Social security and the well-being of the elderly.

Three concepts of generosity[1]

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Abstract

The purpose of this article is to clarify the concept of generosity applied to social security systems. We distinguish among three types of generosity with the possibility of trade-offs. There is the generosity towards early retirement, the overall generosity of an old age system, and the generosity towards retirees with low entitlements.

1. Introduction

When looking at the recent evolution of social security benefits and their expected future trends, one is concerned by the financial viability of the system and by its generosity. Much has been written about the first issue, little about the second. More precisely, there is a lot of discussion about the generosity of social security systems but with some ambiguity regarding the concept of generosity. In this paper I would like to distinguish among three definitions of generosity: one relying on retirement incentives, one resting on average benefits and the last focusing on (intragenerational) redistribution.

To see the relevance of this distinction we observe that the Belgian system that is generous towards early retirees, does not provide particularly high retirement benefits on average and is quite effective at avoiding poverty among retirees. By contrast, Sweden is generous on average and in redistributive terms, but not towards early retirement. Note that redistributive generosity can be measured in two different ways: inequality measures and poverty rates. A social security system with a uniform basic benefit will be good at alleviating poverty low but not at inequality indexes. Note also that we are not dealing with the too well known issue of intergenerational redistribution.

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The purpose of this paper is to present evidence regarding these three types of generosity for a number of OECD countries, and to see whether there is any connection between them. For example, one would expect that high average benefits also mean low poverty rates among retirees. At the same time, one knows that contributory systems with earning-related benefits tend to spend more than flat rate benefit systems on average.

At the outset let us say that we don't deal with the revenue side of social security. A thorough measure of generosity should consider both benefits and contributions within a life-cycle framework. But this is outside the scope of this paper.

The rest of the paper is organized as follows. Section 2 is devoted to the incentive effect toward early retirement. Section 3 compares the average benefits of retirees over time and across countries. Section 4 is devoted to the incidence of social security on poverty and on inequality. Section 5 presents an exercise illustrating the trade-off between redistribution and early retirement. The final section concludes.

2. Generosity towards early retirement

Before age of 60 there are almost no incentives to retire through the regular old-age pension system. Yet in a number of countries people effectively retire before that age. As it is now well-recognized, old age pension systems are only one way to withdraw from the labor market. Other channels whereby individuals can withdraw from the labor market before the regular retirement age are special early retirement schemes, unemployment benefits, disability pensions and even private occupational pensions. Such programs exist in most OECD countries, but they are more widely used in some than in others. Entitlement conditions play a critical role. If these conditions are relatively lax or rather if they are made relatively lax by governments (who believe that they will foster youth employment or avoid the shocks of industrial restructuring), high replacement rates at low ages and implicit tax rates on prolonged activity provide strong disincentive to continue working before 60.

Retirement between 65 – the standard age of retirement – and 60 is most often explained by the special provision of the old age pension systems. Traditionally 60 is the earliest age of retirement and 65 the standard age. At 65 a full pension is paid whereas between 65 and 60 there is a more or less actuarial adjustment. In recent years a number of countries have changed these ages, and have tried to reduce the implicit tax on continuing work.

For these two windows of 55-59 and 60-64, the generosity of social security defined comprehensively can be measured by the concept of the implicit tax that provides the extent of disincentive, or by the concept of replacement ratios that provides the income that early retirees expect to receive relative to past earnings.

These two concepts are clearly related. Implicit taxation on continued work is a dynamic concept that indicates year by year how much it costs to work for one more year. Replacement rate is a more static concept. Tables 1-3 come from OECD (2002) and Duval (2003). They give the replacement rates for people who retire at 55 and benefit from early retirement programs (Table 1). They are compiled for 6 typical households distinguished by earnings and marital status. They also give the

replacement rates for people who retire at 60 and benefit from early retirement schemes (Table 2), or from the standard old age pensions systems (Table 3).

Taking the 8 most generous countries that appears in these three tables, we find an intersection of 7 countries. These countries are not only characterized by generous rates of replacement for early retirees, but they also count more early retirees than the others (higher implicit tax rates).

