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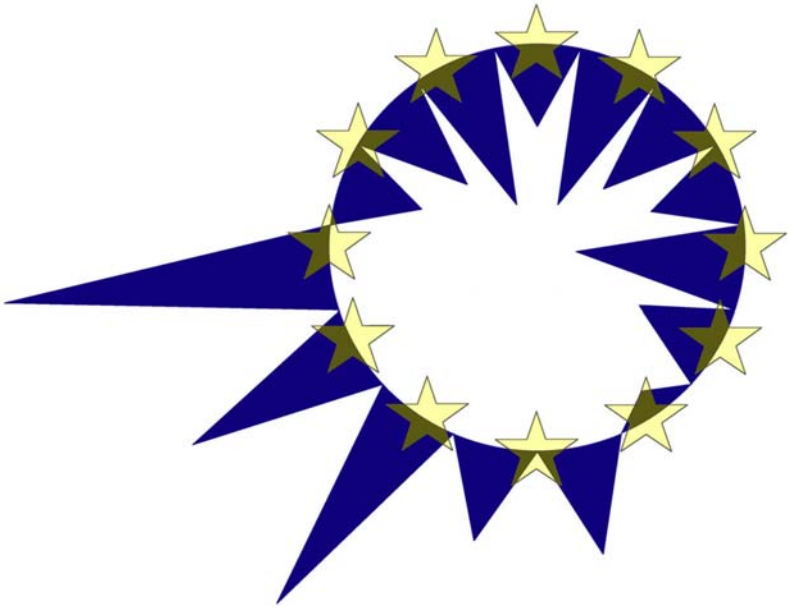

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INDICATORS FOR SOCIAL INCLUSION IN THE EUROPEAN UNION: HOW RESPONSIVE ARE THEY TO MACRO-LEVEL CHANGES?

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Abstract

Two weeks before the Euro was introduced into circulation as the common currency in twelve Member States (on 1st January 2002) the European Union adopted a set of commonly agreed indicators for social inclusion. Among them are some income-based indicators, including poverty measures based on percentages of median household incomes. It is to be hoped that Member States can devise policies that will reduce poverty and social exclusion and that these reductions will be reflected in improvements in the chosen indicators. However, the positive effects of policy initiatives may be mitigated by other, independent changes in the economy or society. These "macro" changes may inhibit the movement of the indicator in the intended direction or may indeed result in a shift in an adverse direction. There is no reason to believe that the sensitivity of indicators is the same across countries (or across indicators). If income-based indicators are to be used as generally accepted measures of the outcomes of policy, then it is important that the responsiveness of the indicators to other influences is fully understood. Clearly the relationships between macro- and micro- levels are complex and this paper uses a range of simple, simulated changes to illustrate possible consequences of wider changes. We use the EU-wide tax-benefit model, EUROMOD to establish baseline indicators using simulated incomes for 14 of the Member States and then explore the sensitivity of these indicators to (a) an increase in unemployment, (b) failure to index social and fiscal policies for inflation or real income growth and (c) an increase in earnings inequality.

JEL: C81, D31, I32

Keywords: European Union; Microsimulation; Social Indicators.

Indicators for Social Inclusion in the European Union: how responsive are they to macro-level changes? [1]

1 Introduction and summary

Late in 2001 the European Union adopted a set of commonly agreed indicators for social inclusion. The main impetus for this achievement arose first through the agreement at the Lisbon European Council to promote social inclusion as a key component of the strategy of the European Union (EU) and then with the adoption of the open method of co-ordination at the Nice Summit. The process involves Member States submitting National Action Plans for Inclusion (NAPIncl) which spell out social policy initiatives designed to reduce social exclusion and to promote inclusion. The extent to which these objectives are met is then assessed both by Member States in their NAPIncl reports and by the Commission (together with Member States) in their Joint Report on Social Inclusion. The "toolbox" for this assessment consists of indicators that are relevant in specific national contexts, alongside the

[1] This paper was written as part of the MICRESA (Micro Analysis of the European Social Agenda) project, financed by the *Improving Human Potential* programme of the European Commission (SERD-2001-00099). Horacio Levy agradeix el suport del Departament d'Universitats, Recerca i Societat de la Informacio de la Generalitat de Catalunya. We are indebted to our former colleague Cathal O'Donoghue for his invaluable contribution to the construction of the EUROMOD model under project CT97-3060 and to all other past and current members of the EUROMOD consortium. We are particularly grateful for comments from Tony Atkinson, Panos Tsakloglou, Michael Wolfson and the participants of the MICRESA meeting in Athens in May 2002, the International Workshop on "*Income Distribution and Welfare*" at Bocconi University, Milan May/June 2002 and the 27th General Conference of the IARIW in Sweden, August 2002. The views expressed in this paper, as well as any errors, are the responsibility of the authors. In particular, this applies to the interpretation of model results and any errors in its use. EUROMOD is continually being improved and updated and the results presented here represent work in progress.
EUROMOD relies on micro-data from 12 different sources for fifteen countries. These are the European Community Household Panel (ECHP) User Data Base made available by Eurostat; 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 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 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 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.

common indicators which will act as “measuring instruments allowing Member States to use a common language for the assessment of the various phenomena at stake” (Atkinson et al., 2002a, page 8).

It is to be hoped that Member States can devise policies that will reduce poverty and social exclusion and that these reductions will be reflected in improvements in the chosen indicators. However, any positive effects of policy initiatives may be mitigated by other, independent changes in the economy or society. An economic recession will, for example, reduce the potential for active labour market policies to improve living standards. Such “macro” changes may inhibit or amplify the movement of a social indicator in the intended direction. There is no reason to believe that the sensitivity of indicators is the same across countries or across indicators.

This paper explores the sensitivity of some of the common indicators to changes that can be considered to be in some sense exogenous, although they may in fact be in part due to unintended higher order effects of policy reforms aimed at reducing exclusion. They are changes over which Member State governments have little direct control, although they may have some power to mitigate their effects. At the same time, they may have significant impact on individual well-being and on the movement of summary indicators.

In the initial period of the open method of co-ordination, the performance of the agreed indicators is being tracked using data for successive years from existing EU sources (mainly Eurostat Labour Force Survey and European Community Household Panel - ECHP). Thus an observed change in an indicator will reflect not only the impact of policy reforms intended to reduce exclusion. It will also reflect (a) the impact of other policy reforms, with other goals, and (b) the impact of other influences such as changes in the level of economic activity, changes in demographic composition or changes in the distribution of sources of primary income. While we would like to assess the effect of policies intended to promote

inclusion, it is difficult to decompose the observed change in the value of the indicator into the parts that are due to each influence, not least because they are not independent of each other. We can, however, use microsimulation methods to hold most influences constant and to focus on the effect of one change at a time. Typically, static microsimulation models are used to explore the direct, first order effects of policy changes, while holding higher order and exogenous effects constant (Sutherland, 2002). See for example, Sutherland and Piachaud (2001) who examine the impact of the UK government's tax and benefit policy changes on child poverty. In the present paper we hold the tax-benefit policy scenario constant (as in 1998) and simulate the effect of a series of changes in the underlying population and income distribution. We consider the impact of unemployment, real income growth, inflation and increasing earnings inequality.

There is an existing literature on the effect of such macro changes on the income distribution which depends on analysing time series of relevant variables. Parker (1998-99) provides a review of such studies. The impact of UK economic conditions has been explored by Nolan (1988-89) and more recently by Jäntti and Jenkins (2001) who summarise the findings as "unemployment had a regressive impact [on inequality] and no statistical significant association with inflation [could be found]" (page 2). As with the monitoring of social indicators, the use of time series data makes the identification of the role of specific factors difficult to achieve. In the present study microsimulation methods allow us to focus on one change at a time. The main drawbacks of this approach are that we must specify the precise form of the macro change and consider how it should be introduced consistently across countries, and that we do not capture second or higher order effects. The advantages are that we have no identification problem: the results are transparent, and that the same experiment can be implemented in different countries.

Since the main output of static microsimulation models is household income, we focus on income-based social indicators, including poverty measures based on percentages of median household incomes, as well as some standard indicators of income inequality. Since our main interest is in differences in responsiveness across countries and by indicator, we use a microsimulation model that is specifically designed for comparisons across EU Member States: EUROMOD. Section 2 describes this model and presents the baseline values of the indicators on which we focus. Section 3 introduces the changes that are simulated and discusses the impact on the indicators that we might expect, *a priori*. Section 4 presents the results and section 5 concludes.

2 EUROMOD and social indicators

EUROMOD is a tax-benefit model for the European Union. See Immervoll et al. (1999) and Sutherland (2000) for general descriptions. Tax-benefit models calculate disposable income for each household in a representative set of micro-data. The datasets used as the basis for this paper are listed in Appendix 1. They were chosen on the grounds that they provide the best quality input for a tax-benefit model and are at the same time available and accessible to an international scientific project. Although they include data collected at various points in time 1993-1998, they have all been adjusted to 1998 prices and incomes and, where necessary gross incomes have been imputed from net (Immervoll and O'Donoghue, 2001). The calculation of household disposable income is made up of elements of gross income taken (or imputed) from the survey data combined with elements of income – taxes and benefits - that are simulated by the model. The calculations are performed once for the 1998 system and population, and again for each alternative scenario. The first round effect of the simulated change is the arithmetic difference in the "before" and "after" calculations.

The model relies on data from different types of source and from varying points in time. Microsimulation model estimates are subject to many sources of error and their quality may also vary by country. For a description of the assumptions behind the calculations and a discussion of issues affecting the quality and comparability of results see Sutherland (2001).

EUROMOD can calculate baseline values of indicators of social inclusion that are analogous to indicators calculated directly from micro-data. (Differences are due to the fact that some elements of income are simulated in EUROMOD.) The indicators considered here are listed in Box 1. We include all the income-related indicators that are appropriate to apply within a static framework, adopted as indicators by the Laeken European Council, following recommendations made by the Indicators Sub-Group of the EU Social Protection Committee (2001). We also draw on the recommendations of Atkinson et al. (2002) in their report for the Belgian Presidency.

Box 1: Indicators for Social Inclusion calculated by EUROMOD

	Indicator	**Breakdowns by:**
1	Percentage of population living in households with equivalised disposable income below 60% of the (within-scenario) national median	Gender Age (0-15,16-24,25-49,50-64,65+)
2	As 1 but for 40%, 50% and 70% of median	
3	As 1 but for 60% of the (baseline) median	
4	Median poverty gap using 60% median	Gender
5	Mean poverty gap using 60% median	Gender
6	Quintile share ratio	
7	Gini coefficient	

Notes:
All calculations equivalise incomes using modified OECD scale and count people within the household, unless otherwise stated.
Poverty gap = distance between the poverty line and household income for people in poor households, as % of poverty line

This is not the place to discuss the choice of indicators, either individually or as a portfolio. Instead we take them as given and explore the implications of the choices in terms of their sensitivity to "exogenous" changes. However, a number of points are worth noting.

First, the official commentaries on EU indicators refer to "low income" rather than poverty. Here we use the latter term for convenience. Secondly, the "headline" relative poverty rate is based on a poverty line calculated within the contemporary data being used to identify the poor, while a secondary indicator uses a line fixed in real terms over time. In this exercise we calculate the poverty lines in an analogous way: the headline relative measure (indicator 1) is calculated based on the within-scenario median. The poverty rate using a fixed line (indicator 3) is calculated by using the 1998 baseline median (indexed for inflation, where relevant). We are thus able to distinguish between changes in the value of social indicators due to shifts in the poverty line from those due to incomes rising above or falling below a fixed income level. It is often possible to predict the *direction* of each change individually, but measurement of the *relative* size of each effect, and the *net* consequences for the indicators and the *composition* of the poor require detailed micro-level calculations.

Thirdly, we break down indicators for the population as a whole by gender and age. As with the population headcount, this is based on the assumption that all household members have the same level of living as indicated by household income. If the distribution of income within the household did not correspond to this assumption - for example if women, children or the elderly did not have access to their share of resources - then our conclusions about differential poverty rates by individual characteristics would be different. (Our conclusions about relative sensitivity may also be different.)

Table 1 shows the values of the eight indicators as calculated by EUROMOD using 1998 taxes, benefits, prices and incomes for the 14 Member States.[2] Figure 1 shows graphically the percentages of national populations living in households with income below 40%, 50%, 60% and 70% of the baseline median (countries are ranked according to their performance using the 60% median headline indicator). This illustrates the importance of

[2] Results for Sweden are not yet available.

comparing headcounts using several different income cut-offs. If the 70% median cut-off were used Greece would be ranked as having the fifth highest poverty rate compared with being ranked second using the 60% cut-off. If the 40% cut-off were used the UK and Ireland would be positioned well towards the low end of the poverty ranking instead of their current positions third and fifth from the top. It is beyond the scope of this paper to consider these estimates of poverty rates in relation to those from other sources. It is worth noting that compared to the rates estimated from ECHP and presented by the Social Protection Committee (2001), EUROMOD estimates are lower for the Netherlands, Germany and France and higher for Denmark.[3] See Mantovani and Sutherland (2003) for a detailed comparison.

Table 2 shows the breakdown of the headline indicator (proportion of people in households with incomes below 60% median) by gender and age group. In all cases a higher proportion of women than men live in poor households. However, there is some variation in the pattern by age and gender across countries. In some countries higher female poverty is driven by substantially higher poverty rates among the female elderly than the male elderly (Austria, Finland, Germany and Ireland) although this is not universally the case and in Denmark, the Netherlands and Spain the male elderly have a higher risk of poverty than the female elderly. Table 3 shows the breakdown of the mean and median poverty gap indicators by gender. Interestingly, poverty gaps are the same or higher for men than women in all countries except Greece the Netherlands, Portugal and Spain, using the median poverty gap, and Belgium, Greece and Portugal using the mean gap. Child poverty rates, shown in Table 2 are higher than adult poverty rates in all countries except Belgium, Denmark, Finland, Germany and Greece. They are much higher in Ireland, Italy, Luxembourg and the UK.[4]

[3] One reason for the estimates for Germany being lower than expected is that we model social assistance as though all who qualify according to our data actually receive benefits in practice. This is not the case and this means that our German results contain fewer low income households than revealed by other studies using recorded benefit incomes.

