-0.158	(2.06)*	-0.358	(9.11)**	-0.053	(-0.79)	-0.317	(8.74)**
Switzerland	-0.167	(1.80)	-0.054	(0.84)	-0.109	(-1.33)	-0.064	(-1.09)
<u>Age class</u>								
(reference: 50-54 years)								
55-59 years	-0.286	(4.28)**	-0.063	(1.37)	-0.224	(3.85)**	-0.049	(-1.12)
60-64 years	-0.512	(8.06)**	-0.250	(5.63)**	-0.427	(7.68)**	-0.235	(5.67)**
<u>Interactions country &amp; age class</u>								
55-59 years & Austria	0.034	(0.40)	-0.251	(3.84)**	0.045	(-0.54)	-0.243	(4.07)**
55-59 years & Germany	0.087	(1.09)	-0.114	(1.80)	0.157	(2.26)*	-0.145	(2.55)*
55-59 years & Netherlands	0.101	(1.40)	-0.079	(1.33)	0.075	(-1.05)	-0.078	(-1.4)
55-59 years & Spain	0.154	(2.07)*	-0.038	(0.57)	0.124	(-1.58)	-0.052	(-0.82)
55-59 years & Italy	-0.041	(0.47)	-0.158	(2.51)*	-0.076	(-0.92)	-0.17	(2.92)**
55-59 years & France	-0.025	(0.28)	-0.025	(0.34)	-0.074	(-0.87)	-0.06	(-0.9)
55-59 years & Denmark	0.191	(2.67)**	-0.074	(0.94)	0.132	(-1.71)	-0.095	(-1.36)
55-59 years & Greece	0.029	(0.34)	-0.097	(1.39)	-0.049	(-0.58)	-0.098	(-1.49)
55-59 years & Switzerland	0.209	(2.40)*	-0.136	(1.58)	0.221	(2.33)*	-0.098	(-1.21)
60-64 years & Austria	-0.292	(2.97)**	-0.409	(6.71)**	-0.315	(3.52)**	-0.358	(6.19)**
60-64 years & Germany	-0.107	(1.26)	-0.320	(5.95)**	-0.058	(-0.78)	-0.278	(5.53)**
60-64 years & Netherlands	-0.101	(1.23)	-0.236	(3.91)**	-0.214	(2.78)**	-0.204	(3.58)**
60-64 years & Spain	0.082	(1.04)	-0.055	(0.80)	-0.005	(-0.06)	-0.09	(-1.34)
60-64 years & Italy	-0.069	(0.78)	-0.305	(4.79)**	-0.173	(2.04)*	-0.28	(4.76)**
60-64 years & France	-0.364	(3.52)**	-0.224	(3.13)**	-0.45	(4.84)**	-0.253	(3.90)**
60-64 years & Denmark	0.055	(0.68)	-0.356	(5.62)**	0.074	(-0.95)	-0.284	(4.70)**
60-64 years & Greece	-0.006	(0.07)	-0.007	(0.10)	-0.111	(-1.29)	-0.05	(-0.7)
60-64 years & Switzerland	0.115	(1.25)	-0.144	(1.64)	0.097	(-1.01)	-0.114	(-1.36)
Observations	5279		6282		5279		6282	
Marginal effects, unweighted data								
Absolute value of robust t statistics in parentheses								
* significant at 5%; ** significant at 1%								

Source: SHARE-Data (release 1).

## 2.2 Long-Term Tendencies

It may be hard to imagine, but labor force participation in Austria was much more widespread in earlier decades (OECD, 2005a). Chart 6 shows that the participation rate of males aged 60–64 years decreased from over 75% to some 15%. Participation rates also declined in the age class of 55–59 years. For women, the trends are not unidirectional because the tendency towards earlier retirement ages is counterbalanced by higher employment rates of younger cohorts (which is well visible for prime-age women in chart 6.)

*Chart 6: Labor Force Participation Rates by Age Classes and Gender 1955–2003*



Source: OECD (2005a).

