



# Research Note

## ***The effect of minimum pension schemes and recent reforms to them on the financial well-being of older people***

Francesco Figari<sup>\*</sup>, Manos Matsaganis<sup>§</sup>, Holly Sutherland<sup>\*</sup>

<sup>\*</sup>ISER - University of Essex, <sup>§</sup>Athens University of Economics and Business

### **ABSTRACT**

*Comparing the effects of minimum pension schemes on incomes and poverty rates in old age in different countries gives rise to a number of conceptual problems, primarily because the means used to support incomes of those in retirement differ.*

*Public pensions account for the greater part of the income of those aged 65 and older in all EU countries. In countries with significant flat-rate schemes and modest second-tier pensions (Denmark, Sweden, the UK, Ireland and the Netherlands), they are distributed more or less equally across income groups, while they favour higher income groups in countries where pensions are predominantly earnings related (Austria, France, Germany and the south European countries).*

*According to simulations of the EURMOD microsimulation model, the minimum pension schemes considered here are estimated to reduce the risk of poverty, as conventionally measured, among people aged 65 and over by amounts ranging from 56 percentage points in Denmark, and 27 percentage points in the Netherlands to 2 percentage points in Austria and France and not at all in Germany, Portugal and Sweden*

*Recently introduced minimum pension schemes or reforms in existing systems in four EU countries selected for study are estimated to have reduced the risk of poverty of those aged 65 and over by 14 percentage points in Portugal 10 percentage points in Denmark and 2 percentage points in the UK but to have had no effect on the risk in Hungary.*

*This Research Note has been produced for the European Commission by the Social Inclusion and Income Distribution network of the European Observatory on the Social Situation and Demography. The views expressed are those of the authors and do not necessarily represent those of the European Commission.*

### **European Commission**

Directorate-General "Employment, Social Affairs and Equal Opportunities"  
Unit E1 - Social and Demographic Analysis

Manuscript completed in October 2008



European Commission

# The effect of minimum pension schemes and recent reforms to them on the financial well-being of older people<sup>1</sup>

## I. Introduction

A cross-country analysis of the effects of minimum pension schemes on the well-being of older people gives rise to a number of conceptual problems, primarily because the means used to support incomes of those in retirement differ across countries and they are not easily identifiable in the survey datasets. However the aim of this research note is to provide a first insight into the effects of minimum pension schemes on income and poverty rates in old age, using the European tax-benefit model EUROMOD which facilitates the categorisation of benefit payments by type in a comparable way across countries.

Although across countries the pension systems have a common objective to provide elderly citizens with sufficiently resources in order to maintain their living standards in line with the rest of the population, the evidence of the success of this differs enormously across Europe. The proportion of elderly at risk of poverty, according to EUROMOD estimates<sup>2</sup>, varies from 3.3% in Luxemburg to 42.6% in Ireland.

As shown in Figure 1, in most of the countries the poverty rates of those aged 65 and over are higher than the poverty rates of the overall population. The difference is about 6-9 percentage points in Belgium, Greece, Spain, Austria, Slovenia and Finland and about 14 percentage points in Denmark and Portugal. However previous estimates show that when the elderly are at risk of poverty they are less likely than the non-elderly poor to have income far below the poverty line because in many countries a high proportion of pensioners receive a pension that is just slightly lower than the poverty line (Mantovani et al., 2007).

In contrast, in Italy, Luxemburg, Hungary, and Poland the proportion of elderly at risk of poverty is lower than the proportion of the overall population, with poverty rates for older people that are very low – around 5% – in Luxemburg, Hungary and Poland.

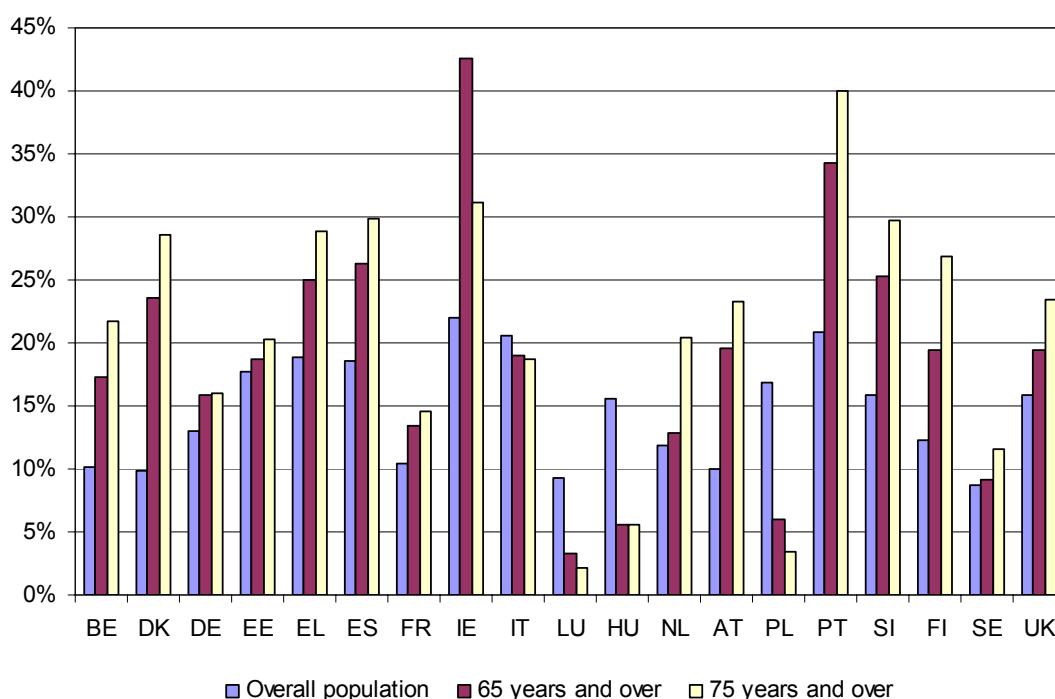
For the individuals aged 75 and over, poverty rates are higher in most countries than for those aged 65 and over, with the notable exceptions of Ireland (31% compared with 43% for those aged 65 and over) and the countries where elderly poverty rates are below the overall poverty rates.

---

<sup>1</sup> This Research Note is a revision of “The effect of taxes and benefits and changes in these on the distribution of income and on relative poverty rates of older people” presented at the meeting of the Indicators Sub-Group of the Social Protection Committee on 18<sup>th</sup> April 2008. The analysis is based on EUROMOD version D23 (July 2008). EUROMOD is continually being improved and updated and the model on which the results presented here are based represents the best available at the time of writing. Any remaining errors, results produced, interpretations or views presented are the authors’ responsibility. EUROMOD is based on micro-data from 17 different sources. See Table A1 for the data used in this research note. Data providers do not bear any responsibility for the analysis or interpretation of the data reported here. Thanks are due to Alari Paulus and Francesca Zantomio for assistance, and to Terry Ward and members of the Indicators Sub-Group of the Social Protection Committee for comments. The usual disclaimers apply.

<sup>2</sup> As explained in Section 2, estimates of disposable income in EUROMOD may differ from income values recorded in the underlying datasets.