[4] The figure for Luxembourg is a lot higher than in many other studies.

In section 4 we report changes to some of these indicators following the simulated scenario changes.

3 Real issues and simulated scenarios

Two practical concerns lie behind the motivation for this paper. The first is that recession, and particularly an increase in demand-driven worklessness, will undermine the efforts of social policy makers to improve the chances of those at risk of poverty. The relevant questions we address are how large is the effect, and whether the indicators in some Member States are more sensitive than others.

The second concern is more of an open question: whether the factors driving market income growth are forces that tend to improve the performance of social indicators (i.e. by reducing measured poverty and social exclusion). These are big questions that we do not aim to address directly. Such an analysis would require a *dynamic* approach and a theoretical framework and methodology which links macro change to micro outcome. They require something different than our current static microsimulation approach can provide. Instead we focus on the *mechanics* of the relationship between income growth and the behaviour of social indicators based on measures of median income.

In each case the aim is not to try and create scenarios that are realistic for each country, but instead to simulate simple changes that can be operationalised in a common way across countries, making use of the information contained in the national databases to provide national character.

We use three simple, simulated changes:

(a) an increase in unemployment

(b) failure to keep the tax-benefit system in line with changes in market incomes

(c) an increase in earnings inequality.

These changes are discussed in turn in terms of the way they are simulated and the effect we might expect *a priori* on incomes in relation to the poverty line.

(a) An increase in unemployment

An increase in the unemployment rate of 5 percentage points is simulated. We do not try to predict who among the employed in our databases would lose their jobs in a recession. This would depend on many factors related to local labour markets and national (and EU) macro-economic policy responses. Instead, we assume that new unemployment has the same pattern as existing unemployment by re-weighting the existing populations to increase the importance of households containing an unemployed person, reducing the importance of households that are similar in other respects. Box 2 explains the details of how this is done.[5]

We would expect households with unemployed people to have lower incomes than other demographically-equivalent households. This may not be the case if unemployed people share households with people with medium or high earnings. But generally we would expect the increase in the prevalence of unemployment to increase the poverty rate, if the poverty line stays fixed.[6] We would also expect the impact on the poverty line itself to be in a downward direction. It is therefore possible that an expansion of unemployment could reduce the relative poverty headcount.

Table 4 shows the percentage change in total household disposable income following the uniform increase in unemployment rate.[7] Not surprisingly, average incomes fall in all countries. They fall by most in Italy, Ireland and the UK (by 2.18%, 2.14% and 2.03% respectively) and by least in Austria (0.80%), Luxembourg (0.83%) and Denmark (0.93%).

[5] We are very grateful to Joanna Gomulka for facilitating access to her grossing-up program. See Atkinson, Gomulka and Sutherland (1988) and Gomulka (1992) for descriptions of previous versions.
[6] Immervoll and O'Donoghue (2001a) have used EUROMOD to calculate household replacement rates for people becoming unemployed. Here, the approach is different since we do not simulate the effects on income of changed status, but simply adjust the proportions in each group.
[7] Household income is not equivalised here.

Box 2: Increasing unemployment

The aim is to inflate the weights of households containing unemployed people while keeping the aggregate counts of other key characteristics constant. For our purposes the unemployed are defined as people aged 19-59 declaring themselves to be out of work and looking for a job, plus any others currently in receipt of unemployment benefits. The within-database national "unemployment rate" is calculated as the ratio of these unemployed to those in the labour force, defined as the unemployed plus people aged 19-59 in receipt of earnings or self-employment income. (It is worth noting that differences in underlying data cause our estimates of the unemployed to not be comparable across all countries. The main source of difference arises from the extent to which the recipients of benefit are in the same group as the people declaring themselves to be unemployed. Where income data are current, the groups will overlap more than in data sources where income variables refer to the previous year.)

An increased total number of unemployed people is calculated by adding 5 percentage points to this unemployment rate.

Household weights already exist, supplied with the national datasets. They have been calculated to adjust for sample design and/or differential non-response (see Sutherland (2001) for details). The weights are re-calculated using the existing weights as a starting point but (a) using the increased number of unemployed as the control for unemployed and (b) also controlling for demographic and household composition variables, and region, using the existing grossed-up totals for these categories as control totals. The specific variables used as controls are:

Individuals	**Households**
Number aged 0-18 (= children)	Hholds with 1 adult aged 19-59 only
Males aged 19-24	Hholds with 2 adults aged 19-59 only
Females aged 19-24	Hholds with 1 adult + 1 or more children only
Males aged 25-49	Hholds with 2 adults + 1 or more children only
Females aged 25-49	Other households with children
Males aged 50-59	Other households without children
Females aged 50-59	
Males aged 60+	Region
Females aged 60+	

This method implies that the weights of households without any unemployed people that are similar to households with unemployed people according to the above variables will have their weights reduced. In other words, these are the households who are "made unemployed" in our exercise. When they become unemployed they take on the characteristics of the currently unemployed whose weights are increased.

The rise in unemployment means that there is a reduction in gross earnings in all countries, offset to some extent by reduced taxes and contributions and increased benefits. The size of the reduction in market income depends on the average earnings of households containing unemployed people and the earnings in households that are demographically similar. The table shows that the change in market income as a proportion of the baseline

disposable income varies from a fall of 1.93% in Luxembourg to a fall of 4.15% in Ireland. The increase in unemployment results in an increase in benefits in most countries, although in Greece and Italy where unemployment benefits are tiny or non-existent there is a very small decrease in benefit payments. In these countries benefit receipt is greater in households without unemployed people than in those with unemployed people. In other countries benefit receipt is more concentrated among households with unemployment. For example, in Denmark where benefits for the unemployed are relatively generous and their coverage is relatively extensive, there is a particularly large increase in benefits of 1.98% following the increase in unemployment.

The fall in gross income is compensated by a decrease in social contributions and income tax in all countries. The case of Denmark is interesting: the drop in market income is one of the largest (4.01% of baseline disposable income) but the fall in disposable income is one of the smallest (0.93%). The tax-benefit system automatically absorbs much of the aggregate cost of increasing unemployment. Table 5 shows that equivalised median incomes (and hence the poverty lines) do fall in all countries and with a similar pattern to that shown in Table 4 for mean unadjusted incomes. Ireland, UK and Italy see the largest percentage reductions and Luxembourg, Austria and Denmark the smallest.[8]

(b) Failure to keep the tax-benefit system in line with changes in market incomes

Typically, benefit payments and the value of tax concessions do not keep pace with market income growth. In many Member States the main components are annually indexed for inflation but this is by no means universal practice (Immervoll, 2000; Messere, 1998). For example, there is no statutory indexation in Ireland. It is rare for increases to match changes in

[8] In the case of Ireland and the UK, this may well be related to the way income data are collected in these countries, with the likely effect being lower measured incomes in unemployed households than if our calculations were based in previous annual incomes, as in the other countries. See Appendix 1 for information on the reference period of incomes by country.

earnings or incomes more generally. At the same time, income taxes are buoyant, meaning that liabilities naturally grow with income.[9] If tax thresholds are indexed only for price inflation, tax burdens rise. This phenomenon is known as fiscal drag.[10] The corresponding mechanism in the benefit system is such that, *ceteris paribus* the value of benefit incomes falls relative to market incomes. Benefits are generally the opposite of buoyant: they must be increased to make up for inflation, and by more if they are to keep pace with real income growth.[11] We simulate the impact on the income distribution of "real fiscal drag" by inflating gross earned incomes by an illustrative uniform factor (10%) to represent real growth over some period of time, while keeping the parameters of the tax and benefit system constant (i.e. held in line with other incomes). This will have the effect of increasing incomes for those in work, such that median household income rises. Whether the corresponding rise in the poverty line increases the net numbers counted as poor depends on the extent to which poor households contain people in paid work. Table 4 shows the percentage increase in household disposable income following 10% real earnings growth. This varies from 4.50% in Belgium to 6.40% in Portugal. This is the net effect of changes in market income (Table 4 shows that this, as a proportion of baseline disposable income, varies from 8.35% in France to 12.33% in Denmark);[12] changes in benefits that are earnings tested (which are small and negative) and changes in taxes and contributions. Where average tax rates are relatively low the effect of fiscal drag is correspondingly small (as in France, UK and Portugal). In the case of France social contributions are more important than income tax in reducing the effect of earnings

[9] The same applies to social contributions only if there is no ceiling on earnings.
[10] Immervoll (2000) has used EUROMOD to calculate the distributional effects of inflation-induced "fiscal drag". In this paper we refer to "real fiscal drag" as the effect due to tax and benefit changes not reflecting real income growth. We refer to the effect of changes not reflecting nominal income increases as "non-indexation for inflation".
[11] There can be exceptions; for example if contributions are proportional to earnings and contributory benefit payments are tied to current contributions.
[12] Note that changes in market income *as a proportion of baseline household disposable income* can be larger or smaller than the percentage growth in earnings.

growth. Increases in median equivalised income, and hence the poverty lines are shown in Table 5.

In a separate but related exercise we also explore the effect on the indicators of failing to index the tax-benefit system even for nominal increases in income. All non-benefit incomes are increased by an illustrative 10%, here representing inflation. The parameters of the tax and benefit systems remain fixed (Box 3 provides more details). Table 4 shows the nominal percentage increase in household disposable income following 10% inflation combined with failure to index taxes and benefits. The impact is similar in scale at this aggregate level to that of fiscal drag: the 10% increase in original incomes is transformed by the tax and benefit system into an increase in disposable incomes of between 5.23% (Belgium) and 7.43% (UK). Put another way, the real value of household incomes falls by between 2.57% (UK) and 4.77% (Belgium). The poverty line used in indicator 3 - fixed in real terms - rises in line with inflation (by 10%). We would therefore expect to see *increases* in the headcount when the "fixed" line is used.

Box 3 "Real fiscal drag"
We simulate a 10% growth in real earnings by increasing the value of current earnings from employment and self-employment by this common factor. In reality, other market incomes may also experience real growth. But here we focus on earnings alone because the quality of capital incomes is uncertain and variable across the EUROMOD datasets.

Failure to index for inflation (monetary fiscal drag)
All market incomes and expenditures (eg housing costs) are increased by 10% but elements of income over which governments have direct control - benefits and tax concessions - are fixed in terms of the values of the parameters that govern them. One aspect where it is difficult to maintain comparability across countries is in the treatment of pension incomes. Here, we treat private pensions in the same way as current market incomes, even if they substitute for state pensions.

(c) An increase in earnings inequality.

In this third experiment we increase earnings inequality while keeping mean earnings constant. Thus low earners face a reduction in market income, and high earners an increase. Box 4 explains how this is done.

Table 6 shows that the break-even point for earnings (the point at which earnings neither increase nor decrease) is well above the mean (varying from 26.8% above the mean in Italy to 57.3% above the mean in Portugal) indicating that the value of most people's earnings will *fall* in this scenario.

Box 4: An increase in earnings inequality

Gross earnings are adjusted according to the formula:

$Y_{new} = KY^n$ where n=1.3 and K is a scaling factor determined such that the mean of Y and Y_{new} are the same. This is established by iteration. The value of 1.3 was chosen to secure a large but plausible illustrative increase in earnings inequality.

In practice, there are several variables which together make up the gross earnings concept that we wish to adjust. In all countries there are at least two variables (corresponding to earnings from employment and self-employment) but in some there are more (e.g. the value of 13^{th} and 14^{th} month salaries). For a given value of n, convergence to a single balancing value of K would be complex to achieve. We approximate by allowing K to be different for each earnings component.

We assume no other changes that might in practice accompany a change in earnings distribution or an individual change in earnings (such as changes in hours of work).

Table 6 also shows the change in earnings inequality, as measured by the Gini co-efficient. The simulated increase in earnings inequality increases the Gini by between 7 and 11 percentage points.[13]

Although mean gross earnings of individuals are held constant, Table 4 shows that the change in their distribution results in a reduction in average household disposable incomes due to the progressivity of the tax and benefit systems. The net reduction varies from being

[13] Mantovani and Sutherland (2003) compare earnings distribution data in EUROMOD with similar information from other sources.

negligible in Germany (0.02%) to 2.38% in Greece. Benefits increase a little (most in Ireland; least in Spain). The income tax system plays the biggest role, with taxes rising in all countries: reductions in tax due to falling low and middle earnings are more than offset by increases in tax due to growth in high earnings. The most effective systems, in this sense, are in the Netherlands and Greece; the least in Finland and Denmark. In most countries social contributions act in the opposite direction – total contributions fall. Ceilings on contributions mean that the extra contributions paid by high earners are limited and in aggregate are more than matched by reductions in contributions among the lower paid. The exceptions – Denmark and Portugal – are systems that levy contributions on a proportional basis. The distribution of earnings has no effect on the total contributions that are collected.

4 Results

Appendix 2 provides tables in the same format as Tables 1-3 for each of the illustrative scenarios. Given the quantity of information, we discuss only the income poverty measures in the remainder of this paper and mainly focus on the headcounts. We summarise the main *changes* graphically.