In previous decades, Austrian economic policy deliberately acted to “relieve” the labor market in times of low demand (recessions) or high supply (immigration). For example, during the recession in 1982/83 the entry into invalidity pensions was handled especially “generously”. Despite these measures the structural unemployment rate – albeit on a low level – has been on the rise since the end of the 1970s. Moreover, a glance at the employment rates of older and younger workers does not suggest that older workers prevent younger workers from entering the labor market. If anything, the correlation between employment rates of older and younger workers is positive in the cross section. New entrants into the labor market are employed in different sectors and occupations than older workers (European Commission, 2005).

## 2.3 Employment and Unemployment Dynamics

The propensity of a job change, the probability of becoming unemployed and the the likelihood to find a new job decline with age. As a consequence, unemployment rates for older workers are higher than for prime-age workers and unemployment spells are longer (OECD, 2005a).

## 3. Pensions and Labor Supply

There is a large literature dealing with the labor supply and retirement incentives of the “first pillar” of pension systems (which is for most retirees the most important or sole source of income). Many studies have attempted to quantify these incentives which are in turn good predictors of retirement behavior (Gruber and Wise, 1999 and 2004; Blöndal and Scarpetta, 1999; Duval, 2003).

These empirical studies are complicated by the fact that there are quite a number of ways to retire as there are many early retirement or quasi-early-retirement schemes. Austria is a good example. These pathways into retirement are described subsequently. Then the main points of the recent pension reforms in Austria are described which aimed both at reducing retirement incentives in the statutory pension and at curtailing early retirement provisions.

### 3.1 Pathways into Retirement

The “normal”, statutory old-age pension was not the most frequently used path into retirement. There were (and there still are) a number of provisions – usually termed as “early-retirement schemes”.<sup>12</sup>

Especially men comparably rarely went into statutory retirement but rather used early retirement options. For both men and women on such provision – the early retirement due to long insurance record – has been of great importance. (Another scheme – early retirement due to long-term unemployment – was of minor importance and has been abandoned.)

Invalidity pensions seem to be also very important. This holds both for the regular invalidity scheme but also for the so-called partial invalidity scheme which was in place between 1993 and 2003.

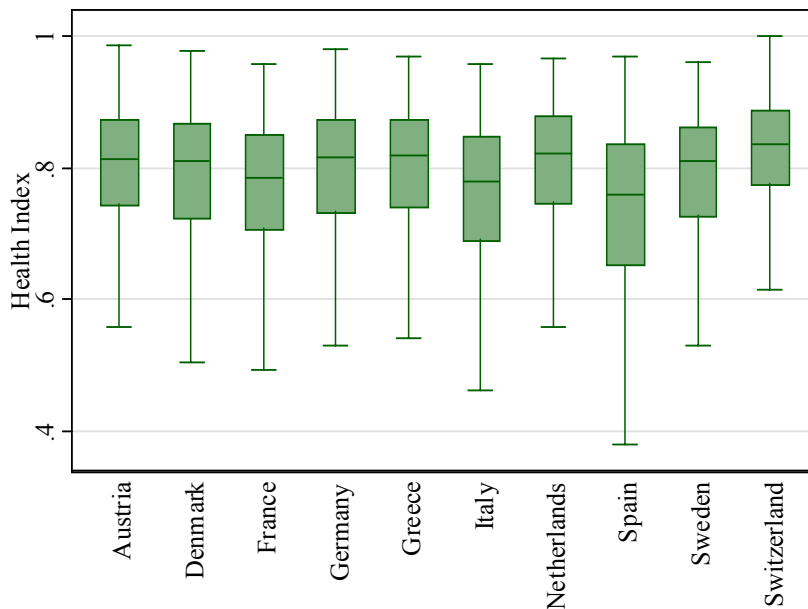
There seems to be a large degree of substitutability between the various schemes. For example, in 2004 – early retirement had been made more difficult just in the preceding year – the share of disability pensions in all pension entries exceeded 41% which means that disability pension was the most important way into retirement altogether. These numbers suggest that the disability pension is regarded as a quasi-early retirement