**Figure 1. Poverty rates in the EU countries**



Notes. Poverty line is equal to 60% of median equivalised household income

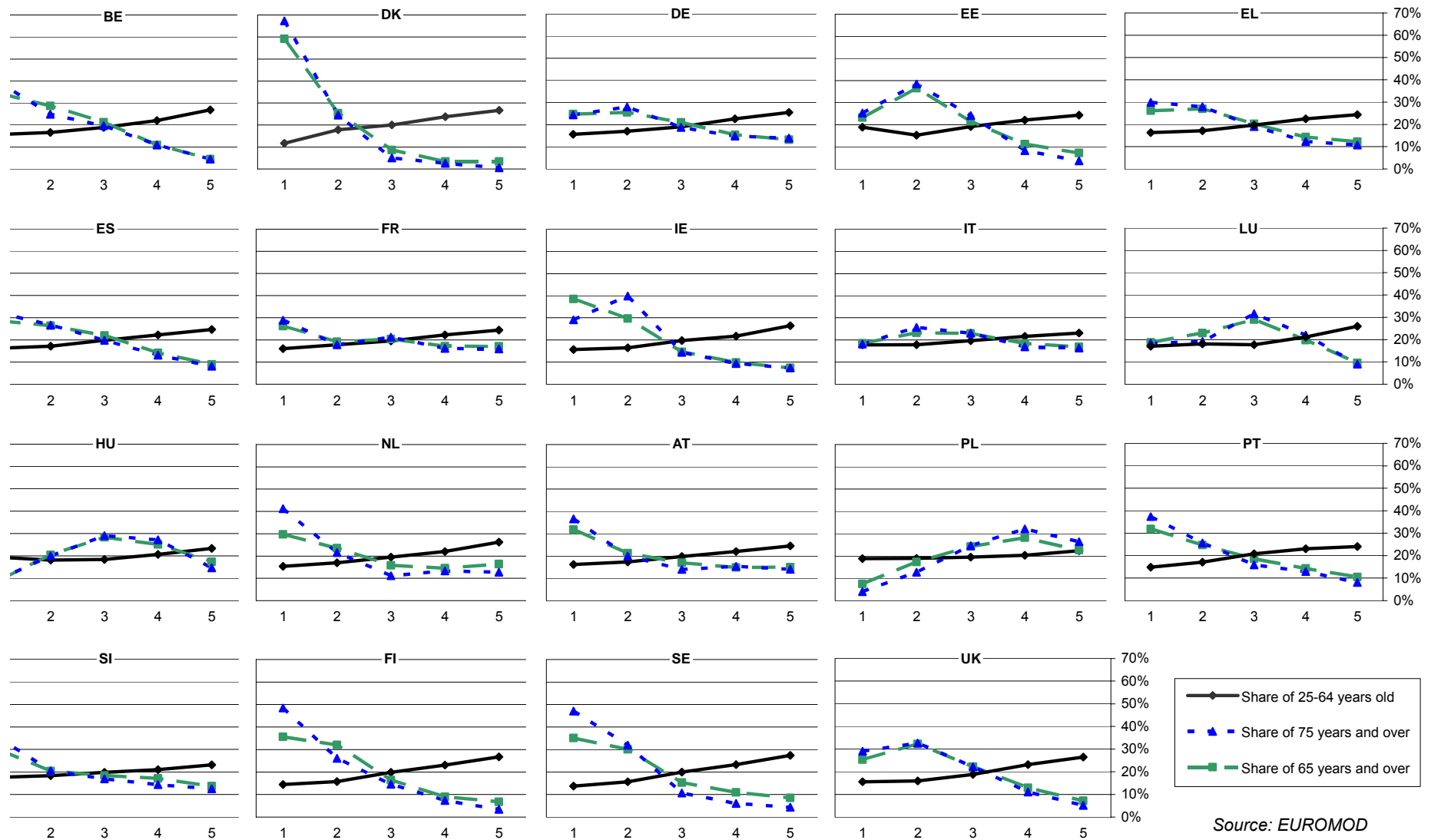
A complementary way to measure the well-being of elderly people is to look at their relative income position. Figure 2 shows the share of those aged 65 and over (long dashed green line) and of those aged 75 and over (dashed blue line) compared to the share of the population of working age (defined as those aged 25-64 years old, solid black line) by quintile of disposable income.

A large proportion of the population aged 65 and over fall into the bottom income quintile in most of the countries. The elderly make up as much as 59% of the bottom quintile in Denmark and over 30% in Ireland (39%), Finland (36%), Sweden (35%), Belgium (35%) and Portugal (32%). As income increases, the share of the elderly tends to decline. A few countries, however, deviate from this pattern. In Estonia, Germany, Greece, and the UK, the largest number of elderly are found in the second from bottom quintile, while a relatively pronounced 'inverted U' pattern is observed in Italy, Luxembourg, Hungary and Poland. The population aged 75 and over follows the same pattern in all countries with a higher percentage of people in the bottom quintile in Denmark, the Netherlands, Finland and Sweden.

Comparing the share of elderly with the working age population it appears that there is a shift of people into a lower income quintile as they age in most of the countries and in particular in Denmark, Finland, Sweden, and Ireland. A smaller share of elderly is in the bottom quintile in Hungary and Poland, countries characterised by relative generous pension schemes and low elderly poverty rates.

The rest of the research note is structured as follows: Section 2 describes the main characteristics of EUROMOD. Section 3 clarifies some of the conceptual issues involved in identifying the minimum pension schemes. Section 4 examines the composition of the income of older people by source. Section 5 assesses the effect of minimum pension schemes in reducing poverty in a sample of 15 EU Member States including Poland and Hungary. Section 6 explores the redistributive and budgetary effects of recently introduced, or reformed, minimum pension schemes in more detail in a smaller sample of countries (Denmark, Hungary, Portugal and the UK). Section 7 concludes the research note.

Figure 2. Share of working age (25-64) and elderly (65+ and 75+) population, by quintile group



Source: EUROMOD

Notes. Quintiles have been constructed on the basis of equivalised household disposable income of the entire population.

## II. Methodology and data

The analysis is based on EUROMOD, the multi-country European tax-benefit model covering the 15 pre-2004 European Union member states plus Estonia, Hungary, Poland and Slovenia. EUROMOD is a static microsimulation model that calculates direct taxes, social contributions and cash benefits as well as providing measures of market incomes in a comparable way across countries. EUROMOD simulates cash benefit entitlements and direct tax and social insurance contribution liabilities on the basis of the tax-benefit rules in place and information available in the underlying datasets. Taxes and -benefits which cannot be simulated are taken directly from the data. Moreover EUROMOD enables the effects of policy reforms on incomes, poverty, inequality and social inclusion to be measured in a comparative perspective (see Sutherland, 2007, for further information).

EUROMOD, it should be noted, does not take into account non take-up of benefits or tax evasion. It is assumed, therefore, that the legal rules are universally respected and that the costs of compliance and claiming are zero. This can result in the over-estimation of taxes and benefits and give rise to differences between EUROMOD estimates of disposable income and incomes recorded in the underlying datasets (see Mantovani and Sutherland, 2003, and Corak, Lietz and Sutherland, 2005). At the same time the effect of taxes and benefits that is measured by EUROMOD can be regarded as that intended by the design of tax-benefit policies, even if their performance diverges to some extent in practice.

The analysis in this paper covers all 19 countries included in EUROMOD; the underlying datasets used are listed in Table A1. The choice of dataset is based on the judgement of the national EUROMOD experts as to the most suitable one available for scientific research at the time of the implementation of the relevant version of EUROMOD. In cases where the datasets refer to a period a few years prior to the tax-benefit system simulated in EUROMOD, each income component has been indexed by appropriate growth factors, based on actual changes over the relevant period.<sup>3</sup> In general, no adjustment is made for changes in the composition of the population. The tax-benefit systems considered relate to different years across countries ranging from 2001 to 2005 (see Table A1 for details).

The analysis of the structural reform of pension policy generally requires a dynamic microsimulation modelling approach that takes into account the life-cycle of each individual (see Harding, 1993). However, a short-term static approach, such as the one applied in this research note, is particularly informative in a comparative perspective when the main interest is in the redistributive and budgetary effects of specific components of the pension system (see Mantovani et al., 2007).

---

<sup>3</sup> This process is documented in EUROMOD Country Reports. See: <http://www.iser.essex.ac.uk/msu/emod/documentation/countries/>

### III. Defining minimum pensions

Minimum pension schemes cannot easily be defined conceptually nor identified empirically. Indeed, as the recent study of the Social Protection Committee (2006) notes, different social protection systems use very different means to support income in old age. These include:

- *Universal basic pensions*, which may be awarded as a citizen's right on reaching a certain age. Usually, benefit amounts are flat rate, calculated as a function of either years in residence (as in Finland and the Netherlands) or years in employment (as in the UK). Universal basic pensions support incomes in old age by providing a minimum income floor for all (or nearly all) elderly citizens and may be combined with second-tier contributory pensions and other sources of income.
- *Social pensions*, which may be available for elderly people who have no access to a contributory pension because of an inadequate record of contributions. Usually, entitlement is determined by a means test, following which payment is made at a flat rate. Social pensions are intended to fill the gap left by contributory pension schemes organised on an occupational basis. They are a feature of the social protection system in southern European countries, France, Germany and Ireland as well as in some new Member States such as Estonia and Slovenia.
- *Social assistance*, which, in the form of social safety nets of last resort, may be organised entirely outside the pension system. Such schemes may be general in scope or specifically targeted at the elderly (as in Belgium and Hungary). Conversely, social assistance may explicitly exclude the elderly if generous universal basic pensions are in place (as in Denmark) – though where such pensions are low (as in the UK) social assistance may be paid on top of these. Eligibility to social assistance benefits generally depends on a means test which takes account of all family income and (often) assets or accumulated savings.
- *Means-tested supplements*, for which pensioners on low incomes may be eligible as a “top-up” to their pension. Examples of supplements to contributory pensions are *EKAΣ* in Greece and *Ausgleichszulage* in Austria, while supplements to flat-rate pensions are also found in Denmark and the UK (*Pension Credit*).
- *Minimum pensions*, which are an integral part of earnings-related pensions. Minimum pensions are often mechanisms, internal to the pension benefit formula, which are aimed at ensuring that contributory pensions reach at least a particular level, even when those retiring have paid contributions for only a short period or have a history of low earnings. Mechanisms of this kind are common in many countries with contributory earnings-related pension schemes. In most cases they cannot be observed separately, the exceptions being the Italian *integrazione al trattamento minimo* and the Spanish *complemento por mínimo de pensión de jubilación*.