(a) An increase in unemployment

Using a fixed poverty line, increasing the unemployment rate by 5 percentage points causes poverty rates to rise in all countries but with a very small effect in some cases. Percentage point increases in the poverty rate range from 0.1 in Denmark and Luxembourg to 2.1 in Italy, 1.6 in UK and 1.3 in Ireland. If the poverty line is re-calculated using median incomes after the increase in unemployment (indicator 1) then a very mixed picture emerges: in three countries (Ireland, Italy, Spain) the poverty rate increases but in the other 11 countries it falls slightly or remains unchanged. This is illustrated in Figure 2 for the 60% median indicator. Proportions other than 60% of the median show different patterns. For example, in

Ireland, while the headline (60% median) poverty rate increases slightly, the proportion below 50% of the median falls by as much as 4.4 percentage points.

Figure 2a plots the percentage point reduction in the headline poverty rate by the percentage change in median equivalised disposable household incomes (and hence the poverty line). As we have seen, poverty lines fall most dramatically - by more than 2.5% - in Ireland the UK and Italy. However, this appears to have little bearing on the change in the headcounts – they rise in Ireland and Italy and fall slightly in the UK. The largest reductions in poverty (in Portugal, Finland and Belgium) correspond to smaller shifts in the poverty line.

There are some interesting differential effects by age and gender. In all countries, the headcount falls for people aged 65+. The effect is particularly marked in the UK (2.9), Finland (2.5), Belgium (2.3), the Netherlands (2.1) and France (2.0) where it seems that older people are concentrated just below the baseline poverty line. In the UK and Belgium the effect is particularly strong among older women. In countries where unemployment is a particular problem among young people poverty rates for this group rise by more (or fall by less) than the national averages. The effect is particularly strong in Italy where the poverty headcount among 16-24 year olds increases by 3.1 percentage points.

(b) Failure to keep the tax-benefit system in line with changes in market incomes

(i) Real earnings growth

Not surprisingly, earnings growth reduces the poverty headcount if baseline median incomes are used to define the fixed poverty line (indicator 3). However, as shown in Figure 3, the extent of the reduction varies from just 0.3 percentage points in Germany and 0.5 percentage points in Ireland to 1.8 in Spain and 2.0 in Luxembourg. In countries where there are few working poor the effect on indicator 3 is likely to be small. Using the within-scenario poverty line (indicator 1) the impact of earnings growth is such that the headcount increases

in all countries. The rise in median incomes entirely offsets the effect of increasing the earned income of some of the poor. The net effect is negligible in Luxembourg and small in Spain and Greece. The largest percentage point increases in the headcount are found in Ireland (3.9), the Netherlands (2.4), Denmark (2.3) and the UK (2.2). Figure 3a relates the increase in the headcount (indicator 1) to the proportional increase in median equivalised incomes (i.e. the poverty line). We find a weak positive cross-country relationship between the extent of the upward shift in the poverty line and the degree to which the headcount rises. Figure 3b shows how this sensitivity varies within countries according the income cut-off used. It plots the change in headcount for the 40, 50, 60 and 70% cut-offs against the percentage increase in the poverty line. In Ireland the sensitivity of the headcount to increases in real earnings depends very much on the cut-off used: for the 40% cut-off it rises by 0.5 percentage points and for the 60% cut-off it rises by 3.9 percentage points. In Greece and Luxembourg the sensitivity is fairly similar, regardless of cut-off (a range of less than 0.5 percentage points). It is worth noting that the size of the effect does not vary proportionately with the level of the poverty line. In fact in many countries (10 out of 14) the relationship is U-shaped, with the biggest effect occurring at the 50% or 60% cut-off. (The 60% cut-off is indicated on the Figure by a black diamond.) In three of the other countries (Austria, Denmark and Finland) the largest positive effect is at the 70% cut-off. In Luxembourg, the effect at the 70% cut-off is to *reduce* the headcount.

The sensitivity of the mean poverty gap to real fiscal drag shows quite a different pattern. Figure 3c shows that the gap actually falls as a proportion of the poverty line in four countries and by as much as 1.7 percentage points in the Netherlands. There appears to be no clear cross-country relationship between the extent of the shift in the poverty line and the change in poverty intensity, as measured by the mean poverty gap.

In all countries the increase in the headcount (indicator 1) is greater for women than for men (except, marginally, in Spain). It is greater for the elderly than for younger age groups in all countries and the effect is particularly strong in Ireland (13.0 percentage points compared with 3.9 on average), Denmark (11.4 compared with 2.3) and the Netherlands (7.7 compared with 2.4).

(ii) Failure to index for inflation

Erosion of the value of benefits and tax thresholds and concessions means that inflation has the effect of increasing the headcount if the poverty line is fixed in real terms. As Figure 4 shows, the percentage point increase in the poverty rate is substantial in all countries and largest in Ireland (5.6), the Netherlands (3.6) and Finland (3.6) and smallest in Greece (1.9), Spain (2.1), Portugal (2.2) and Austria (2.2). The within-scenario poverty line also shifts up in all countries. The headcount (indicator 1) rises in all countries. The net effect is largest in Ireland (3.9), under 2 percentage points in most other countries, and negligible in Spain.

Figure 4a relates the increase in the headcount (indicator 1) to the proportional decrease in the real value of the within-scenario poverty line. Figure 4b shows how this sensitivity varies within countries according to the proportion of the median that is used as the cut-off. While indicator 1 is most vulnerable to inflation in Ireland using the 60% cut-off, it is much less affected if any of the other cut-offs are used. There appears from Figure 4a to be a weak positive cross-country relationship between the shift in the poverty line and the increase in the headcount. The relationship between the two in some countries is not very sensitive to the cut-off used (Greece, Austria, Luxembourg) and in most it is a matter of a range between 1 and 1.5 percentage points in terms of the change in the headcount.

(c) An increase in earnings inequality.

Increasing earnings inequality using the standard formula shown in Box 4 has the effect on average of lowering the earnings of those in low-income households. Thus poverty rates rise if the poverty line is held constant (indicator 3). Figure 5 shows that if the poverty line is based on the within-scenario median, then the net effect is to increase the headcount in some countries and to reduce it in others. The percentage point increase is particularly strong in some countries: Luxembourg (4.3), Greece (2.3) and Spain (2.3) and the decrease is strong in UK (3.2) and Ireland (2.4). Explanations are clearly complex since they depend on the baseline earnings distribution as well as the composition of the income distribution and the relationship between earnings and household incomes. Table 4 shows the change in the Gini coefficient on earnings due to the simulated increase in earnings inequality and Figure 5a relates this to the percentage point change in the headcount (indicator 1). It seems there is a weak cross-country relationship between the increase in the earnings Gini and the size and direction of the change in the headcount.

Figure 5b shows the relationship between the shift in the poverty line and the change in the headcount. There appear to be some distinct groups of countries. Greece and Spain show a large shift in the poverty line and an increase in the headcount. In contrast, UK and Ireland also show a relatively large shift in the line but the headcount falls. One possible explanation is that these countries protect the household incomes of low earning individuals with in-work benefits. Luxembourg shows a relatively small shift in the line but a large increase in the headcount. Portugal demonstrates the opposite – a large fall in the level of the poverty line combined with a negligible change in the headcount. The factors underlying these results can be understood by looking at groups within the population. Figure 5c contrasts the change in the population headcount with the change in the headcount for people aged 65+ (shown by crosses at the bottom of the lines) and for people aged 25-49 (shown by

circles at the top of the lines). (Diamonds on the line show the headcounts for the whole population, as in Figure 5b.) These are the groups we might expect to be respectively least and most affected by the simulated change in the earnings distribution. The Luxembourg count for people aged 25-49 increases a lot (6.2 percentage points) which suggests that there is a concentration of employed people living on household incomes just above the baseline poverty line. Although the poverty line shifts down, the reduction in earnings due to increased inequality is such that incomes fall sufficiently to drag them below the new line.

In all countries the headcount of the 65+ age group falls. We would expect this given that in most cases their household incomes will have been unaffected by the change in earnings inequality. The fall in the poverty line results in fewer being counted as poor. The effect is particularly strong in Ireland (10.7 percentage point reduction) and Denmark (9.5) and Portugal (8.0), suggesting that there is a concentration of older people just under the baseline poverty line in these countries.

The change in mean percentage poverty gap is shown in Figure 5d. The UK and Ireland are again grouped together with a fall in both the poverty line and the size of the gap. Greece and Spain both show an increase in poverty gap combined with a large fall in the poverty line. Portugal shows a large reduction in gap combined with a large downward shift in the poverty line. In some countries the poverty gap behaves in a similar way to the poverty rate (France, Greece, Spain, Ireland, Austria) but in others the response can be quite different. For example, the Belgian poverty rate falls slightly but the poverty gap rises substantially by 4 percentage points; the Luxembourg poverty gap rises a little but the rate rises substantially.

5 Conclusions

Our results suggest that indicators *are* sensitive to the types of macro changes that we have considered. The extent of sensitivity *does* differ across countries and by indicator. It is

clear that detailed micro-level simulations are required to establish net effect of a shift in the poverty line and changes in the income of those at risk of poverty.

This is clearest in the case of rising **unemployment**, a scenario that is intuitively associated with a rise in the proportion of households with low income. The poverty headcount (indicator 1) falls or remains unchanged in 11 out of 14 countries following a simulated increase in unemployment of 5 percentage points.

Real **fiscal drag** increases the headcount (indicator 1) in all countries but the effect is negligible in some countries and substantial in others.

Under **inflation**, if taxes and benefits are not indexed, a similar pattern emerges for the headline indicator. However, the use of a fixed poverty line in real terms (indicator 3) shows non-indexation to have a large and unambiguous effect on the poverty rate: it rises substantially - by between 2 and 6 percentage points - in all countries.

Increasing **earnings inequality** has a variable impact across countries. Although most people's earnings fall under this scenario and the poverty rate using the fixed line rises in all countries, the headline poverty rate (indicator 1) increases in some countries and falls in others.

To find explanations for the patterns - and lack of them - that we have observed would require detailed country-level analysis. The main purpose of the paper is to show the importance of the issues in cross-country perspective, not to understand national specifics. Nevertheless, we can observe that indicators for Ireland show particular sensitivity to the simulated experiments, both in terms of the extent of the impact of the scenarios on the indicators and in terms of the variation in sensitivity across indicators. This is particularly important given the rapid changes in the Irish economy and the lack of automatic adjustment to the tax and benefits systems.

What can governments do to minimise the negative impact of macro changes on social indicators (and on those at risk of poverty and social exclusion)? Our results suggest that

- Non-indexation for inflation leaves social indicators vulnerable in all countries. However, the effect is only small in Spain, Luxembourg, Belgium and Greece. It is particularly strong in Ireland, the Netherlands, the UK and Denmark where it is clear that an important underlying component of policy to combat financial poverty should be (or should remain) the regular indexation of taxes and benefits.
- Fiscal drag also places an upward pressure on relative poverty indicators, particularly in the same four countries. Taxes and benefits should keep pace with the growth in median incomes if relative poverty is to be controlled. Alternatively, other measures to protect those at risk of poverty need to be introduced on a continuing basis, to compensate for real fiscal drag.
- Unemployment, as simulated, has an ambiguous effect overall on the headline poverty indicator, and the net national effects tend to be small. On the face of it, governments concerned only with the headline poverty indicator need do nothing.
- The earnings inequality scenario is an example of increasing the income of the rich at the expense of the poor. In some countries this results in a *decrease* in measured poverty. On the face of it, governments concerned only with the headline poverty indicator should encourage the reduction of wages.

These last two points illustrate the dangers of relying on single indicators and highlight the importance of maintaining a portfolio which includes

(a) indicators that relate directly to individual labour market experience (such as unemployment or low wages) as well as household incomes,

(b) income measures that do not depend directly on the movement of median incomes and

(c) indicators which are broken down by age, gender and other characteristics.

More generally, in interpreting the evolution of social indicators over time, it is necessary to take account of changing macro-level conditions.

Of course it is important to emphasise that the simulated scenarios should not be considered as predictions of what would happen in any particular country in the event of an actual macro level change. Real life is more complicated and it is unlikely that these changes would take place in isolation (earnings growth may well occur in combination with increasing inequality), that they would apply so uniformly within a country (new unemployment may be concentrated in particular regions or sectors), or that they would in fact occur in the same way across countries. However, the precise pattern by which such changes occur is impossible to predict. The point of this "forward-looking" exercise has been to explore the mechanics of the relationships between plausible macro-level changes and social indicators, and to draw out the implications for cross-country monitoring of the evolution of the indicators over time. Having established that macro-level changes *can* have important consequences for evaluating progress towards social inclusion, similar methods can, at a later stage, be used to assess what part of observed changes has in fact been due to tax and benefit policies. Substituting observed macro-level changes for the "plausible" ones used in this exercise, we can use "backward-looking" simulation techniques to separate policy effects from other changes in the economy.

To conclude, we believe that if income-based indicators are to be used as generally accepted measures of the outcomes of policy to promote social inclusion, then it is important that their sensitivities to other influences are fully understood. This paper has demonstrated that the recommended indicators are indeed vulnerable to "exogenous" changes. The extent of sensitivity varies by type of change, by indicator and by country.

