EUROPEAN INEQUALITIES

Social Inclusion
and Income Distribution
in the European Union

Edited by Terry Ward, Orsolya Lelkes, Holly Sutherland and István György Tóth

TÁRKI Social Research Institute Inc.

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European Commission

European Inequalities

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Introduction and Executive Summary

Origins and scope of this book

This book summarizes four years of research on social inclusion and income distribution across the European Union carried out in the framework of the European Observatory on the Social Situation and Demography, which has been established by the Directorate–General for Employment, Social Affairs and Equal Opportunities of the European Commission. It gives an overview of the comparative information that is available for the EU Member States on income distribution, poverty and its causes, access to benefits and social services and material deprivation. It also offers a good insight into the potential of European surveys and notably the EU Statistics on Income and Living Conditions (EU–SILC), the main survey used for the analysis presented in this publication.

Over four years, the consortium — consisting of Applica in Brussels (leader), the European Centre for Social Welfare Policy and Research in Vienna, ISER at the University of Essex in the UK and TÁRKI Social Research Institute in Budapest — analysed various issues relating to income distribution and poverty, including the effect on inequalities of aspects other than income, such as benefits in kind, or social services more generally, or the need to cover essential costs like housing. It also examined non–monetary indicators of exclusion, such as material depriva-tion. Research was also undertaken into the various causes of inequality and low income and into the changes in these over time (such as the level of economic activity and employment, and the rate of growth in both of these). In addition, using a microsimulation model, detailed analysis was carried out on the effect of various countries' tax and social transfer systems on the distribution of income between households, as well as on the support provided to families with children or to those beyond retirement age. The effect of education levels was likewise examined, together with the influence of a person's family background (such as the education level of their parents and the jobs that they did) on their life chances — or, in other words, the extent to which advantages and disadvantages are transferred between generations. Efforts were also made to identify the social groups most severely affected by low income and economic hardship, such as lone parents, the elderly with inadequate pensions, migrants and ethnic minorities. Regular reports were prepared by a network of national experts on the fiscal and other policies introduced in EU Member States, focusing on their implications for income distribution, and paying particular attention to those people at the bottom end of the scale.

At the beginning of the four-year period, no truly comparative, or comparable, income data existed for all EU Member States. The initial annual reports, therefore, were based on data from the European Community Household Panel (ECHP), the last survey of which was carried out in 2001 (relating to income in 2000), and data from non-harmonised national sources, compiled by Eurostat. In 2006, the consortium was able to use the first release of data from the Statistics on Income and Living Conditions (EU-SILC), a comparable dataset of household income across the EU managed by Eurostat, though this covered only 13 Member States. It was only in 2007 that a full set of harmonised and comparable data became available for all EU Member States — or, more accurately, all except Bulgaria and Romania (where the first survey was conducted two years after the other countries).

The availability of the EU-SILC data has transformed the possibilities of carrying out comparative analysis of income distribution in different Member States and of investigating both the incidence of low income and deprivation and the contributory factors. This, however, does not mean that data problems have disappeared. Because of the sample nature of the EU-SILC and the fact that it is conducted in many different countries, all with somewhat different circumstances and attitudes, checking the data for consistency and robustness and taking account of periodic revisions is a continuous process.

Although the EU-SILC also collects longitudinal data — i.e. data for a subset of the same individuals and households over successive years — the first set of such data has only very recently become available. The analysis undertaken over the four years (2005–08) and reported here was not, therefore, able to cover longitudinal aspects. This is an important limitation, since it is as important to know, for example, how long individuals remain with low levels of income — whether for only a temporary period or more or less permanently — as it is to determine whether they have low income in a particular year.

Even leaving aside the lack of longitudinal data, the fact that the EU-SILC has been operating for only a short period means that it is as yet not possible to examine changes in income distribution or in the incidence of low income over time. While there are data available from the ECHP for the 1990s, as well as data from national sources, methodological differences limit the extent to which it is possible to compare these data with those from the EU-SILC in order to identify long-term trends. Accordingly, most of the analysis undertaken relates to comparisons across countries. Though this limits what can be concluded about the effect of national developments (such as economic growth or an increased rate of job creation) on inequality and social exclusion, it nevertheless provides an insight into the influence of, for example, household circumstances, access to employment and the income it generates, and education levels.

Structure of the book

Chapter 1 first examines the **distribution of income and the extent of inequality in incomes in EU Member States**, based on summary indices of income inequality, such as the Gini coefficient. The second part is concerned with the risk of poverty across the EU, as measured by the proportion of the population with dispos-

able income below 60% of the national median. The analysis is then extended to consider alternative indicators of the risk of poverty, or low income, defined at the EU level, or, in other words, after taking account not only of relative income levels in different countries but also of absolute differences between incomes in different parts of the EU — in particular, in the countries that entered the EU in 2004 and in the existing Member States. The income concept used throughout the analysis is 'equivalised' household disposable income, which explicitly allows for the effect of household size and composition on purchasing power and the fact that two people sharing a household, and pooling their income, can enjoy a higher standard of living than two people living separately.

The concern of Chapter 2 is to examine in more detail **determinants of the risk of poverty and inequalities** in the distribution of income. The first part considers variation in the risk of poverty between people of different ages and living in different types of household, as well as the way in which this is affected by employment — or, more precisely, by the lack of earnings from employment — among household members. The second part examines how far these and other factors — in particular, the age, education level and employment status of the household head — provide an explanation for both the risk of poverty and the degree of inequality in income distribution across the EU.

Chapter 3 looks at **the social situation of the migrant population in the EU Member States**. It first considers alternative ways of obtaining an indication of the size of the migrant population in EU Member States, given the data available, none of which are entirely satisfactory for identifying the people in question. Secondly, it examines the characteristics and circumstances of those identified as coming from outside the EU in terms of their income, their employment status (i.e. whether they are employed, unemployed or not in the work force at all), the jobs that they do, their household circumstances and so on, and compares these against the non-migrant majority population. The aim is to assess whether, and to what extent, migrants are disadvantaged as a group and the proximate reasons for this — whether, for example, it is to do with having a lower level of education or more children, or whether it seems to be for less objective reasons.

Chapter 4 addresses **regional variations on poverty risks and income distribution** in the EU. This is an interesting feature that has, up to now, received comparatively little attention: the extent to which income inequality and the relative number of people with low income varies between regions within countries — whether the incidence of low income is greater in some regions than others. The availability of data from the EU-SILC on incomes at a regional level makes it possible to do this and opens up the opportunity to identify potential regional influences on living standards and the risk of poverty across the EU.

Chapter 5 is concerned with the issue of **material deprivation**, and extends the analysis beyond incomes to other indicators of disadvantage, such as the affordability of certain consumer items or the ability of households to pay their bills on time or to make ends meet. Such an analysis provides an insight into how far differences in income, defined on an annual basis, represent a reliable measure of differences in purchasing power between households, and therefore of living standards. The results reveal much about the deficiencies of annual income as a guide to inequalities and to the risk of poverty and exclusion, and highlight the need for other factors to be taken into account.

Chapter 6 examines **the effect of economic growth on inequalities** during the first half of this decade. Countries with the highest rates of growth over this period were the Baltic states, with Ireland, Slovakia, Hungary and Greece also recording growth rates above the average. The main source of growth in the transition countries was increased productivity, with limited expansion of the numbers in employment. Accordingly, the effect of growth on inequality was rather different in those countries than it was in countries such as Ireland, Spain, Luxembourg and Cyprus, where the numbers in employment increased considerably, thus potentially diffusing the income gains from growth more widely. As is highlighted in the analysis, however, the effect on income distribution depends on the incidence of gains across households and on the extent to which those who took up employment came from households where someone was already in work, as opposed to those where no one was.

Chapter 7 examines **the effects of taxes and benefits on income distribution**. First, it presents some summary measures of the extent of redistribution and of how taxes and benefits themselves are distributed across households with differing levels of income. Then it focuses on the two age groups most at risk of poverty: namely, elderly people who have retired and therefore no longer have access to earnings from employment (except to the extent that they share a household with those in work, such as their sons or daughters in particular) and children, who represent a drain on household income without contributing to it, except through such social benefits or tax concessions as they attract. In both cases, the effect of the tax–benefit system in different countries on preventing the income they have available falling below the poverty line is assessed, using a microsimulation model to compare their incomes with and without social benefits and tax concessions.

Chapter 8 considers **the effect of childcare on household income** in selected countries, in order to illustrate the importance of taking account of the availability of free or subsidised childcare facilities when assessing the distribution of income and the risk of poverty, since the ability of parents with children — and mothers in particular — to work is a major factor underlying relative levels of household income.

Finally, Chapter 9 **reviews the policy changes** that have occurred in the 27 EU Member States and in the two candidate countries, Croatia and Turkey, over the past five years and that have had an effect on the distribution of income and on the relative number of people with income below the poverty threshold. While the focus is on changes in taxes (including social contributions) and benefits (including pensions), it also considers other measures that are likely to have had similar effects, whether or not these have been introduced for redistributive reasons — such as changes in the minimum wage.

Main findings

The estimation and analysis of measures of income distribution across the EU show that Latvia and Portugal stand out as having the highest levels of income inequality of all Member States, with a Gini index of 38–39%. Countries in the EU with above-average levels of inequality (with a Gini coefficient over 30%) comprise all three of

the Baltic states, two transition countries in Central and Eastern Europe (Poland and Hungary), all the Southern European countries except Cyprus (i.e. Greece, Spain, Italy and Portugal), and Ireland and the UK. At the other extreme, the countries with the lowest levels of inequality are Sweden, Denmark and Slovenia (with Gini indices of below 25%). In between these two groups come the remaining EU Member States (Gini indices above 25% but below 30%), with the Czech Republic, the Netherlands and Austria at the lower end in this regard, and Cyprus, Luxembourg and Slovakia at the upper end.

The relative number at risk of poverty, defined as those with income below 60% of the national median — which is the currently accepted indicator in the EU — varies between 10% and 23% of population across the EU, with the proportion being smallest in the Czech Republic and the Netherlands and highest in Latvia. The proportion is also relatively small in all the Nordic countries, together with Germany, Austria, and a number of the ex-socialist Member States — in particular, Slovakia and Slovenia, as well as the Czech Republic — while it is relatively high in Greece, Spain, Italy and Portugal, as well as in the three Baltic states. While, therefore, there is a close association between inequality and the risk of poverty, it is not perfect.

The poverty thresholds, however, as highlighted in the book, differ greatly across countries in terms of purchasing power, which makes for some difficulty in interpreting the above comparisons without taking this difference explicitly into account. The average poverty threshold in the new Member States is, therefore, over 60% lower than the average for the EU15 when measured in purchasing power terms. Accordingly, while the relative number of people with low incomes defined with respect to the national median is the most widely used indicator of the risk of poverty, it is not particularly meaningful as an indicator of the prevalence of low incomes across the EU. For this, there is a need to take account of purchasing power differences in median income levels and, in consequence, to calculate incomes in different Member States in relation to the EU rather than the national median.

In 2005, it is estimated that some 22% of the EU population (excluding Malta, Bulgaria and Romania), or some 100 million people, had income below 60% of the EU median. In Latvia, Lithuania, Poland and Slovakia, 74–80% of the population in each case had an income below this level, while the proportion was also above 50% in the other transition countries, apart from Slovenia and the Czech Republic. By contrast, in Denmark, the Netherlands and Austria, the figure was 5% or less, and in Luxembourg only 1%.