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<sup>12</sup> See OECD (2005a) and Hofer and Koman (forthcoming) on the importance of the various retirement options over time.

scheme and not as a provision for those only who are not able to work anymore. An international comparison reveals that in Austria the number of disability pension takeups increases dramatically from the age of 55 onward (whereas in other countries it is more equally distributed over age). Internationally comparable data on the health status do not suggest that older Austrians are less healthy than their counterparts in other countries. Quite the contrary seems to be the case according to both subjective and objective health indicators. Chart 7 reports SHARE results on objective health status which suggest that median health status is quite high and that the relatively good health conditions are spread quite evenly among the population.<sup>13</sup>

*Chart 7: Aggregate Objective Health Indicator in SHARE Countries*



*Note: 1 = perfect health; 0 = very bad condition.*

*Source: SHARE, release 1.*

<sup>13</sup> I want to thank Hendrik Jürges from the Mannheim Research Institute for the Economics of Ageing for providing me with the data on aggregate health (which are not included in release 1 of the SHARE data). This measure is based on a number of questions on the physical and mental health condition, on cognitive and physical ability tests. Its construction is described in more detail in chapter 7 of Börsch-Supan et al. (2005).

### 3.2 Retirement Incentives of the Austrian Pension System

There are a number of formal structural models of labor supply in the life cycle and retirement (Lazear, 1986; Lumsdaine and Mitchell, 1999). But in general these models are not suited to study the incentives resulting from complex real-world pension retirement provisions. Instead, a number of applied studies are based on the calculation of the implicit social security wealth (SSW). When an individual decides whether to work for a further year or not he or she has the following considerations: At time  $t$  there is a certain social security wealth (present value of the expected future pension payments considering the expected life expectancy). One more year of work may change the SSW (pension payments start later but are likely to be higher). If a postponement of retirement until  $t+1$  increases SSW then the system contains an implicit subsidy of continued work. If SSW decreases there is an implicit tax on continued work. Finally, if SSW is unchanged regardless of the timing of retirement, the pension scheme is actuarially fair from an individual perspective. In that case preferences (for leisure) are likely to be decisive for the retirement decision.<sup>14</sup>

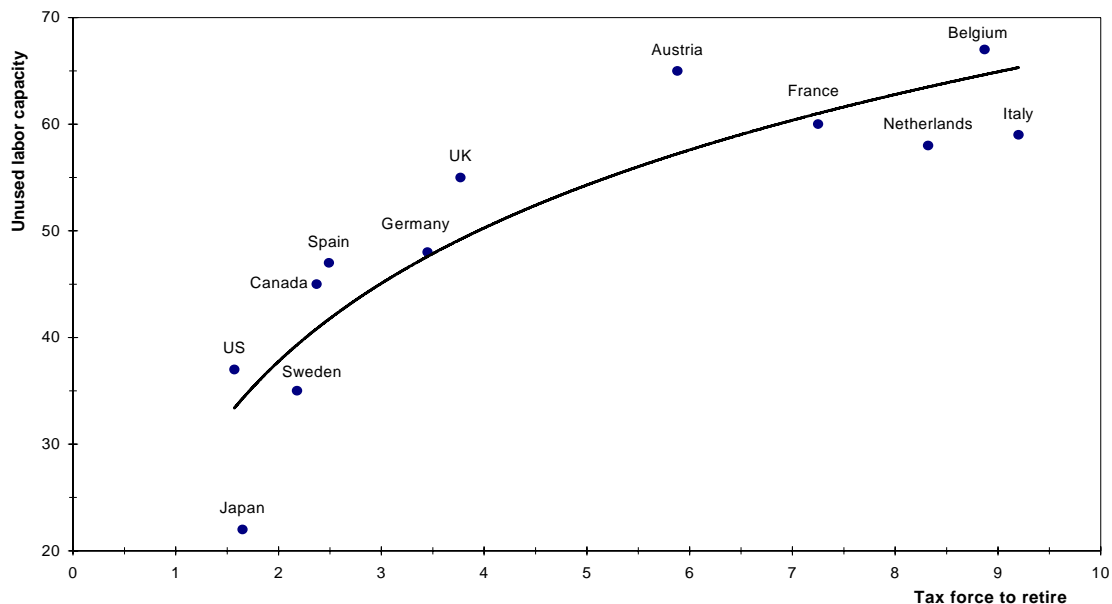
The term “actuarial fairness” may be also used from a fiscal perspective. In this view, a system is actuarially fair when the present value of pension expenditures for those before the statutory age is matched by a reduction of expenditures beyond that age. It is likely that the necessary pension reductions for early retirement are lower from this perspective than from the perspective of individual labor supply (OECD, 2005).