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Table 1: Social indicators using the 1998 EUROMOD baseline

	Indicator	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
1	Proportions with income < 60% median %	11.0	15.5	11.1	9.3	11.8	9.9	20.3	18.1	19.8	11.7	9.8	21.9	17.9	20.0
2a	As 1 but for 40% of median %	1.5	2.5	2.2	0.5	1.4	2.3	11.0	1.1	7.4	1.4	1.9	7.6	7.2	2.0
2b	As 1 but for 50% of median %	4.2	6.7	4.4	2.9	4.9	5.0	15.1	9.4	12.8	4.1	3.8	14.5	11.2	9.8
2c	As 1 but for 70% of median %	18.9	22.6	19.7	18.3	21.5	18.4	27.0	30.0	28.5	21.2	20.6	29.4	25.8	29.4
3	As 1 but for 60% of the (baseline) median %[1]	11.0	15.5	11.1	9.3	11.8	9.9	20.3	18.1	19.8	11.7	9.8	21.9	17.9	20.0
4	Median poverty gap as % of 60% median	11.9	14.2	11.0	10.2	13.4	16.7	35.6	16.9	24.4	11.4	10.7	24.4	24.3	16.4
5	Mean poverty gap as % of 60% median	16.8	21.0	20.2	13.0	16.8	20.8	40.3	17.0	30.4	15.6	22.1	26.0	31.1	18.6
6	Quintile share ratio	3.36	3.25	2.40	2.32	4.21	3.39	5.88	4.76	5.99	4.19	3.44	5.80	5.84	4.97
7	Gini coefficient	0.24	0.25	0.24	0.23	0.28	0.25	0.33	0.33	0.34	0.26	0.25	0.36	0.32	0.31

Source: EUROMOD
Notes: All indicators are based on household disposable income, equivalised using the modified OECD equivalence scale. Figures are rounded to the nearest 0.1 (poverty rates and poverty gaps) or 0.01 (quintile share ratio and Gini coefficient). This does not necessarily mean that estimates are statistically significant to the level shown.
[1] In the baseline, this is the same as indicator 1.

Table 2: Proportions with income below 60% median using the 1998 EUROMOD baseline: breakdowns by gender and age

	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
Male	9.3	15.0	10.4	8.9	11.5	8.3	19.2	16.9	18.7	11.6	9.8	20.1	17.7	19.3
Female	12.7	15.9	11.7	9.7	12.1	11.4	21.4	19.2	20.9	11.8	9.9	23.6	18.2	20.7
Age 0-15	12.9	14.6	6.2	4.4	13.1	7.9	15.9	25.7	25.5	17.3	11.6	22.8	20.7	30.2
Age 16-24	9.9	17.2	19.3	16.8	17.6	11.9	20.8	14.5	24.6	16.3	20.9	18.0	22.0	19.4
Age 25-49	8.2	12.3	6.2	7.0	9.7	7.9	14.0	14.9	17.9	10.8	7.6	15.5	15.6	16.0
Age 50-64	9.6	16.7	8.0	8.2	10.5	10.9	23.1	14.4	16.7	6.8	8.8	22.5	17.5	13.7
Age 65+	17.5	21.3	28.4	17.9	11.8	13.9	34.1	16.5	18.2	8.6	6.8	39.1	17.0	22.7
Age 16-24 Male	8.2	16.9	17.7	15.6	18.1	10.3	19.7	12.3	24.2	18.7	22.4	16.2	23.2	17.7
Age 16-24 Female	11.8	17.4	21.1	18.0	17.2	13.6	21.9	16.8	24.9	13.8	19.4	19.9	20.8	21.4
Age 25-49 Male	7.2	11.5	6.1	8.8	9.4	7.6	13.3	13.5	16.0	10.2	7.0	14.6	14.7	15.3
Age 25-49 Female	9.3	13.0	6.4	5.1	10.0	8.2	14.7	16.3	19.7	11.4	8.1	16.4	16.6	16.7
Age 50-64 Male	9.2	18.1	5.5	8.3	10.3	9.2	20.2	14.5	17.1	5.5	8.0	21.2	16.8	14.1
Age 50-64 Female	10.1	15.5	10.6	8.1	10.7	12.5	25.8	14.3	16.3	8.0	9.7	23.7	18.1	13.3
Age 65+ Male	12.0	21.5	29.9	11.7	10.0	9.3	33.8	10.9	13.4	6.6	7.3	38.2	17.9	19.8
Age 65+ Female	20.8	21.1	27.2	21.7	13.0	16.5	34.4	20.8	21.5	9.9	6.4	39.7	16.4	24.7
ALL	11.0	15.5	11.1	9.3	11.8	9.9	20.3	18.1	19.8	11.7	9.8	21.9	17.9	20.0

Source: EUROMOD
Notes: All indicators are based on household disposable income, equivalised using the modified OECD equivalence scale. Figures are rounded to the nearest 0.1. This does not necessarily mean that estimates are statistically significant to the level shown.

Table 3: Poverty gaps using the 1998 EUROMOD baseline: breakdowns by gender

		AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
Median															
	Male	13.6	14.2	11.7	10.6	14.1	17.5	34.7	17.1	25.1	12.2	10.4	23.9	23.9	16.4
	Female	9.3	14.2	10.8	10.0	12.9	16.0	37.3	16.7	23.7	10.6	10.7	24.7	25.1	16.4
	ALL	11.9	14.2	11.0	10.2	13.4	16.7	35.6	16.9	24.4	11.4	10.7	24.4	24.3	16.4
Mean															
	Male	18.2	20.9	21.8	13.7	17.2	21.1	39.9	17.5	31.0	16.1	22.1	25.8	31.1	19.1
	Female	15.8	21.1	18.7	12.4	16.4	20.6	40.7	16.6	29.9	15.1	22.1	26.1	31.1	18.2
	ALL	16.8	21.0	20.2	13.0	16.8	20.8	40.3	17.0	30.4	15.6	22.1	26.0	31.1	18.6

Source: EUROMOD
Notes: All indicators are based on household disposable income, equivalised using the modified OECD equivalence scale. Poverty gaps are measured as the % shortfall in income below the poverty line. Figures are rounded to the nearest 0.1. This does not necessarily mean that estimates are statistically significant to the level shown.

Table 4: Simulating alternative scenarios: percentage change in household disposable income and its components

%	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
(a) An increase in unemployment														
Change in market income	-2.10	-3.06	-4.01	-3.73	-2.96	-3.38	-2.31	-4.15	-3.09	-1.93	-2.98	-3.53	-2.62	-3.62
+ Change in benefits	0.42	0.78	1.98	1.06	0.73	0.94	-0.08	1.12	-0.05	0.54	1.00	0.69	0.41	0.75
- Change in social contributions	-0.31	-0.37	-0.27	-0.28	-0.54	-0.44	-0.35	-0.12	-0.27	-0.12	-0.38	-0.35	-0.11	-0.22
- Change in taxes	-0.56	-0.84	-0.84	-0.89	-0.29	-0.87	-0.54	-0.76	-0.69	-0.45	-0.31	-0.78	-0.55	-0.62
= Change in disposable income	**-0.80**	**-1.07**	**-0.93**	**-1.50**	**-1.39**	**-1.12**	**-1.51**	**-2.14**	**-2.18**	**-0.83**	**-1.29**	**-1.71**	**-1.56**	**-2.03**
(b) (i) fiscal and benefit drag														
Change in market income	9.58	9.07	12.33	9.08	8.35	9.84	9.12	8.94	8.51	8.75	10.04	9.78	8.93	8.81
+ Change in benefits	-0.05	-0.08	-0.15	-0.06	-0.25	-0.20	-0.02	-0.14	-0.13	-0.05	-0.11	-0.08	-0.01	-0.11
- Change in social contributions	1.32	1.03	1.11	0.65	1.52	1.34	0.76	0.41	0.77	0.71	1.31	0.91	0.23	0.47
- Change in taxes	3.07	3.46	5.78	3.44	1.35	3.49	2.69	3.00	2.73	2.78	3.08	2.40	2.56	2.35
= Change in disposable income	**5.15**	**4.50**	**5.28**	**4.92**	**5.23**	**4.80**	**5.66**	**5.40**	**4.88**	**5.21**	**5.53**	**6.40**	**6.13**	**5.88**
(b) (ii) non-indexation for inflation														
Change in market income	9.87	9.82	13.09	10.13	9.55	10.59	10.00	9.67	10.04	9.56	11.49	10.27	9.25	10.38
+ Change in benefits	-0.03	-0.08	0.05	0.07	-0.26	-0.07	-0.02	-0.13	-0.14	-0.05	0.04	-0.09	-0.01	0.20
- Change in social contributions	1.29	1.03	1.11	0.74	1.62	1.35	0.76	0.42	0.77	0.71	1.29	0.91	0.23	0.47
- Change in taxes	2.89	3.47	5.78	3.59	1.48	3.60	2.89	3.07	3.03	3.08	3.36	2.45	2.57	2.68
= Change in disposable income	**5.66**	**5.23**	**6.26**	**5.86**	**6.18**	**5.57**	**6.34**	**6.06**	**6.10**	**5.72**	**6.88**	**6.82**	**6.43**	**7.43**
(c) An increase in earnings inequality														
Change in market income	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
+ Change in benefits	0.19	0.32	0.33	0.56	0.57	0.52	0.05	0.59	0.14	0.26	0.33	0.37	0.04	0.43
- Change in social contributions	-0.95	-0.01	0.00	0.01	-0.38	-1.14	-0.48	-0.28	-0.05	-0.85	-2.05	0.00	-0.23	-0.50
- Change in taxes	1.87	1.10	1.08	1.03	1.69	1.54	2.91	1.43	1.28	2.21	3.44	2.08	2.50	1.28
= Change in disposable income	**-0.72**	**-0.77**	**-0.76**	**-0.48**	**-0.73**	**-0.02**	**-2.38**	**-0.56**	**-1.08**	**-1.09**	**-1.06**	**-1.71**	**-2.23**	**-0.34**

Source: EUROMOD

Notes: Income is measured per household and not equivalised. Change is measured as a % of baseline household disposable income (not of market income, benefits, contributions or taxes). Figures are rounded to the nearest 0.01%. This does not necessarily mean that estimates are statistically significant to the level shown.

Table 5: Simulating alternative scenarios: changes in the poverty line (60% equivalised median)

EURO per month[1]	**AT**	**BE**	**DK**	**FI**	**FR**	**GE**	**GR**	**IR**	**IT**	**LU**	**NL**	**PT**	**SP**	**UK**
Baseline	735	604	855	667	704	695	335	490	523	1,075	683	260	361	646
(a) An increase in unemployment	731	597	849	653	691	688	328	471	508	1,070	670	256	354	626
(b) (i) fiscal and benefit drag	776	629	907	700	743	724	352	520	551	1,127	724	279	381	681
(ii) non-indexation for inflation	778	631	909	703	748	728	355	524	554	1,128	730	279	381	690
(c) An increase in earnings inequality	698	579	814	635	657	670	304	449	494	1,021	643	222	329	594
Euro exchange rate 31 Dec 1998	*13.76*	*40.34*	*7.459*	*5.946*	*6.560*	*1.956*	*340.75*	*0.7876*	*1936.3*	*40.34*	*2.204*	*200.48*	*166.39*	*0.7032*
% change														
(a) An increase in unemployment	-0.5	-1.2	-0.7	-2.0	-1.9	-1.1	-2.0	-4.0	-2.8	-0.5	-1.8	-1.5	-2.0	-3.0
(b) (i) fiscal and benefit drag	5.6	4.1	6.1	5.0	5.5	4.2	4.9	6.2	5.4	4.9	6.0	7.1	5.5	5.5
(ii) non-indexation for inflation	5.9	4.5	6.3	5.5	6.2	4.7	5.8	6.9	5.9	5.0	7.0	7.4	5.7	6.9
(c) An increase in earnings inequality	-4.9	-4.2	-4.9	-4.7	-6.7	-3.7	-9.4	-8.4	-5.5	-5.0	-5.8	-14.7	-8.8	-8.0

Source: EUROMOD
Notes: Poverty lines are based on household disposable income, equivalised using the modified OECD equivalence scale and are rounded to the nearest Euro per month or 0.1.percentage point. This does not necessarily mean that estimates are statistically significant to the level shown.

Table 6: An increase in earnings inequality using the 1998 EUROMOD baseline

	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
Break-even point for earnings (% of mean)	130.0	128.7	137.9	149.1	138.9	140.3	144.1	132.1	126.8	141.5	146.3	157.3	156.5	135.6
Employment income Gini coefficient														
Before	0.35	0.34	0.37	0.43	0.37	0.40	0.41	0.36	0.32	0.39	0.41	0.44	0.45	0.38
After	0.43	0.42	0.45	0.51	0.46	0.48	0.50	0.45	0.40	0.49	0.49	0.55	0.55	0.46
Difference	0.08	0.08	0.08	0.07	0.09	0.08	0.09	0.09	0.08	0.10	0.08	0.11	0.10	0.09

Source: EUROMOD
Notes: Calculations are carried out for all individuals with non-zero employment income. Figures are rounded to the nearest 0.1% or 0.01. This does not necessarily mean that estimates are statistically significant to the level shown.