The measures considered as minimum pension schemes (when identifiable in the EUROMOD database) in this analysis, following the classification adopted by the Social Protection Committee (2006), are listed in Table 1.

The heterogeneity of the policy measures that can be legitimately thought of as “minimum pensions”, the invisibility of mechanisms that are internal to earnings-related pensions, and the limitation due to lack of information in the data make it difficult to identify them in an unambiguous way. The findings presented below should, therefore, be interpreted with these points in mind.

**Table 1. Minimum Pension Schemes included in EUROMOD**

Country	Minimum Pension Schemes
BE	Income Support for the elderly (Revenu garanti aux personnes agees - GRAPA)
DK	Residence-based state pension (Folkepension)
DE	
EE	
EL	Old Age Pension (OGA) Social Pension Social Solidarity Benefit (EKAS)
ES	Guaranteed minimum contributory pension Non-contributory pension Widow pension supplement
FR	Minimum old age pension (Minimum vieillesse)
IE	Old Age Non-Contributory Benefits Old Age Contributory Benefits
IT	Social Pension (Assegno sociale) Supplementary pension (Integrazione al trattamento minimo)
LU	Guaranteed Minimum Income
HU	Non-contributory old-age allowance (Időskorúak járadéka)
NL	Residence-based state pension
AT	Minimum pension (Ausgleichszulage) Minimum pension for civil servants (Ergänzungszulage)
PL	Permanent social assistance Nursing supplement
PT	Old-age social pension
SI	
FI	Residence-based national pension Residence-based national pension increases
SE	
UK	Basic state pension

Notes. The classification of minimum pension schemes (when identifiable in the EUROMOD database) follows the one adopted in the SPC (2006).

## IV. Composition of the incomes of older people in 19 EU countries

The make-up of the incomes of older people gives an indication of the relative importance of different policy measures (minimum pensions, other public pensions<sup>4</sup>, other social benefits, private pensions, income taxes and social contributions) in different countries as well as that of market income.

Figures 3, 4, 5 and 6 show for the elderly population, grouped by age and gender, the different sources of income as a proportion of overall national per capita disposable income by income quintile in each country<sup>5</sup>. They also indicate the proportion of the elderly population in each income quintile (black line).

Figure 3 considers individuals over 65 years old. In most of the countries these are over the age of retirement, with the main exception of Denmark where the retirement age in 2001 was 67.

Market incomes contribute significantly to the total incomes of the elderly, especially those who are better off, in a number of countries (Denmark, Finland, Ireland, Italy, Portugal, the UK and Estonia). As might be expected, the contribution of market incomes is greatest in the top income quintile, where the population share of the elderly is typically small (in some cases, very small), which gives rise, it should be noted, to possible problems of statistical significance. This is less likely to be the case in Italy, where 17% of the elderly are in the top quintile with net income almost three times higher than the average, 62% of which is made up of earnings from market sources rather than of pensions or social benefits of any kind.

In most of the countries covered, private pensions are virtually non-existent (though it is possible that they are mis-recorded as capital income by the original surveys in some cases). The main exceptions, are Sweden, the UK and, most especially, the Netherlands, where 16% of the elderly have income in the top quintile (double the average proportion) and 84% of their income comes from private pensions, on average.

Social benefits other than pensions (mostly housing benefits and/or social assistance) make up a small part of the income of the elderly in Austria, Poland, Slovenia and, most especially, the UK and Denmark.

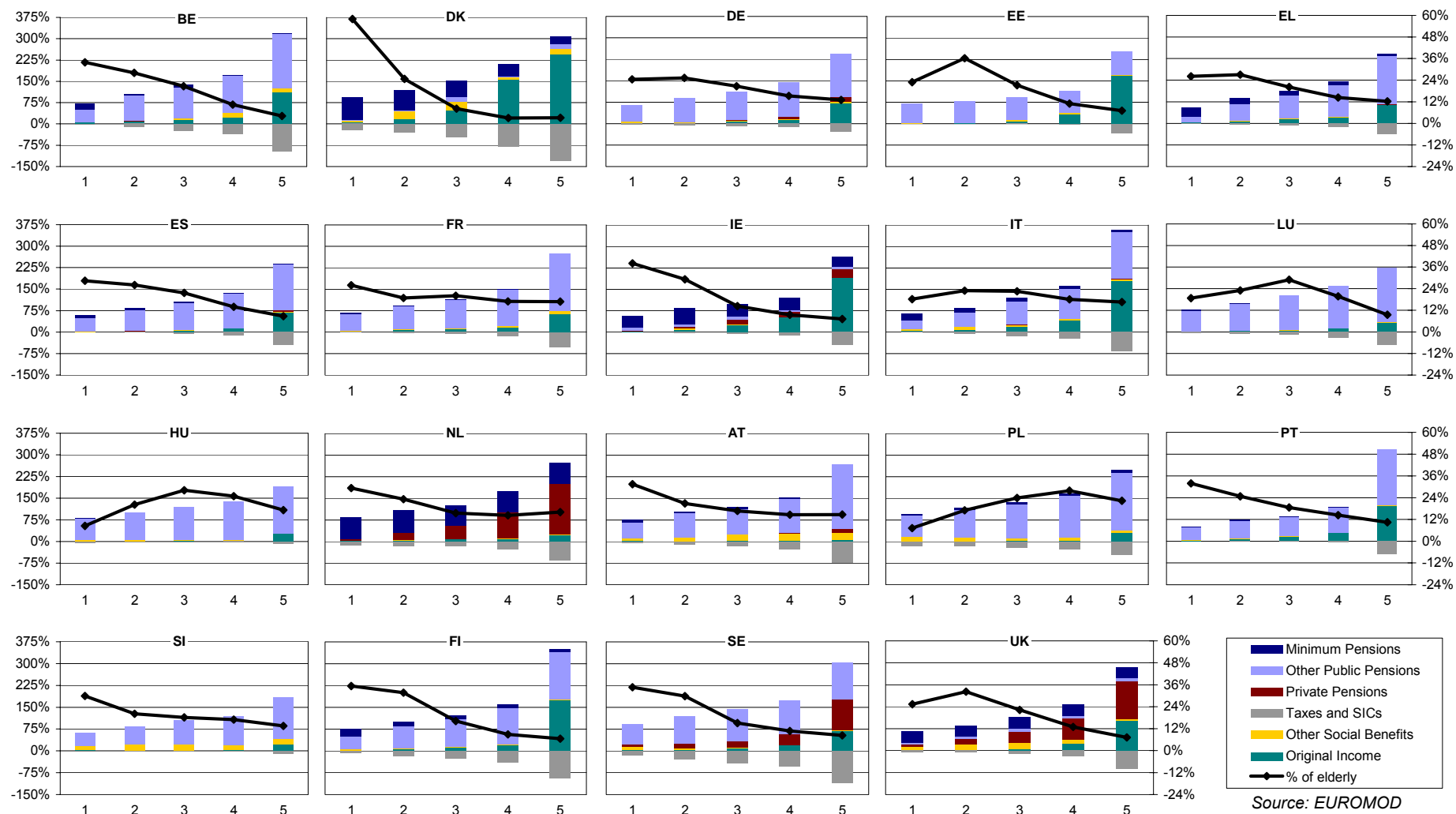
Public pensions (i.e. minimum pensions and 'other public pensions' taken together) account for the bulk of income in old age in all countries. In countries with flat-rate schemes and modest second-tier pensions (such as Denmark, Sweden, the UK, Ireland and the Netherlands), public pensions are distributed more or less equally across income quintiles. On the other hand, in countries featuring strong 'Bismarkian' earnings-related schemes (e.g. Austria, France, Germany and the southern European countries), public pensions are distributed more towards the upper end of the income scale than the lower end. The distribution of public pensions in the 4 new Member States included in the analysis falls somewhere in between.