People considered at risk of poverty are those who may not be able to participate in the normal activities of society, or to enjoy a standard of living that the great majority take for granted, because of a lack of income. The income needed for this tends to be related to the prosperity or affluence of the country concerned, which is the reason why a relative definition of poverty is mainly used in the EU to measure the number of people at risk. The prime responsibility for tackling problems of low income and social exclusion falls on the Member States. Never-theless, there is also an EU-level interest in these issues, in that one of the main objectives of the EU is to raise the standard of living and quality of life of all its citizens, and to promote economic and social cohesion throughout the Union. This underlines the importance of an indicator of poverty that takes account of income differences between Member States as well as within them.

The incomes of those below the poverty threshold in the EU25, defined in relation to the national median, are, on average, 22% lower than this threshold. This figure, the poverty gap, however, varied in 2005 from 11% (in Finland) to 29% (in Lithuania). These values are (to a moderate extent) positively related to the at-risk-of-poverty rate (the correlation coefficient being 0.56), implying that those below the poverty line tend to have lower relative incomes in countries where the proportion of people falling below the line is larger. In other words, not only are there more people with low income in these countries but the income they have tends to be lower than elsewhere.

Labour market status — whether someone is in employment or not — is a major factor underlying the risk of poverty. Jobless households show the highest risks of poverty in the majority of EU Member States. The proportion of households concerned can be over 50%. In most countries, the risk of poverty falls signifi-cantly with entry into the labour market and access to earnings from employment. Age and household circumstances are also important. There are two main risks related to household composition: having a large number of children and living in a lone-parent household, though in a number of countries living alone without a dependent child can also give rise to a high risk if the person concerned is not in work. Both children and the elderly are more likely to have low incomes than are those people of working age. The risk of poverty among children (defined as those under 18) is above the national average in 16 of the 24 Member States for which data are available. The risk of poverty among the elderly is below the national average in many countries, especially in the new Member States, but it is above the national average in most EU15 countries, and the proportion at risk exceeds 50% in Cyprus.

Analysis of the contribution of different factors to explaining inequality indicates that these vary across countries. The UK, Ireland and the three Baltic states seem to have a similar structure of inequality, both education and employment explaining around 15% of the overall level, and age explaining around 5%. The Nordic countries show different structures, with age, education and employment each having broadly similar effects on income inequality, while in the Continental, Central European and Mediterranean countries, education seems to be the most important factor.

Analysis of the situation of migrants in the EU indicates that those who come from outside the Union tend to have a lower level of income and a higher risk of poverty in all age groups than do those people born locally — i.e. the indigenous population. This is the case throughout the EU, or at least in the countries for which the data available are reasonably reliable (mostly the EU15 countries). For those of working age, this does not seem to be a result of them having lower levels of education, since there are no significant differences in this respect between migrants and the local population, especially as regards the relative number with tertiary, or university-level, education. On the other hand, there are marked differ-ences in the extent to which they are in employment and in the kinds of job they do—and, accordingly, their potential earnings. This is most evident in the case of those with tertiary-level qualifications, and most especially for women, who, in most EU15 countries, have a much lower employment rate than their locally born counterparts and tend to be employed disproportionately in low-level jobs.

The relatively unfavourable situation of migrants on the job market — reflected in the disproportionate numbers living in workless households, as well as in couple households where only one person is in work — seems to be a major cause of their low income levels, which feed through into the equally disadvantaged situation of children in migrant families. While children in themselves contribute to the higher risk of poverty faced by migrant families (in the sense that there are proportionately more families with three or more children than among the indigenous population), they do not seem to be the main cause of the high risk. Migrants without children, therefore, also face a higher risk of poverty than do people born locally in a similar situation. The large numbers of children in low-income families among the migrant population, however, is a particular cause for concern, given the potentially damaging effect on their future life chances.

The factors underlying the higher risk of poverty faced by those aged 65 and over with a migrant background are less easy to detect. It may perhaps be because they had lower earnings when they were in work (before they retired) or because they have more limited entitlement to pension, due to less-complete contribution records than people of the same age born in the country in question. At the same time, the difference in their risk of poverty, as compared to the local population, is less than in the case of migrants of working age, which might suggest that they have access to higher levels of income support (such as from minimum pensions) than do their younger counterparts.

The estimates of disposable household income at regional level that can be obtained from the EU–SILC data, although far from complete, reveal interesting differences in the risk of poverty between regions within countries. These differences are not always in line with differences in average income levels — and still less with differences in GDP per head, which is commonly used as a measure of regional incomes, but which can be affected significantly by income transfers and, in some cases more importantly, by both inward and outward commuting.

The data show significant differences in the distribution of income between regions in particular countries, especially in Belgium, but also in Italy. These differences in the degree of income inequality are not closely related to the risk of poverty. In a number of countries, the region with the widest dispersion of income has the smallest proportion of people with income below the poverty line — as in the Czech Republic, France, Poland and Finland; in others, the region with the widest dispersion also has the largest share of the population at risk of poverty (as in Belgium, Spain and Italy).

The analysis of material deprivation and financial hardship across the EU suggests that these are reflected only to a limited extent in the income-based measure of the risk of poverty, which is conventionally used to indicate deprivation. This is particularly so in many of the new Member States, where a significant proportion of the population live in households that report not being able to afford particular consumer durables or a decent meal at least once every other day, or have difficulty in meeting unexpected costs; most of the people concerned have income above the poverty threshold.

This suggests a need to supplement the income-based measure used to identify and monitor the risk of poverty and social exclusion across the EU with indicators

of material deprivation and financial difficulty. The fact that there is a clear (inverse) link between the proportion of people who report being materially deprived and median levels of income per head across countries gives an added reason for this, since such a move would help overcome the limitations of defining the income measure in relative rather than absolute terms when making comparisons between countries.

While income inequality and poverty are relatively strongly, and inversely, related to GDP per head across EU countries, it is difficult to find a consistent relationship between changes in GDP and changes in inequality. The evidence shows cases of increasing income inequality in countries with both relatively high and relatively low growth rates. At the same time, there seems to be a clear link between employment growth and reductions in inequality. In countries where economic growth gives rise to an increase in the employment rate (i.e. in the proportion of people in work, therefore), inequality of earnings among those of working age tends to decline. Increasing employment tends also to reduce the proportion of those living in jobless households, thus contributing to a more equitable distribution of employment and labour income between households.

Economic growth can also affect the degree of inequality if employment or productivity increases to a different extent in different sectors of the economy, or if labour moves from low-productivity sectors to high-productivity ones. Analysis of the various processes involved indicates that shifts of employment between sectors contributed to the changes in the extent of income dispersion observed, as did increasing returns to education in some countries, such as Luxembourg, the UK and Denmark; while in others — Spain and Greece, in particular — a reduction in the earnings gap between those with different levels of education contributed to a narrowing of inequalities.

The Lisbon strategy focuses policy in the EU on economic growth and job creation, on the grounds, in part, that such a strategy will also tend to reduce the risk of poverty and social exclusion. The effect on income distribution, however, is uncertain. While, on the one hand, employment growth is likely to reduce inequality by increasing the number of individuals and households with earnings from work, it can, on the other hand, lead to a disproportionate increase in demand for the most highly educated (so pushing up their earnings relative to others) and/or to an increase in part-time working among women, which has an ambiguous effect on income distribution across households.

An analysis of the effect of taxes and benefits on income distribution in EU countries using the EUROMOD microsimulation model shows that taxes, as well as benefits, contribute to a major extent in the EU to reducing income inequality, though the scale of the effect varies markedly from country to country. While, therefore, those on low incomes tend to pay much less in tax and to gain more from social benefits than those with higher income levels, it is still the case in some countries that the tax burden for those at the bottom end of the income distribution is relatively high, while benefits account for a significant share of the income of those towards the top of the distribution, reflecting in part the earnings-related nature of public pensions in the countries concerned.

Nevertheless, in most countries, a large proportion of the elderly population tend to have incomes towards the lower end of the distribution.

Support for children also varies markedly across the EU, with the benefits received by families with children being particularly low in the Southern Member States and the Netherlands, and relatively high in Hungary, Luxembourg and France, if account is taken not only of child or family benefits, but also of benefits that are paid to households with children, whether or not they are specifically labelled as being for children or families.

In some countries children are also supported through tax concessions, which generally benefit the higher-income households most. In France, Luxembourg and Slovenia, therefore, tax concessions compensate for a fall in the value of benefits as income rises. In the Southern countries, moreover, the absence of generous child benefits is combined with child tax concessions that benefit children in higher-income households in particular, thus giving rise to a regressive effect on the income distribution of families with children. This contrasts with the situation in most other countries, Denmark and the UK especially, where low-income families receive most in the way of support.

Free or subsidised childcare also has an important effect on income distribution and on reducing the risk of poverty in a number of countries across the EU. Analysis of the situation in selected EU Member States indicates that in four of the five countries examined — Belgium, Greece, Finland and Sweden — a larger share of the public expenditure involved in providing subsidised childcare goes more to high- and middle-income families than to low-income ones. Nevertheless, in proportionate terms, the contribution of childcare subsidies to the disposable income of poorer families tends to be larger than for those families with higher income levels.

The inclusion of childcare benefits in the definition of income — on the grounds that it is an essential cost for households to meet if both parents are to work and earn income — tends to reduce the degree of inequality. It also reduces the risk of poverty among children in all the countries examined, though less so in Finland and Greece than in Belgium, Germany and Sweden.

A review of the policy measures introduced by national governments across the EU over the past five years demonstrates that the measures taken vary between Member States — in part reflecting differences in the scale and nature of the social problems they face, but also differences in the underlying political and economic circumstances, in the existing nature of the tax-benefit system, and in social attitudes towards income redistribution and poverty relief.

Nevertheless, it is possible to identify a few widespread tendencies across countries: in terms of tax policy, with very few exceptions, rates have been cut and/or allowances increased over recent years, and there have been attempts to simplify the tax system. Most new Member States now operate a flat-rate tax regime. On the whole, tax changes seem to have benefited higher earners disproportionately, and to have made the distribution of income more unequal.

There has also been a widespread tendency across the EU to seek to improve incentives to work. A policy of making work pay by ensuring that income from employment is always significantly higher than income from social benefits has been pursued using a variety of means, such as refundable earned income tax credits and other in-work benefits, reductions in social contributions, wage subsidies, allowing social assistance recipients who take up a new job to continue,

for a limited period, to claim benefit while earning a wage, and increasing the statutory minimum wage.

Policy changes to make work pay and to restrain public expenditure have, in many cases, been accompanied by compensating measures to protect those on low incomes. These have usually consisted of real increases in guaranteed minimum incomes and/or in rates of social assistance, with the aim, in particular, of improving the incomes of households with children and of supporting mothers so that they can cope better with the competing demands of work and family responsibilities.

Finally, a major aim of policy over recent years has been to improve the long-term financial viability of pension systems in the context of demographic ageing, while at the same time continuing to provide basic income security for those already in retirement. Nonetheless, in a few countries where retirement benefits were particularly low to start with, increases have been implemented across the board, usually through the introduction of wage indexation or other changes in pension formulae.

Chapter 1 | Income Distribution and the Risk of Poverty

Orsolya Lelkes, Márton Medgyesi,
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This chapter is divided into three parts. The first part examines the distribution of income and the extent of inequality in income in EU Member States; the second part is concerned with the risk of poverty across the EU, as measured by the proportion of the population with disposable income below 60% of the national median; the third part extends the analysis by considering alternative indicators of the risk of poverty defined at an EU level and the relative number of people in the different Member States who are at risk according to the various indicators.

