

# **European welfare state regimes and their generosity towards the elderly**

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## **Abstract:**

The paper examines the generosity of the European welfare state towards the elderly. It shows how various dimensions of the welfare regimes have changed during the recent 10-15 years and how this evolution was related to the process of economic integration. Dimensions include general generosity towards the elderly and more specifically generosity towards early retirement and generosity towards the poor. Using aggregate data (EUROSTAT, OECD) as well as individual data (SHARE, the new Survey of Health, Ageing and Retirement in Europe), the paper looks at the statistical correlations among those types of system generosity and actual policy outcomes, such as unemployment and poverty rates among the young and the elderly, and the inequality in wealth, income and consumption. While the paper is largely descriptive, we also try to understand crowding out and underlying political economy mechanisms.

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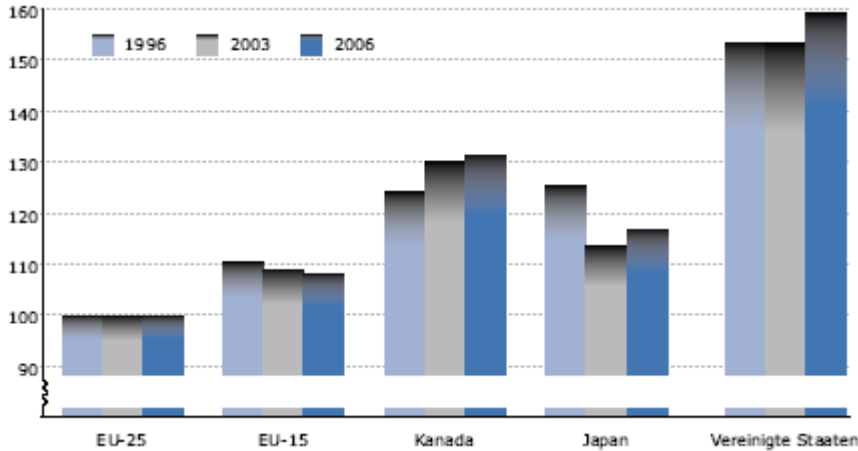
# European welfare state regimes and their generosity towards the elderly

Axel Boersch-Supan

## 1. Introduction

Europe is known for its well-developed welfare state, particularly if seen from the US American perspective. The GDP share of social expenditures of the EU15 countries in the year 2001 was 23.9 percent vis-à-vis 14.7 percent in the US (OECD Factbook 2006). Some think that the European welfare state is too large because it crowds out economic activities. Indeed, GDP per capita in the US is almost 50 percent higher than the average of the EU15 countries, see Figure 1.

Figure 1: GDP per capita (EU25=100)



Source: Eurostat Yearbook 2005

Discomfort with this figure, however, is limited in Europe. Europeans cite their longer leisure time, their lower income inequality and their longer life expectancy, see Figure 2.

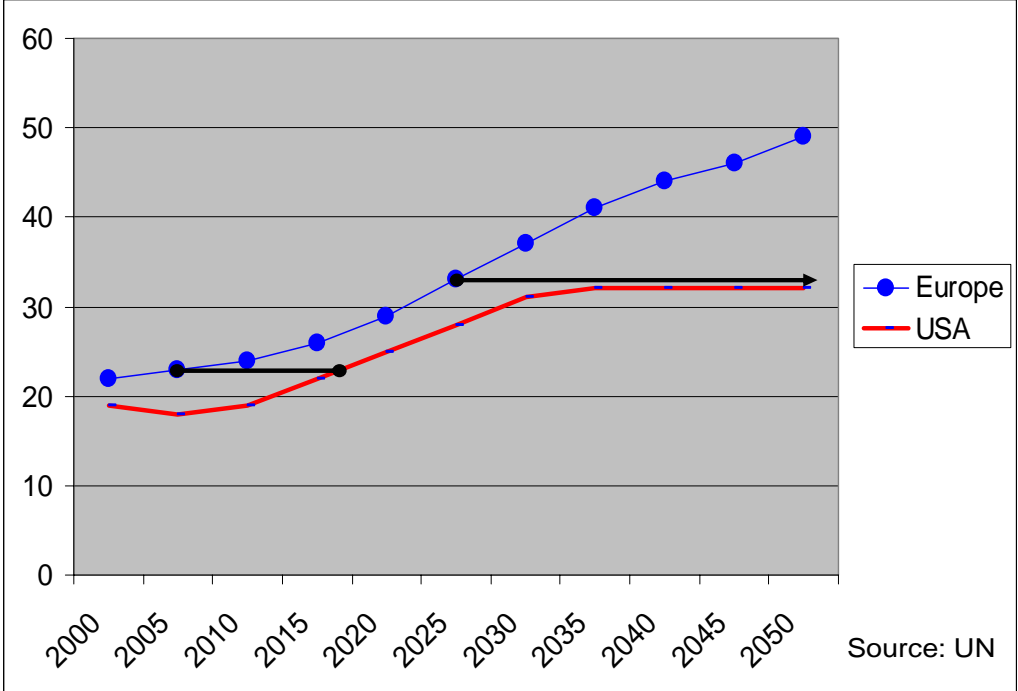
Figure 2: Income inequality, leisure time and life expectancy at birth

	Annual workhours	Gini	Life Expectancy at birth
EU15	1,690	30.05	79.0
US	1,920	35.67	77.2

Source: OECD Factbook 2006

This balance may become upset by the demographic aging process. The European population is already much older than the US population, and population aging continues at a faster rate than in the US due to the lower European fertility rate (Figure 3).

**Figure 3: Population aging in Europe and the US: Percentage age 65 and older**



Source: UN population projections, 2002 Revision.

Europe now is as old (measured as share of individuals aged 65 and older) as the US is projected in 2017. Even more dramatic is the aging of Europe past the year 2025: While Europe will continue to age, the proportion of elderly in the US will stay relatively stable.

Aging implies more social security expenditures towards the elderly (pensions, health care, long-term care) per capita, and a fortiori per young and/or employed person. Will the expenditures for the elderly blast the welfare state? Will the welfare state disable itself because the incentive effects created by ever increasing tax and contribution rates will crowd out economic activity, thus eroding the tax base which finances the welfare state? Will spending for

the elderly crowd out spending for young families and education, undermining fertility and productivity?

This paper uses aggregate data (official statistics from EUROSTAT and OECD) as well as individual data (from SHARE, the new Survey of Health, Ageing and Retirement in Europe) in order to show the statistical correlations among various dimensions of welfare state generosity. It has a simple structure: System description – Outcomes – Causes. Section 2 describes the European welfare states and their evolution during the European integration process. It compares their generosity to the elderly with the generosity towards the young. Section 3 looks at actual policy outcomes, such as unemployment and poverty rates among the young and the elderly, and the inequality in wealth, income and consumption. We also look at non-economic outcomes such as health and longevity. Section 4 makes a few steps in the direction of a causal analysis: Why has the generosity of the European welfare state evolved as it did? We offer some demographic and political economy reasons, and collect some evidence on incentive effects. Section 5 concludes.

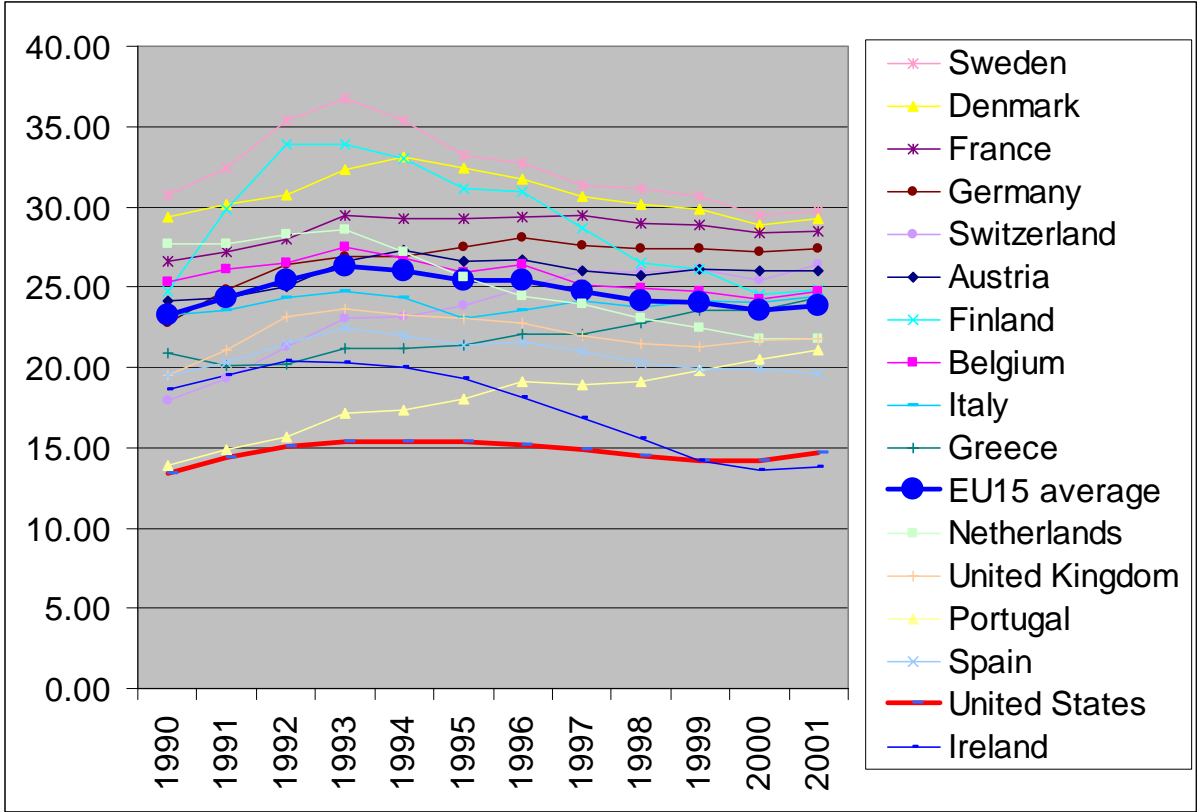
## 2. European Welfare States

This section describes the European welfare states and their evolution during the European integration process. We first look at the general size of the welfare states, then at their generosity towards the elderly, and finally at expenditures targeted to the young.