---

<sup>4</sup> All public pension schemes not considered as minimum pensions (see Table 1) are included in the category "Other public pensions".

<sup>5</sup> The findings related to the top quintiles should be interpreted with caution given the few observations recorded in some countries. When the observations for each quintile are less than 30, the information is omitted.

**Figure 3. Income source per elderly person (65+) as a % of per capita disposable income by quintile group**



Notes. See Table A1 for classification of Minimum Pensions. Bars show income sources of elderly persons (65+) as a proportion of overall average per capita disposable income, by quintile. Quintiles have been constructed on the basis of equivalised household disposable income of the entire population. Share of elderly (65+) by quintile group on the right-hand axis.

Note that in four countries (Germany, Sweden, Estonia and Slovenia) public pensions are reported in the underlying dataset as a single variable. As a result, minimum pensions cannot be distinguished from 'other public pensions'.

In the remaining 15 countries, minimum pensions appear to make up a substantial part of income in old age only in countries with significant flat-rate schemes (Denmark, the UK, Ireland and the Netherlands)<sup>6</sup>. The effect of minimum pensions on poverty is discussed in more detail in the following section.

Figure 3 also shows the relative importance of taxes (mainly income taxes) and social contributions paid by those over 65 years. In most of the countries, pensions are subject to income tax but generally higher allowances apply to people in older age groups resulting in low average amounts of taxes paid, in particular by those in the bottom quintiles. Moreover, pensions are exempt from tax in Hungary and due to basic tax allowance and special tax reliefs, the majority of pensioners do not pay income tax in Estonia, Slovenia, and Finland (if they receive only the state pension). The majority of measures considered as minimum pension schemes in this analysis are, in principle, subject to income tax, with the exception of those in Belgium, France, Hungary, Italy (*Assegno sociale*), Poland, and Spain. However, in practice many recipients have income below the tax threshold.

Figures 4 and 5 show a breakdown of Figure 3 by gender, indicating important differences in the income composition between men and women.

As expected, in all countries the income, as a proportion of overall national per capita disposable income, reported by women is much lower than that of men (with the only exception being Estonia) and has a more equal distribution across quintiles. The main reasons are related to the smaller contribution of market income (in particular in Germany, Ireland, Italy, and Portugal) among the women in the top quintiles and the generally smaller contribution of earnings-related public pensions and private pensions. On the other hand, the composition of women's income shows that the relative importance of minimum pensions is higher especially in Denmark, Ireland, the Netherlands, and Finland.

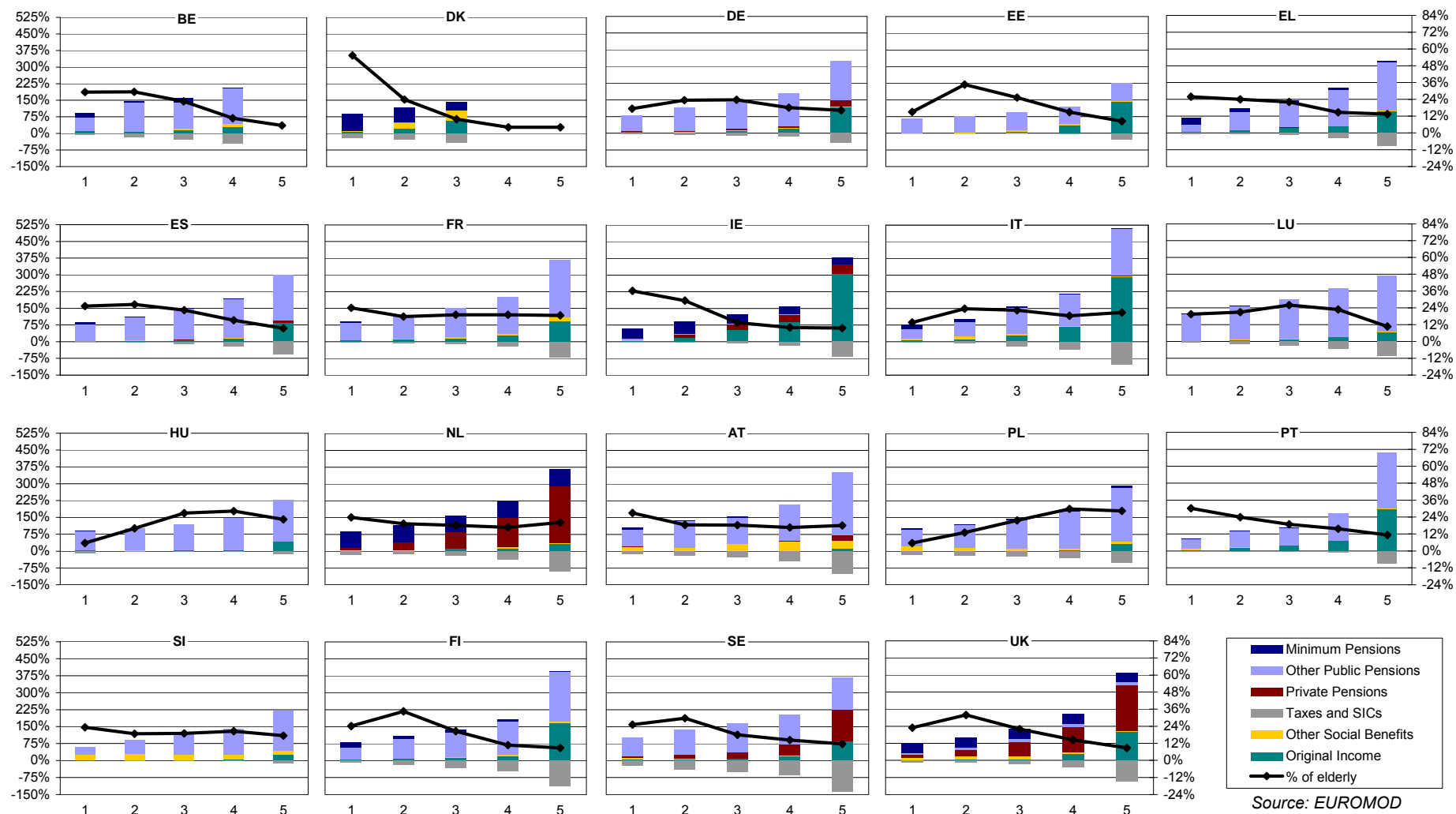
Findings for those aged 75+ are reported in Figure 6.

While such results are not strictly comparable across countries because of the different proportions of the very elderly living in residential care institutions and therefore not covered in the surveys (which cover only private rather than collective households), it is worth noting the higher relative importance of minimum pensions for those in this age group, which is mainly a reflection of the lower importance of market income.