Income distribution in EU Member States[1]

The first part of this chapter presents comparative estimates of income inequality, based on data from the EU–SILC (Community Statistics on Income and Living Conditions). It draws attention both to the differences between countries of the EU in terms of income inequality and to the fact that the ranking of countries in terms of inequality is sensitive to the choice of measurement. More precisely, it investigates the effect on the inequality ranking of countries of sampling variability and the choice of equivalence scales and the inequality index.

The data and methods of analysis

The analysis is based on data from the 2006 EU–SILC, which covers all Member States (except Malta, for which the 'microdata' necessary for the analysis are not available, and Bulgaria and Romania, which initiated surveys only in 2007). The data relate to the population living in private households in the countries in question at the time of the survey. Those living in collective households and institutions are, therefore, generally excluded. The income concept used in the analysis is annual net household disposable income, including any social transfers received and excluding direct taxes and social contributions. The reference period is the year 2005 (except for Ireland, where it is the 12–month period before the date of the interview). The incomes of all household members and other household incomes are aggregated together, and total household disposable income is adjusted for differences in household size and composition by use of an equivalence scale.

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[1] Based on the work of Márton Medgyesi and István György Tóth.

Equivalence scales are used in inequality research to adjust household incomes for differences in household size, taking account of economies of scale in consumption and differences in household composition. Unfortunately, equivalence scales cannot easily be estimated by observing household consumption behaviour, and research studies on inequality or poverty invariably adopt some widely used equivalence scale, such as the scales advocated by the OECD. In this analysis, we use the so-called modified OECD, or OECD II, scale, which assigns a value of 1 to the first adult in the household, 0.5 to additional members over the age of 14, and 0.3 to children under 14. The incomes of all the household members and any other household income are summed, and total household disposable income is adjusted for differences in household size and composition by use of the equivalence scale. The equivalised income thus calculated is then assigned to each household member. The inequality indices reported here are estimated on the basis of these figures.

Non-positive income values — which result from the way that the income of the self-employed is defined, i.e. essentially in terms of net trading profits — have been excluded from the analysis. In order to tackle the problem of 'outliers' (i.e. extreme levels of income reported), a bottom- and top-coding procedure (or 'winsorising') has been carried out. (Specifically, income values at the bottom of the ranking of less than the 0.1 percentile were replaced by the value of the 0.1 percentile, while at the top of the ranking, values greater than the 99.95 percentile were replaced by the value of that percentile.)

Researchers have proposed several indices for inequality measurement.[2] Here countries are ranked according to the Gini index.[3] The Gini index can take values from 0 to 1. The Gini index equals 0 when the distribution of incomes is equal in the society, and thus everyone has the same income. The value of the index rises as inequality gets higher, and equals the maximal value of 1 when all income is in the hands of one single person.

Inequality in the EU

The ranking of countries is presented, first, according to the Gini coefficient of inequality, together with the changes in inequality over the first half of the present decade. This is followed by a sensitivity analysis of the estimates of inequality thus obtained, by comparing the ranking of countries according to the Gini index to rankings obtained with other inequality indices, as well as by changing the equivalence scale.

Gini rankings and the change in inequality

Figure 1.1 shows the ranking of countries according to the Gini index, as well as the 95% confidence intervals around the estimates. Latvia and Portugal stand out as the countries with the highest inequality, with a Gini index of 38–39%. Lithuania is the third country in the ranking with a 35% Gini index. Another group of eight countries have Gini indices higher than 30%: Greece, Poland, Estonia and Hungary

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[2] For reviews of inequality measurement, see, for example, Cowell (2000).
[3] For a detailed description of the Gini index, see the Glossary.

have Gini indices of 33–34%, while the United Kingdom, Ireland, Italy and Spain are characterised by Gini coefficients of around 31–32%. Thus, among high-inequality countries we find the Baltic states, transition countries from Central and Eastern Europe (Poland and Hungary), the Southern European countries (with the exception of Cyprus) and the Anglo-Saxon countries. It must be noted, however, that, in the case of Hungary, a considerable change can be observed with respect to EU-SILC 2005. In 2004, the Gini index was 6 percentage points lower, and Hungary ranked among the middle-inequality countries, together with Belgium, Germany and France. A change of this magnitude in one year raises questions about data quality.[4]

Figure 1.1: Gini indices and bootstrapped 95% confidence intervals
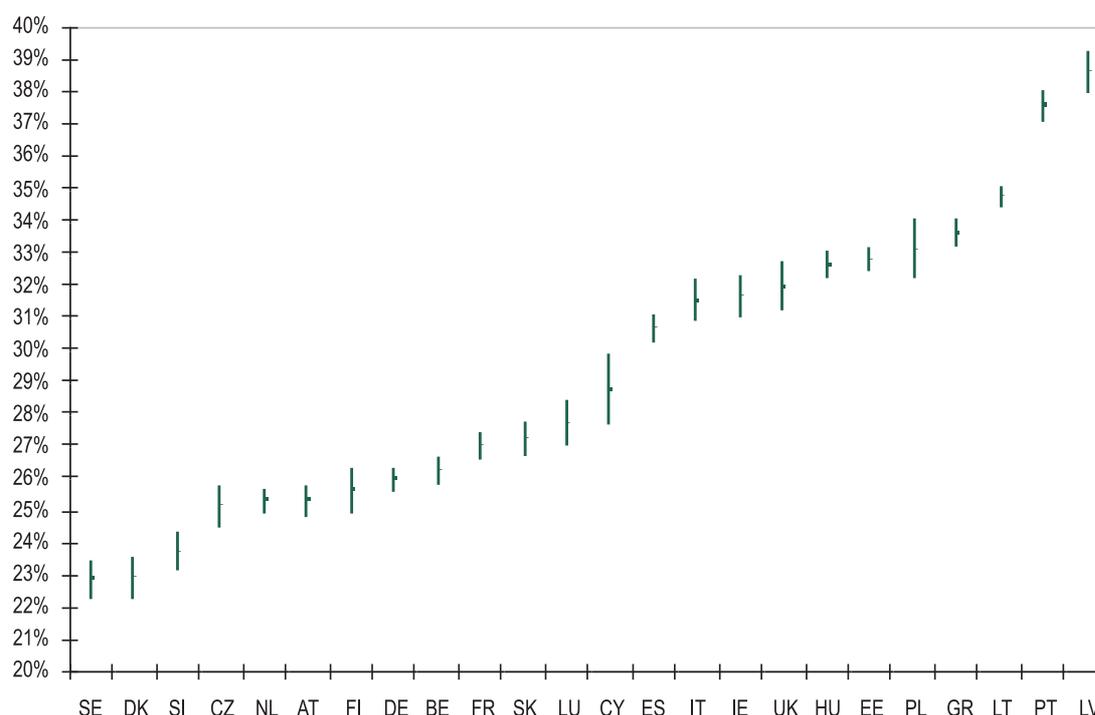
Source: Based on data from the Eurostat New Cronos database. http://epp.eurostat.ec.europa.eu/
Note: Bootstrap confidence intervals were obtained by 1,000 replications.

At the other extreme, countries with the lowest inequality by this measure are Sweden, Denmark and Slovenia, with Gini indices of below 25%. Between the low- and the high-inequality countries there are a number of countries with Gini indices of above 25% but below 30%. It is difficult to determine the precise ranking of countries within this group, because confidence intervals around our Gini estimates overlap considerably. The Czech Republic, Netherlands and Austria are at the lower end of this group, while Cyprus, Luxembourg and Slovakia are at the upper end.

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[4] Hungarian national data sources estimate lower inequality than the EU-SILC. According to the TÁRKI Household Monitor survey, the Gini index was 29% in 2005, which would rank the country again among countries with middle-level inequality (Tóth 2008).

Box 1.1: Standard error of estimates

In order to draw policy conclusions from inequality and poverty data, it is essential to take account of the fact that they are derived from surveys of a sample of households and inevitably, therefore, involve some margin of error. To make meaningful comparisons between countries or over time, it is necessary to allow for the margin of error that arises from sampling, which can be done by calculating the standard error of the estimates and taking confidence intervals around this. Such standard errors might be based on asymptotic theory or on simulation methods, such as the bootstrap. Boot–strapping involves empirically estimating the entire sampling distribution. In practice, a certain number of samples with replacement of size equal to the original sample are drawn from the sample. According to the theory of bootstrapping, this variability allows us to estimate the true sampling distribution of a statistic (Mooney and Duvall 1993).

In the present analysis, bootstrap standard errors of the Gini coefficient are examined. The confidence interval estimates are based on 1,000 replications and those reported are also corrected for estimation bias.[5] An examination of the confidence intervals for the Gini coefficient shows that these overlap significantly for many countries, partly because differences in the ratio are relatively small but also because, for some countries, the standard errors for the ratio are large. This is especially true of Poland and Cyprus. Overlapping confidence intervals make it difficult to establish a precise country ranking. The most that is possible is to define groups of countries, which differ from each other, but within which levels are similar.

Figure 1.2: Inequality and national income in 2005

$$y = -0.0004x + 0.337$$
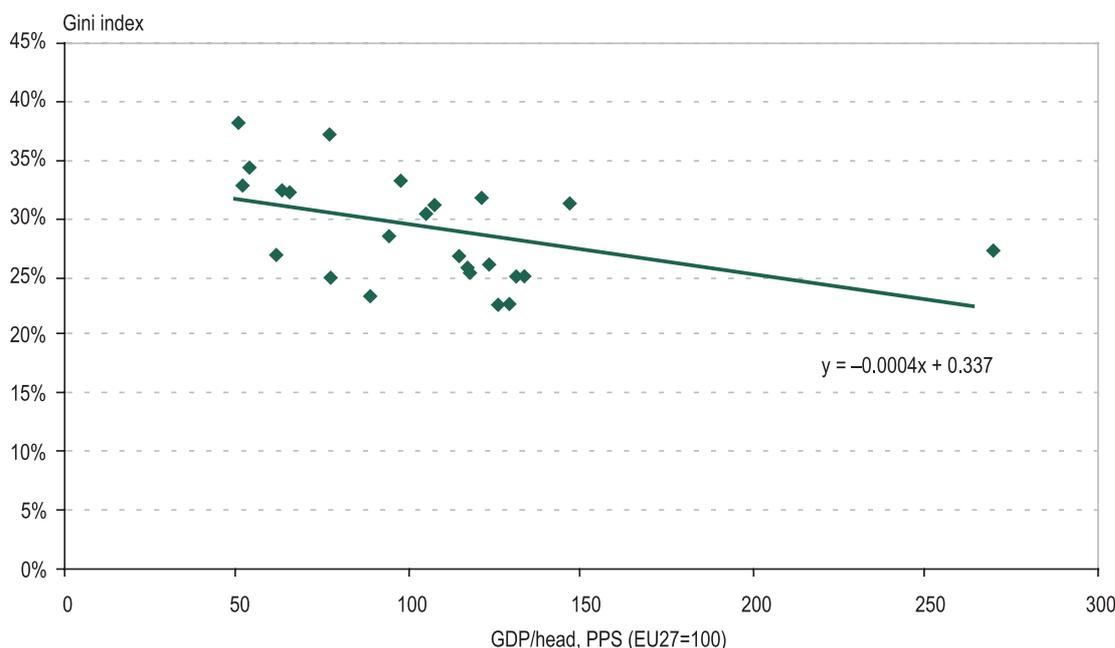
Source: Own calculations based on EU-SILC 2006

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[5] Confidence intervals are reported on the basis of the 'percentile method', which divides the estimated sample distribution into 100ths, with the lower bound being the 2.5th percentile and the higher bound the 97.5th percentile.