### 2a. General Generosity: Size of the welfare states

The size of the welfare state – usually measured as the share of GDP devoted to social expenditures – varies a great deal in Europe, although almost all European countries feature the distinctively higher share than the US that was mentioned before. The Scandinavian countries, notably Sweden, have the highest social expenditure shares, Ireland the lowest.

Figure 4: Size of the Welfare State (Social Expenditures per GDP, in Percentages)



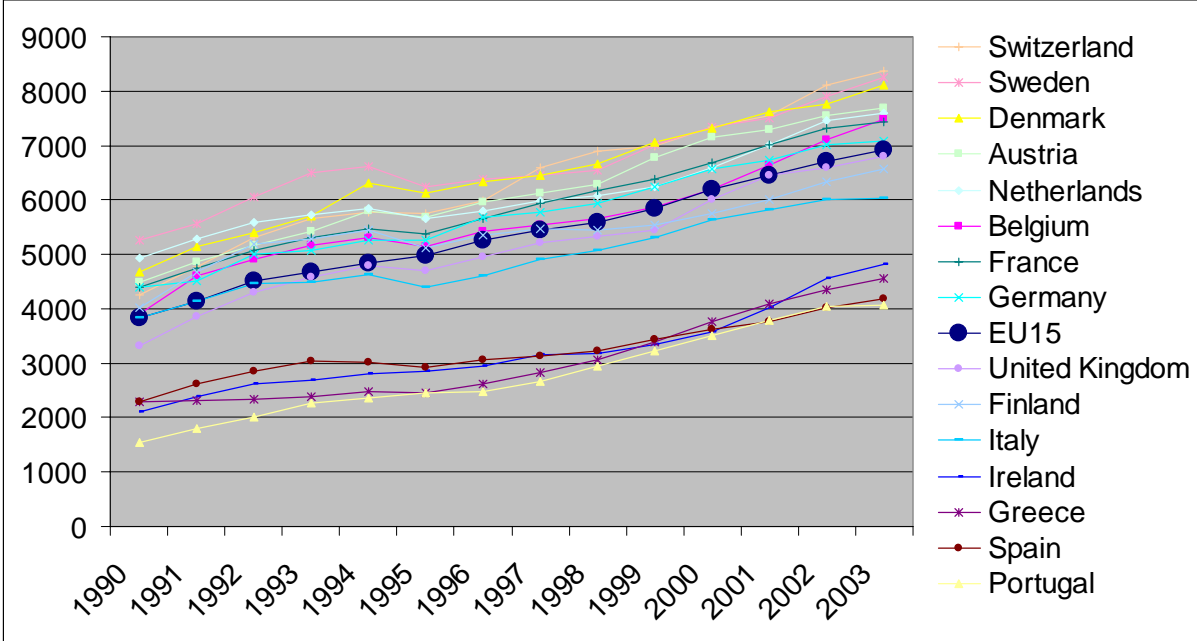
Source: OECD Factbook 2006

The European Union in general, and particularly the Scandinavian countries, experienced a retrenchment of the welfare states in the early 1990s. Quite interesting is the opposite development in Ireland and Portugal, the poorest countries of the EU in the 1980s. While Portugal increased the GDP share of social expenditures throughout the observation period depicted in

Figure 4, Ireland did not increase social expenditures nearly as fast as their GDP, resulting in the only social expenditure share that is lower than the US.

Generosity may be more appropriately be defined as per capita social spending, in purchasing power parity terms. This is depicted in Figure 5. According to this measure, Switzerland, Sweden and Denmark are most generous to their citizens, Ireland and the Mediterranean countries are the least generous welfare states. If those five countries, however, Italy is much closer to the EU15 average, while the other four countries feature a remarkable gap in per capita social expenditures vis-à-vis the rest of the pre-accession European Union.

**Figure 5: Size of the Welfare State (Social Expenditures per Capita, in Euro PPP)**



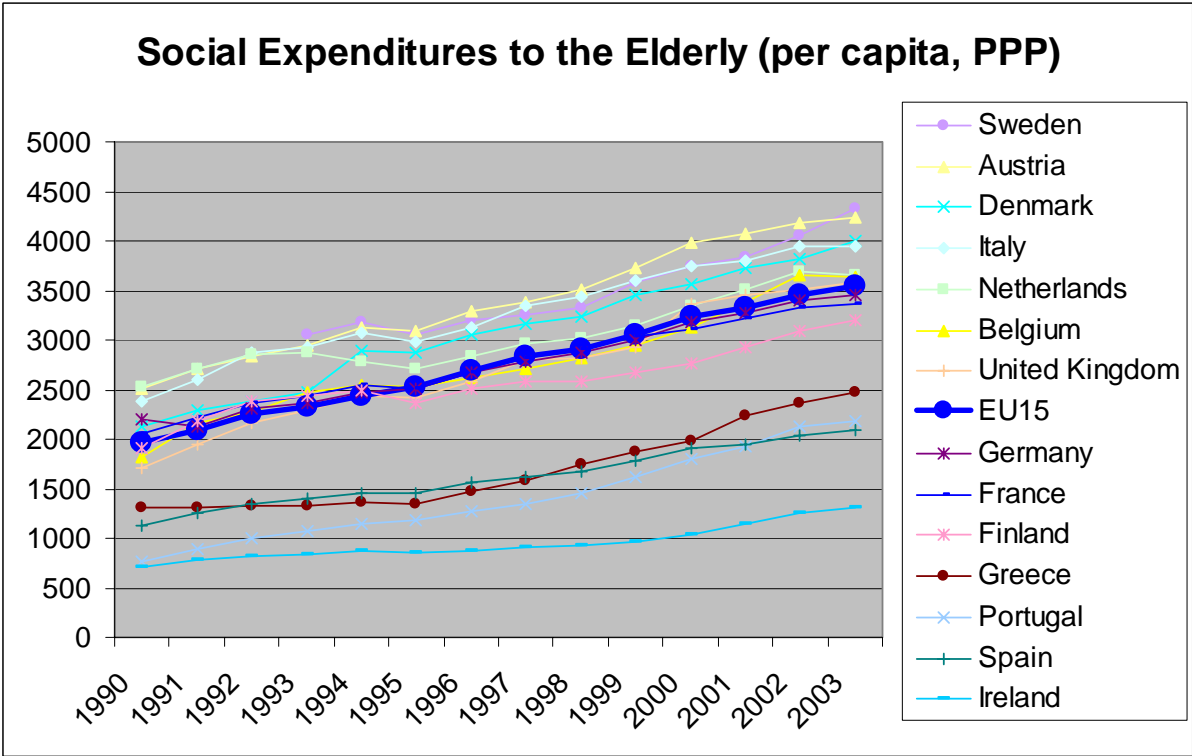
Source: Eurostat Data Archive 2005

Figure 5 also reveals that the growth rates of per capita spending are almost identical for all EU15 countries. While Italy features a particularly low increase, Ireland a particularly large one, these differences are relatively small and there is little sign of convergence. European integration has not – at least no so far – led to an equalization of per capita social expenditures. There is, however, some sign of convergence in the GDP share of social expenditures, see the preceding Figure 4. Overall, the variety of the European welfare states is large; larger than the three or four archetypical welfare state models a la Esping-Andersen (2003) suggest. The following subsection will deepen this point.

**2b. Generosity towards the elderly**

Spending for the elderly – here defined as expenditures for old-age, disability and survivor pensions – is actually diverging in Europe, see Figure 6. Sweden and Austria spend most for the elderly on a per capita basis, and Ireland spends the least, with a remarkable gap. Portugal, Spain and Greece have increased their spending on the elderly, but not so much as to converge with the rest of the EU15.

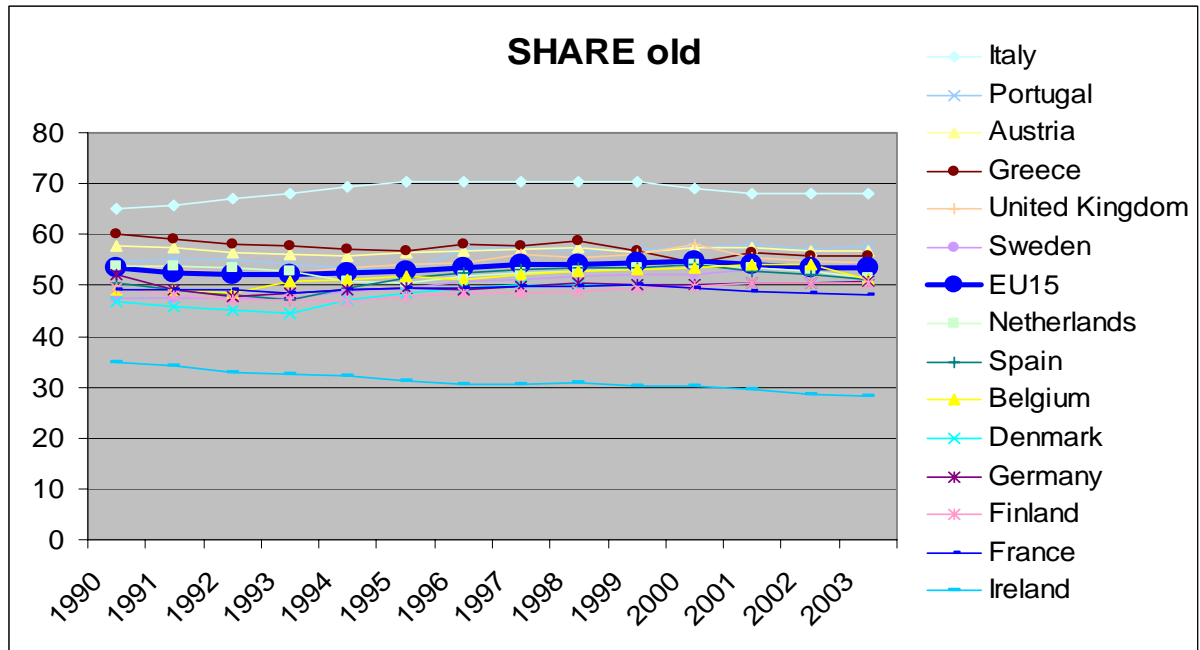
*Figure 6: Social Expenditures Dedicated to the Elderly (per capita, in Euro PPP)*



Source: Eurostat Data Archive 2005

Holding total social spending constant, the picture is remarkably different, see Figure 7. Italy and Ireland stand out: Italy spends about 70 percent of the entire social budget on the elderly, 15 percentage points more than the EU15 average, while Ireland spends less than a third of its social budget on the elderly, 25 percentage points less than the EU15 average. Essentially, these expenditure shares have stayed constant over the last 15 years.