Empirical studies suggest a strong positive relationship between the implicit tax on continued work and early exit from the labor force (Blöndal and Scarpetta, 1999 and Duval, 2003). Hofer and Koman (forthcoming) implement the methods adopted in the Gruber and Wise (1999) international comparison project on the Austrian pension system of 2000 (i. e. before the major reforms of 2003 and 2004). They calculate an aggregate incentive indicator (“tax force to retire”) by summing up the implicit tax rates on continued work between the age of 55 and 69 years. Gruber and Wise show that a higher tax force is correlated with higher share of older workers not participating in the labor market (“unused productive capacity”). The results of Hofer and Koman fit well into the general picture (chart 8). In the meantime, the incentives to continue working have certainly increased. Unfortunately, there is no update of these results available (which would be quite complicated because of the various temporary arrangements and phased-in changes of the systems).

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<sup>14</sup> Cf. Börsch-Supan (2004) for a more in-depth definition of actuarial fairness and related concepts.

Chart 8: Incentives of the Pension System and Unused Labor Capacity of Older Workers



Source: Hofer and Koman (forthcoming), Gruber and Wise (1999).

### 3.3 Long-Term Effects of the Austrian Pension Reforms on Labor Supply

The following short evaluation of the Austrian pension reforms considers only the likely effects on employment probabilities of older workers.<sup>15</sup> There were major pension reforms in 2000, and especially in 2003 and 2004. Below, I shall call the pension system that was in effect prior to 2000 as the “old system”. By the “new system”, I mean the law that is in effect for new entrants into employment since January 1, 2005. Because of time and space constraints I cannot address the issue of the transitional arrangements between the old and the new system which will affect a large part of the employed in the coming decades in detail.

<sup>15</sup> Of course, there are other important criteria to judge the reforms, for example the questions of intergenerational fairness and demographic sustainability (cf. Knell, 2004 and 2005), the questions of pension adequacy, the consequences for different types of workers etc. Moreover, only private-sector employees are considered because the pension provisions for farmers, the self-employed and the civil servants contain a number special regulations.



There were already important changes of the pension system in the 1990s. In 1992 a law was enacted to increase women's statutory pension age gradually from 60 to 65 between 2024 and 2033. Moreover, since the mid-1990s, there were adjustments such as the higher pension reductions in case of early retirement (OECD, 2005).

### 3.3.1 Lower Replacement Rates and Longer Averaging Periods

In the new system, pension contributions will be valorized with the growth rate of average earnings (up to the contribution ceiling). In the future, the pension will be based on the total earnings history of a worker (and not only on the "best" 15 years such as in the old system). This means that workers with steeper age-earnings profiles such as white-collar workers, civil servants and men will face stronger relative pension reductions than private-sector, blue-collar and female workers. These pension reductions will increase incentives to work longer.