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As high-inequality countries in Europe are mainly relatively low-income transition countries (the Baltic states and Poland) or Southern European countries (Portugal, Greece), while low-inequality countries (in particular, the Nordic Member States or Luxembourg) tend to have high income levels, it is not surprising that there is a negative relationship between the level of income and inequality (Figure 1.2).

Comparison of the degree of inequality in income distribution in 2005 with that in earlier years is complicated by the change in the source of data used for estimation. While the 2005 estimates are based on the EU-SILC, those for earlier years (for 2000 and earlier) are based, for the EU15 countries, on the European Community Household Panel (ECHP) (which covered a much smaller sample of households) and, for others, on national sources (which vary in terms of sample size). There is no easy way of adjusting for the effect of this change on the estimates. All that can be said is that the larger the difference between the two estimates, the more likely it is that there was a change — either up or down — between the two years compared.

If, therefore, Gini coefficients in 2005 are compared to their values in 2000 (see Figure 1.3), relatively large increases (over 10%) are evident in Latvia, Poland, Lithuania and Hungary[6] in the case of EU-SILC data. In a number of other countries — Ireland, Italy, Slovenia, Finland and Austria — the increase is more modest. Given the change in data source, it is more likely that the degree of inequality increased in the former group of countries than in the latter. In Sweden, Belgium, Estonia, Spain and the Netherlands, on the other hand, the Gini coefficients were lower in 2005 than in 2000, though the difference is relatively modest, so it is uncertain whether inequality declined or not between the two years. In the remaining countries, little change is evident.

Figure 1.3: Gini indices in 2001 and 2005
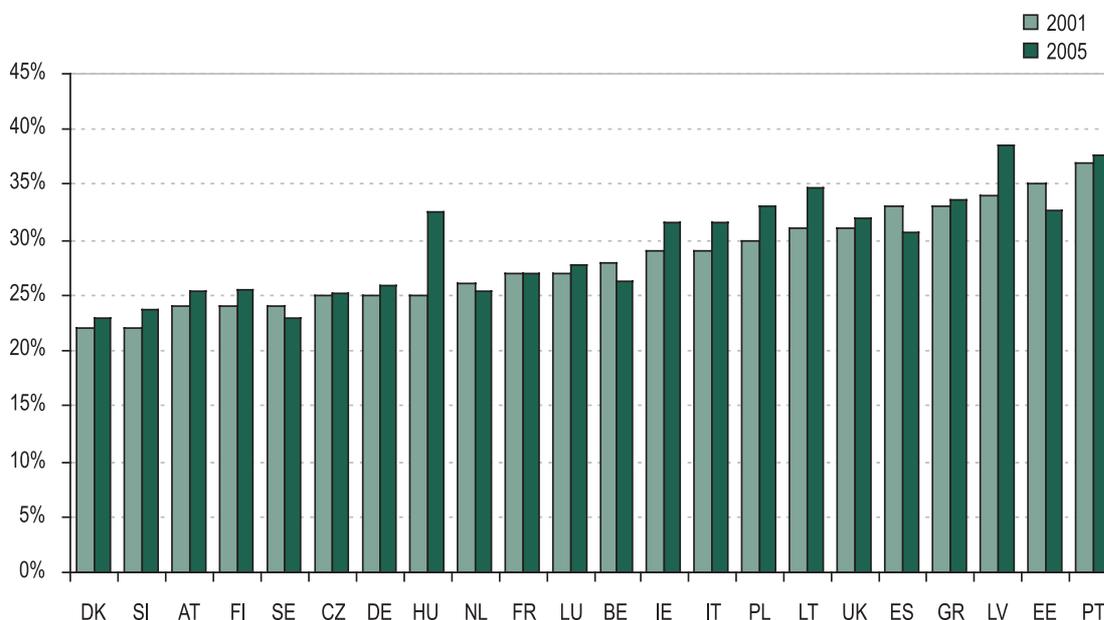
Source: 2001 Gini indices are from Eurostat New Cronos Database, 2005 Gini indices were calculated from EU-SILC 2006
Note: Countries are ranked according to 2001 Gini indices.

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[6] See footnote 4.

Box 1.2: Sensitivity analysis

We investigated the sensitivity of inequality rankings to changes in the methodology of inequality measurement. Most important methodological choices were the choice of inequality index and that of an equivalence scale.

The country ranking according to the Gini index was compared to the ranking according to the following indices: the P90/P10 index (the ratio of the ninetieth to the tenth percentile of the income distribution), the S80/S20 index (ratio of the share in total income of those in the top quintile to those in the bottom quintile), the MLD, the Theil,[7] the squared coefficient of variation (SCV)[8] indices and members of the Atkinson family of inequality indices[9] (with an elasticity parameter of 0.5, 1 and 2). Some inequality indices are particularly sensitive to income changes at the tails of the income distribution. The SCV index is known to be sensitive to high incomes, while the Atkinson index, calculated with an inequality aversion parameter $\varepsilon=2$, is very sensitive to low incomes in the distribution (Cowell and Flachaire 2006). In general, it can be expected that indices particularly sensitive to the tails of the distribution would produce rankings less similar to the Gini ranking than other indices.

Results confirm our expectations: the country ranking according to the P90/P10, the S80/S20, the Theil, the MLD and the Atkinson indices with an elasticity parameter of 0.5 and 1 show only minor differences compared to the Gini ranking. If, instead, inequality is measured by the SCV index, the country ranking shows some major differences when compared to that obtained using Gini. It should be borne in mind, however, that the SCV is particularly sensitive to high incomes and is, therefore, affected more by outliers than other measures, so that the results should be interpreted with caution.

The ranking according to the Atkinson index with $\varepsilon=2$ is also different from the Gini ranking — as would be expected, since this index is particularly sensitive to the lower tail of the distribution. The analysis also compared the ranking of countries obtained by using the OECD I and OECD II equivalence scales. Changes in the equivalence scale affect countries to a different extent. Countries differ in terms of typical household size and the number of children per household, as well as in terms of the correlation of household size with household income. The Gini index was generally lower when the OECD II scale was used, but in our case no important effect of changing the equivalence scale on the ranking of countries has been detected.

The ranking of countries according to the Gini index in 2005 shows some minor differences compared to the ranking for 2001.[10] Portugal was the country with the most unequal distribution at the beginning of the decade, but Latvia had moved to the top of the ranking by 2005. The huge increase in inequality in Hungary means,

---

[7] GE(1)=Theil index $= (1/n)\Sigma_{i=1,...,n}(y_i/\mu)\log(y_i/\mu)$, where y_i are individual incomes, μ is the average income and n is the sample size.

[8] GE(2)=SCV=$\mathrm{var}(y_i)/\mu^2$, where notations are the same as above, and *var* stands for variance.

[9] Atkinson index: $A_\varepsilon = 1 - [(1/n)\Sigma_{i=1,...,n}(y_i/\mu)^{1-\varepsilon}]^{1/(1-\varepsilon)}$, if $\varepsilon \geq 0$ and $\varepsilon \neq 1$ and $A_\varepsilon = 1 - \exp[(1/n)\Sigma_{i=1,...,n}\ln(y_i/\mu)]$, if $\varepsilon = 1$, where the notations are the same as above, $\exp(.)=e^{(.)}$, and ε is the inequality aversion parameter.

[10] Data for 2000 come from the Eurostat online database:
http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/livcon/ilc/ilc_ip/ilc_di&language=en&product=EU_MASTER_living_conditions_welfare&root=EU_MASTER_living_conditions_welfare&scrollto=164
Data for EU15 countries come from the ECHP, data for other countries from national sources. Note that the data are referred to in the Eurostat database as relating to 2001, which is the year of the survey rather than the year to which the income relates.

of course, that Hungary moves up the ranking. In 2001, inequality indices in Poland and Lithuania were lower than in Spain, Greece and Estonia, whereas in 2005 they were higher. The least unequal countries were the same at the beginning and the middle of the decade, while among countries in between the highest and lowest groups, there are a number of smaller differences in the country ranking. Again, however, except among the most unequal countries, it is uncertain how far the ranking actually changes between the two years.

Income distribution in EU countries

The distribution of incomes in individual European Member States is shown in Figure 1.4. The income distribution of the countries is represented by the average income of each income decile. The income values are shown in Euros at purchasing power parity (PPP), i.e. with cross-country price differences taken into consideration, allowing direct comparisons to be made. The countries are arranged in increasing order of average income.

Figure 1.4: The income distributions of the countries of the European Union
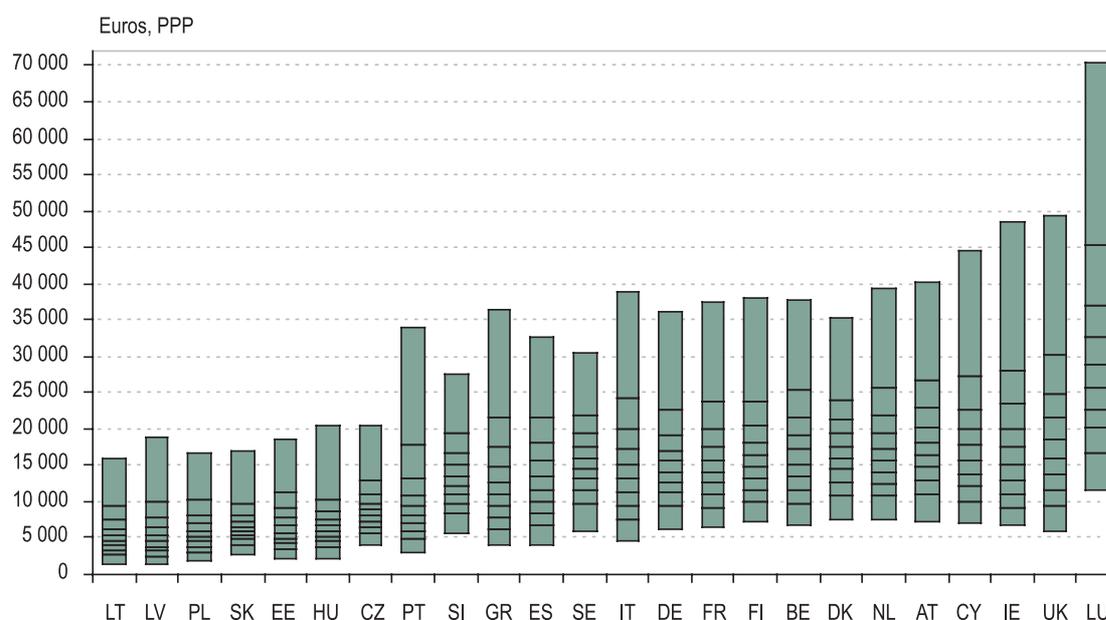
Source: Own calculations based on EU-SILC 2006
Note: The marks dividing the bars show the average incomes of the individual deciles.

As can be seen from Figure 1.4, there are significant differences in income levels between the EU Member States, and a substantial proportion of the income inequality between the citizens of the European Union can be explained by differences in incomes from one country to another. Of the EU countries, Lithuania has the lowest income level, with an average yearly equivalised disposable income of EUR 5,304 per person, while Luxembourg has the highest level (EUR 29,153 a year). The former socialist countries cluster together at the bottom of the scale, with average disposable incomes of under EUR 10,000. As is evident, people in the top decile of

the income distribution in the former socialist countries have an average income that is typical of middle–income earners in most Western European countries (France, Germany). There are three Southern European countries, Portugal, Greece and Spain, where average incomes fall between EUR 10,000 and EUR 15,000, with one of the former socialist countries, Slovenia, being grouped with them. The largest group of European countries has average incomes of between EUR 15,000 and EUR 20,000, and, apart from Luxembourg, the only country where the average level exceeds EUR 20,000 is the UK.