Figure 1: Percentage of population living in households with income below proportions of the national median: EUROMOD baseline 1998

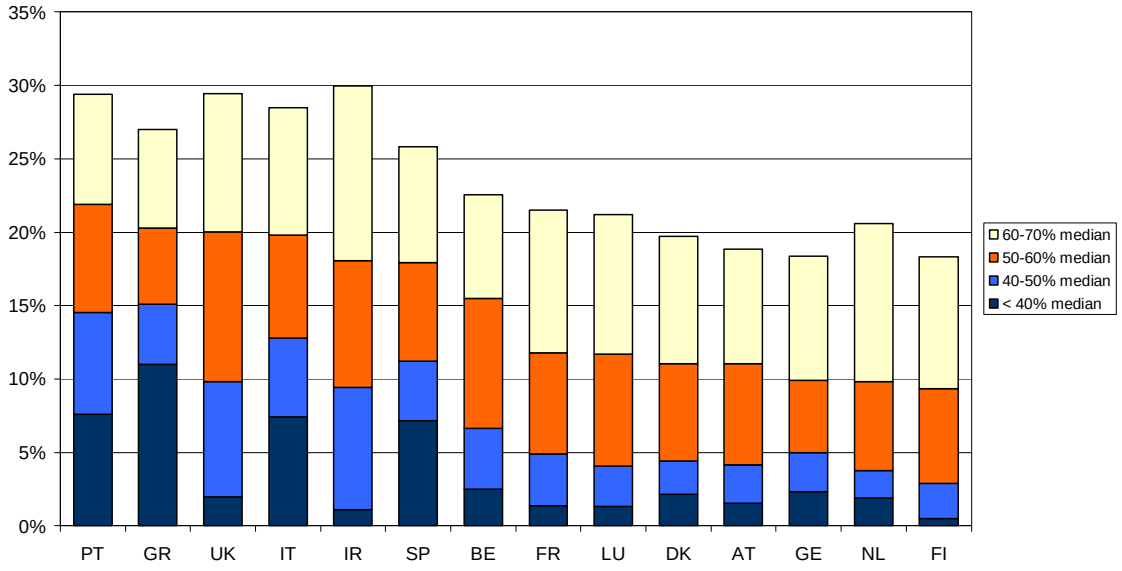


Figure 2: Effect of increasing unemployment on the numbers in households with income below 60% of median, using baseline and within-scenario medians

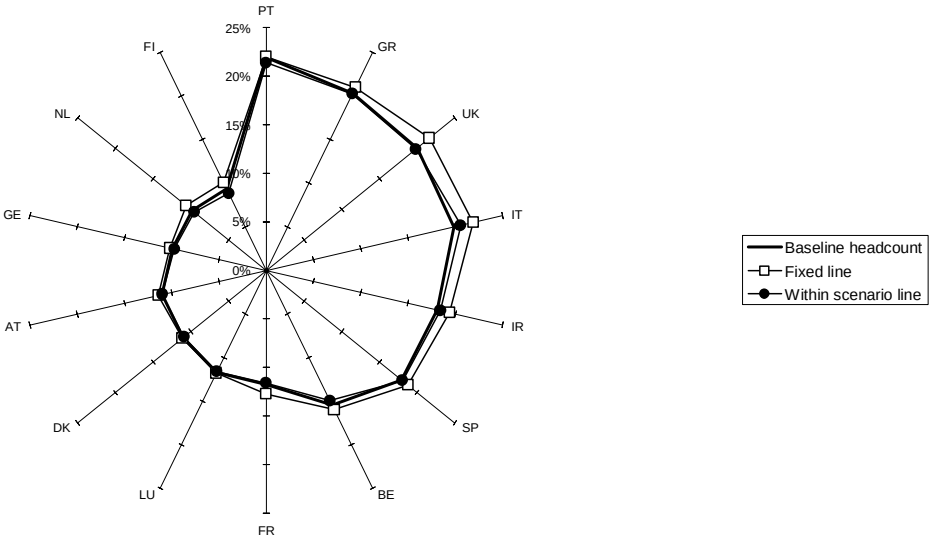


Figure 2a: Percentage point change in poverty headcount (< 60% median, within-scenario) with an increase in unemployment of 5 percentage points

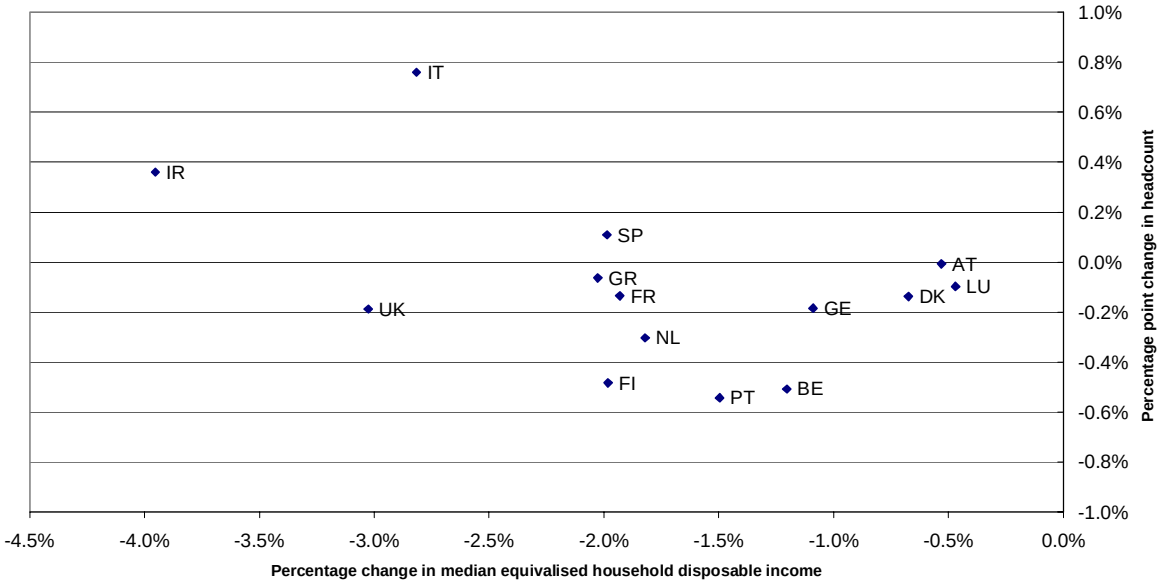


Figure 3: Effect of real earnings growth on the numbers in households with income below 60% of median, using baseline and within-scenario medians

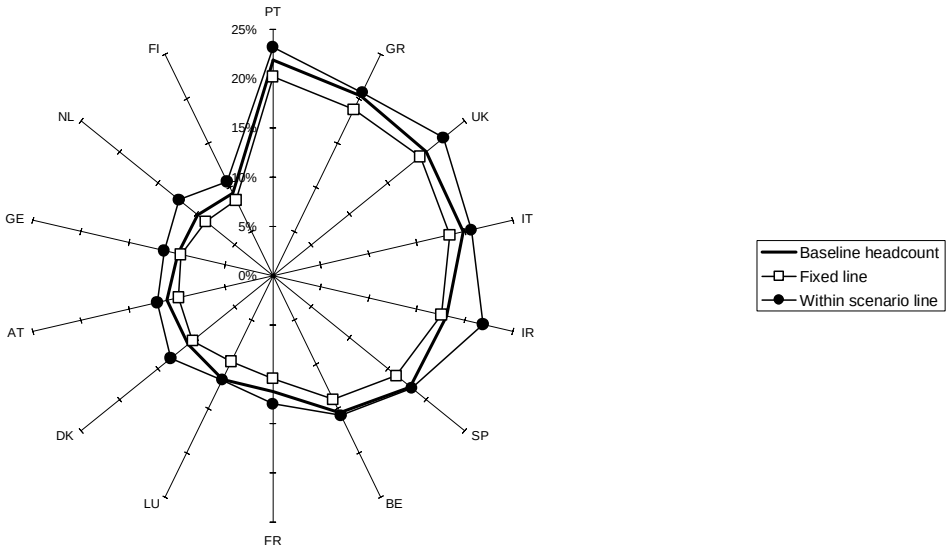


Figure 3a: Percentage point change in poverty headcount (< 60% median, within-scenario) with 10% real earnings growth

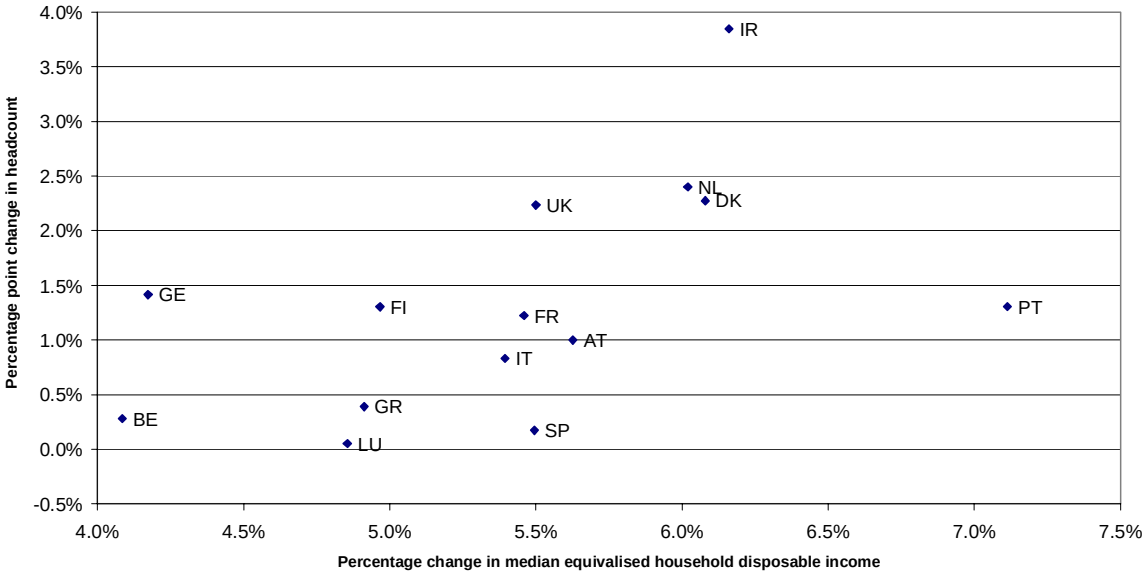


Figure 3b: Sensitivity of change in headcount (<40, 50, 60, 70 median) to a real increase in earnings

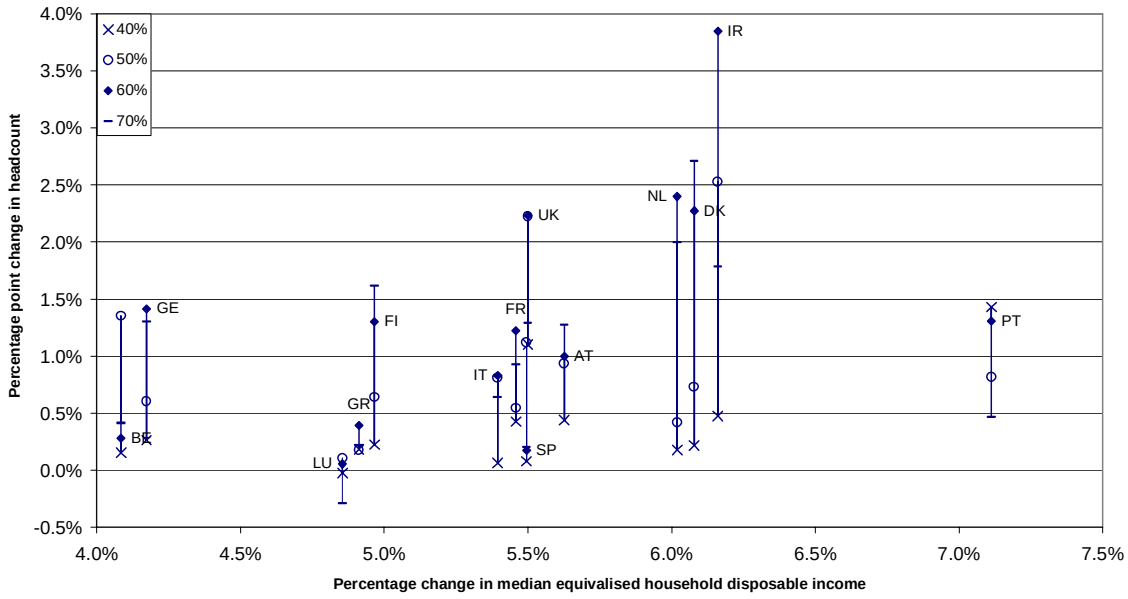


Figure 3c: Percentage change in mean poverty gap (< 60% median, within-scenario) with 10% real earnings growth

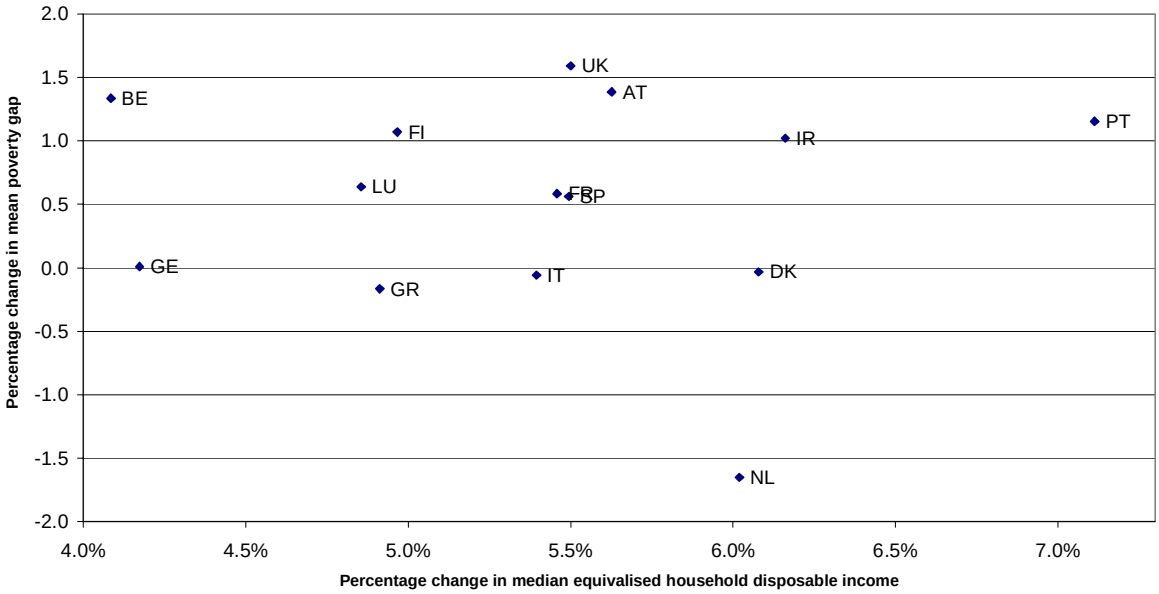


Figure 4: Effect of non-indexation for inflation on the numbers in households with income below 60% of median, using baseline and within-scenario medians