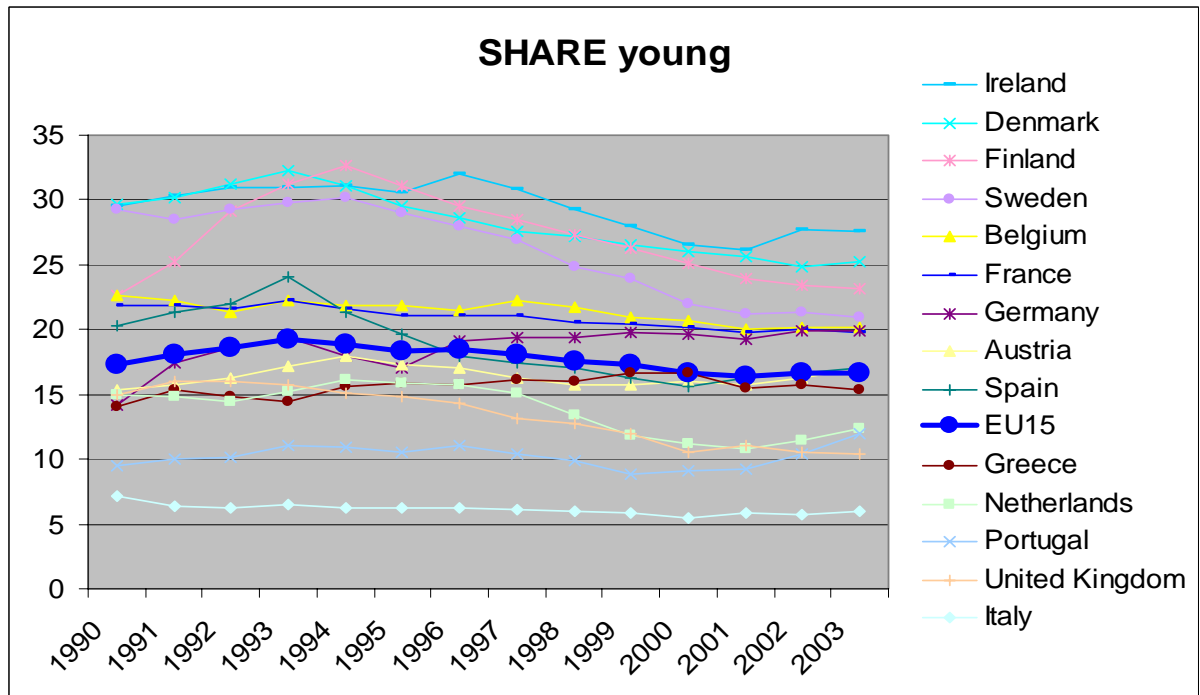
**Figure 7: Share of Social Expenditures Dedicated to the Elderly (Percentages of Total)**



Source: Eurostat Data Archive 2005

**2c. Generosity towards the young**

**Figure 8: Share of Social Expenditures Dedicated to the Young (Percentages of Total)**



Source: Eurostat Data Archive 2005

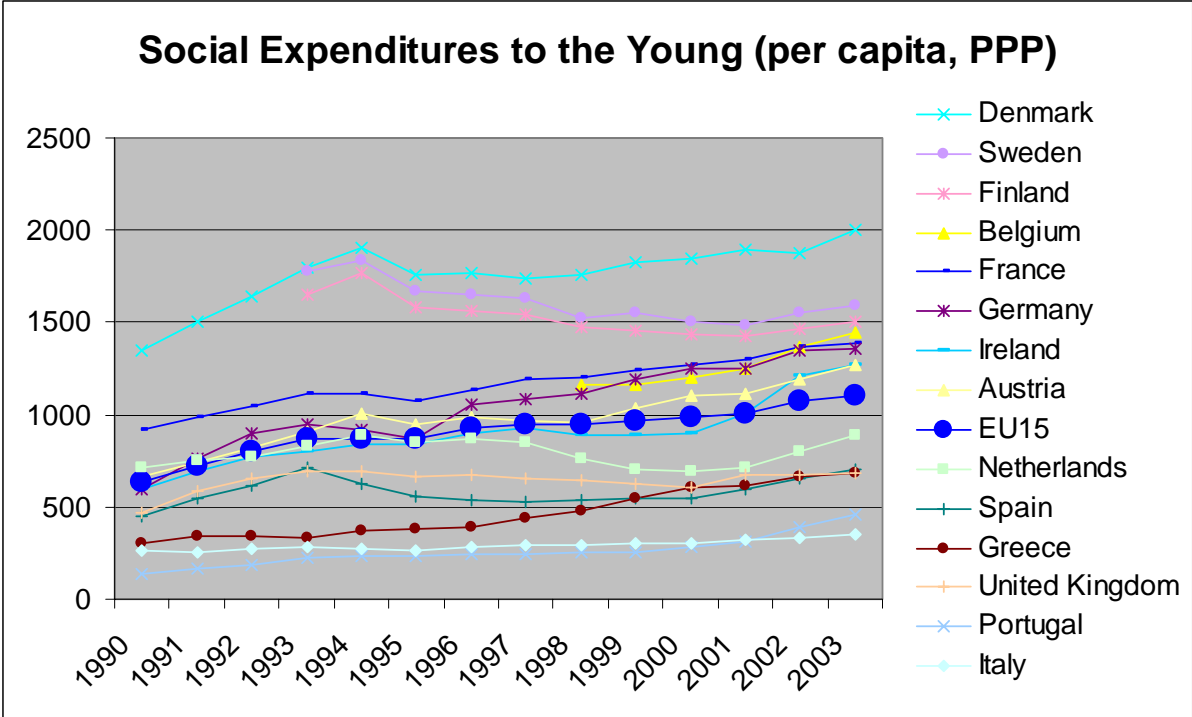


Figure 8 corresponds to Figure 7 and shows the share of the social budget devoted to the young – defined as family and child support, education and unemployment benefits. It is not the flip side of Figure 7 because health care and a variety of smaller social transfers which go to both young and old are not included in Figures 7 and 8.

While Italy and Ireland still stand out as extreme, at least in recent years, they do not stand out as extremely as with regards to the share of the social budget devoted to the elderly. Remarkable is the great variety of spending shares to the younger generations in Europe: it ranges from about 5 percent to about 30 percent of the social budget.

Equally different are the per capita expenditures, see Figure 9. Here, Denmark and the other Scandinavian countries stand out.

**Figure 9: Social Expenditures Dedicated to the Young (per capita, in Euro PPP)**

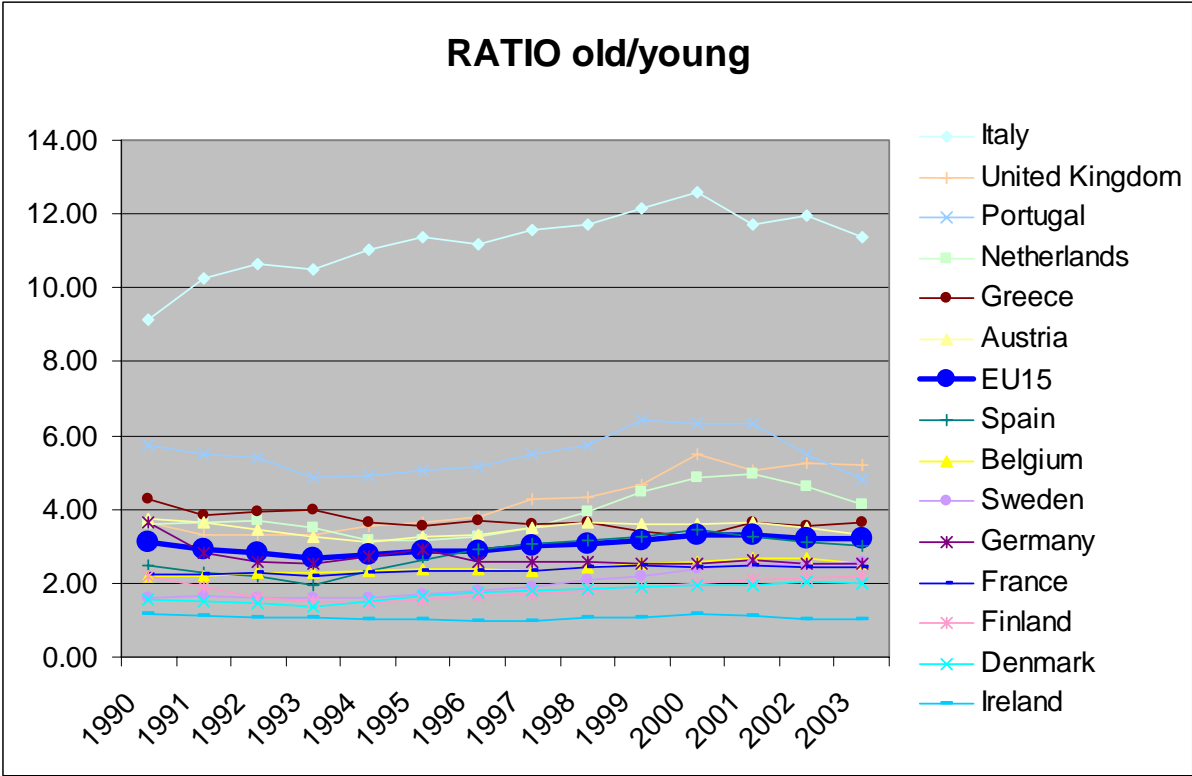


Source: Eurostat Data Archive 2005

**2d. Old vs. young: relative generosity, crowing out**

The resulting picture emerges quite clearly, see Figure 10. Here the share of the social budget devoted to the elderly (Figure 7) is divided by the share of the social budget devoted to the young (Figure 8). For the pre-accession European Union, this ratio is about 3 and has not changed very much between 1990 and 2003. Relative to this benchmark, the Netherlands, Portugal, the United Kingdom, and, by far most pronounced Italy, lean in their generosity more towards the elderly, while Ireland, the Scandinavian countries, Belgium, France and Germany spend a relatively larger share of their social budgets on the young.