The maximum earnings replacement rate of 80% of the valorized pension contributions is only attainable for a worker with a career of 45 contribution years of work (or substitute contribution periods, e. g. for childcare) at the age of 65. If there are fewer contribution years (e. g. because of tertiary education) or if the worker retires prior to the age of 65 the replacement rate will be lower.

### 3.3.2 Gradual Increase of the Eligibility Age for Early Retirement Age Due to Long Insurance Record

Since 2000, the eligibility age of early retirement due to long insurance record has been increasing gradually and will continue to do so until 2017 when it will have reached the statutory pension age. In the old system, the eligibility age was 55 for women and 60 for men, respectively. Currently, the eligibility age is increasing at a rate of one month every four months. For each year of retirement earlier than the statutory age there is now a pension benefit decrease of 4.2%. Only persons with an insurance record of at least 37 ½ years are eligible.

Higher benefit decreases and the gradual increase of the eligibility age will induce older people to work longer. Whether in the future all employees work up to the statutory age is an open question because new possibilities were introduced in the new system to retire earlier such as the pension corridor and special provisions for heavy workers (see below).

### 3.3.3 Pension Corridor

Similarly to early retirement due to long insurance, the new system provides the opportunity to retire before the statutory age (again, at least 37 ½ contribution years are necessary.) For each year of earlier retirement, there is a pension benefit reduction of

4.2%. However, in the new system one also has the opportunity to retire later (up to an age of 68). In this case, the retiree is granted a benefit increase of 4.2% for each year.

The OECD (2005a) argues that from an individual perspective of actuarial fairness, higher benefit decreases and increases are necessary (at some 6% p. a.). If that were true, many people would take the opportunity to retire at 62 and only few would work up to the statutory age let alone until 68. These effects would be amplified if older workers face difficulties in the labor market.

### **3.4 Have the Pension Reforms Already Had an Effect on Older Workers' Employment?**

As mentioned, due to the methodical change in the EU Labour Force Survey in Austria, it is difficult to make statements about employment trends with these data. In any case, short-term increases of employment may also be attributable to improved cyclical conditions. Moreover, aggregate employment rates may show an upward trend because of the cohort effect of younger women being more likely to participate in the labor market. Administrative employment records are also particularly difficult to interpret. For example, there are many workers in the so-called old-age part time scheme (a provision where the public employment service subsidizes part-time employment of older workers but which is used frequently as an option to withdraw earlier from the labor market) who are counted as employed. This scheme may therefore also be conceived as an early retirement option (OECD, 2005a).

Table 2 shows average entry rates into old-age and invalidity pensions, published by the Austrian social security administration. If one considers old-age pensions only, there was an increase of more than two years for men and almost one year for women since 2000. However, the increased takeup of invalidity pensions (see above) meant that the average entry age hardly changed at all during the past five years.

*Table 2: Average Pension Entry Age by Gender*

year	All pensions		Invalidity pensions		Old-age pensions	
	men	women	men	women	men	women
1970	61.9	60.4	56.6	56.6	64.2	61.5
1975	61.8	60.1	56.6	56.5	64.3	61.5
1980	59.2	58.3	53.9	55.1	62.5	59.5
1985	58.3	57.9	54.3	54.8	62.1	59.5
1990	58.3	57.5	53.9	52.4	62.1	59.7
1991	58.3	57.6	53.8	52.5	62.3	59.8
1992	58.3	57.3	53.9	52.3	62.3	59.5
1993	58.8	57.8	53.6	51.9	62.8	59.8
1994	58.5	57.1	50.4	49.5	60.8	58.4
1995	58.1	56.7	49.4	48.8	60.4	58.0
1996	58.2	56.7	49.2	48.6	60.2	57.9
1997	58.4	56.8	49.9	48.1	61.0	58.2
1998	58.2	56.7	50.3	48.2	60.9	58.2
1999	58.4	56.7	50.4	48.3	60.6	58.0
2000	58.5	56.8	51.8	49.2	60.5	58.3
2001	58.7	57.3	53.4	50.4	62.2	59.4
2002	59.1	57.4	53.7	51.3	62.8	59.3
2003	59.0	57.3	54.3	51.3	62.7	59.0
2004	58.5	56.9	54.5	51.0	62.8	59.2

*Source: Association of Social Insurance Providers.*

### 3.5 Will the Stockholm Target Be Reached?

To reach an employment rate of 50% for older workers, their employment rate would have to increase by 4 percentage points per year. This seems not realistic. (The aforementioned EPC projections do assume a considerably lower employment rate for 2010, see above.)