---

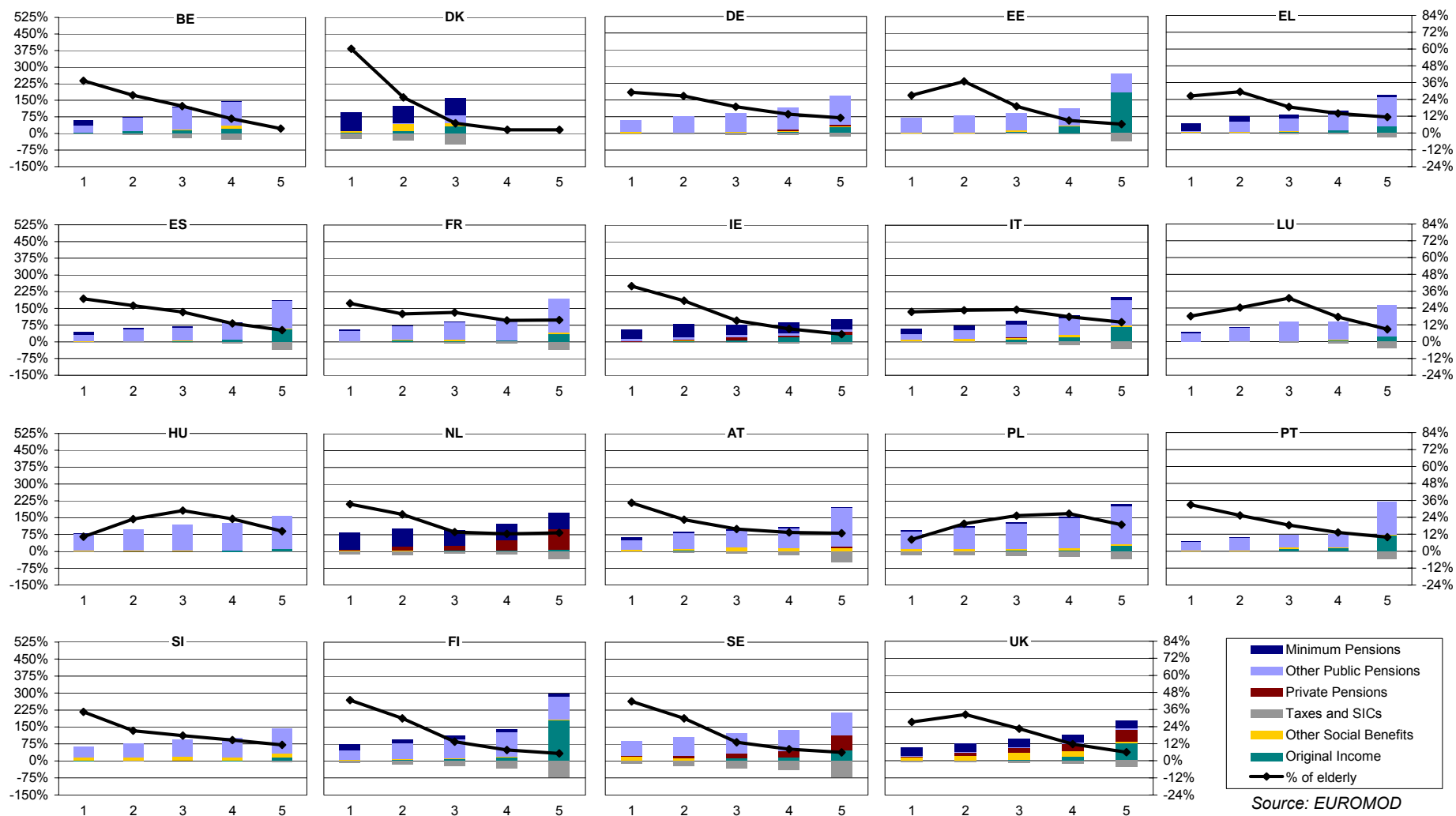
<sup>6</sup> In some cases minimum pensions may appear in top quintile because the unit of assessment for minimum pensions is narrower than the household and the quintiles have been constructed on the basis of equivalised household disposable income of the entire population.

**Figure 4. Income source per elderly male (65+) as a % of per capita disposable income by quintile group**



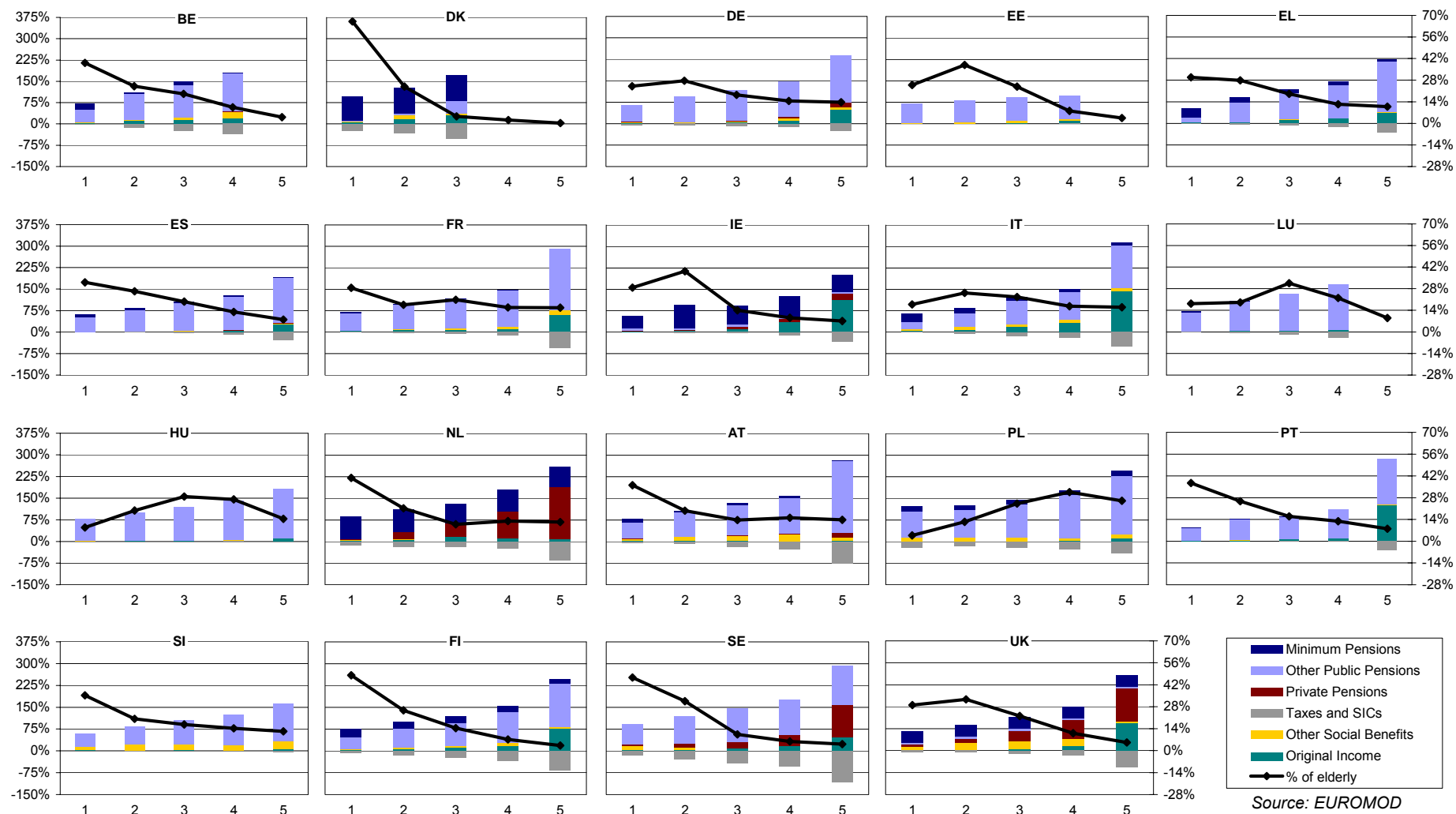
Notes. See Table A1 for classification of Minimum Pensions. Bars show income sources of elderly males (65+) as a proportion of overall average per capita disposable income, by quintile. Quintiles have been constructed on the basis of equivalised household disposable income of the entire population. When the observations in each quintile are less than 30 the information is omitted. Share of elderly males (65+) by quintile group on the right-hand axis.

**Figure 5. Income source per elderly female (65+) as a % of per capita disposable income by quintile group**



Notes. See Table A1 for classification of Minimum Pensions. Bars show income sources of elderly females (65+) as a proportion of overall average per capita disposable income, by quintile. Quintiles have been constructed on the basis of equalised household disposable income of the entire population. When the observations in each quintile are less than 30 the information is omitted. Share of elderly females (65+) by quintile group on the right-hand axis.

**Figure 6. Income source per elderly person (75+) as a % of per capita disposable income by quintile group**



Notes. See Table A1 for classification of Minimum Pensions. Bars show income sources of elderly persons (75+) as a proportion of overall average per capita disposable income, by quintile. Quintiles have been constructed on the basis of equivalised household disposable income of the entire population. When the observations in each quintile are less than 30 the information is omitted. Share of elderly (75+) by quintile group on the right-hand axis.

## V. Effect of minimum pensions on poverty rates in 15 EU countries

As explained above, EUROMOD enables comparisons to be made between the social protection system as it currently exists (i.e. including the minimum pension schemes) with an imaginary social protection system in which minimum pensions are assumed not to exist or to have been abolished. The starting point of the analysis is, therefore, the assumption that minimum pensions are simply deducted from the disposable income of recipients. This can be termed the 'static' scenario which allows the share of minimum pensions in total income to be identified.

This counterfactual situation, however, is not particularly plausible. If the minimum pension schemes were withdrawn or had never existed, their effects would tend to have been at least partly compensated by the social assistance schemes in place. In some countries, where basic pensions are widely available, social assistance schemes explicitly exclude old-age pensioners (in Denmark, Finland and Ireland, for instance, though not in the UK), as they do in France in respect of guaranteed minimum income (*RMI*) and Belgium in respect of Income Support (*MINIMEX*). This exclusion is assumed no longer apply if minimum pensions are withdrawn. In addition, social benefits, including pensions, are in many countries subject to income tax and, in some cases, to social contributions. This also needs to be taken into account when assessing the effect of withdrawal. This more realistic simulation, which allows for both the access of pensioners to 'standard' social assistance and of the effect on taxes and social contributions, is termed the 'interactive' scenario below<sup>7</sup>.