*Figure 10: Relative Generosity to the Elderly vs. the Young (Social Expenditure Shares to the Elderly divided by Social Expenditure Shares to the Young)*



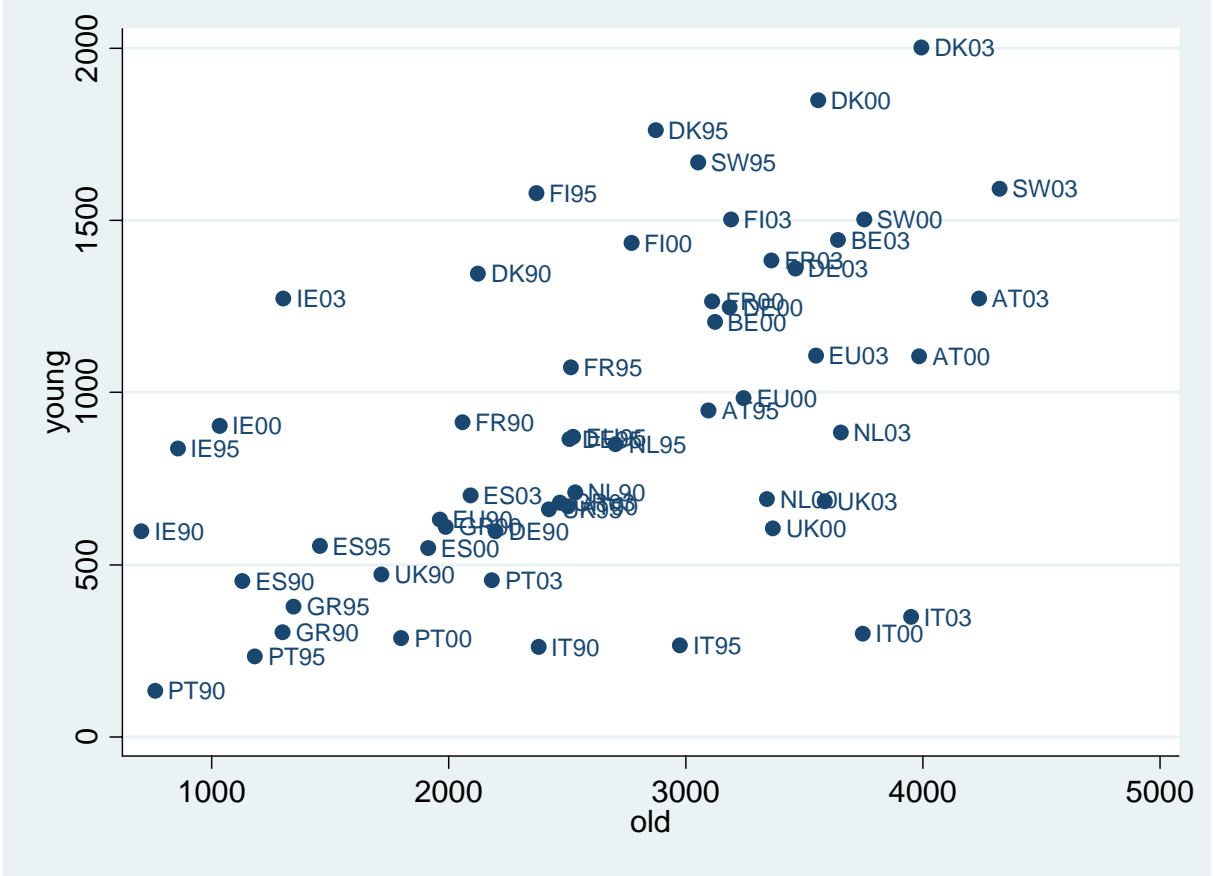
Source: Eurostat Data Archive 2006

The ratio in Figure 10 has not changed very much between 1990 and 2003: national spending patterns have stayed rather constant and different from each other throughout this time period, in spite of an accelerated European integration process.

Does this stark cross-sectional variation within Europe teach us something about crowding out? Do we have evidence that spending on the elderly crowds out spending on the young?

Figure 11 sheds some light on this question. It plots the shares of social expenditures depicted in Figures 7 and 8 against each other.

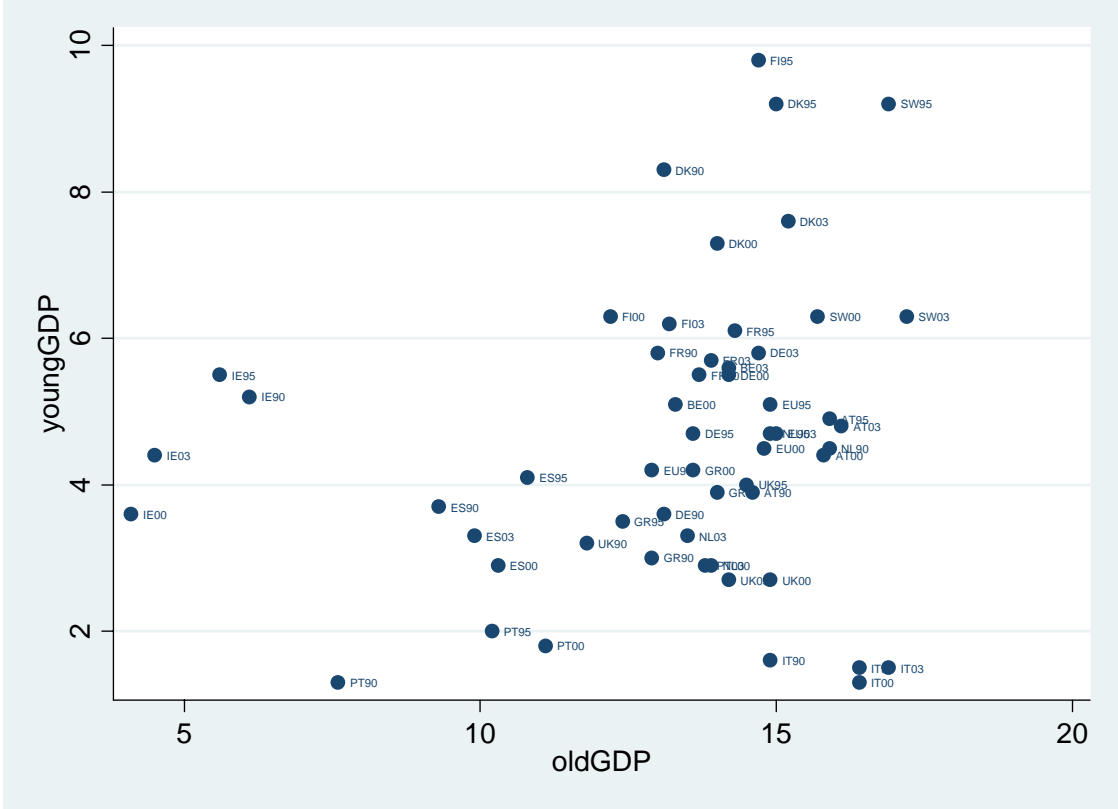
**Figure 11: Relative Generosity to the Elderly vs. the Young (Social Expenditure Shares to the Elderly divided by Social Expenditure Shares to the Young)**



This picture reveals no evidence for a negative correlation between the spending share for the elderly and the spending share for the young. More formally, a pooled regression through the points in Figure 11 yields a positively significant coefficient with an  $R^2$  of 0.27. The time series correlation of the EU15 average has about the same slope and an  $R^2$  of 0.85; and a cross-sectional regression for the 2003 values features a slightly smaller, but still positively significant coefficient with an  $R^2$  of 0.12. The positive correlation can be interpreted as evidence, that the welfare states have expanded without much of a trade-off between spending towards the elderly and spending towards the poor.

Figure 12 repeats this exercise on the basis on per capita spending. This figure shows much less of a positive correlation, and, in the case of Italy, maybe even a negative correlation.

**Figure 12: Relative Generosity to the Elderly vs. the Young (Expenditure per capita to the elderly divided by per capita spending to the young)**



Based on these data, Figure 13 shows a set of time-series regression by country. Indeed, Italy exhibits a negative coefficient, but it is insignificant. In about half of the European countries, the regression produces a significant slope – in all cases a positive one. The aggregate EU15 regression also features a positive slope, but not significant at the conventional levels.

We conclude that there is little evidence for a crowding out effect between being generous to the elderly and between being generous to the young. Social spending for the elderly and the young expanded and contracted pretty much in synch with the overall social budget, which increased considerably in absolute terms (Figure 5) and consolidated relative to GDP (Figure 4).