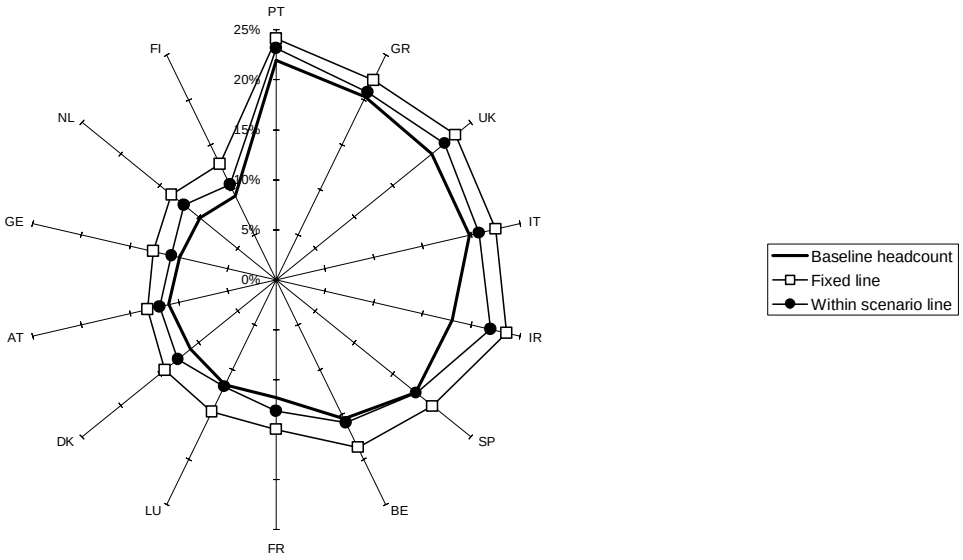


Figure 4a: Percentage point change in poverty headcount (< 60% median, within-scenario) with non-indexation for 10% inflation

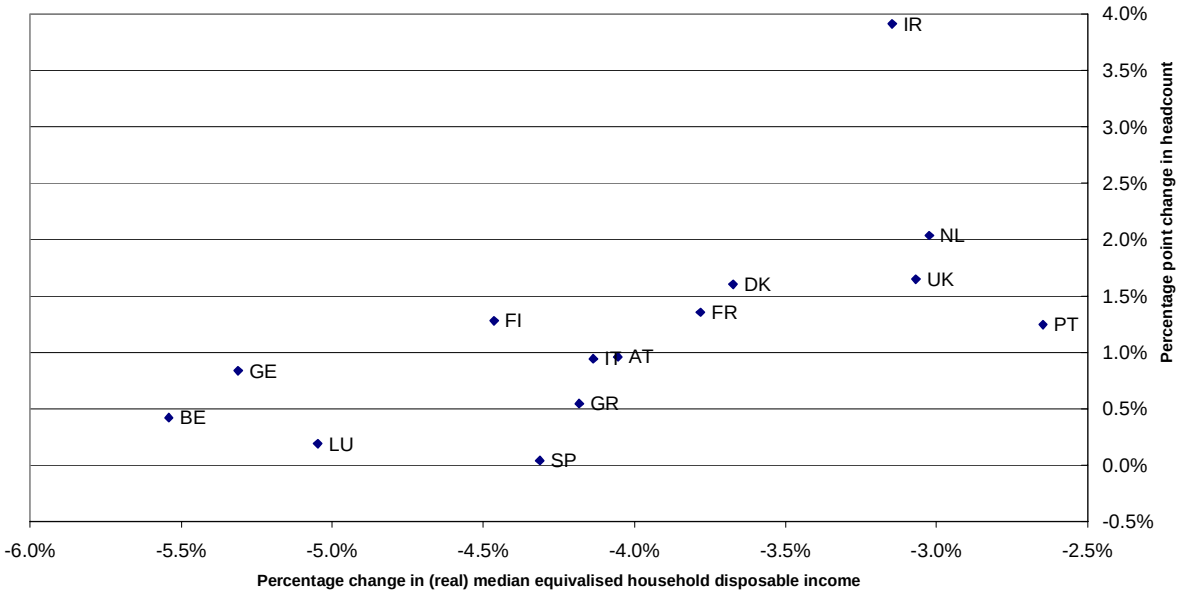


Figure 4b: Sensitivity of change in headcount (<40, 50, 60, 70 median) to 10% inflation

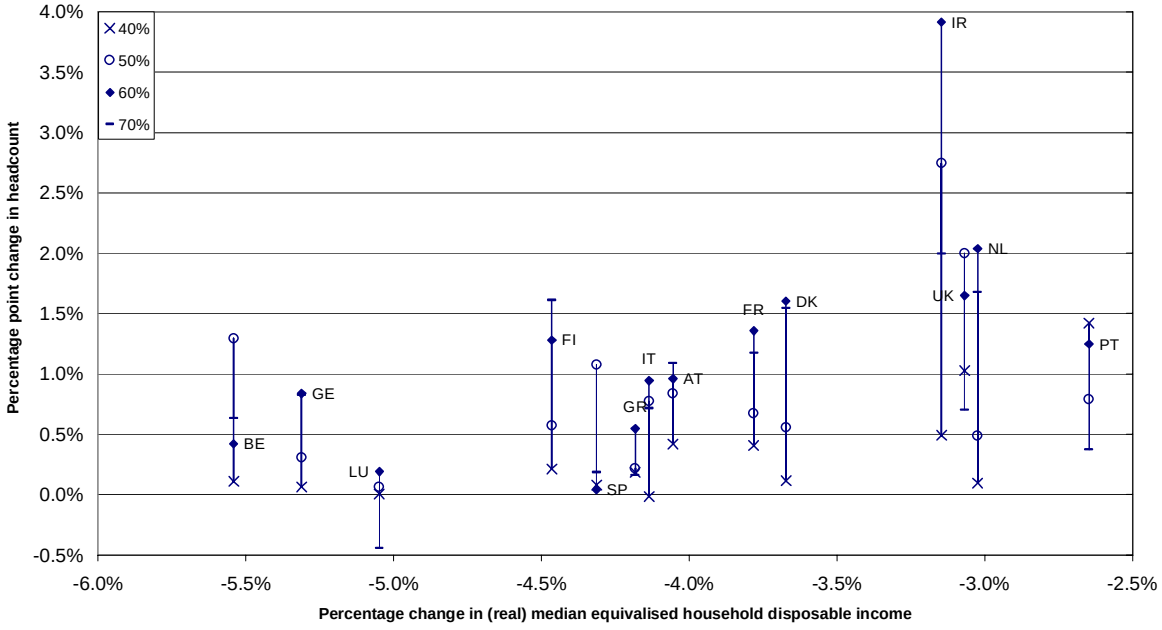


Figure 5: Effect of increasing earnings inequality on the numbers in households with income below 60% of median, using baseline and within-scenario medians

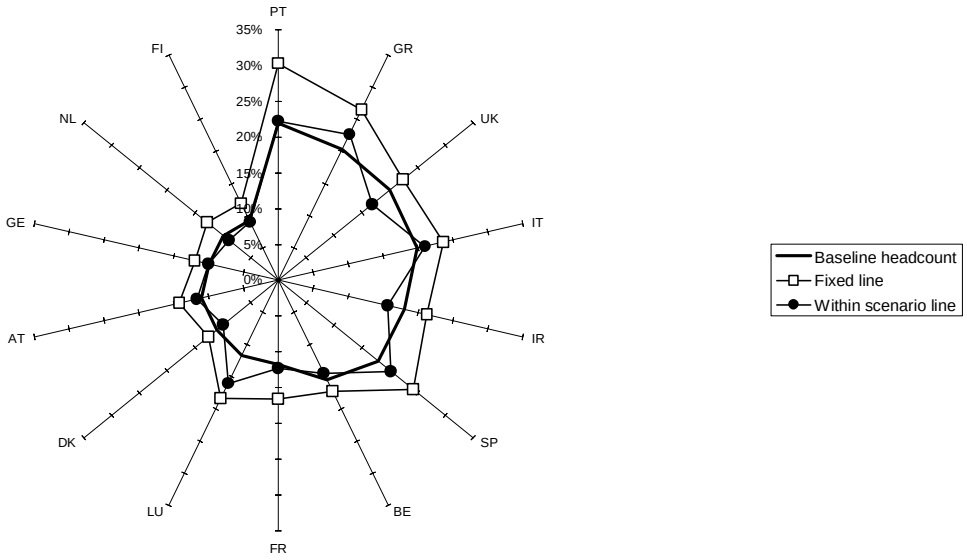


Figure 5a: Percentage point change in poverty headcount (< 60% median, within-scenario) by change in earnings inequality

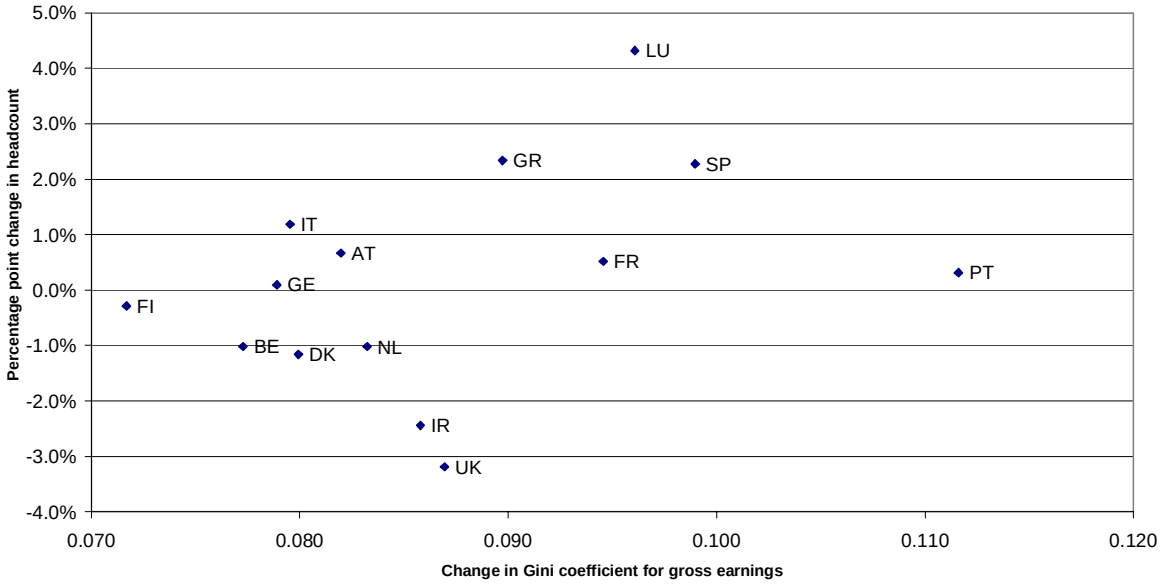


Figure 5b: Percentage point change in poverty headcount (< 60% median, within-scenario) due to an increase in earnings inequality

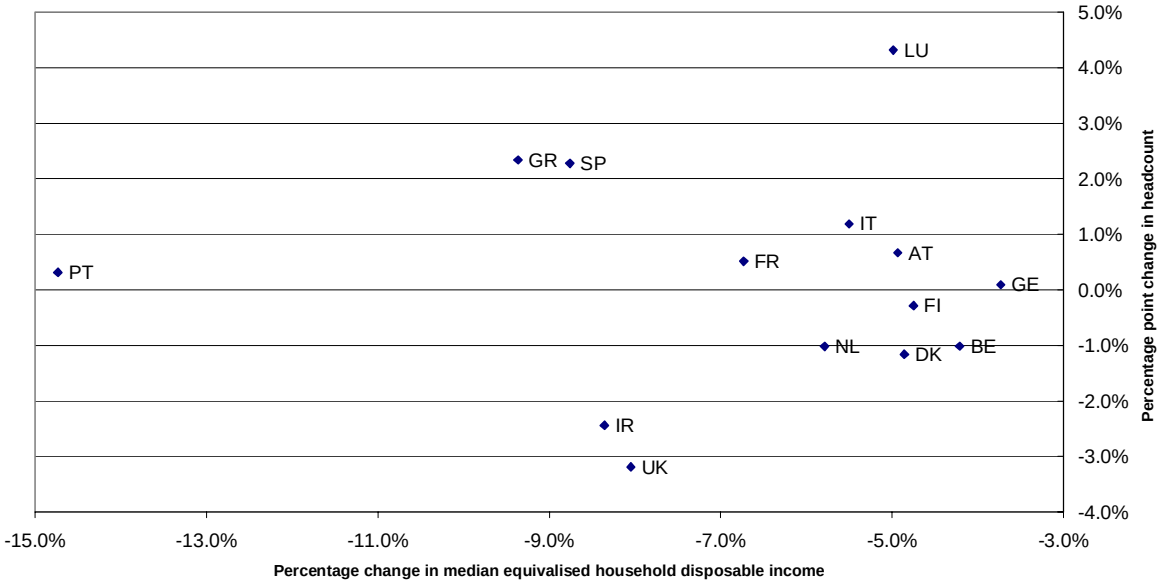


Figure 5c: Sensitivity of change in headcount for people aged 25-49 and 65+ to an increase in earnings inequality