A major reason is that the pension reforms contain many transitory arrangements. In 2010, the eligibility ages for early retirement due to long insurance record will be only 63 for men and 58 for women, respectively. Furthermore, those who were 50 or older by the end of 2004 were exempt from many of the new regulations. In the coming years there are additional possibilities to retire early with comparably lower pension reductions for “heavy workers” (the so-called “Hacklerregelungen”).

## 4. Labor Demand and “Employability”

### 4.1 Early Retirement: Labor Supply or Labor Demand Phenomenon?

The applied economic literature considers early retirement as a pure labor supply issue. This also holds for most theoretical contributions.<sup>16</sup> Labor demand and interactions between supply and demand are rarely discussed.

Employers utilize early retirement provisions to shed older workers in times of weak demand or in times of restructuring. This, in turn, is considered as “fair” by employers, younger and older employees (Arnds and Bonin, 2002; Eichhorst, 2006). Dorn and Souza-Poza (2005) report survey results where a substantial share of early retirees indicates that early retirement was not voluntary. Depending on the country and time, this share varies between 8% and 62% (there are no survey results for Austria).

The question is not purely academic: If early retirement were driven predominantly by the labor supply-side then abolishing the early retirement options would ensure that participation rates of older workers would increase again to the high levels of the 1960s. The more the demand-side is important, the more important is it to ensure the employability of older workers which should not be taken for granted.

### 4.2 Productivity, Age and Earnings

There is an intensive discussion how productivity evolves with age. Probably worker productivity increases only up to the middle age in many professions. If wages deviate too strongly from productivity (e. g. because of collective agreements) than private enterprises may not be ready to employ and retain older workers.

#### 4.2.1 Does Productivity Decrease with Age?

Skirbekk (2003) surveys the literature on the age-productivity relationship. According to this source, job performance starts to decline at an age of approximately 50 years. One has to distinguish between different skills and abilities. Not only physical ability declines with age, but also the ability to solve problems and learning speed decrease rapidly. On the other hand in tasks where experience and verbal skills are important the productivity decline is less pronounced.

Structural change in advanced economies towards services and the associated decreased demand for physical strength do not mean that the age-productivity profile becomes less important. Skirbekk (2005b) – by using the results of Autor, Levy and Murnane (2003) on the long-term shift in the demand for skills – shows that the currently

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<sup>16</sup> An exception is the implicit contract model by Hutchens (1999) who takes into account the joint behavior of workers and employers.

demanded skill mix has a similar age-earnings profile to that of the skills mix demanded in 1960. Productivity increases rapidly between 25 and 34 and then only slowly up to an age of about 45. Then it starts to decrease. Assuming that experience is less important than in earlier times the age productivity profile decreases even more strongly.

In my view, these arguments are convincing. However, it is not clear how individual productivity translates into aggregate productivity. Börsch-Supan (2001) argues that the average age of the workforce would have to increase drastically to have a significant effect on productivity. (Cf. also the controversy between Skirbekk and Lindh in Vienna Institute for Demography, 2005.)

#### 4.2.2 Are Austrian Age-Earnings Profiles too Steep?

Austrian earnings rise comparably strongly with age and do not decline at higher age (OECD, 2006). (See also the contribution by Biffl in this volume.) However, these results have to be interpreted with caution. Typically, average earnings are calculated with cross-sectional data for all employees in a particular age class. As those with high skills enter later and those with low skills tend to retire earlier there is a considerable selection bias in these empirical profiles. This problem is probably more severe in countries – such as Austria – where older workers' participation rates are very low. Moreover, cross sectional data may reflect past behavior and regulations. For example, for new entrants in firms the rules on seniority pay may call for smaller increases than in the past. Voluntary overpayments (i. e. salaries which are higher than set in the collective agreement) are probably also less important nowadays.