The figure also gives an indication of income inequalities in the various countries. In countries with relatively high inequality, the average income of people in the ninth and tenth deciles (i.e. with income in the top 20% and 10%) is substantially higher than those in the bottom deciles. In Portugal, for instance, the average income of those in the top decile is more than twice that of those in the ninth decile and twelve times that of those in the bottom decile.

Figure 1.5: The distribution of the population among the different categories of the overall European income distribution, by country
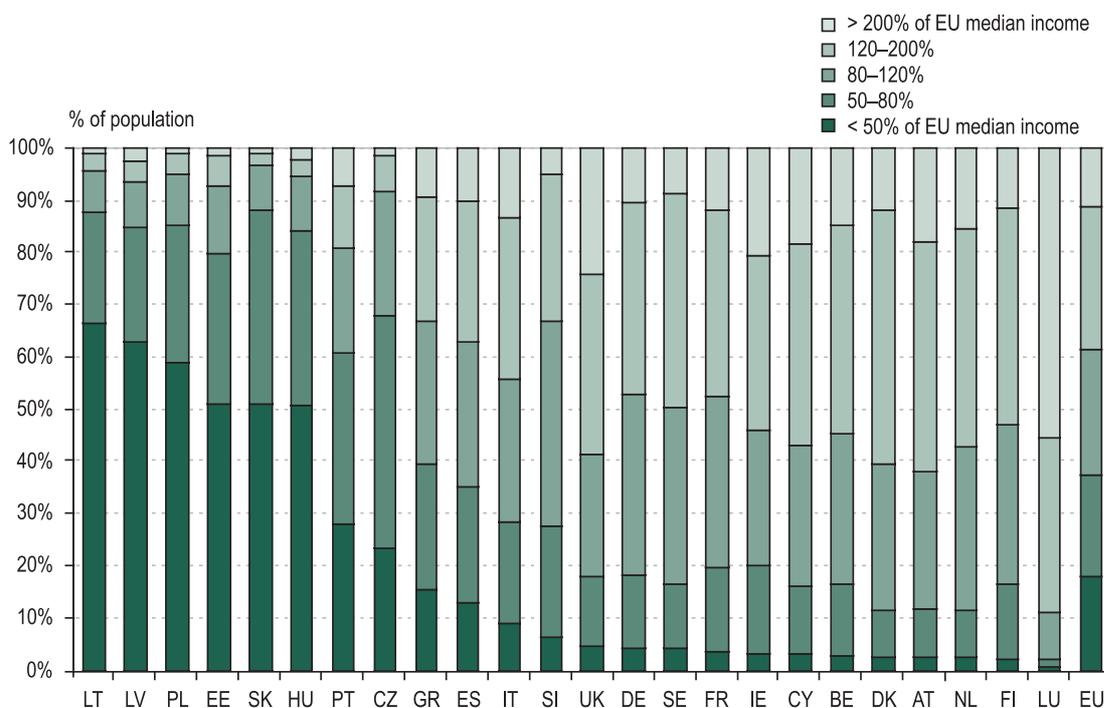
Source: Own calculations based on EU-SILC 2006

The overall distribution of income in the EU

Income inequalities and the risk of poverty in the EU can also be measured by taking the Member States together and comparing the income of people measured in purchasing power parity to the median income in the EU as a whole, measured in the same PPP terms (see below for an appraisal of this measure). Figure 1.5 shows the distribution of average equivalent income of people in the different countries, relative to the EU median equivalent income.

A fifth of the EU's population, therefore, have an equivalised income of less than half the EU median, while some 18% have an income of between 50% and 80% of the median, and 23% an income of around the median. At the same time, some 28% of those living in the EU have an income of between 120% and 200% of the median, while 12% have an income of twice the median or more.

With the exception of Slovenia and the Czech Republic, the majority of people in the former socialist countries are in the bottom fifth of the European income distribution. More than 60% of the population of Lithuania and Latvia have incomes of less than half the EU median, and the same is true of 51% of individuals in Hungary. In Luxembourg and Finland, by contrast, the proportion of those with incomes below half the overall European median income is under 2%. At the same time, more than half the people in Luxembourg and a quarter of those in the UK have incomes of more than double the median. The relative number of people with income below alternative poverty thresholds is examined below.

The risk of poverty across the EU[11]

Population at risk of poverty in EU Member States

So far as the distribution of income is concerned, the focus of policy attention across the EU tends to be not on the distribution as a whole but on the bottom end. In particular, the main concern is with the relative number of people in each country with (equivalised[12]) disposable income of below 60% of the national median, which has come to be taken in the EU as the main indicator of the risk of poverty. This varies widely across the EU. This is a relative, rather than an absolute, measure, the implicit assumption being that people assess their situation in relation to others. People considered to be at risk of poverty are those who may not be able to partic-ipate in the normal activities of society, or enjoy a standard of living that the great majority takes for granted, because of a lack of income. The income needed for this tends to be related to the prosperity or affluence of the country concerned. Relative definitions of poverty are widely used in Europe, while absolute measures tend to be used more in developing economies, where poverty can be much more serious and widespread. International development institutes, for example, typically use a poverty threshold of a dollar a day, adjusted for differences in price levels — i.e. in purchasing power parity (PPP) terms — to identify those who are poor.[13]

The rate of (relative) poverty varies between 10% and 23% in EU countries, with the proportion of the population with income below the poverty threshold lowest in the Czech Republic and the Netherlands and highest in Latvia (Figure 1.6 and Table A1.1). The proportion is also relatively low in the Nordic countries, Germany,

[11] Based on the work of Orsolya Lelkes, assisted by Eszter Zólyomi. We are also grateful to Asghar Zaidi for his contribution to the work of the Observatory during 2006–07.

[12] Calculation of equivalised household size: the first member of the household is weighted by 1, following adults receive a weight of 0.5 each, and children (defined as those aged 13 or less) receive a weight of 0.3 each. For a detailed description of the equivalised disposable income, see the Glossary.

[13] This indicator is included among the UN Millennium Goals, which aim to halve the population with an income of below a dollar a day between 1990 and 2015 (UNDP 2004). Although these absolute measures are repeatedly criticised for not being universally comparable and not being adequate for meeting the minimum number of calories needed to survive, they appear to be useful in focusing development efforts on the most needy (Ravallion 2008).

Austria, and a number of the ex-socialist countries, in particular Slovakia and Slovenia, while it is relatively high in Greece, Spain, Italy and Portugal, as well as in the three Baltic states.

Figure 1.6: At-risk-of-poverty rates across European countries (with confidence intervals)
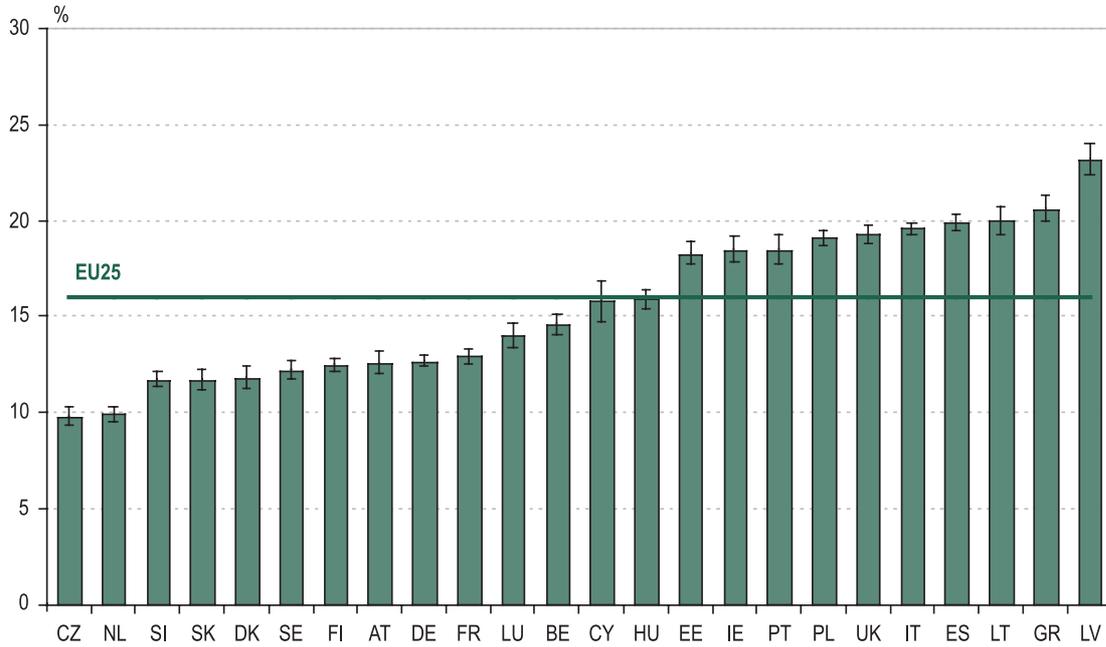
Source: Own calculations based on EU-SILC 2006

Figure 1.7: The size of the poor population and the poverty rate across European countries
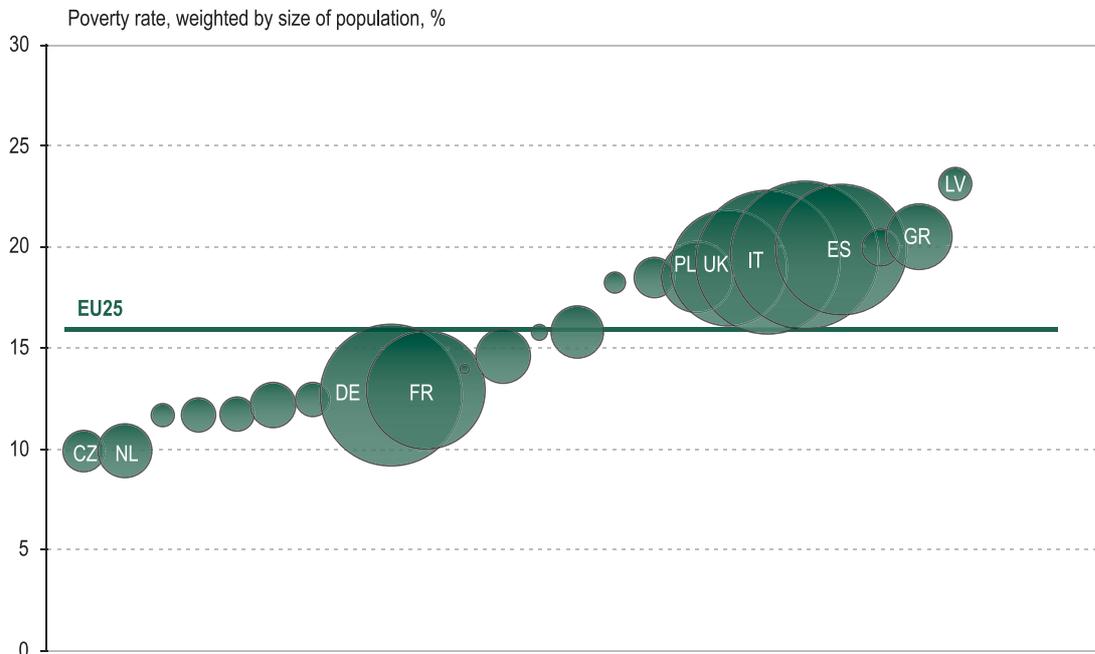
Source: Own calculations based on EU-SILC 2006

Note: Bubbles are showing the size of the poor population.