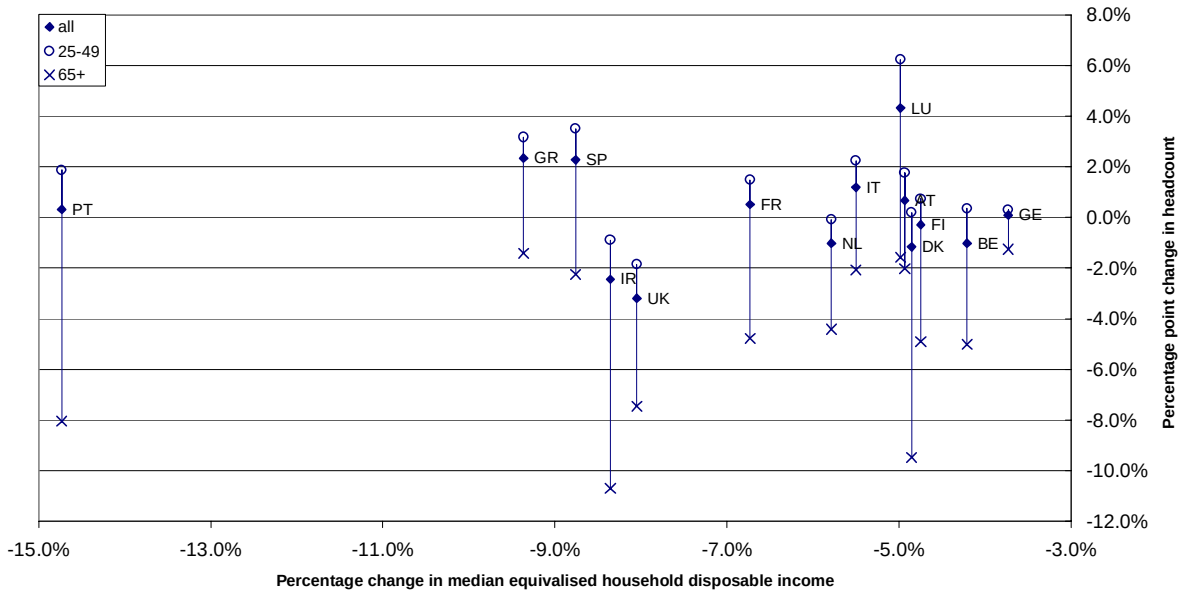
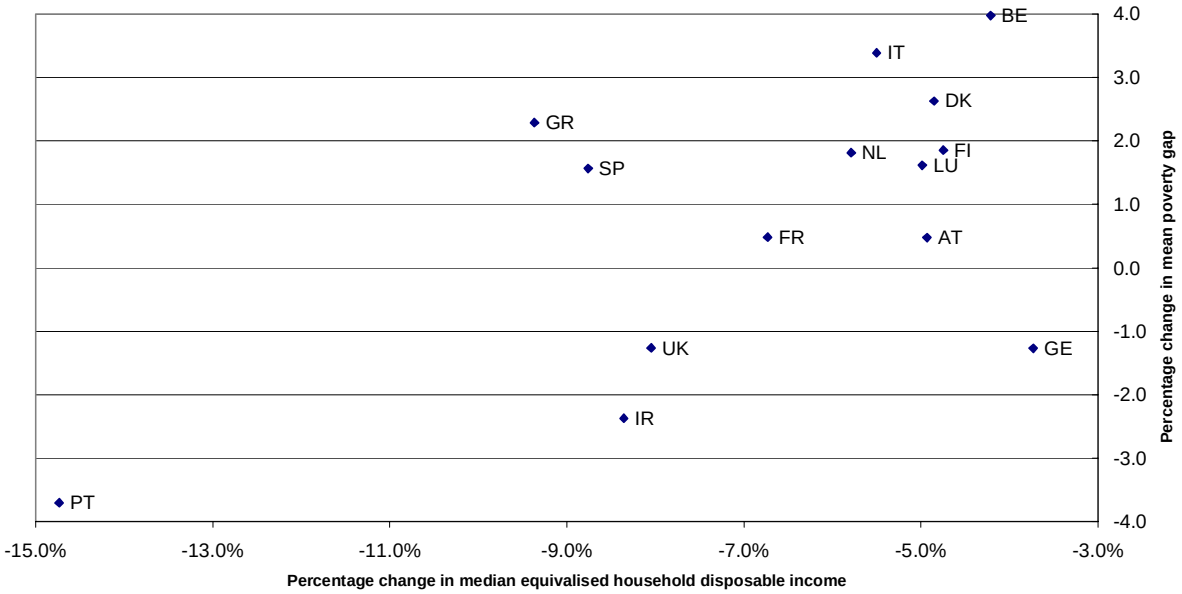


Figure 5d: Percentage change in mean poverty gap (< 60% median, within-scenario) due to an increase in earnings inequality



Appendix 1: EUROMOD base datasets

Country	**Base Dataset for EUROMOD**	**Type**	**Date of collection**	**Reference time period for incomes**	**Size of sample used in EUROMOD**		**Response rate (%)[a]**
					Households	**Persons**	
Austria	Austrian version of European Community Household Panel (W5)	ECHP	1999	annual 1998	2,674	7,386	68, 85
Belgium	Panel Survey on Belgian Households (W6)	National Panel	1997	annual 1996	2,834	7,057	?, 86
Denmark	European Community Household Panel (W2)	ECHP	1995	annual 1994	3,215	7,044	63, 84
Finland	Income distribution survey	Register + survey	1997	annual 1996	10,010	26,902	~100 (79)
France	Budget de Famille	Household Budget Survey	1994/5	annual 1993/4	11,291	29,160	~ 65
Germany	German Socio-Economic Panel (W15)	National Panel	1998	annual 1997	7,494[e]	18,255[e]	~52, 96
Greece	European Community Household Panel (W3)	ECHP	1996	annual 1995	5,214	15,183	90, 89
Ireland	Living in Ireland Survey (W1)	National Panel	1994	month in 1994	4,048	14,585	52
Italy	Survey of Households Income and Wealth	Income survey	1996	annual 1995	8,135	23,924	~ 57
Luxembourg	PSELL-2 (W5)	National Panel	1999	annual 1998	2,539	6,566	52, ?
Netherlands	Sociaal-economisch panelonderzoek (W3)	National Panel	1996	annual 1995	4,568	11,035	30, 95
Portugal	European Community Household Panel (W3)	ECHP	1996	annual 1995	4,806	14,468	89, 90
Spain	European Community Household Panel (W3)	ECHP	1996	annual 1995	6,119	18,991	67, ~86
Sweden	Income distribution survey	Register + survey	1997	annual 1996	19,634	38,756	~100 (77)
UK	Family Expenditure Survey	Household Budget Survey	1995/6	month in 1995/6	6,797	16,586	66

a For panel data two numbers are shown (X, Y). X is the response rate for the first wave and Y is an estimate of the percentage sample retention for each of the following waves. For Sweden and Finland (A (B)) refers to the response rate for the register data (A) and the survey data (B) respectively. (Since missing records in the survey component are imputed, for most purposes the response rate can be considered to be A.)
b Austria: wave 2 of the Austrian version. **c** Spain: information from W2 (1995) is also used. **d** UK: most income variables refer to one month within the year.
e Germany: excluding households with zero weights (183)

Appendix 2: Social indicators under alternative scenarios

Table A2.1: Increasing unemployment, main indicators

	Indicator	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
1	Household disposable income < 60% median %	11.0	15.0	10.9	8.8	11.6	9.7	20.2	18.4	20.6	11.6	9.5	21.4	18.1	19.8
2a	As 1 but for 40% of median %	1.6	2.2	2.1	0.4	1.3	2.2	10.9	1.0	8.1	1.5	2.0	7.2	7.5	2.0
2b	As 1 but for 50% of median %	4.1	6.4	4.3	2.6	4.9	4.8	15.2	5.1	13.8	4.0	3.7	14.1	11.5	9.5
2c	As 1 but for 70% of median %	19.0	22.6	19.7	18.0	21.6	18.4	26.8	28.5	28.6	21.0	20.3	28.8	25.9	29.5
3	As 1 but for 60% of the (baseline) median %[2]	11.4	16.0	11.1	10.1	12.7	10.2	21.0	19.4	21.9	11.8	10.6	22.0	18.8	21.7
4	Median poverty gap as % of 60% median	11.6	13.6	10.2	9.7	13.9	16.0	36.7	13.8	25.1	11.3	11.9	23.8	24.6	16.2
5	Mean poverty gap as % of 60% median	16.8	20.9	19.6	12.7	17.0	20.4	40.6	14.3	31.5	16.1	22.8	25.4	31.2	18.2
6	Quintile share ratio	3.40	3.27	2.41	2.33	4.30	3.38	5.99	5.49	6.60	4.19	3.52	5.68	5.93	5.14
7	Gini coefficient	0.23	0.25	0.24	0.23	0.28	0.25	0.33	0.34	0.35	0.25	0.25	0.36	0.33	0.32
	As 1 but Male	9.4	14.5	10.3	8.7	11.5	8.2	19.2	17.4	19.7	11.4	9.7	19.8	17.9	19.4
	As 1 but Female	12.5	15.4	11.6	9.0	11.8	11.2	21.2	19.4	21.4	11.8	9.4	22.8	18.2	20.2
	As 1 but Age 0-15	12.7	14.8	6.6	4.1	12.9	7.5	16.0	26.6	25.9	16.5	11.6	22.2	21.0	30.4
	As 1 but Age 16-24	10.0	17.8	19.2	16.8	18.5	11.5	21.0	14.9	27.7	16.9	21.0	17.9	22.7	20.2
	As 1 but Age 25-49	8.2	12.2	6.4	7.1	10.0	7.9	14.1	15.4	18.7	10.7	7.8	15.3	15.7	16.4
	As 1 but Age 50-64	9.7	15.5	7.6	7.7	10.5	11.0	23.0	14.5	17.2	7.2	8.0	22.0	17.4	13.6
	As 1 but Age 65+	17.4	19.0	27.3	15.4	9.8	13.4	33.4	15.3	17.3	8.4	4.7	37.6	16.5	19.8
	As 1 but Age 16-24 Male	8.7	17.4	17.5	16.2	19.4	9.5	20.1	12.1	27.8	19.1	22.2	16.1	24.2	19.0
	As 1 but Age 16-24 Female	11.4	18.1	21.1	17.4	17.7	13.6	21.8	17.8	27.6	14.5	19.9	19.7	21.1	21.5
	As 1 but Age 25-49 Male	7.1	11.5	6.2	8.8	9.6	7.8	13.5	14.3	16.7	10.1	7.4	14.6	14.8	15.8
	As 1 but Age 25-49 Female	9.4	12.9	6.5	5.3	10.3	8.0	14.8	16.5	20.7	11.3	8.2	15.9	16.7	16.9
	As 1 but Age 50-64 Male	9.3	17.5	5.4	7.9	10.5	9.2	19.9	14.7	18.0	5.9	7.7	20.7	17.1	14.0
	As 1 but Age 50-64 Female	10.2	13.6	9.9	7.4	10.4	12.7	25.9	14.4	16.5	8.4	8.3	23.2	17.7	13.2
	As 1 but Age 65+ Male	12.0	19.5	28.7	9.2	8.6	8.8	33.3	10.6	12.9	6.5	5.3	36.7	17.3	17.3
	As 1 but Age 65+ Female	20.7	18.6	26.1	19.2	10.6	16.0	33.5	18.8	20.3	9.7	4.2	38.3	15.9	21.5
	As 4 but Male	13.7	13.8	10.8	10.2	14.4	16.7	34.8	14.0	26.4	13.2	11.8	23.2	24.0	16.4
	As 4 but Female	9.3	13.2	10.2	9.3	13.6	15.6	37.8	13.6	24.1	10.5	12.1	24.3	24.9	15.9
	As 5 but Male	18.2	20.8	21.1	13.5	17.3	20.7	40.1	14.7	32.2	16.6	22.5	25.0	31.0	18.7
	As 5 but Female	15.8	21.0	18.3	12.0	16.7	20.1	41.0	14.0	30.9	15.6	23.2	25.7	31.3	17.6

Source: EUROMOD

[1] All indicators are based on household disposable income, equivalised using the modified OECD equivalence scale.