The concern for age-productivity profiles implicitly suggests that wages have to follow exactly productivity over lifetime. But even in countries where there is no statutory pay increase and where collective agreements are less important firms offer voluntarily earnings profiles that increase with age. In that case, earnings are below productivity first but increase steeper than productivity (“deferred compensation” schemes; cf. Lazear, 1986). Such schemes are useful in case of jobs where productivity is not easily observable as they enhance worker loyalty.

Despite these critical remarks it is likely that the current provisions in collective agreements include too strong seniority pay elements. From disaggregated tabulations of earnings data (e. g. Bauer and Lamei, 2003) we know that this increase is particularly strong for white-collar workers and civil servants. For these workers collective agreements contain rules according to which employees have predetermined income increases every year or every two years (over and above the wage increases agreed upon annually). Even if one does not believe in strong productivity declines with age it is plausible that firms accepted the current rules only because they knew that workers would retire considerably earlier than at the statutory pension age. If Austria wants to ensure that (most) workers remain in the workforce for a longer time a change of existing arrangements is probably necessary. The public sector could act as a role model by bringing earnings closer to the development of productivity over the working lifetime.

### 4.3 Lifelong Learning

“Lifelong Learning” is a catchword in economic policy papers. For example, it is mentioned in guideline no. 22 (“To expand and improve in investment in human capital”) of the Integrated Guidelines for Growth and Jobs 2005–2008 by which the European Commission wants to implement the Lisbon Agenda. The discussion on the improvement of education in schools and universities is important. But we should be aware that continuous learning and reeducation will probably become even more fundamental.

In an international comparison there are huge differences in the extent of vocational training which is less widespread in continental European than in Anglo-Saxon countries (OECD, 1998). Longer time horizons, i. e. the knowledge that older employees will have to remain longer in the workforce, may increase the profitability of vocational training for both workers and employers. Probably, there is also a role for economic policy in encouraging such training. Learning may not start too late: When older workers do become unemployed training by active labor market policy measures does not help much (Eichhorst, 2006). The extent, but also the need for continuous training is distributed unevenly over occupations. For many highly-qualified continuous training is a regular characteristic of their jobs whereas for many lowly skilled service workers (e. g. in hotels and restaurants) there is almost no need for training (Enzenhofer et al., 2005).

### 4.4 Employment Protection and Employment Subsidies

Labor law and active labor market policy measures contain a variety of protective provisions for older workers. For example, the notice period for layoffs increases with job tenure. In general, employment protection measures have an ambiguous impact on employment: While on the one hand they reduce inflows into unemployment and may increase the profitability of investments in firm-specific human capital they are also likely to reduce hiring rates of firms (OECD, 2004). In Austria, the new system of severance payments has considerably reduced incentives of firms to retain older workers.

Already in 1996, an incentive scheme to employ older workers was introduced: A firm did not need to pay employer contributions to unemployment insurance if it hired a worker who is over 50 years old. On the other hand, higher contributions had to be paid if a worker over 50 (with a tenure of at least ten years) was dismissed. In 2003, the “56/58 Plus” regulation was introduced by which the reduction of social security payments was enhanced. This provision is used quite frequently (OECD, 2005).