Table 2 compares poverty rates (defined as the proportion of individuals living in households with equivalised income below 60% of the national median) in the current situation with those estimated under the 'static' and 'interactive' scenarios, for those aged 65 and over and those aged 75 and over.<sup>8</sup> It also shows the public expenditure savings (as a proportion of disposable income) involved following the hypothetical abolition of minimum pensions under the two scenarios.

'Abolishing' minimum pensions, especially where these are defined as basic pensions, without considering the mitigating effect of social assistance and taxes and social contributions (i.e. the 'static' scenario) would cause elderly poverty rates to increase by 12 percentage points in Belgium, 44 percentage points in the UK, 60 percentage points in the Netherlands and 63 percentage points in Denmark. Allowing social assistance and taxes or social contributions to absorb some of the shock (the 'interactive' scenario) would cause the elderly poverty rate to fall back by 10 percentage points in Belgium, 25 percentage points in the UK and 33 percentage points in the Netherlands but by only 7 percentage points in Denmark.

Elderly poverty rates would also be increased by 24-25 percentage points in Finland and Ireland, and fall back by 3-4 percentage points under the 'interactive' scenario. Poverty rates would rise under both scenarios by between 5 percentage points and 16 percentage points in Spain, Luxembourg, Italy, and Greece. In these countries, social assistance makes no difference to the outcome, either because it is under-developed (Southern Europe) or because

---

<sup>7</sup> It should be noted that perfect targeting of all social benefits (i.e. a 100% take up rate) is assumed throughout the analysis.

<sup>8</sup> In the assessment of the poverty rates under the simulated scenarios, the poverty line is kept constant as in the baseline scenario.

it is considered as minimum pension (Luxembourg). In all other countries, the effect is s very small.

Taking into account the differences in poverty rates in the baseline scenario, the effect of 'abolishing' minimum pensions on poverty rates is similar for those aged 65 and over and for those aged 75 and over.

As regards public expenditure, 'abolishing' minimum pensions as defined here would, under the 'static' scenario, save an amount equivalent to about 10% of aggregate disposable income in Denmark and the Netherlands and between 3% and 6% in Finland, Greece, Ireland and the UK. Under the 'interactive' scenario, savings would be reduced to 6-7% of aggregate disposable income in Denmark and the Netherlands, and to 3-4% in Ireland, Greece and the UK.

Table 3 compares poverty rates under the different scenarios, when the poverty line is set equal to 40% of median equivalised household income.

The increase in the proportion of individuals with equivalised income below 40% of the national median after 'abolishing' minimum pensions is much higher than the increase in poverty when the poverty line is set at 60% of median income. This emphasises the role of "safety net" that is played by most of the minimum pension schemes.

The heterogeneity of the policy measures defined as 'minimum pensions' and the invisibility of mechanisms internal to earnings-related pensions, however, limits the possibility of drawing generalised cross-country policy conclusions from the above analysis.

The following section addresses this problem by examining in some detail the effects of particular recently introduced reforms to the social protection system in four countries – Denmark, Hungary, Portugal and the UK – which are aimed at providing increased support for incomes in old age. Since the new schemes differ markedly between the countries, they enable the different approaches adopted to be compared.

**Table 2. Distributional and budgetary impact of Minimum Pension Schemes**

<i>Country</i>	<i>Poverty rate - 65+</i>			<i>Poverty rate - 75+</i>			<i>Revenue Gain as % of DI</i>	
	<i>Baseline</i>	<i>Static</i>	<i>Interact</i>	<i>Baseline</i>	<i>Static</i>	<i>Interact</i>	<i>Static</i>	<i>Interact</i>
BE	17.33	29.33	18.84	21.73	32.34	23.72	1.83	1.01
DK	23.61	86.45	80.06	28.59	96.41	93.60	9.57	6.63
DE	15.83	15.83	15.83	16.01	16.01	16.01	-	-
EE	18.71	18.71	18.71	20.24	20.24	20.24	-	-
EL	24.97	41.09	40.85	28.88	44.66	44.34	4.39	4.19
ES	26.33	31.32	31.32	29.84	35.63	35.63	0.98	0.98
FR	13.47	16.11	15.96	14.59	17.53	17.30	0.28	0.14
IE	42.60	67.60	64.68	31.20	75.28	70.89	5.30	3.13
IT	19.04	29.95	29.17	18.76	31.63	30.70	2.84	2.70
LU	3.26	7.81	7.81	2.18	10.66	10.66	0.97	0.93
HU	5.63	5.71	5.71	5.56	5.62	5.62	0.02	0.02
NL	12.91	72.72	39.99	20.36	78.79	42.36	10.64	5.89
AT	19.51	22.20	21.76	23.31	27.07	26.49	1.28	0.96
PL	6.00	7.15	6.17	3.36	5.56	3.43	1.24	0.28
PT	34.27	34.91	34.91	39.94	40.71	40.71	0.24	0.18
SI	25.28	25.28	25.28	29.70	29.70	29.70	-	-
FI	19.40	42.99	39.20	26.81	58.92	54.01	3.36	2.16
SE	9.10	9.10	9.10	11.59	11.59	11.59	-	-
UK	19.49	63.95	38.57	23.39	68.92	39.76	6.37	3.06

Notes. Poverty line equal to 60% of median equivalised household income in the Baseline scenario. In the Static scenario Minimum Pension Schemes are deducted from standard disposable income. In the Interact scenario Minimum Pension Schemes are disregarded but other Social Assistance schemes may partly compensate for the reduction in household resources. The effects of taxation of Minimum Pension and Social Assistance Schemes (where applicable) are also taken into account. In Denmark, Finland and Ireland individuals no longer receiving a basic pension are allowed to receive Social Assistance. In France individuals aged 65 or older are allowed to receive Revenue Minimum d'Insertion. In Belgium males aged 65 or older and females aged 62 or older are allowed to receive Income Support (MINIMEX).

**Table 3. Distributional impact of Minimum Pension Schemes**

<i>Country</i>	<i>Poverty rate - 65+</i>			<i>Poverty rate - 75+</i>		
	<i>Baseline</i>	<i>Static</i>	<i>Interact</i>	<i>Baseline</i>	<i>Static</i>	<i>Interact</i>
BE	5.15	13.81	11.84	5.88	17.71	14.89
DK	0.40	79.93	65.56	0.32	94.45	83.68
DE	3.30	3.30	3.30	3.03	3.03	3.03
EE	2.03	2.03	2.03	1.82	1.82	1.82
EL	8.49	24.45	23.79	12.82	28.30	27.74
ES	5.83	10.63	10.63	6.16	11.50	11.50
FR	0.38	2.83	2.30	0.56	3.90	3.02
IE	9.41	55.97	41.80	8.78	65.56	43.27
IT	3.14	16.15	15.71	1.38	18.81	18.16
LU	0.00	0.76	0.76	0.00	0.47	0.47
HU	0.70	0.77	0.77	0.50	0.58	0.58
NL	0.00	60.78	28.61	0.00	67.82	32.36
AT	0.69	6.91	4.03	0.78	9.34	5.30
PL	1.21	1.61	1.40	1.13	1.73	1.33
PT	11.07	12.57	12.45	13.43	15.26	15.12
SI	8.08	8.08	8.08	9.68	9.68	9.68
FI	0.40	23.33	13.12	0.66	34.72	19.89
SE	0.75	0.75	0.75	0.62	0.62	0.62
UK	1.33	44.19	8.66	1.89	48.77	9.76

Notes. Poverty line equal to 40% of median equivalised household income in the Baseline scenario. In the Static scenario Minimum Pension Schemes are deducted from standard disposable income. In the Interact scenario Minimum Pension Schemes are disregarded but other Social Assistance schemes may partly compensate for the reduction in household resources. The effects of taxation of Minimum Pension and Social Assistance Schemes (where applicable) are also taken into account. In Denmark, Finland and Ireland individuals no longer receiving a basic pension are allowed to receive Social Assistance. In France individuals aged 65 or older are allowed to receive Revenue Minimum d'Insertion. In Belgium males aged 65 or older and females aged 62 or older are allowed to receive Income Support (MINIMEX).

## VI. Impact on old age poverty of minimum pension reforms in 4 EU countries

Recent reforms in a number of countries include policy efforts to improve the living standards of older people with low incomes. In order to estimate their distributional and fiscal effects, such reforms have been simulated using EUROMOD.<sup>9</sup> These are:

*Denmark: supplementary pension benefit.*, which was introduced in 2004 as a lump sum payment to recipients of the residence-based basic pension (*folkepension*) who have either low income or none at all. Note that the benefit is taxed as income.