*Figure 13: Time-series regressions of per capita expenditures to the elderly on per capita spending to the young*

<b>Country</b>	<b>Coef.</b>	<b>Std. Err.</b>	<b>t-stat</b>	<b>P&gt; t </b>	<b>[95% Conf. Interval]</b>	
EU	0.97	0.60	1.6	13%	-0.34	2.29
IT	-2.24	2.04	-1.1	29%	-6.68	2.19
DK	-0.13	0.23	-0.6	57%	-0.63	0.36
UK	-0.02	0.39	-0.1	95%	-0.87	0.82
BE	0.78	0.90	0.9	44%	-1.72	3.27
ES	0.27	0.17	1.5	15%	-0.11	0.64
FR	0.78	0.44	1.8	10%	-0.18	1.74
AT	1.17	0.37	3.1	1%	0.36	1.99
SW	0.30	0.09	3.4	1%	0.10	0.50
DE	0.96	0.24	4.0	0%	0.43	1.48
NL	1.16	0.21	5.6	0%	0.71	1.61
PT	3.60	0.62	5.8	0%	2.26	4.94
GR	1.89	0.32	5.9	0%	1.19	2.58
FI	0.64	0.06	9.9	0%	0.49	0.79
IE	0.96	0.09	10.2	0%	0.76	1.17

Source: Author's regressions based on the data depicted in Figure 12.

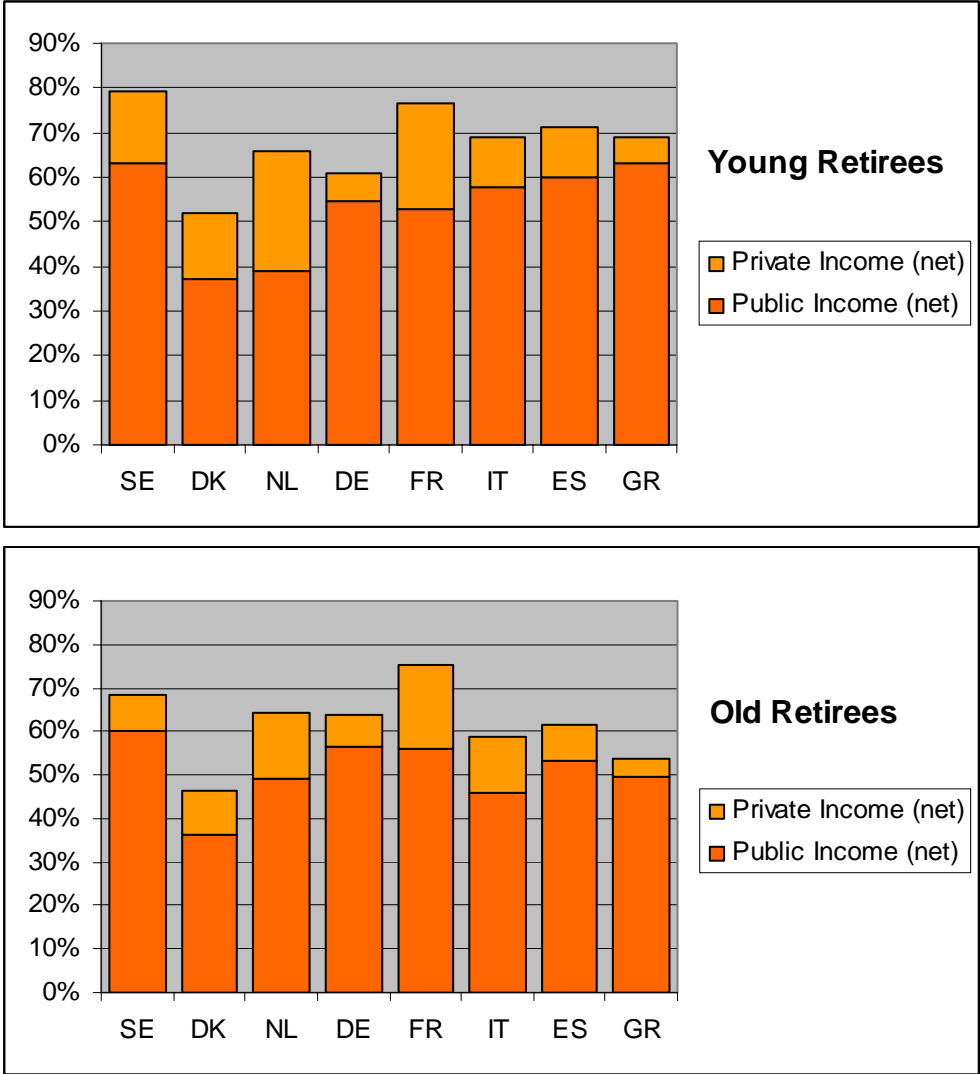
### 3. Policy outcomes

Section 3 looks at actual policy outcomes, such as unemployment and poverty rates among the young and the elderly, and the inequality in wealth, income and consumption. We also look at non-economic outcomes such as health and longevity. Most of this section is based on the SHARE data, the Survey of Health, Aging and Retirement in Europe, collected in 2004.

#### 3a. Income levels

Figure 14 examines the actual relative income level of pensioners. It distinguishes young (aged 72 and younger) and old retirees (aged 73 and older) and relates their net public and private income to the total net income of working individuals aged between 50 and 65.

**Figure 14: Income level of retirees (age 72 and less/age 73 and more) relative to income of working persons aged 50 to 65**



Source: Wilke (2006), based on SHARE 2004

Denmark and the Netherlands have Beveridgian flat base pensions, while the other countries have Bismarckian earnings-related pensions. For the younger retirees, this is reflected in the much lower relative public income levels in those two countries. In the Netherlands, this is fully compensated by private income (largely occupational pensions), but not in Denmark. The older Dutch retirees still enjoy a much higher pre-reform public pension. In the other countries, old age income is dominated by public pensions.

The patterns in Figure 14, based on micro data, are somewhat different from what one might expect after having Figure 6 which was based on aggregate spending figures. The case of Denmark catches the eye. If the main goal of welfare state generosity towards the elderly is to prolong accustomed income levels also during retirement, then Denmark, which spends considerably more than the average EU15 country on social expenditures geared towards the elderly, fails.

### 3b. Distribution of wealth, income, and consumption

One explanation lies in a different goal of social expenditures in Denmark, namely poverty reduction and income equality. Denmark, together with Sweden, has by far the lowest Gini coefficient on income inequality. Note that this is in spite of a considerable wealth inequality in Denmark, pretty much the same as everywhere in the SHARE countries. Consumption inequality, maybe the most appropriate measure for equal living conditions, is also very low.

**Figure 15: Distribution of income, consumption and wealth among the elderly**

Macro-Region and Country	N	Income	Consumption	Wealth
Northern Europe	2,981	33%	24%	60%
SE	1,787	33%	22%	59%
DK	1,194	32%	28%	62%
Central Europe	6,867	46%	35%	63%
DE	1,825	42%	25%	62%
NL	1,741	49%	46%	65%
CH	743	47%	38%	63%
AT	1,589	51%	33%	58%
FR	969	47%	45%	61%
Southern Europe	4,021	47%	41%	65%
IT	1,445	41%	47%	64%
ES	897	56%	26%	68%
GR	1,679	45%	28%	52%

Source: Bonsang, Perelman, and van den Bosch (2005), based on SHARE 2004

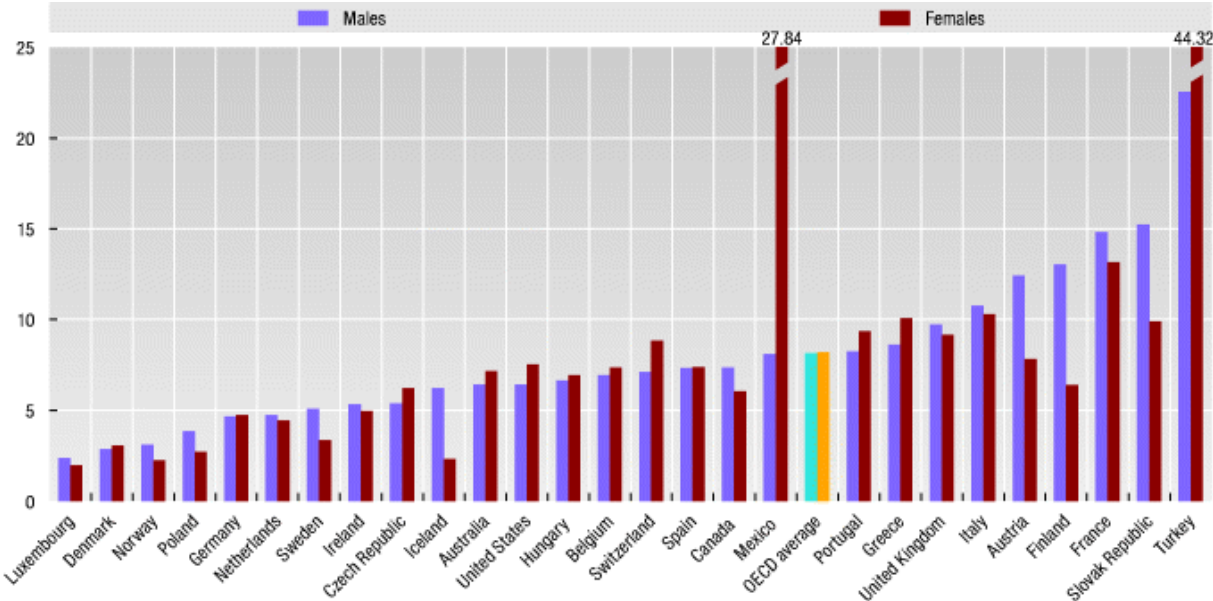
Income inequality is much larger in the Netherlands. Figure 14 masks the large heterogeneity in additional private income for Dutch elderly.

Another feature that catches the eye in Figure 14 is the high income for French retirees. Most additional private income are occupation pensions financed pay-as-you-go, while the public pension level, relative to the middle-aged, is in line with the European average.

**3c. Youth and elderly unemployment**

France and Denmark are interesting cases because one of the main indicators for successful social policy to the young comes out dramatically different in both countries. While Denmark has one of the lowest youth unemployment rates of the OECD countries, France has by far the highest youth unemployment rate in Europe, topped in the OECD only by Turkey and the Slovak Republic. French social spending levels on the young are above EU15 average (see Figures 8 and 9), however, much of this goes to family and child subsidies, less to education than in other European countries. In a very broad sense, one might interpret this finding as a kind of crowding out: public attention focussed on maintaining the income level of retirees has crowded out attention on the unemployment situation of the young.