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In practice, once explicit account is taken of the margin of error surrounding these estimates (i.e. by calculating confidence intervals), there is no significant difference in the proportion at risk of poverty between the Czech Republic and the Netherlands, between Slovenia, Slovakia and Denmark, or between Sweden, Finland, Austria, Germany and France, though there is a significant difference between these three groups and between them and the other 14 Member States.

Two-thirds of the total population at risk of poverty in the EU live in the six largest countries: Germany, France, the UK, Italy, Poland and Spain (Figure 1.7). This figure more or less reflects the overall size of their population within the EU. However, while Germany and France are countries with a large number of people at risk of poverty but with lower-than-average risk-of-poverty rates, the four other countries (the UK, Italy, Poland and Spain) have above-average poverty rates, as well as large populations (Germany and Italy have about the same number of people at risk of poverty, though the former has a population size almost 40% larger than the latter).

The sensitivity of the estimates of the proportion of the population at risk of poverty to the choice of poverty threshold can be seen by setting this at 50% and 70% of the national median equivalised disposable income (Figure 1.8). The ranking of most countries does not change substantially if these alternative thresholds are used instead, the main exceptions being Finland, Ireland and, to a lesser extent, Austria; using the 50% threshold improves the ranking of all three, while using the 70% threshold increases their rates relative to other countries, reflecting the comparatively large number of people concentrated around the median.

Figure 1.8: Sensitivity of poverty rates to the threshold chosen: poverty rates at 50%, 60% and 70% of national median equivalised income
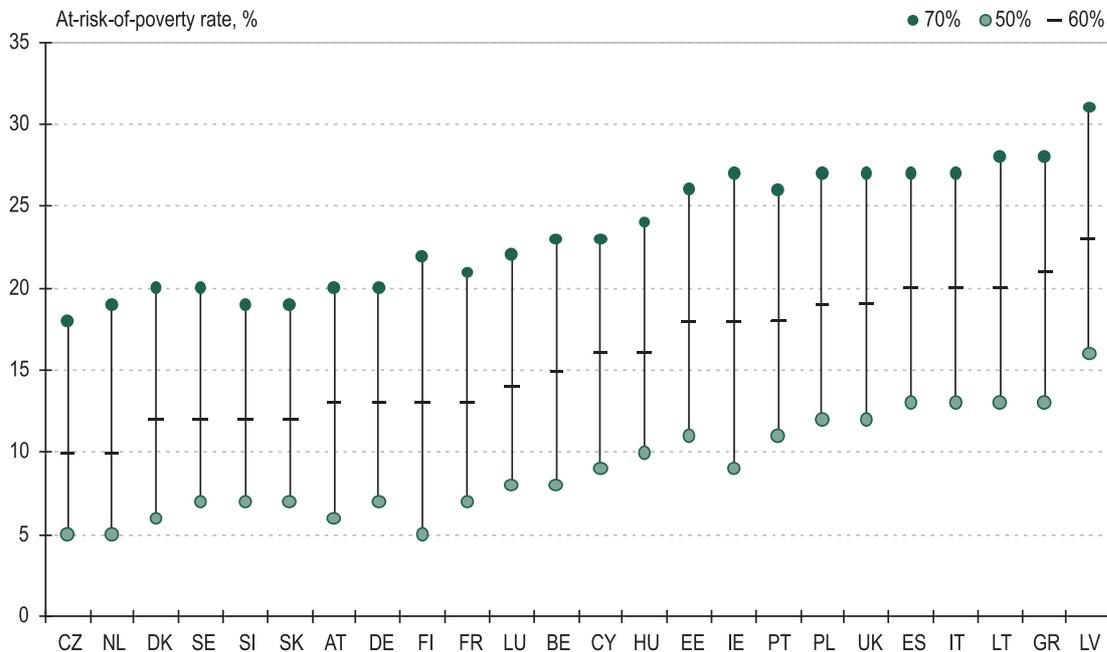
Source: Eurostat New Cronos database (http://epp.eurostat.ec.europa.eu/). Access date: June 2008

> **Box 1.3: Poverty thresholds across the EU15, and the new Member States**
>
> The poverty threshold used here is both relative and country specific. The threshold, however, in terms of purchasing power, differs greatly across countries, the average poverty threshold in the new Member States (NMS) being over 60% lower than the average for the EU15.
>
> Poverty thresholds in Malta and Slovenia in terms of purchasing power parity are close to those in Greece and Portugal, while Cyprus is similar to Italy. The three Baltic states, as well as Hungary, Slovakia and Poland, have poverty thresholds of around 75% or more below the EU15 average.
>
> **Poverty thresholds in specific countries compared to EU15 average, 2006**
>
>
>
> *Source: Eurostat New Cronos database 2008*
> Note: Poverty thresholds for households with two adults and two children younger than 14 years.
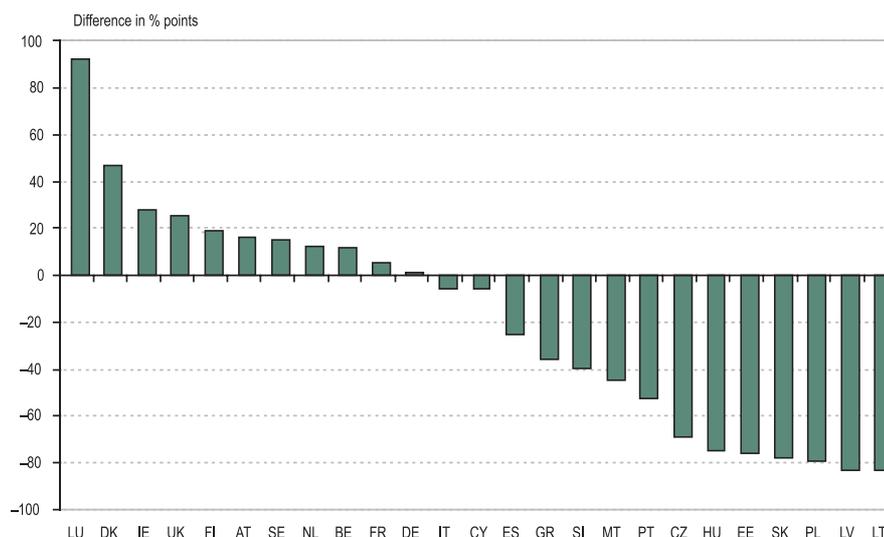
The poverty gap

How low is the income of those at risk of poverty? The risk-of-poverty rates discussed above indicate nothing about the extent to which the income of those concerned falls below the poverty line. The 'poverty gap' (the Laeken indicator termed the 'relative median at-risk-of-poverty gap') is a measure of this. It is defined as the difference between the median income of those below the poverty threshold and the threshold itself, expressed in relation to the threshold. As such, it indicates the scale of transfers which would be necessary to bring the incomes of the poor up to the poverty threshold level, here taken as 60% of median equiv-alised income.

The incomes of those below the poverty threshold in the EU25 are, on average, 22% lower than this threshold, which itself represents the minimum level of income considered necessary to avoid relative deprivation. The poverty gap between the EU Member States varies from 11% in Finland to 29% in Lithuania (see Figure 1.9). These figures are positively correlated with the at-risk-of-poverty rate (the corre-lation coefficient is 0.56). There is a tendency, in other words, that the greater is

the proportion of people with income below the poverty line, the lower are the relative incomes of those with income below that line. This suggests a common explanation in the form of the shape of the income distribution curve.

Figure 1.9: Poverty gap and at-risk-of-poverty rates across the European Union, 2005
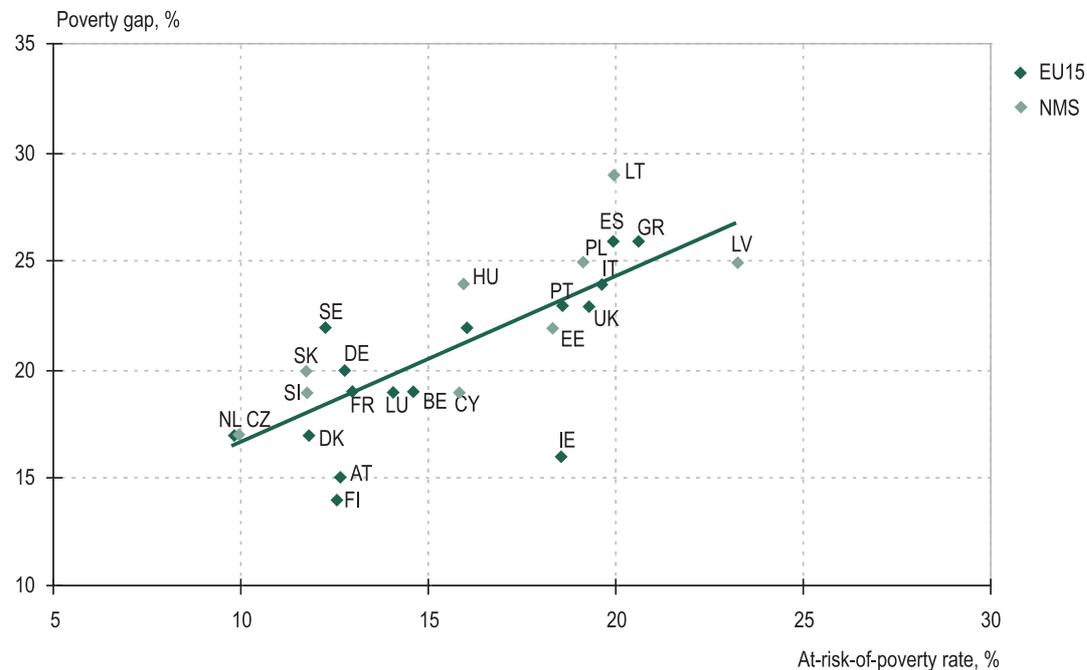
Source: Own calculations based on EU-SILC 2006

Poverty trends

It is difficult to say much with any certainty about changes in risk-of-poverty rates over time (the data available are shown in Table A1.2 in the Appendix). In Table 1.1, the changes indicated by the data are summarised for two sub-periods, 1995–2001, when the ECHP data were available (but only for the EU15 countries), and the period after 2001. During the period 1995–2001, the data show an increase in the proportion of people at risk of poverty in Ireland and Finland and a decline in Portugal, Greece, Italy, Germany, Austria and Belgium.

In the period following 2001, it is difficult to establish whether changes are significant or pure statistical artefacts due to the break in the series (i.e. the termination of the ECHP, to be replaced 2–3 years later by the EU-SILC after an intervening period when only disparate national sources of data were available). Slovakia is a good case in point, the reported risk-of-poverty rate falling from 21% (the official rate in 2003 and 2004) to 13%, perhaps entirely because of the change in data source. The only countries over this period where there seems to be a clear change are Luxembourg and Finland, where risk-of-poverty rates rose according to the same data source for two consecutive years.

Table 1.1: Trends in poverty in countries with low, medium and high levels of poverty

Period: 1995–2001		Poverty trend		
		Decline	No significant change or unclear trend	Increase
Level of poverty	Low	—	DK, LU, NL, SE	FI
	Medium	AT, BE, DE	FR	—
	High	IT, GR, PT	ES, UK	IE

Notes: Low poverty level: poverty rate < 12; medium poverty level: 12 < poverty rate < 18; and high poverty level: poverty rate > 18.
Increasing/declining trend: poverty rates increased (declined) in minimum two consecutive years or by minimum 2%.