Table 1 – Replacement rate over next 5 years in early retirement route, average across 6 situations (3 earnings levels and 2 marital statuses), current systems (in per cent)

At age 55

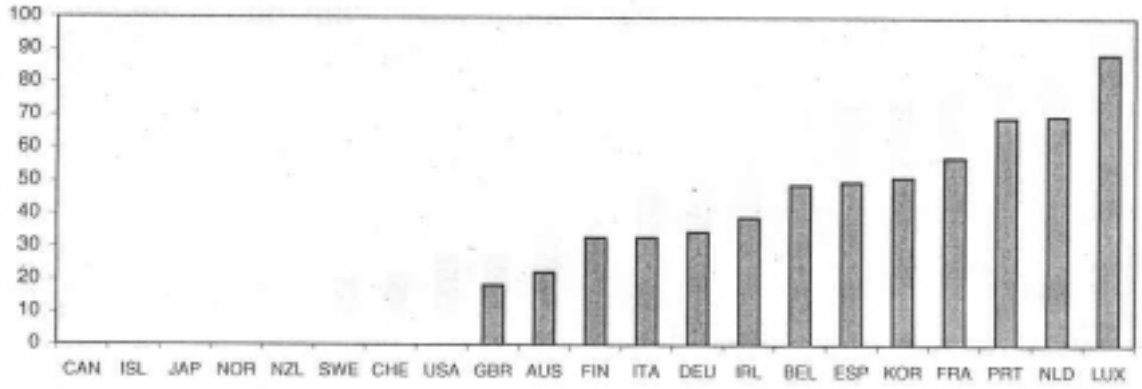


Table 2 – Replacement rate over next 5 years in early retirement route, average across 6 situations (3 earnings levels and 2 marital statuses), current systems (in per cent)

At age 60

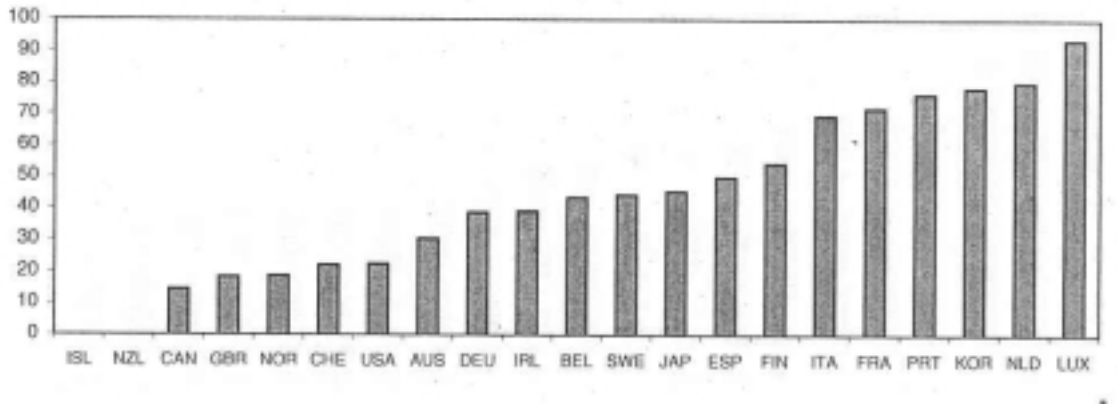


Table 3 – Replacement rate over next 5 years in current old-age pension system, average across 6 situations (3 earnings levels and 2 marital statuses), (in per cent)