*Hungary: old age allowance (időskorúak járadéka)*, which is the element of social assistance (*szociális segélyek*) targeted at the elderly. A higher rate of benefit for those aged 75 and over was introduced in 2006.

*Portugal: solidarity supplement for old persons (complemento solidário para idosos)*, which is a means-tested benefit payable to older people with low income living in Portugal for the last six years. In 2007, the supplement was paid to those aged 70 or over and, in 2008, to those of 65 and older. Both are simulated here<sup>10</sup>.

*UK: Pension Credit*, which was introduced in 2003 as a means-tested benefit providing both a minimum income for those aged 60 and over and additional income for those aged 65 and over with modest savings. As compared with the situation immediately prior to its introduction, it is the new savings credit element that constitutes the main source of income gain for the elderly population.

Table 4 shows the estimated fiscal cost and number of beneficiaries as well as the effect on poverty for all those aged 65 and over and for those of 75 and over, using four different poverty lines (from 40% to 70% of the national median).

As noted above, the four reforms are very different from each other in terms of their design and scope. This is reflected in the results. For instance, the gross cost of the reform amounts to virtually zero in Hungary, 0.5% of aggregate disposable income in Denmark, 0.6% in Portugal (for the 2008 version of the reform) and 1.3% in the UK. Taking account of savings on other social benefits following the introduction of the reforms, as well as the additional taxes collected on the new instrument in Denmark, produces an estimated net cost of less than 0.3% of aggregate disposable income in Denmark and 0.5% in the UK. In the other two countries, the net cost is estimated to be similar to the gross cost.

---

<sup>9</sup> Since the model is not fully up to date, for policies introduced more recently than the year simulated – which varies between the countries, see Table A1 – benefit rates have been deflated to estimate their level in the year in question. The change in the level of the residence-based basic pension has been used as an index for this purpose in Denmark, the minimum pension in Hungary and the social pension in Portugal.

<sup>10</sup> In 2006, the supplement was paid to those aged 80 or more. This version of the benefit is not simulated here because of the limited number of potentially eligible people in the original dataset.

**Table 4. Budgetary and distributional impact of simulated reforms**

	<i>Denmark</i>	<i>Hungary</i>	<i>Portugal</i>		<i>UK</i>
			65+	70+	
Gross budgetary cost as % of DI	0.46%	0.01%	0.64%	0.46%	1.31%
Net budgetary cost as % of DI	0.28%	0.01%	0.60%	0.44%	0.45%
Gainers as % of elderly (65+)	71.66%	0.63%	25.53%	18.59%	52.13%
Average net gain as % of DI (65+)	4.08%	18.88%	39.14%	38.13%	8.07%

**Poverty rate - Over 65s**

40% of median	<i>Before</i>	0.40%	0.70%	11.07%	11.07%	1.33%
	<i>After</i>	0.12%	0.59%	2.30%	4.95%	1.00%
50% of median	<i>Before</i>	0.88%	1.67%	21.59%	21.59%	9.88%
	<i>After</i>	0.81%	1.61%	6.22%	10.22%	5.47%
60% of median	<i>Before</i>	23.61%	5.63%	34.27%	34.27%	19.49%
	<i>After</i>	13.99%	5.63%	20.58%	24.66%	17.36%
70% of median	<i>Before</i>	53.06%	10.68%	44.44%	44.44%	36.50%
	<i>After</i>	47.04%	10.54%	44.44%	44.44%	31.10%

**Poverty rate - Over 75s**

40% of median	<i>Before</i>	0.32%	0.50%	13.43%	13.43%	1.89%
	<i>After</i>	0.00%	0.24%	1.56%	1.69%	1.39%
50% of median	<i>Before</i>	0.56%	1.56%	25.79%	25.79%	13.82%
	<i>After</i>	0.56%	1.40%	4.86%	5.08%	7.93%
60% of median	<i>Before</i>	28.59%	5.56%	39.94%	39.94%	23.39%
	<i>After</i>	18.13%	5.56%	24.14%	24.77%	21.24%
70% of median	<i>Before</i>	62.48%	11.10%	51.30%	51.30%	38.90%
	<i>After</i>	55.36%	10.91%	51.30%	51.30%	32.51%

Notes. DI: Disposable Income before the reform. Benefit rates for policies introduced more recently have been deflated to reflect what might have been their level in the year of reference (Denmark: 2001; Hungary: 2005; Portugal: 2003; UK: 2003). Poverty lines are kept constant (as before the reform). Average DI (65+) in the year of reference (euros per month): Denmark €990, Hungary €287, Portugal €432, UK €1083).

As regards the number of beneficiaries<sup>11</sup>, the supplementary pension benefit in Denmark affected 72% of those aged 65 and over, the solidarity supplement (2008 version) in Portugal, 26%, while 52% of the elderly population in the UK gained from the introduction of Pension Credit. In Hungary, only 0.6% of those aged 65 and over are estimated to receive the higher rate of old age allowance, though the policy is targeted at the 75 and over age group, an estimated 1.5% of whom are in receipt.

<sup>11</sup> In Denmark, Portugal and the UK the simulated instruments are targeted on the couple both in terms of award and means testing. We have assumed that the total amount of the benefit is shared equally among the partners.

The effect on poverty depends as always on the relative scale of the benefit concerned and the number of recipients as well as their relative income levels.

The introduction of the supplementary pension benefit in Denmark is estimated to have reduced the proportion of those of 65 and over with income below 60% of the median from just under 24% to 14% (and from almost 29% to 18% in the case of those aged 75 and over). The reduction is also relatively large if a poverty line of 70% of the median is used. On the other hand, if poverty lines of 40% and 50% of the median are used, the proportions involved are very small for both age groups even prior to the introduction of the reform.

The Hungarian reform, the introduction of a higher rate of old-age allowance for those aged 75 and over, is the least ambitious (and least costly) of the four. Accordingly, it is also the one with the least effect on old-age poverty, though the latter was low *before* the reform.

In Portugal, the more generous 2008 version of the reform is estimated to have taken out of extreme poverty (income of under 40% of median) four out of five people aged 65 or over and 9 out of 10 of those aged 75 or over. There are also substantial reductions with respect to a poverty line of 50% of the median, while the income of around a third of those concerned was raised above a poverty line of 60% of the median. Following the 2008 reform, only 2% of those aged 65 and over have income below 40% of the median and only 6% income below 50%. On the other hand, preliminary data suggest that, in reality, the number of recipients is so far only a fifth of the figure expected by the Government<sup>12</sup>.

In the UK, the Pension Credit is estimated to reduce the proportion of both those aged 65 and over and those aged 75 and over with income below 60% of the median by about 2 percentage points. The reduction, however, is larger if poverty lines of 50% or 70% of the median are used instead (around 5 percentage points in both cases).

## VII. Summary and conclusion

As is made clear above, there are a number of conceptual problems involved in identifying the effects of minimum pension schemes on incomes and poverty rates in old age. This is because different means are used in different countries to support elderly incomes, including universal basic pensions, social pensions, general social assistance and means-tested supplements, as well as minimum pension mechanisms internal to contributory earnings-related pensions. As a result of the heterogeneity of schemes and the invisibility of mechanisms internal to earnings-related formulae, minimum pensions are hard to define and even harder to identify unambiguously.

Public pensions make up the bulk of income in old age in all EU countries that we consider. In countries with significant flat-rate schemes and modest second-tier pensions (Denmark, Sweden, the UK, Ireland and the Netherlands), public pensions are distributed more or less equally across income quintiles, while in countries with strong earnings-related schemes (Austria, France, Germany and the south European

---

<sup>12</sup> An added complication with the Portuguese scheme is that eligibility rules stipulate that adult children no longer living with their parents are expected to help them first, a provision impossible to simulate and difficult to enforce.

countries), public pensions tend to favour higher incomes more than lower ones. Poland and Hungary fall somewhere in between.

Simulations of the effect of minimum pension schemes show that, without these, poverty rates among people over retirement age would be 56 percentage points higher in Denmark, 27 percentage points higher in the Netherlands, 16-22 points higher in Greece, the UK, Finland and Ireland, 10-12 points higher in Italy, 5 points higher in Luxembourg and Spain and 2 points higher in Austria and France. In the other three EU15 Member States, the effect would be negligible. At the same time, abolishing minimum pensions would reduce public expenditure by around 6% of aggregate disposable income in Denmark and the Netherlands, 4% in Greece, 2-3% in, Finland, Italy, Ireland and the UK, and 1% in Austria, Belgium, Luxemburg and Spain.