Appendix 2: Social indicators under alternative scenarios

Table A2.2: Real increase in earnings, main indicators

	Indicator	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
1	Household disposable income < 60% median %	12.0	15.8	13.3	10.6	13.0	11.3	20.7	21.9	20.7	11.8	12.2	23.2	18.1	22.3
2a	As 1 but for 40% of median %	2.0	2.7	2.4	0.7	1.8	2.6	11.2	1.6	7.5	1.3	2.1	9.0	7.2	3.1
2b	As 1 but for 50% of median %	5.1	8.0	5.1	3.5	5.5	5.6	15.3	12.0	13.6	4.2	4.2	15.3	12.3	12.1
2c	As 1 but for 70% of median %	20.1	23.0	22.4	20.0	22.5	19.7	27.2	31.8	29.1	20.9	22.6	29.8	26.0	30.7
3	As 1 but for 60% of the (baseline) median %[2]	9.8	14.0	10.5	8.5	10.4	9.6	18.8	17.6	18.4	9.7	8.8	20.2	16.1	19.2
4	Median poverty gap as % of 60% median	12.9	17.1	12.8	11.4	13.7	16.2	37.0	18.5	24.5	13.0	11.1	26.4	25.7	18.3
5	Mean poverty gap as % of 60% median	18.1	22.3	20.2	14.1	17.3	20.8	40.2	18.0	30.3	16.3	20.5	27.1	31.7	20.2
6	Quintile share ratio	3.35	3.23	2.51	2.34	4.11	3.50	5.86	4.99	5.98	4.14	3.36	6.00	5.43	5.22
7	Gini coefficient	0.24	0.26	0.25	0.24	0.28	0.26	0.34	0.34	0.34	0.26	0.25	0.36	0.33	0.32
	As 1 but Male	10.1	14.7	12.3	9.9	12.4	9.1	19.5	20.7	19.4	11.5	11.6	21.3	17.9	21.4
	As 1 but Female	13.8	16.7	14.4	11.3	13.6	13.4	21.8	23.1	21.8	11.9	12.9	25.0	18.4	23.1
	As 1 but Age 0-15	13.6	13.7	7.2	4.9	14.1	9.8	15.4	28.1	25.7	16.2	12.4	25.8	20.3	31.9
	As 1 but Age 16-24	9.9	17.2	20.4	18.7	18.5	13.0	21.1	19.3	25.2	16.0	23.0	18.1	21.8	21.4
	As 1 but Age 25-49	8.5	11.7	6.7	7.6	10.2	8.7	14.0	16.9	18.3	10.2	9.1	15.8	15.5	17.0
	As 1 but Age 50-64	11.1	18.5	9.6	9.0	11.9	11.7	23.7	17.0	17.8	8.2	11.6	22.9	17.8	16.0
	As 1 but Age 65+	20.5	23.5	39.9	22.2	14.9	17.1	36.3	29.6	20.2	10.5	14.5	42.9	18.6	28.6
	As 1 but Age 16-24 Male	8.2	16.8	18.7	17.2	18.6	10.5	20.5	17.3	24.6	18.3	23.9	16.4	23.1	19.7
	As 1 but Age 16-24 Female	11.8	17.6	22.2	20.3	18.5	15.6	21.7	21.4	26.0	13.5	22.1	19.8	20.5	23.3
	As 1 but Age 25-49 Male	7.5	11.1	6.6	9.5	9.6	8.0	13.2	15.4	16.4	9.6	8.4	14.9	14.6	16.2
	As 1 but Age 25-49 Female	9.5	12.3	6.9	5.6	10.7	9.4	14.6	18.2	20.2	10.9	9.8	16.7	16.3	17.9
	As 1 but Age 50-64 Male	10.1	18.9	6.8	8.9	11.9	9.7	20.4	16.0	17.9	6.8	9.9	21.6	16.9	16.3
	As 1 but Age 50-64 Female	12.0	18.2	12.4	9.2	11.8	13.5	26.9	18.0	17.6	9.6	13.2	24.1	18.7	15.8
	As 1 but Age 65+ Male	15.1	22.5	39.8	14.9	12.6	11.6	36.2	26.3	15.3	8.5	13.3	41.4	19.7	25.4
	As 1 but Age 65+ Female	23.8	24.2	39.9	26.6	16.6	20.3	36.3	32.0	23.6	11.8	15.4	44.0	17.8	30.9
	As 4 but Male	15.4	17.5	13.1	11.8	14.5	18.4	36.5	19.7	24.6	13.5	11.6	25.8	24.9	18.4
	As 4 but Female	12.6	16.5	12.8	11.0	13.3	15.3	37.8	17.2	24.3	12.9	10.1	26.8	26.2	18.3
	As 5 but Male	19.1	22.8	21.8	14.9	17.9	21.9	39.6	18.2	30.8	16.7	21.2	27.0	31.6	20.7
	As 5 but Female	17.5	22.0	18.8	13.4	16.9	20.1	40.6	17.9	29.9	15.8	19.8	27.3	31.8	19.8

Source: EUROMOD

[1] All indicators are based on household disposable income, equivalised using the modified OECD equivalence scale.

Appendix 2: Social indicators under alternative scenarios

Table A2.3: Non-indexation for inflation, main indicators

	Indicator	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
1	Household disposable income < 60% median %	12.0	15.9	12.7	10.6	13.1	10.8	20.8	22.0	20.8	11.9	11.9	23.2	18.0	21.7
2a	As 1 but for 40% of median %	2.0	2.6	2.3	0.7	1.8	2.4	11.2	1.6	7.4	1.4	2.0	9.0	7.3	3.0
2b	As 1 but for 50% of median %	5.0	8.0	5.0	3.5	5.6	5.3	15.3	12.2	13.6	4.1	4.3	15.3	12.3	11.8
2c	As 1 but for 70% of median %	19.9	23.2	21.2	20.0	22.7	19.2	27.1	32.0	29.2	20.8	22.3	29.8	26.0	30.1
3	As 1 but for 60% of the (baseline) median %[2]	13.2	18.7	14.4	12.9	15.0	12.7	22.2	23.6	22.5	14.7	13.5	24.1	20.1	23.0
4	Median poverty gap as % of 60% median	13.0	16.7	13.0	11.3	14.0	16.4	36.9	18.8	24.5	12.8	11.9	26.6	25.9	18.1
5	Mean poverty gap as % of 60% median	18.0	22.1	20.5	14.0	17.4	21.0	39.9	18.2	30.1	16.0	20.7	27.2	31.8	20.1
6	Quintile share ratio	3.34	3.25	2.53	2.36	4.17	3.55	5.89	5.05	6.09	4.17	3.44	6.02	5.44	5.23
7	Gini coefficient	0.24	0.26	0.25	0.24	0.28	0.26	0.34	0.34	0.35	0.26	0.25	0.36	0.33	0.32
	As 1 but Male	10.1	14.9	11.7	9.9	12.5	8.8	19.7	20.6	19.5	11.7	11.4	21.3	17.7	20.9
	As 1 but Female	13.8	16.8	13.6	11.3	13.8	12.6	21.9	23.4	21.9	12.1	12.3	24.9	18.2	22.4
	As 1 but Age 0-15	13.6	14.1	6.9	4.9	14.5	8.6	15.7	28.0	25.8	16.2	12.3	25.6	20.2	31.7
	As 1 but Age 16-24	9.6	17.4	19.8	17.8	18.4	12.1	20.6	19.5	25.3	16.2	22.7	18.0	21.7	20.7
	As 1 but Age 25-49	8.5	11.9	6.6	7.3	10.3	8.1	14.0	17.0	18.4	10.2	9.0	15.8	15.3	16.8
	As 1 but Age 50-64	11.2	18.5	9.2	9.4	12.0	11.6	24.1	17.1	17.8	8.7	10.9	22.9	17.7	15.3
	As 1 but Age 65+	20.2	23.4	36.8	22.9	15.1	16.8	36.7	29.8	20.6	10.8	13.0	42.9	18.5	26.7
	As 1 but Age 16-24 Male	7.8	16.8	18.0	16.9	18.5	10.0	19.9	17.5	24.5	18.7	23.9	16.4	22.9	19.3
	As 1 but Age 16-24 Female	11.7	17.9	21.7	18.9	18.3	14.3	21.3	21.6	26.2	13.5	21.5	19.7	20.3	22.3
	As 1 but Age 25-49 Male	7.4	11.2	6.3	9.2	9.6	7.8	13.4	15.5	16.5	9.6	8.5	14.8	14.5	16.1
	As 1 but Age 25-49 Female	9.6	12.5	6.8	5.3	10.9	8.4	14.6	18.4	20.3	10.9	9.6	16.7	16.2	17.6
	As 1 but Age 50-64 Male	10.3	18.8	6.4	9.3	12.0	9.7	20.7	16.1	18.0	7.2	9.3	21.5	16.8	15.2
	As 1 but Age 50-64 Female	12.1	18.2	12.0	9.5	12.0	13.4	27.3	18.2	17.5	10.1	12.4	24.0	18.5	15.3
	As 1 but Age 65+ Male	15.1	22.4	37.1	15.8	12.8	11.2	36.6	26.5	15.7	9.0	12.5	41.3	19.5	24.0
	As 1 but Age 65+ Female	23.3	24.2	36.5	27.3	16.8	19.9	36.7	32.2	23.9	12.0	13.4	44.0	17.7	28.6
	As 4 but Male	15.1	17.4	13.5	11.6	14.6	18.0	36.2	20.3	24.8	13.0	12.0	25.9	25.0	18.0
	As 4 but Female	12.7	16.1	12.8	11.1	13.3	15.2	37.5	17.4	24.3	12.8	11.6	27.0	26.4	18.3
	As 5 but Male	19.0	22.5	22.3	14.7	0.0	21.9	39.3	18.5	30.5	16.4	21.2	27.1	31.7	20.5
	As 5 but Female	17.3	21.8	19.0	13.3	16.9	20.5	40.4	18.0	29.7	15.6	20.2	27.3	31.9	19.8

Source: EUROMOD

[1] All indicators are based on household disposable income, equivalised using the modified OECD equivalence scale.

Appendix 2: Social indicators under alternative scenarios

Table A2.4: Increased earnings inequality, main indicators

	Indicator	AT	BE	DK	FI	FR	GE	GR	IR	IT	LU	NL	PT	SP	UK
1	Household disposable income < 60% median %	11.7	14.5	9.9	9.0	12.3	10.0	22.6	15.6	21.0	16.0	8.8	22.2	20.2	16.8
2a	As 1 but for 40% of median %	1.7	3.7	2.7	0.8	1.3	2.2	12.9	1.2	9.6	2.4	2.1	5.4	8.6	1.8
2b	As 1 but for 50% of median %	4.7	7.2	4.8	3.2	5.6	4.8	17.3	4.5	14.0	6.4	4.1	13.4	12.9	6.9
2c	As 1 but for 70% of median %	20.2	23.1	19.1	18.5	22.3	19.2	29.2	27.2	28.8	24.8	20.2	30.0	26.5	27.1
3	As 1 but for 60% of the (baseline) median %[2]	14.2	17.3	12.5	11.9	16.6	12.0	26.5	21.3	23.6	18.3	12.8	30.3	24.2	22.4
4	Median poverty gap as % of 60% median	11.4	16.4	14.8	11.9	15.1	15.7	39.8	10.6	29.3	13.2	14.7	20.1	27.0	13.6
5	Mean poverty gap as % of 60% median	17.2	25.0	22.8	14.8	17.2	19.5	42.6	14.6	33.8	17.2	23.9	22.3	32.7	17.4
6	Quintile share ratio	3.91	3.64	2.71	2.65	4.98	3.60	8.07	5.73	7.35	5.32	3.95	7.64	7.52	5.57
7	Gini coefficient	0.27	0.28	0.26	0.26	0.31	0.28	0.38	0.37	0.37	0.30	0.27	0.42	0.37	0.34
	As 1 but Male	10.1	14.6	9.4	8.8	12.3	8.8	21.7	15.4	20.3	16.5	8.9	20.7	20.3	16.4
	As 1 but Female	13.2	14.4	10.4	9.3	12.3	11.1	23.5	15.9	21.7	15.6	8.8	23.7	20.2	17.2
	As 1 but Age 0-15	15.0	14.1	5.8	4.9	14.0	7.8	19.5	23.4	27.9	24.1	11.5	26.0	24.9	26.2
	As 1 but Age 16-24	10.3	17.6	22.0	17.4	20.7	13.5	24.4	12.4	26.4	22.8	22.2	19.8	25.4	17.4
	As 1 but Age 25-49	10.0	12.6	6.4	7.7	11.2	8.2	17.2	14.0	20.1	17.0	7.5	17.4	19.1	14.1
	As 1 but Age 50-64	9.2	15.3	6.7	8.0	11.5	11.2	25.4	14.4	17.2	7.4	5.5	22.3	18.6	11.7
	As 1 but Age 65+	15.5	16.2	18.9	13.0	7.0	12.6	32.7	5.8	16.1	7.0	2.4	31.0	14.8	15.2
	As 1 but Age 16-24 Male	8.4	17.2	19.6	16.0	20.8	12.1	23.4	10.3	25.7	24.9	23.6	18.0	26.5	16.4
	As 1 but Age 16-24 Female	12.5	18.0	24.5	19.0	20.6	15.1	25.5	14.6	27.1	20.6	20.8	21.6	24.2	18.5
	As 1 but Age 25-49 Male	8.5	12.3	6.3	9.4	10.9	8.4	16.5	12.6	18.5	16.9	6.8	16.0	18.2	13.5
	As 1 but Age 25-49 Female	11.4	13.0	6.5	6.0	11.4	8.1	17.9	15.4	21.7	17.1	8.2	18.7	20.0	14.7
	As 1 but Age 50-64 Male	8.8	17.3	4.5	8.5	11.7	9.6	23.6	14.7	18.0	6.9	5.2	21.4	19.2	12.2
	As 1 but Age 50-64 Female	9.6	13.4	8.8	7.6	11.2	12.7	27.1	14.1	16.4	8.0	5.8	23.1	18.1	11.2
	As 1 but Age 65+ Male	11.4	17.4	20.2	7.1	6.1	8.6	31.9	7.6	11.9	4.7	3.0	28.1	15.2	12.9
	As 1 but Age 65+ Female	17.9	15.4	18.0	16.7	7.6	14.9	33.4	4.5	18.9	8.6	1.9	33.1	14.5	16.9
	As 4 but Male	12.7	15.3	16.5	13.3	15.4	15.0	39.1	10.6	30.4	13.8	15.9	19.8	25.6	13.7
	As 4 but Female	10.6	16.9	13.5	10.4	14.4	15.9	40.7	10.7	28.2	13.0	13.5	20.4	28.2	13.3
	As 5 but Male	18.8	24.6	24.3	15.9	17.6	19.6	42.5	14.6	34.5	17.3	24.6	22.3	32.5	18.0
	As 5 but Female	16.1	25.4	21.5	13.9	16.9	19.4	42.7	14.7	33.1	17.1	23.2	22.3	32.9	16.8

Source: EUROMOD

[1] All indicators are based on household disposable income, equivalised using the modified OECD equivalence scale