At age 60

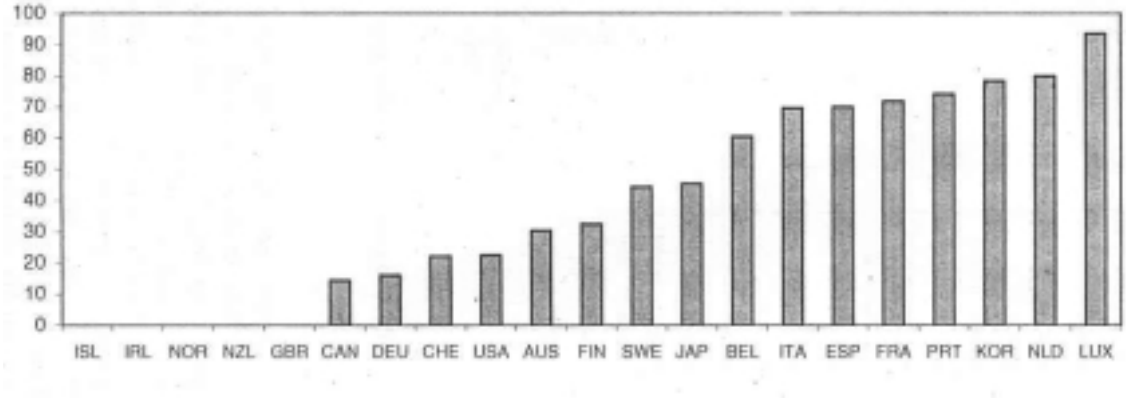
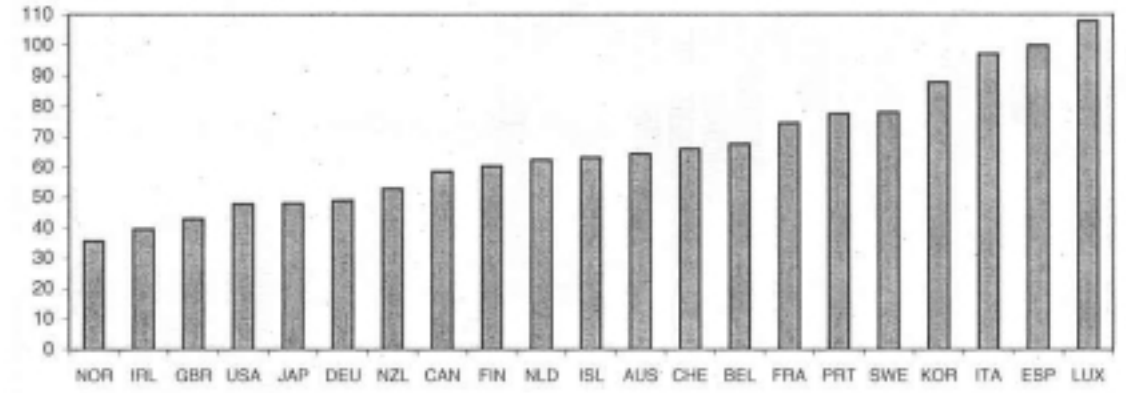


Table 4 – Replacement rate over next 5 years in current old-age pension system, average across 6 situations (3 earnings levels and 2 marital statuses), (in per cent)

At age 65



3. The average generosity of old age pension systems

Another definition of generosity concerns "normal" retirees. On average, what pension benefits they can count on?