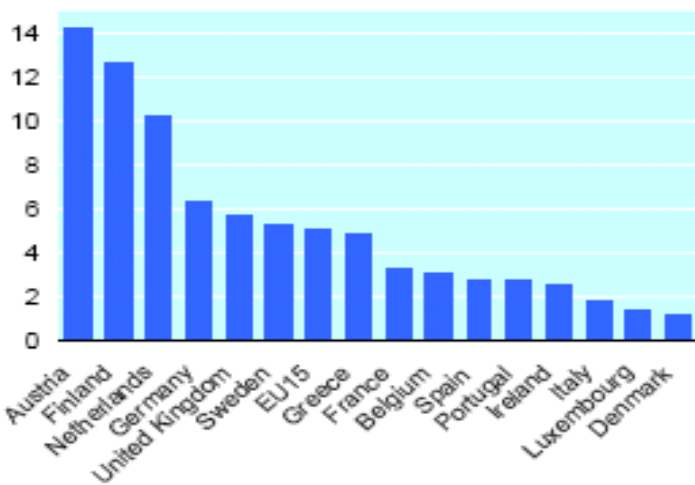
However, many active labor market policy measures are afflicted with deadweight and substitution effects. Regularly, hires are subsidized which would have occurred anyway. Moreover, other workers may be crowded out by such schemes. Especially when early retirement options are phased out these programs may become very costly. Hence, they should be evaluated carefully. In the long run one has to consider that all

protective measures may have the perverse effect of intensifying existing prejudices against older workers (Eichhorst, 2006).

## 4.5 Further Aspects

Surveys among older workers show that they value recognition and respect highly (Enzenhofer et al., 2005). However, age discrimination appears to be widespread. According to an international survey by the European Foundation for the Improvement of Living and Working Conditions subjectively felt age discrimination was highest in Austria (chart 9).

Chart 9: Age Discrimination at Work (Percentages)



Source: OECD (2006). The proportion of all employees in 2000 who reported having directly experienced age discrimination or who report having witnessed age discrimination in their workplace during the previous 12 months.

The health status of older people is an important determinant of labor supply and the employability of older people (Kalwij and Vermeulen, 2005). Younger cohorts of workers have in general a better health status which is probably attributable to higher educational attainment and higher living standards (Börsch-Supan et al., 2005). The comparably good health status of older Austrians (see above) suggests that Austria may keep older people in the labor force more easily than other countries.

Finally, employers may contribute to productivity and health of their employees (“age diversity management” with flexible working hours, ergonomic measures etc. (Cf. OECD, 2005a, 2006 and The Economist, February 18, 2006).

## 5. Summary and Conclusions

- We should be happy about population aging because it means longer and more healthy lives. However, the demographic developments make it necessary to reverse the trends towards shorter working lives to ensure the fiscal sustainability of the pension system and the welfare state in general.
- Currently, Austria's employment rate of older workers is the lowest of all EU-15 Member States. The examples of Sweden, Denmark, Switzerland and the United Kingdom demonstrate that it is possible to keep older workers much longer in the labor force.
- The pension reforms introduced in the last couple of years are a necessary condition for a later exit from the labor force. In the short run, the effects will be small. In the long run, the reforms provide strong incentives that people work longer. However, the comparably low benefit decreases may imply that most people use the pension corridor option to retire at 62.
- The widespread use of early retirement options should not be solely interpreted as a supply side phenomenon. Early retirement options are frequently used by both employers and employees to reduce the workforce in a socially acceptable way. There are a number of indications that older workers do have a problem of employability.
- In a market economy, firms must be ready to employ and retain older workers. Existing collective arrangements on seniority pay should be reviewed by the social partners to ensure that wages are compatible with age-related productivity and longer work lives.
- Subsidizing the employment of older workers may become quite expensive in the long run. The existing measures should be evaluated carefully.
- Enterprises should be ready to take measures to facilitate longer working lives of their employees. Both policy makers and firms should be aware about a possible discrimination of older workers.
- The challenge of increasing older workers' employment rates is certainly not resolved by the recent pension reforms alone. The labor market status of older people should be monitored intensively in the coming years.
- Finally, to build a bridge to the workshop title: If we succeed to speed up economic growth in Europe, the aging problem and that of keeping older workers in the labor force will be more easy to be resolved.

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