Recently introduced minimum pension schemes or reforms to existing schemes are estimated to have a net budgetary cost which is negligible in Hungary and corresponds to between 0.3% and 0.6% of aggregate disposable income in Denmark, the UK and Portugal. In addition, the changes are estimated to have reduced the poverty rate (measured as income of below 60% of median equivalent household income) of those aged 65 and over by 14 percentage points in Portugal, 10 percentage points in Denmark, 2 percentage points in the UK, and by zero in Hungary. At a poverty rate of 40% of median income, the estimated reduction in the old-age poverty rate is 9 percentage points in Portugal and virtually zero in the other three countries, while at a rate of 70% of the median, the estimated reduction is around 6 percentage points in the UK and Denmark and zero in Portugal and Hungary.

The analysis presented in this research note raises both conceptual and methodological issues to be considered in further work. First of all, as explained above, the identification of minimum pensions is only partly related to the lack of information in the data used for this analysis because some of the schemes are internal to earnings-related formulae and not identifiable separately. However the use of a microsimulation model potentially allows more schemes to be identified than those normally recorded as such in the underlying data. Secondly, the assumption of 100% take-up of means-tested minimum pensions and social assistance benefits tends to make them look more effective than they actually are. Non-take-up is thought to characterise different systems to different extents, depending on many factors including the nature of the administration of the benefit in question and the size of entitlements in relation to other incomes. Accordingly, it needs to be considered within its national context.<sup>13</sup> The results shown here should, therefore, be considered as the intended rather than necessarily the actual effects of the systems<sup>14</sup>;

Finally, in a cross-country perspective, an analysis of policy changes, such as the reforms to minimum pension systems considered in this research note, is less fraught with difficulty and less likely to give misleading results than comparing different systems as a whole. A natural extension of this analysis would be to evaluate the effects of the indexation of minimum pension schemes that in some countries

---

<sup>13</sup> For work in progress on this topic see the AIM-AP project <http://www.iser.essex.ac.uk/msu/emod/aim-ap/project2.php>.

A draft paper on take-up of elderly people in Spain by H. Levy is available from <http://www.iser.essex.ac.uk/msu/emod/aim-ap/deliverables/AIM-AP2.12.pdf>

<sup>14</sup>The effect of non take-up of benefit is the subject of another research note.

(Belgium, Finland, Ireland, Spain and Portugal), has been applied more frequently in recent years. The same is true for the means-tested component of the UK pension, which is indexed to earnings growth, and is also planned for the basic state pension (here considered as a minimum pension) from 2012. A recent study shows how this indexation will protect pensioners from an increasing risk of poverty over the next 20 years. If pensions were indexed to prices alone, other things remaining equal, the risk of poverty among those aged over 65 would rise by a quarter over the next 20 years (Sutherland et al. 2008). Clearly, if minimum pensions are not adjusted for inflation at all then their capacity to protect elderly people from poverty is diminished not only in relative but also absolute terms.

## References

Corak M., C. Lietz and H. Sutherland, 2005, "The Impact of Tax and Transfer Systems on Children in the European Union", Innocenti Working Paper No. 2005-04. Florence, UNICEF Innocenti Research Centre. Available at <http://www.unicef.org/irc>

European Commission, 2006, Synthesis report on adequate and sustainable pensions (SEC(2006)304, 27/02/2006). Available at: [http://ec.europa.eu/employment\\_social/spsi/docs/social\\_protection/2006/rapport\\_pensions\\_final\\_en.pdf](http://ec.europa.eu/employment_social/spsi/docs/social_protection/2006/rapport_pensions_final_en.pdf)

Harding A., 1993, Lifetime Income Distribution and redistribution: Applications of a Microsimulation Model. Amsterdam: North-Holland.

Mantovani D. and H. Sutherland, 2003, "Social Indicators and other Income Statistics using the EUROMOD Baseline: a Comparison with Eurostat and National Statistics", EUROMOD Working Paper EM1/03.

Mantovani D., Papadopoulos F., Sutherland H. and P Tsakoglou, 2007, "Pension Incomes in the European Union: Policy Reform Strategies in Comparative Perspective", Bargain O. (Ed.), *Micro-simulation in action: Policy analysis in Europe using EUROMOD*, Research in Labor Economics, 25, Elsevier Ltd.

MISSOC, various years, Mutual Information System on Social Protection. Available at: (MISSOC) (various years) [http://ec.europa.eu/employment\\_social/spsi/missoc\\_en.htm](http://ec.europa.eu/employment_social/spsi/missoc_en.htm)

OECD, various years, Social expenditure database. (various years) Notes and Sources on individual country data. Available at <http://www.oecd.org>

Social Protection Committee, 2006, Minimum income provision for older people and their contribution to adequacy in retirement. Available at [http://ec.europa.eu/employment\\_social/spsi/docs/social\\_protection/SPC\\_Study\\_minimum\\_income\\_final.pdf](http://ec.europa.eu/employment_social/spsi/docs/social_protection/SPC_Study_minimum_income_final.pdf)

Sutherland H., 2007, "EUROMOD: the tax-benefit microsimulation model for the European Union" in Gupta A. and A. Harding (Eds), *Modelling Our Future: population ageing, health and aged care*. International Symposia in Economic Theory and Econometrics Vol 16, Elsevier 483-488.

Sutherland H., Hancock R., Hills J. and F. Zantomio, 2008, "Keeping up or falling behind? The impact of benefit and tax uprating on incomes and poverty", ISER. Working Paper 2008-18.

## ANNEX

**Table A1. EUROMOD (version D23) datasets and tax-benefit systems simulated**

Country	Dataset	Date of collection	Tax-Benefit System
BE	Panel Survey on Belgian Households	2002	2003
DK	European Community Household Panel	1995	2001
DE	German Socio-Economic Panel	2002	2003
EE	Household Budget Survey	2005	2005
EL	Household Budget Survey	2004/5	2005
ES	EU-SILC	2005	2005
FR	Enquête sur les Budgets Familiaux (EBF)	2000/1	2001
IE	Living in Ireland Survey	1994	2001
IT	Survey of Households Income and Wealth	1996	2001
LU	PSELL-2	2001	2003
HU	EU-SILC	2005	2005
NL	Sociaal-economisch panelonderzoek	2000	2003
AT	Austrian version of ECHP	1999	2003
PL	Household Budget Survey	2005	2005
PT	European Community Household Panel	2001	2003
SI	Household Budget Survey / Personal Income Tax database	2005	2005
FI	Income distribution survey	2001	2003
SE	Income distribution survey	2001	2001
UK	Family Expenditure Survey (HBS)	2000/1	2003

Acknowledgment: EUROMOD data sources are the European Community Household Panel (ECHP) User Data Base and the EU Statistics in Incomes and Living Conditions (SILC) made available by Eurostat (under contract EU-SILC/2007/03); the Austrian version of the ECHP made available by the Interdisciplinary Centre for Comparative Research in the Social Sciences; the Panel Survey on Belgian Households (PSBH) made available by the University of Liège and the University of Antwerp; the Estonian Household Budget Survey (HBS) made available by Statistics Estonia; the Income Distribution Survey made available by Statistics Finland; the Enquête sur les Budgets Familiaux (EBF) made available by INSEE; the public use version of the German Socio Economic Panel Study (GSOEP) made available by the German Institute for Economic Research (DIW), Berlin; the Greek Household Budget Survey (HBS) made available by the National Statistical Service of Greece; the Living in Ireland Survey made available by the Economic and Social Research Institute; the Survey of Household Income and Wealth (SHIW95) made available by the Bank of Italy; the Socio-Economic Panel for Luxembourg (PSELL-2) made available by CEPS/INSTEAD; the Socio-Economic Panel Survey (SEP) made available by Statistics Netherlands through the mediation of the Netherlands Organisation for Scientific Research - Scientific Statistical Agency; the Polish Household Budget Survey (HBS) made available by the Economic Department of Warsaw University; the Slovenian Household Budget Survey (HBS) and Personal Income Tax database made available by the Statistical Office of Slovenia; the Income Distribution Survey made available by Statistics Sweden; and the Family Expenditure Survey (FES), made available by the UK Office for National Statistics (ONS) through the Data Archive. Material from the FES is Crown Copyright and is used by permission. Neither the ONS nor the Data Archive bear any responsibility for the analysis or interpretation of the data reported here. An equivalent disclaimer applies for all other data sources and their respective providers cited in this acknowledgement.