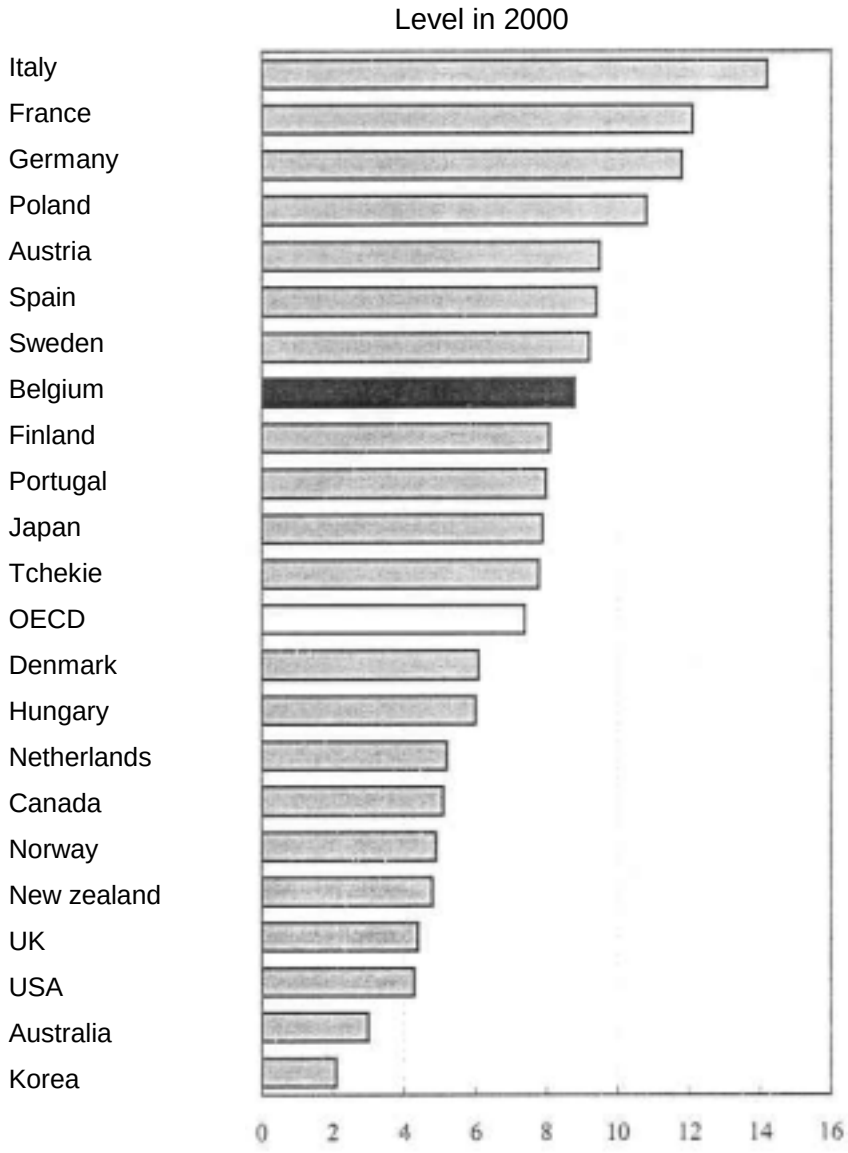
Table 4 provides the rates of replacement for people retiring at 65 in the old-age pension system. Not surprisingly, the rates everywhere are higher than those obtained for early retirees, with the exception of countries such as France where the normal age of retirement is 60. The difference between the rates given on Table 4 and those of Tables 1-3 is an indicator of the relative generosity of old age pension versus early retirement benefits.

It is interesting to observe that the ranking of countries according to this second type of generosity is different from that obtained for early retirement.

However, measuring the rate of replacement can be problematic since it can hide part of the reality. Suppose that you have a rate of replacement of 80% that applies only to 20% of people, as compared to a rate of replacement of 70% covering everyone. It is clear that that there is more generosity in the second case. In this regard, it would be useful to have a good indicator of the coverage of the old age pension system.

Another measure of overall generosity is the share of old age pension spending in GDP. Table 5 provides a ranking of countries according to that ratio.

Table 5 – Public pension spending in the OECD countries, 2000



Source: OECD (2003).

The rankings of Table 5 and that of Table 6 are related but not perfectly for the reasons just mentioned (e.g. Korea). It is also important to point out that private pensions are not included, even though they are mandatory and subsidized.

4. Redistributive generosity

Measuring the generosity of public old age pension systems (first pillar) by looking at the average replacement ratio can hide totally different situations in terms of redistribution. In fact, a pension system can be characterized by two key features: its average generosity measured by the average replacement rate, or the relative importance of the system in terms of GDP and its redistributive rule ranging from a pure contributory (Bismarckian) rule to a flat rate benefit (Beveridgean) rule. It has been observed that countries with a redistributive rule tend to spend little in aggregate terms, whereas countries with contributory systems spend relatively more. In the first group one would count the US and the UK, and in the second France and Germany.