Period: 2002–06		Poverty trend		
		Decline	No significant change or unclear trend	Increase
Level of poverty	Low	—	DK	LU, FI CZ,* SL*
	Medium	—	AT, BE, EE, FR, CY, MT, NL, SE	HU
	High	SK*	GR, IE, IT, PT, ES, UK	LV,* LT*

Notes: * indicates a break in the data series (for more details, see Table A1.2 in the Appendix).
Increasing/declining trend: poverty rates increased (declined) in minimum two consecutive years or by minimum 2%.

Figure 1.10: Poverty trends 2003–05: at-risk-of-poverty rates in the three existing waves of the EU-SILC survey (only countries with statistically significant change)
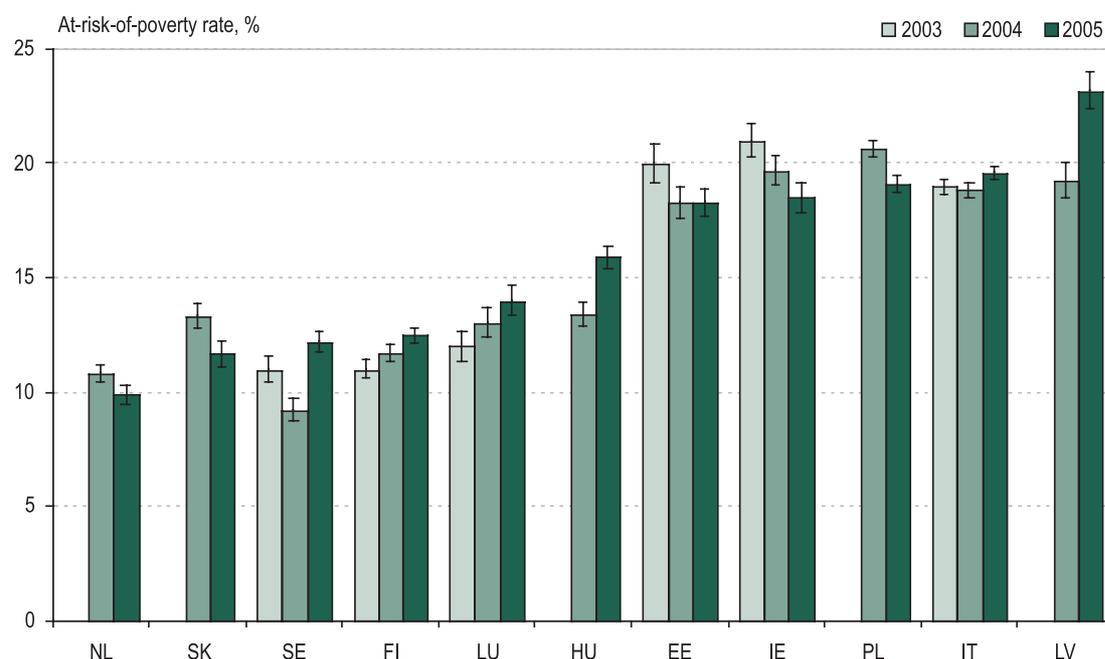
Source: Own calculations based on EU-SILC 2004, 2005 and 2006
Notes: Error bars indicate the confidence interval of the poverty rate estimates. Countries are ranked according to poverty rates in the most recent year.

The EU-SILC provides a consistent set of data, but only for the years 2003–05. Figure 1.10 presents the changes shown between these three annual surveys for a selected group of countries, where the data indicate a statistically significant change over time. This shows that the proportion of people at risk of poverty declined in the Netherlands, Slovakia, Estonia, Ireland and Poland over this period, and increased in Finland, Luxembourg and Latvia. The data for Hungary suggest a major increase, though this is almost certainly due in the main to measurement error (see discussion in the Appendix).

An EU-level indicator of the risk of poverty[14]

The above sections have considered the risk of poverty at Member State level, measuring the latter in relation to average, or median, income per head in the country concerned. This, therefore, focuses on the people with the lowest levels of income in each Member State, who are most likely to be deprived of access to the resources that other people in the community take for granted. It is less meaningful, however, as an indicator of those who are most likely to be deprived at the EU level, since it takes no account of differences in the level of median income between Member States. These differences can be substantial. In particular, in 2005, median equivalised disposable income per head in Luxembourg, the country with the highest level in the EU, was almost six times higher than in Lithuania, the country with the lowest level, even when income is measured in purchasing power parity terms to allow for differences in price levels (in euro terms it is almost 12 times higher).

Although, therefore, those with income below 60% of the national median in Lithuania may be most at risk of poverty in that country, it is likely that many of those with income above this level are more at risk of poverty in *an absolute sense* than those people in Luxembourg who had income below 60% of the median there. The same applies to those in the other new Member States, where income levels are much lower than in most of the EU15 countries — and even to those in Portugal or Greece, where income levels are also much lower than in Austria, the UK or other high-income countries.

Moreover, while Member States have prime responsibility for tackling problems of low income and social exclusion, there is also an EU-level interest in these issues, since one of the main objectives of the EU is to raise the standard of living and quality of life for all its citizens, and to promote economic and social cohesion throughout the Union. Progress towards achieving this is primarily assessed at present by reference to GDP per head, measured in PPP terms. This, however, is an indicator of the economic strength of the countries or regions concerned, and of the output produced, rather than of income levels as such, which can differ significantly from this, not only because of transfers — and taxes — but because the share of GDP going to households can vary markedly both between countries and over time. Moreover, median income per head, as compared to the mean, is also influenced by the pattern of income distribution — how unequally income is distributed at the top and bottom end of the scale — which can also differ significantly from country to country.

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[14] Terry Ward, assisted by Mayya Hristova.

GDP per head, therefore, gives only a very approximate, and potentially misleading, indication of how income levels vary between Member States. Accordingly, there is a strong case for examining household incomes across the EU directly, in order to monitor differences in living standards and to assess how social cohesion at the EU level is changing. This need has been recognised ever since the present indicators used to monitor social exclusion in EU Member States were first developed in 2001.[15]

The concern here is to examine the relative number of people with disposable income below a particular level — both in relation to median income across the EU as a whole (i.e. the income received by someone at the mid-point of the income distribution at EU level), which amounted to around EUR 1,130 a month in 2005, and in absolute terms. Income throughout is measured (as invariably is the case with respect to GDP per head) in purchasing power parity terms to allow for price-level differences and to ensure comparability across countries in terms of the command over resources.

Such a measure is not new — it has been suggested on a number of occasions in the recent past.[16] The EU–SILC makes its calculation more possible, and more meaningful, than before by providing data on household income for all Member States (with the exception at present of Bulgaria and Romania) on a reasonably comparable basis. It, accordingly, makes it possible to identify those whose income falls below a certain level and in which countries they live.

Measuring disposable income across the EU on a comparable basis, however, is not without its problems. Although the application of PPP estimates takes explicit account of price-level differences and allows household income to be compared in different countries in terms of what income is capable of purchasing, this can be done only approximately. In practice, it is difficult to identify an equivalent package of goods and services in different parts of the EU on which prices can be compared, since consumption patterns vary from country to country.

Moreover, the income being measured does not include income in kind, such as food grown for a household's own consumption — which is important in a number of places, especially in the more rural parts of some of the new Member States, and which is likely to affect those on low income in particular — or benefits in kind, such as the free provision of childcare, which is also important in some countries (see Chapter 8).

The limitations of the PPP measure that arise from these considerations, as well as the range of other factors that make it difficult to compare income levels across the EU (such as the varying incidence of both income and benefits in kind), need to be kept in mind when interpreting the results of the analysis presented below.[17]

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[15] See the discussion and references in Atkinson *et al.* (2005).

[16] *ibid.*

[17] It ought also to be kept in mind, however, that the same limitations apply to comparisons of GDP per head between different parts of the EU, though such comparisons are frequently made.

People with income below various poverty thresholds in the EU

As indicated above, estimates of the relative number of people with income below a certain level in the EU can be made from the data collected by the EU–SILC in 2006 for disposable household income in 2005, equivalised to adjust for differences in the scale and composition of households. These data, however, do not include Bulgaria and Romania (or indeed Malta). Accordingly, the estimates presented below relate to 24 Member States.

Since it is not clear what the most appropriate income threshold should be when identifying those at risk of poverty, the results of applying a range of possible thresholds are examined below, in order to see how the relative number of people with income below each of these levels and their distribution across countries change as the threshold is varied. It should be emphasised that the thresholds chosen are illustrative only, and no normative significance should be attached to them. In particular, it is not suggested that anyone with income below a given threshold is necessarily living in poverty, still less that there should be a policy at EU level to raise income in all countries above any given threshold.

Indeed, as indicated above, there is a question mark anyway over the extent to which relative levels of income reflect relative levels of purchasing power in countries in which income in kind is important. This applies, in particular, to those people with low monetary income levels in rural areas, especially those in the new Member States, such as Poland or Lithuania, many of whom might be producing most of the food they need. Some indication of the scale of this and how it affects the estimation of the number of people with income below the poverty line is given below.

Income below 60%, 50% and 40% of EU median

The starting point is to examine those with income below 60% of the EU median income, which is the conventional threshold taken for measuring the risk of poverty at national level. At the EU level, this threshold amounts to around EUR 680 a month, or more precisely to the purchasing power equivalent of this in the different countries.[18] It is estimated that in 2005 some 22% of the population (or 100 million people) in the EU (i.e. in the 24 Member States excluding the three countries mentioned above) had income below this level (Figure 1.11).[19] This compares with a figure of 16% of people with income below 60% of the median level in the country in which they live, which is the weighted average of the figures for the risk of poverty at national level across the EU (i.e. the indicator conventionally used to measure the risk across the EU as a whole).

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[18] Once differences in price levels are taken into account, in terms of what it can purchase, EUR 680 is the equivalent (to take the extremes) of EUR 511 in Denmark and EUR 1,356 in Latvia. In Greece and Portugal, it is equivalent to EUR 821. The levels in the new Member States are in between the Lithuanian and the Greek or Portuguese levels, except in Cyprus and Slovenia, where they are closer to the Greek level.

[19] Income in the EU is the sum of equivalised household disposable income, measured in PPP terms in the 24 Member States covered.

Figure 1.11: Proportion of people with income below 60%, 50% and 40% of the EU median level of disposable income (in PPS), 2005

Share of population in each country, %   ☐ < 60% ☐ < 50% ■ < 40%
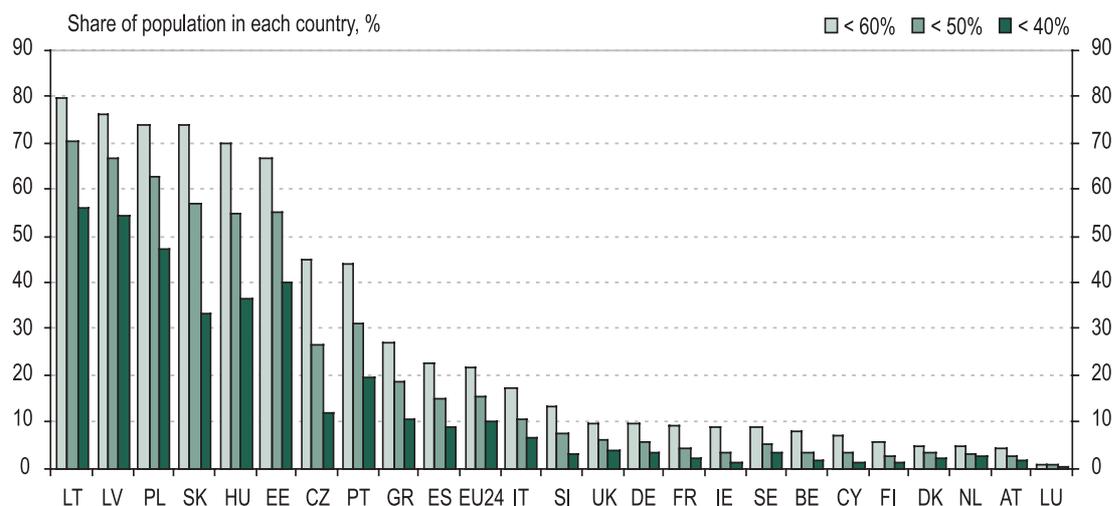
Source: EU-SILC 2006
Note: In the case of Malta, no data available.