**Figure 16: Percentage of youths aged between 15 and 19 who are not in education nor in employment, 2003**



Source: OECD Factbook 2006

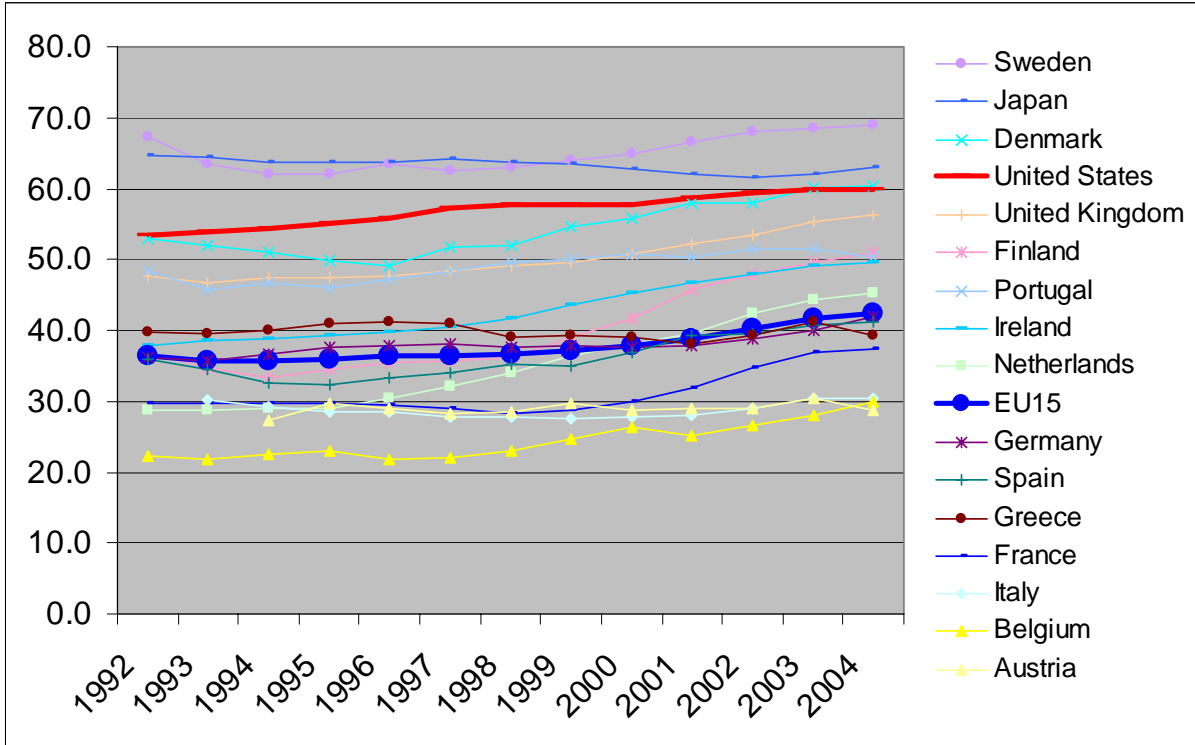


The flip side of youth unemployment is the unemployment rate among the elderly. In the age range of 55 and older, unemployment is often disguised as early retirement, often with a disability pension or similar financing mechanisms. Hence, Figure 17 depicts the employment rate of individuals aged 55-64.

Sweden has by far the highest labor force participation rate in this age range, exceeding that of the United States and even Japan. Denmark and the UK are also considerably above the EU15 average.

In turn, France, Italy, Belgium and Austria have very low labor force participation rates, more than 10 percentage points below the EU15 average and 20 percentage points below the so-called Lisbon Target of 50 percent participation.

**Figure 17: Employment rate of individuals aged 55-64, 1992-2004**

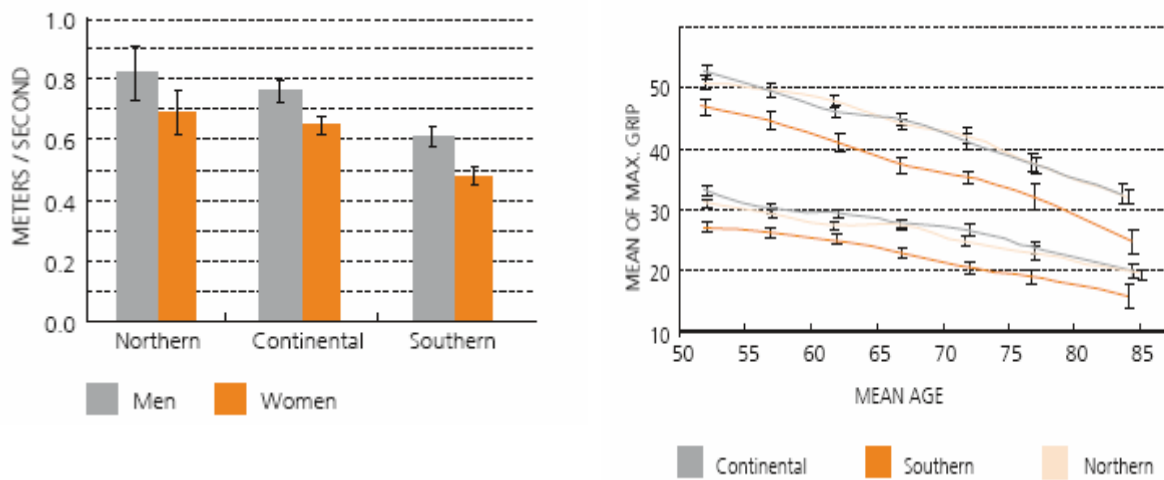


Source: Eurostat Online Data Archive April 2006

### 3d. Health and longevity

Arguably one of the most important social policy outcomes is health since it is a main driver for well-being. Differences in the health status of a population are very difficult to measure. The SHARE data has a wide array of physical and mental health measures, some self-reported, others physically measured. Two examples of a physical measurement are grip strength and walking speed. They show a remarkably consistent North-South gradient through Europe.

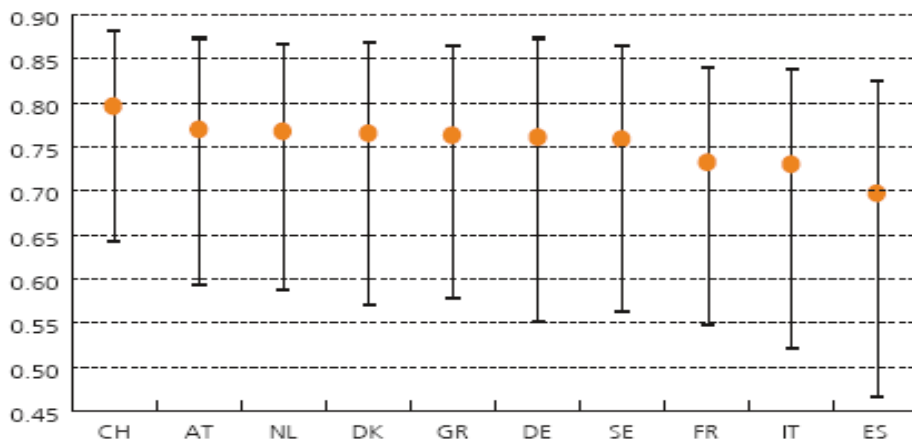
**Figure 18: Walking speed and grip strength of individuals aged 50 and older**



Source: Mackenbach, Avendano, Andersen-Ranberg, and Aro (2005), based on SHARE 2004

Using all available health data in SHARE, including several mental health and cognition tests, Jürges (2005) has developed a comprehensive health index depicted in Figure 19.

**Figure 19: Comprehensive health index of individuals aged 50 and older**



It paints a more detailed picture and identifies Switzerland and Spain as well-defined extremes with a health index well above and well below the SHARE countries' average. Variation in the population is, of course, very large, as shown by the brackets.

Worse health does not necessarily translate in lower life expectancy, as Figure 20 shows. Denmark, with one of the highest health indexes has the lowest life expectancy among the EU15 countries, and Spain, performing badly on the health index depicted in Figure 19, has the highest life expectancy, surpassed only by Japan. This paradox is subject of intensive ongoing research; it is mirrored in the fact that women live longer, but have worse health (for example, see Figure 18).

***Figure 20:***  
**Life expectancy at birth, 2003**

Denmark	77.2
United States	77.2
Portugal	77.3
Ireland	77.8
Belgium	78.1
Greece	78.1
Germany	78.4
Finland	78.5
United Kingdom	78.5
Austria	78.6
Netherlands	78.6
France	79.4
Italy	79.9
Sweden	80.2
Switzerland	80.4
Spain	80.5
Japan	81.8