But this comparison is not entirely fair. Countries with flat rate, or even means tested benefits, generally have a well-developed second pillar of supplementary pensions, whereas Bismarckian countries hardly rely on occupational pensions. This is to say that assessing the redistributive character of an old age pension system is not easy. In theory, a pure contributory system acts as a defined contribution pension scheme: it is distributionally neutral. However, almost all countries, including those with Bismarckian regimes, have special welfare provisions for the very poor retirees. These provisions that cost little are crucial to keeping the elderly out of poverty.

To measure the redistributive character of an old age pension system, we consider three types of evidence. First, the rate of replacement as a function of income. When it is constant there is hardly any redistribution. When it is decreasing there is some redistribution.

The second type of evidence consists of comparison of inequality measures, typically the Gini coefficient of the elderly incomes before and after pension benefits. The third type is in the same vein; it consists of comparison of poverty rates.

Table 6 provides the net rate of replacement for half the average income, the average income, and twice the average income for 9 countries. Bismarckian countries such as France, Germany and Italy have almost constant rates whereas the Beveridgean countries such as the United Kingdom, the United States, New Zeeland, the Netherlands, Canada have rates that decease rapidly as income increases. Japan is in between.

Table 6 – Net replacement rates of public pension benefits by relative income level (%)

Canada		**Netherlands**	
half	76		73
average	44		43
twice	25		25
France		**New Zealand**	
half	84		75
average	84		38
twice	73		19
Germany		**UK**	
half	67		72
average	72		50
twice	75		35
Italy		**US**	
half	103		64.6
average	90		54.6
twice	85		32.3
Japan			
half	77		
average	56		
twice	43		

Source: Disney and Johnson (2001)

Table 7 gives the distributional patterns of old age pension for 17 OECD countries. The last column gives the share of public transfers in total disposable income, which ranges from 34% to 110%. The first three columns give this share for three income groups. Redistribution implies that the bottom (top) deciles get more (less) than this average replacement rate. Anglo-Saxon and Nordic countries plus the Netherlands have a very redistributive system. Western and Southern Europe are much less redistributive. The so-called Visegrad countries are similar to countries such as Greece and Italy.

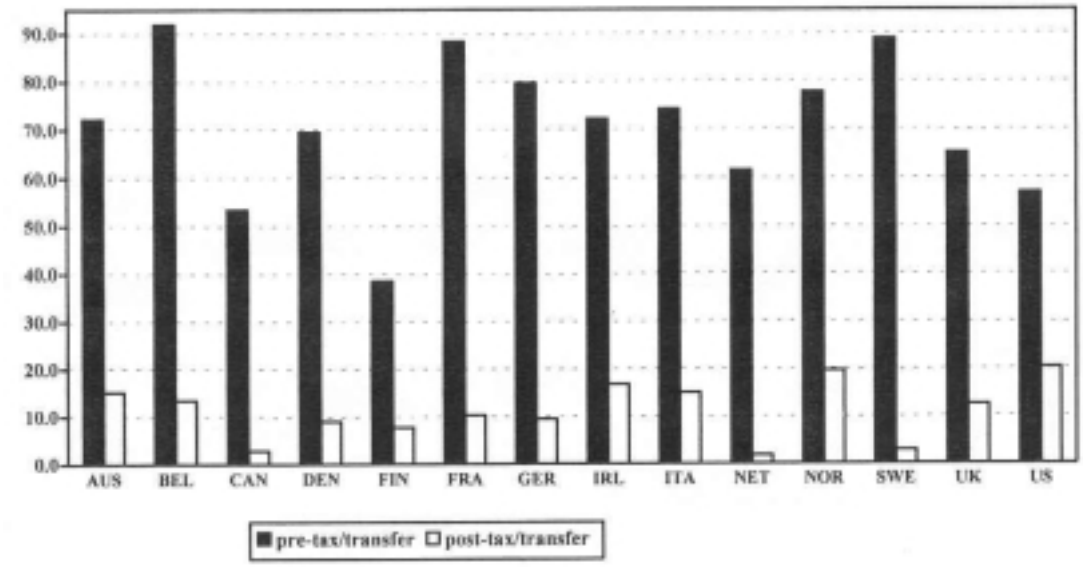
Finally, Table 8 focuses on the poor and contrasts poverty rates for 15 OECD countries before and after public transfers. The role of public transfers is quite clear. Without them the poverty would be abysmal. But clearly this comparison is not fair. Contributions would not be paid without social security and private schemes would emerge.

Table 7 – Share of public transfers in total disposable income for three income groups, levels and changes mid-80s to mid 90s

		Old-age pension transfers Retirement-age population			
		3 bottom deciles	4 middle deciles	3 top deciles	Total
Anglo-Saxon countries					
Australia	Levels	74.6	55.8	13.2	38.9
	Changes	*-10.8*	*-1.7*	*2.7*	*1.4*
Canada		84.9	57.2	29.0	48.2
		-1.2	*0.9*	*4.4*	*3.3*
Ireland		65.8	67.2	28.8	47.3
		-1.8	*3.6*	*12.5*	*7.0*
United Kingdom		71.0	49.4	24.4	40.6
		-5.5	*-12.8*	*-3.6*	*-7.5*
Nordic countries					
Denmark	Levels	120.5	87.8	34.2	70.2
	Changes	*22.7*	*16.1*	*5.1*	*13.7*
Finland		50.0	31.0	15.8	27.9
		-18.4	*-9.3*	*-2.6*	*-7.8*
Norway		93.1	86.9	48.9	69.9
		0.5	*6.0*	*0.3*	*1.9*
Sweden		96.2	113.9	112.3	109.7
		6.6	*-3.6*	*5.7*	*2.5*
Western Europe					
Austria	Levels	150.1	83.5	46.9	77.2
	Changes	*-112.5*	*-16.3*	*6.4*	*-22.8*
Belgium		96.7	99.2	90.4	94.7
		-	-	-	-
France		80.8	83.4	85.0	83.8
		4.3	*9.6*	*12.9*	*10.5*
Germany		90.5	83.5	67.7	77.1
		2.4	*-2.1*	*2.9*	*1.2*
Netherlands		92.7	68.2	35.3	57.4
		-0.8	*-0.9*	*-0.9*	*-1.2*
Southern Europe					
Greece	Levels	74.6	70.6	49.6	59.0
	Changes	*5.8*	*15.3*	*7.3*	*9.6*
Italy		69.5	74.2	55.3	63.8
		-14.2	*-6.6*	*14.9*	*2.7*
Visegrad countries					
Czech Republic	Levels	97.6	96.5	63.4	82.5
	Changes	*8.5*	*7.7*	*-5.3*	*2.2*
Hungary		64.5	74.7	54.1	63.4
		-6.2	*3.3*	*21.4*	*12.1*
OECD 17		85.7	72.7	46.4	62.2
		-7.0	*0.7*	*5.0*	*1.8*

Source: Förster (2003).

Table 8 – Pre- and post tax and transfer poverty rates, retirement-age population, mid-1990s



Source: Förster (2003).

We now want to see if there is any relation among these alternative measures of generosity. For a sample of countries for which we have sufficient data, we take the ranking corresponding to each measure. Table 9 gives six of such rankings for 14 countries. Table 10 provides the rank correlations. It is striking to observe little correlation between these measures, except between *gdp* and *rep65,* which both assess the average generosity of the system and between *bever* and *redist* which evaluates their redistributiveness. For example, there is no correlation between poverty and redistribution nor between *rep65* and *rep55*.