Source: OECD Health Data 2005

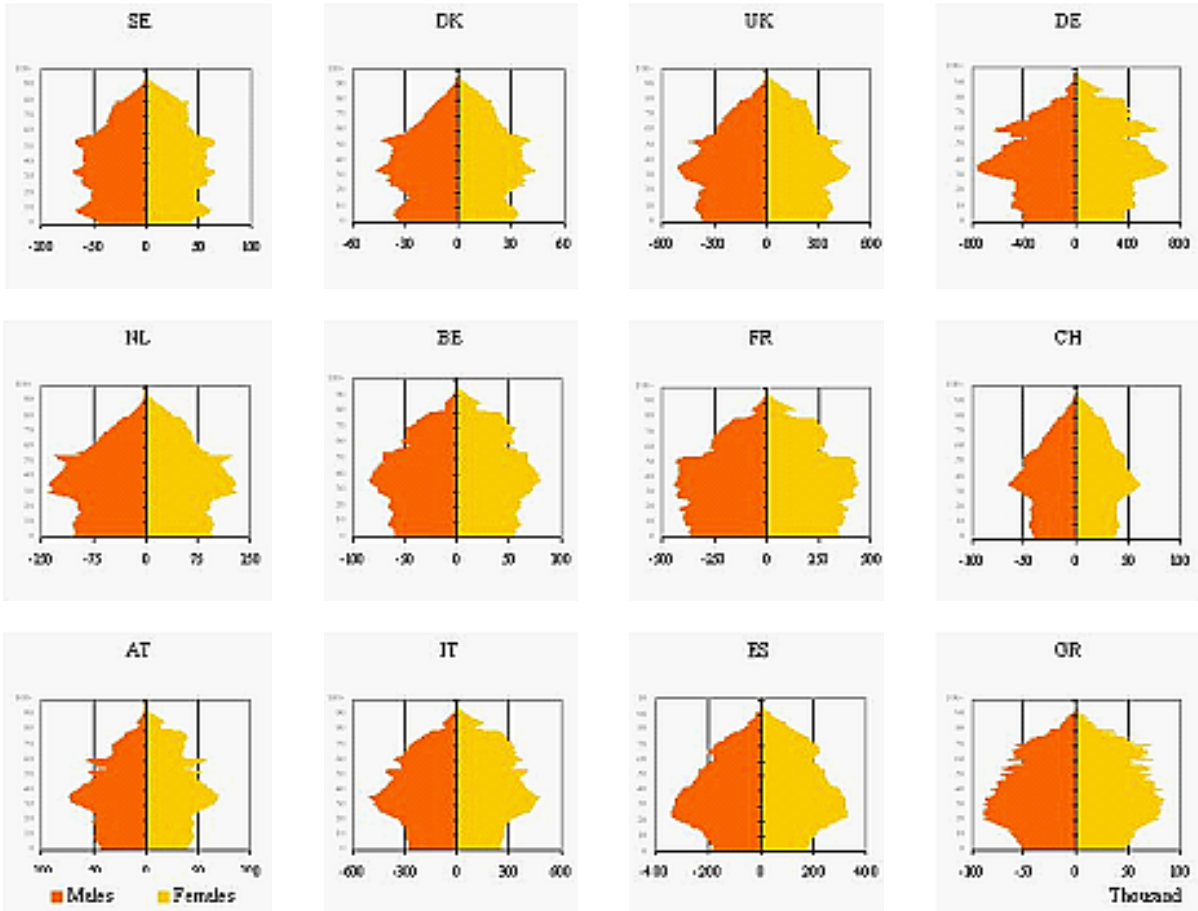
### 4. Causes: Why did the European welfare states become what they are?

In the sequel of this paper, we move a few steps towards explaining the magnitude of social expenditures towards the elderly. This is of course an undertaking far beyond the scope of a single paper. We begin with demographic and political economy reasons, and then collect some evidence for incentive effects that create an expanded demand for social expenditures towards the elderly, particularly early retirement and disability pensions.

#### 4a. Demography

One obvious explanation for the differences in the size of the welfare state and its generosity towards the elderly is, almost a banality, their number. While all European countries are ageing, more so than the United States, and all EU15 countries except Ireland have a higher share of older individuals than the US, Europe is far from homogenous in its current population age structure as Figure 21 shows.

Figure 21: Age structure of European countries



Source: Eurostat 2003

Italy has by far the largest share of elderly in the population, explaining part of the huge ratio between spending for the elderly and spending for the young visible in Figure 10.

To proceed somewhat more formally, Figure 22 shows time-series cross-section regressions on the expenditure data depicted in Figure 12. The first four regressions are simple pooled OLS regressions. The last two regressions are fixed effects regressions, the first using only the cross-national variation, the second only the time-series variation. Indeed, the share of individuals age 65 and older is the key explanatory variable for the spending share on the elderly relative to GDP in almost all regression variants, the only exception being the last regression, indicating that the time-series variation of the elderly share is still very small: the aging process during the 1990-2003 time period is still very modest. As a side product, these regressions also reiterate the positive coefficient of spending for the young, rejecting the crowding-out hypothesis.

**Figure 22: Pooled time-series cross-section regressions of social expenditures for the elderly as percent of GDP**

oldgdp	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat	Coef.	t-stat
younggdp	0.252	2.6	0.197	2.0	0.263	3.6	0.129	1.9	0.057	0.8	0.733	9.8
gdpcap			0.164	3.47	0.066	1.82	0.337	7.05	0.387	7.8	0.054	2.6
share65p					1.197	12.3	1.436	15.8	1.438	15.8	0.310	4.1
year							-0.416	-7.6				
const	12.087	23.5	9.242	9.6	-7.410	-4.8	816.0	7.6	-16.181	-9.4	4.062	4.3
<i>Adj R-squared</i>		<i>0.027</i>		<i>0.080</i>		<i>0.482</i>		<i>0.609</i>	<i>Within</i>	<i>0.626</i>		<i>0.485</i>
									<i>Between</i>	<i>0.351</i>		<i>0.150</i>
									<i>Overall</i>	<i>0.404</i>		<i>0.160</i>

Source: Author's regressions based on the data depicted in Figure 12.

#### 4b. Political preferences

A second potential cause for the spending patterns observed in Section 2 are differences in political preferences. In some countries, a majority of voters may be in favor of more spending to the elderly, in others more to the young. This is of course most likely connected to the age structure to of the populace, but there might be additional differences across countries.

Boeri, Börsch-Supan and Tabellini (2001, 2003, 2004) have conducted a series of small surveys in a few European countries to shed light on the political preferences of European citizens. Their aim was to understand resistance to structural reforms, in particular to pension reforms. A first set of surveys was conducted in the Spring of 2000 for four countries. The

survey was repeated 1.5 years later in Germany and Italy, and once more for Germany in the Spring of 2003. Figure 23 summarizes results relevant for this paper; the exact wording of the questions is quoted on top of the figure.

**Figure 23: Preferences about size and redistribution of welfare state**

**(i) Size of welfare state:** “Should the state (+) increase taxes and compulsory contributions, cutting pensions and/or transfers to households, (0) maintain taxes and compulsory contributions at current levels, or (-) reduce pensions and/or transfers to households, by raising taxes and/or compulsory contributions?”

**(ii) Intergenerational redistribution:** “Should the state (+) allocate more resources to pensions and less to unemployed or young job seekers, (0) keep the current situation (-), or allocate less resources to pensions and more to unemployed and young job seekers?”

	<b>(i) Larger size of welfare state?</b>			<b>(ii) More generous to elderly?</b>		
	(+)	(0)	(-)	(+)	(0)	(-)
Germany (Spring 2000)	13%	54%	25%	17%	62%	22%
Germany (Fall 2001)	12%	48%	34%	27%	51%	23%
Germany (Spring 2003)	19%	36%	34%	19%	45%	29%
Italy (Spring 2000)	17%	40%	43%	19%	35%	46%
Italy (Fall 2001)	23%	47%	30%	34%	28%	38%
France (Spring 2000)	14%	51%	35%	14%	66%	20%
Spain (Spring 2000)	31%	53%	16%	10%	60%	30%

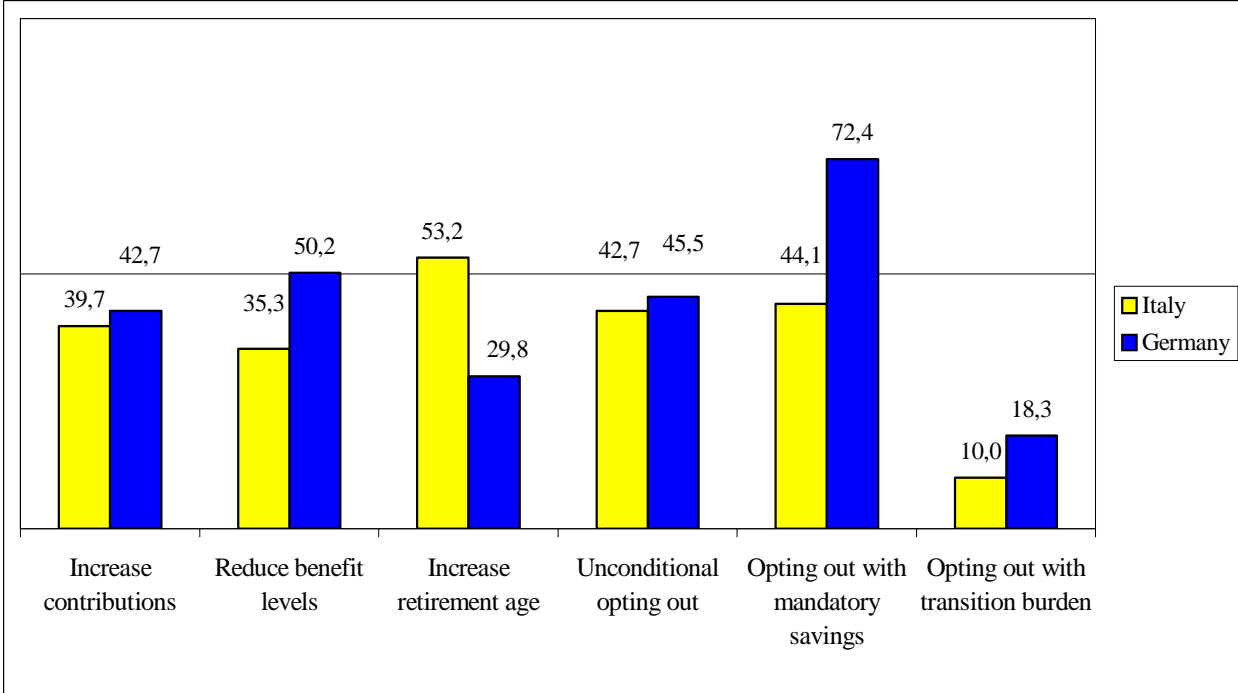
Source: Boeri, Börsch-Supan and Tabellini (2001, 2003), Börsch-Supan, Heiss and Winter (2004)

The results show an astounding variation across the four countries. First, the status quo bias is strong in all countries, but weakest is Italy. Second, further expansion of the welfare state does not find majority, but neither its retrenchment. Relatively speaking, the Spanish lean most towards an expansion of the welfare state. Third, except for Germany in 2001 (just after an incisive pension reform), there are more citizens who want to shift the welfare states’ generosity from old towards the young than in the reverse order. This is most pronounced in Italy, where this share even surpasses the status quo percentage. Note that this is in stark contrast to the fact that Italy has the oldest populace.

The results in Figure 23 align with the actual spending shares (Figure 4) and the distribution between old and young (Figure 10) in a reverse pattern. Spain has the smallest welfare state and wishes to expand most. Italy has the most skewed distribution towards the elderly and wishes to change this most starkly. This may be interpreted as a desire for converge within Europe, or simply as a tendency to give up easiest those transfers that are supplied most generously, since this is likely to hurt least. Evidence for this interpretation comes from another

set of results derived from the 2001 survey by Boeri, Börsch-Supan and Tabellini (2003). Figure 24 shows how different Germans and Italians judge the attraction of six pension reform proposals. Italians would vote in majority for an increase in the retirement age (currently having one of the lowest average exit ages in Europe), while Germans rather reduce their pension benefits (currently having on of the highest pension benefits, measured in absolute Euro terms at purchasing power).

**Figure 24: Preferences about pension reform options**

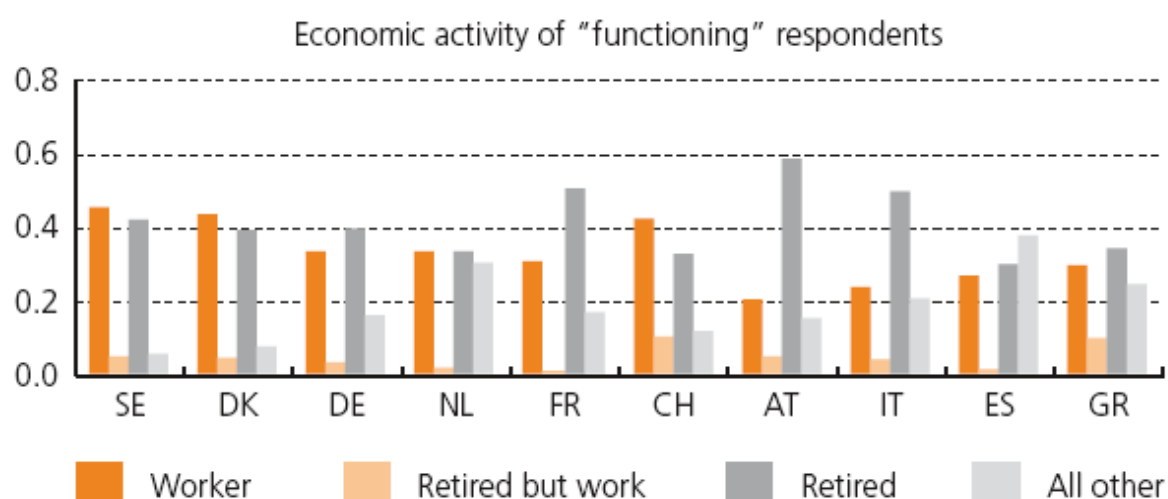


Source: Boeri, Börsch-Supan and Tabellini (2001, 2003), Börsch-Supan, Heiss and Winter (2004)

**4c. Early Retirement incentives**

A third reason for the large differences in the size of the welfare state and the generosity towards the elderly are incentive effects in the public transfer systems, especially towards early retirement. Early retirement is wide-spread in Europe, as the low labor force participation rates among individuals aged 55-64 have indicated in Figure 17. Most striking are the cross-national differences in economic activity vis-à-vis retirement if differential health (measured as a set of functional measures, so-called activities of daily living) is taken account of, see Figure 25.

**Figure 25: Employment and retirement rates conditional on good health**



Source: Brugiavini, Croda, and Mariuzzo (2005), based on SHARE 2004.

The cross-national differences are most evident between Sweden and France, for example, or between the Alpine neighbours Austria and Switzerland. To a large extent, these differences can be explained by incentive effects, as the International Social Security Project led by Gruber and Wise has shown. The incentive effects of early old-age pensions measured in this project align very well with the actual early retirement behavior, see Figure 26.

**Figure 26: Incentive effects and retirement behavior**

Country	Unused Labor Capacity, 55–65	Men Out of Labor Force, Age 59	Early Retirement Age	Replacement Rate at Early Retirement Age (%)	Accrual in Next Year (%)	Implicit Tax on Earnings in Next Year (%)	Tax Force Early Retirement Age to 69	Hazard Rate at Early Retirement Age (%)
Belgium	67	58	“60”	77	–5.6	82	8.87	33
France	60	53	60	91	–7.0	80	7.25	65
Italy	59	53	“55”	75	–5.8	81	9.20	10
The Netherlands	58	47	“60”	91	–12.8	141	8.32	70
The United Kingdom	55	38	60	48	–10.0	75	3.77	22
Germany	48	34	60	62	–4.1	35	3.45	55
Spain	47	36	60	63	4.2	–23	2.49	20
Canada	45	37	60	20	–1.0	8	2.37	32
The United States	37	26	62	41	0.2	–1	1.57	25
Sweden	35	26	60	54	–4.1	28	2.18	5
Japan	22	13	60	54	–3.9	47	1.65	12

Source: Gruber and Wise (1999)

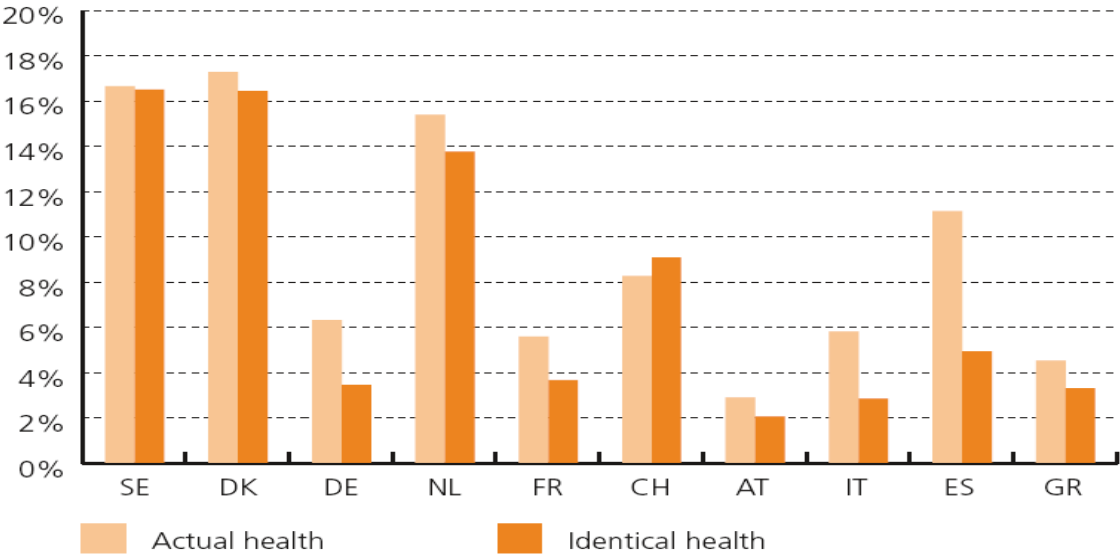
Early retirement financed by old-age pensions is only part of the incentive story in Europe. In addition, disability pensions are often a substitute for stricter old-age pensions, often paid



without a medical test. Figure 27 shows the large cross-national variation in disability insurance prevalence, both with and without a correction for health. As it turns out, differential health cannot explain the cross-national differences. If the they are regressed on variables that measure the generosity of disability pensions, together with the ease of obtaining such a pension, almost 75 percent of the cross-national variation can be explained: 22 percent by the extent of coverage, 14 and 11 percent by the minimum and maximum benefit level, 12 percent by the benefits level at full disability, and 15 percent by the stringency of a medical exam (Börsch-Supan, 2006).

Combining the results of Figures 26 and 26 helps to explain the large social expenditures to the elderly in Sweden, Denmark and the Netherlands: While the public pension sector is relatively small in the Netherlands, early retirement is very frequent, and disability uptake as well. Sweden has very generous pensions (this is, for the current elderly under the old pay-as-you-go system) and a generous disability insurance. Denmark spends a lot on a base pension that is generous to the poor and the middle-class, plus a lot on a lenient disability insurance.

**Figure 27: Disability insurance prevalence, by correction for health status**



Source: Börsch-Supan (2005), based on SHARE 2004.

## 5. Summary and conclusions

Aim of this paper was to examine the generosity of the European welfare states towards the elderly. We have used a mixture of aggregate data from EUROSTAT and the OECD and survey data in particular from the new Survey of Health, Ageing and Retirement in Europe (SHARE).

As a first insight from this analysis, we observe that the size of the welfare state varies a great deal in Europe, as well as its relative generosity to the elderly and the young. There is no such things “the European welfare state model”, and even the three or four archetypical welfare state models a la Esping-Andersen (2003) mask some highly relevant differences within this typology.

Second, while the size of the welfare states has changed over time – some retrenchment in the early 1990s when measured as share of GDP, but a fairly linear increase in absolute per capita expenditures – the spending patterns and the relative generosity between old and young has remained remarkably stable between 1990 and 2003. There is very little indication of a convergence in spite of the accelerated European integration through the Maastricht process and the introduction of a single currency.

Third, we did not find any convincing evidence for the hypothesis that spending for the elderly crowds out spending for the young. Rather, spending for both age groups has expanded and contracted with the general size of the welfare state.

Fourth, while a causal analysis explaining the size of the various European welfare state models is of course an undertaking far beyond the scope of this single paper, we have identified three dimensions that explain a great deal of the time-series and cross-national variation in welfare state generosity – both in general and as it relates to the elderly: the demographic forces of population aging which differ widely across European countries; political preferences pushing politicians in directions different across Europe; and incentive effects that create an expanded demand for social expenditures towards the elderly (in particularly early retirement and disability benefits) that are more pronounced in some European countries than in others.

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