Table 9

Country	Poverty[1]	Redist[2]	Bever[3]	Gdp[4]	Rep65[5]	Rep55[6]
Austria	11	9	-	4	5	8
Belgium	9	12	-	6	4	3
Canada	3	7	2	10	8	10
Denmark	5	1	-	8	-	-
Finland	4	2	6	7	7	7
France	7	14	6	2	3	2
Germany	6	13	7	3	9	5
Ireland	12	6	-	-	12	4
Italy	10	10	5	1	1	6
Netherlands	1	4	1	9	6	1
Norway	13	8	-	11	12	10
Sweden	2	11	-	5	2	10
UK	8	5	4	13	11	9
USA	14	3	3	12	10	10

(1) Table 8. Post transfer non poverty
(2) Table 7. Ratio of 3 bottom deciles to 3 top deciles
(3) Table 6. Ratio of half to twice average income
(4) Table 5. Pension spending as % of GDP
(5) Table 4. Replacement ratio for 65-69
(6) Table 1. Replacement ratio for 55-59.

Table 10 – Correlation coefficients

	Poverty	Redist	Bever	Gdp	Rep65	Rep55
Poverty	1.00000	-0.03297	0.32733	0.00000	0.29678	0.16013
		0.8695	0.2618	1.0000	0.1598	0.4568
	14	14	8	13	13	13
Redist	-0.03297	1.00000	0.54554	-0.43590	-0.29678	-0.21350
	0.8695		0.0615	0.0381	0.1598	0.3211
	14	14	8	13	13	13
Bever	0.32733	0.54554	1.00000	-0.25459	0.03637	-0.29630
	0.2618	0.0615		0.3828	0.9008	0.3149
	8	8	8	8	8	8
Gdp	0.00000	-0.43590	-0.25549	1.00000	0.63636	0.34960
	1.0000	0.0381	0.3828		0.0040	0.1235
	13	13	8	13	12	12
Rep65	0.29678	-0.29678	0.03637	0.63636	1.00000	0.20146
	0.1598	0.1598	0.9008	0.0040		0.3514
	13	13	8	12	13	13
Rep55	0.16013	-0.21350	-0.29630	0.34960	0.20146	1.00000
	0.4568	0.3211	0.3149	0.1235	0.3514	
	13	13	8	12	13	13

5. Raising the age of retirement in order not to lower benefits

We have seen that the ranking of countries according to our three concepts of generosity varies quite a lot. In other words, it does not seem possible to be generous in all respects. To illustrate this let us look at a particular example, that of Belgium which by all accounts seems to be one of the most generous regarding early retirement. Belgium's social security has to be reformed in order to face the challenge of ageing. The two parametric reforms that are usually contemplated are a reduction of old age pension benefits or an increase in the age of retirement (through a reduction of implicit taxes on postponed activity).

We want to show that increasing the age of retirement, namely decreasing the generosity towards early retirees, will have the effect of keeping pension benefits at their current level.

Traditionally the ageing problem is solved through a so-called parametric reform consisting of either increasing contributions, decreasing benefits or raising the retirement age. Given that within a setting of fierce tax competition and already high tax burden, the first reform is unrealistic, we have considered the two other reforms by focusing on their impact on the poverty level of retirees. We used a micro-simulation model allowing for retirement decision that was developed within the NBER project of international comparison of social security systems. We consider two reforms aimed at collecting the same amount of revenue: the first one consists of raising the standard and early retirement ages by 3 years and the second consists of cutting all benefits by 25%. Both reforms generate an increase in revenue of about 18% of total pension spending. It appears that raising the age of retirement implies a poverty rate of 3.82% whereas a linear reduction of benefits leads to a poverty rate of 7.02%.[3]

6. Conclusion

The main idea of this paper is that a social security system – including not only old age pension systems but also disability and unemployment insurance, early retirement scheme and welfare programs – can be labelled generous in a number of different ways. First it can be generous towards early retirement by offering workers aged 55-65 relatively high benefits. Second, it can be generous towards people who retired at the normal age (generally 65). Third it can be generous towards the poor retirees by giving them benefits well above their contributions. We have provided evidence for these three definitions of generosity and shown that they are not closely correlated.

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[3] See Cremer and Pestieau (2003), Desmet *et al*. (2003).

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