The proportion of people in each Member State with income below this threshold is obviously much larger in the countries with relatively low levels of income per head than in those with higher levels, irrespective of the degree of income dispersion in individual countries. In Latvia, Lithuania, Poland and Slovakia, 74–80% of the population have an income below 60% of the EU median (i.e. only 20–26% of people have an income above this), in Hungary and Estonia the figure is 67–70%, and in the Czech Republic and Portugal, 44–45%. On the other hand, in Cyprus and Slovenia, the figure is below the EU average, at 13.5% and 7%, respectively, which is much less than in Greece (27%), Spain (23%) or Italy (17.5%).

In all other countries, the proportion is 10% or less — close to 10% in the UK (despite the median level of income per head being the third highest in the EU) and Germany, and around 9% in France, Ireland and Sweden.[20] By contrast, in Denmark, the Netherlands and Austria, the figure is 5% or less, and in Luxembourg it is only 1%.

A reduction in the poverty threshold from 60% to 50% of EU median income, of course, reduces the number of people below the threshold, but to varying extents in different countries because of differences between them in the distribution of income at this end of the income scale. In the EU as a whole, the proportion with income below this level is reduced to 15.5% of the total population (or some 71 million people). In Latvia and Lithuania the proportion is reduced, but it is still 67–70% of the population, while in Poland and Slovakia, it is reduced by more, to 63% and 57%, respectively, reflecting the larger concentration of people with income just below the 60% threshold, especially in Slovakia, where the

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[20] Although GDP per head in Ireland is the second highest in the EU behind Luxembourg, average household income is much lower than this, because of the substantial scale of net income transferred abroad (taking the form to a large extent, in practice, of retained profits of foreign–owned enterprises), which illustrates the substantial difference that can exist between GDP per head and disposable income per head.

proportion is only slightly higher than in Estonia and Hungary. In the Czech Republic, the proportion is reduced to 27%, a much bigger drop than in Portugal (31%), again reflecting the more equal distribution of income in the former.

In Greece, the proportion is still close to 20% and in Spain it is over 15%, while in Italy it is around 11%, much higher than other EU15 countries, Portugal excepted. In the rest of the EU, except for Slovenia (8%), the figure is 6% or less.

A further reduction of the threshold to 40% of the EU median (or to just over EUR 450 a month) lowers the share of the population with income below this level to just over 10% (or around 47 million people). The proportion in Latvia and Lithuania is still around 55%, reflecting the fact that a threshold of 40% of the EU average is some 7–9% above the national median level of income. In Poland, where a poverty threshold at this level is just 4% below the national, it is reduced by slightly more, to 47%, and in Estonia to 40%, while the reduction is more pronounced in Hungary and, more especially, in Slovakia, to 36.5% and 33.3%, respectively. In both these cases, the threshold amounts to 85% of the national median income.

Elsewhere, the proportion is reduced to below 20% in all countries, though only marginally so in Portugal, where the threshold is just over 60% of the national median, and to below 10% in all apart from Portugal, the Czech Republic (12%) and Greece (11%) and to under 4% in all except for these three countries plus Italy and Spain.

Despite the relatively small proportions of people with income below these thresholds in most of the EU15 countries, it is still the case that, because of their population size, a large share of the total number of people in the EU with incomes at these levels lives in those countries. Just over half (51%) of the people with income below 60% of the EU median, therefore, live in the EU15, some 10% of them each in Spain and Italy, and 8% in Germany. At the same time, 28% live in Poland, though under 10% are in the three Baltic states and Slovakia, where the relative number of people below the EU poverty line is also very high (Figure 1.12).

With the poverty threshold at 50% of EU median income, some 44% of the people with income below this level live in the EU15, 9% in each of Spain and Italy and 6.5% in Germany. In the new Member States, the people concerned are again concentrated in Poland, which accounts for 33% of the total with this level of income. With the poverty threshold at 40% of the EU median, the proportion with income below this level living in the EU15 is reduced to 40%, with almost 8.5% each in Spain and Italy, and, in the new Member States, 38% of the total in Poland.

Figure 1.12: Division of people with income below 60%, 50% and 40% of the EU median level of disposable income (in PPS), 2005

Share of population in each country, %
PL: 28, 33, 38

□ < 60% ▨ < 50% ■ < 40%
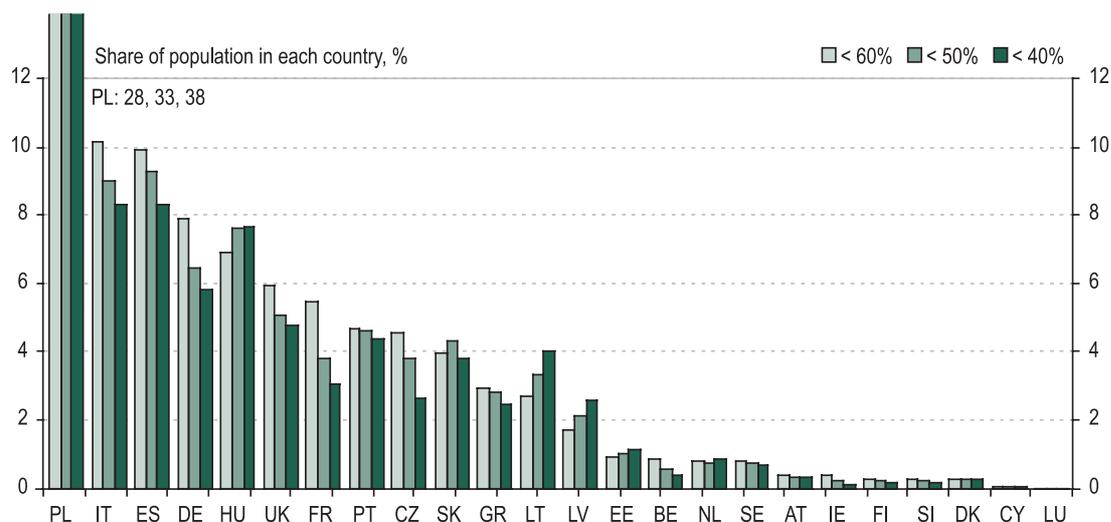
Source: EU-SILC 2006
Note: In the case of Malta, no data available.

Income below EUR 5 per day

The thresholds used to measure the relative number of people with low incomes can also be expressed in absolute rather than relative terms in order to make them more tangible. An income of 40% of the EU median in 2005 represents an average of just under EUR 15 a day, expressed in purchasing power terms rather than actual euros. In Latvia and Lithuania, as indicated above, the income equivalent of this level of purchasing power exceeded the national median, while in Poland — at just over EUR 8 a day — it was only slightly below the national median.

This provides a useful basis for setting a poverty threshold in absolute rather than relative terms. The poverty threshold in Poland, as conventionally defined in terms of 60% of the national median, is, therefore, around EUR 5 day, which, again purely for the sake of illustration, can be set as the EU threshold for examining the relative number of people in EU Member States with income below this level. It should be reiterated that, as in the case of the other thresholds, EUR 5 a day has no normative — and still less policy — significance. Nevertheless, it is an amount that people can relate to relatively easily, even if, in terms of purchasing power, it is worth almost 2.5 times as much in Poland as in Denmark because of the much lower price level in the former than in the latter; and *over* 2.5 times as much in Latvia and Lithuania, where median income levels in PPP terms are the lowest in the EU.

In practice, some 18% of people in Poland had (equivalised) disposable income of below this level — 6.8 million — and around 30% of people in Latvia and Lithuania, while in Estonia, the proportion was around 11%, and in Hungary and Slovakia — 9%. People with income below this level, however, were not confined to the Central Eastern European Member States. In the EU as a whole, around 3% of the population fell into this category, or just over 14 million people (Table 1.2).

Table 1.2: Population with equivalised disposable income of under EUR 5 a day* in EU countries, 2005

Country	Number (000s)	% of country population	% of poor population in the EU	Population with negative or zero income		
				Number (000s)	% in country population	% of population with less than EUR 5
BE	56	0.5	0.4	23.7	0.2	42.1
CZ	171	1.7	1.2	0.2	0.0	0.1
DK	41	0.8	0.3	28.2	0.5	69.5
DE	730	0.9	2.5	361.6	0.4	49.6
EE	145	10.9	1.0	4.2	0.3	2.9
IE	5	0.1	0.0	0.6	0.0	11.0
GR	168	1.6	1.2	58.4	0.5	34.7
ES	692	1.6	4.9	199.7	0.5	28.8
FR	134	0.2	0.9	60.1	0.1	45.0
IT	858	1.5	6.1	360.5	0.6	42.0
CY	1	0.1	0.0	0.0	0.0	6.2
LV	721	32.1	5.1	17.3	0.8	2.4
LT	1,002	29.6	7.1	7.7	0.2	0.8
LU	1	0.2	0.0	0.5	0.1	46.6
HU	875	8.8	6.2	40.0	0.4	4.6
NL	134	0.8	0.9	98.4	0.6	73.3
AT	24	0.3	0.2	0.6	0.0	2.3
PL	6,837	18.1	48.3	35.0	0.1	0.5
PT	228	2.2	1.6	–	–	–
SI	9	0.4	0.1	–	–	–
SK	487	9.0	3.4	2.4	0.0	0.5
FI	8	0.2	0.1	1.6	0.0	19.4
SE	158	1.7	1.1	75.6	0.8	48.0
UK	657	1.1	4.6	303.9	0.5	46.3
EU	**14,143**		**3.1**	**1,680.2**	**0.4**	**11.9**

Note: * Measured in terms of purchasing power standards (PPS).

(–): there is no one with zero income.

Nevertheless, apart from Portugal, where the figure was marginally higher, less than 2% of the population in all Member States (other than those listed above) had income of below EUR 5 a day in 2005. But this still meant that almost 4 million people in EU15 countries have income this low. Just over 1.5 million of these were in Spain and Italy, and 1.4 million in Germany and the UK taken together.

Income in kind

As emphasised at the outset, these figures need to be interpreted with caution. In particular, the limitations of the EU–SILC data on income need to be recognised. In the countries in which the proportion of people with income below EUR 5 a day is relatively large, such as Poland and the Baltic states, some of the people concerned are likely to have a significant amount of income in kind in the form, in particular, of food produced for their consumption. Although the EU–SILC in 2006 contains no details, or estimates, of the scale of such income,[21] national sources in Poland, if a little dated, do provide an indication of its relative importance.

These show that income in kind is estimated to have added only around 3% to average household disposable income in Poland in 2003, and to have reduced the proportion of people at risk of poverty by only 1-2 percentage points.[22] If these estimates are a reasonable reflection of the actual situation in Poland, taking account of income in kind would not change the results of the above analysis markedly.

Zero and negative incomes

Quite apart from the exclusion of income in kind, the figures for the relative number of people with income below EUR 5 a day inevitably involve a degree of uncertainty, as is always the case at the extremes of the income distribution. This uncertainty relates not only to the data themselves — in part because it is difficult to ensure a representative coverage of the households concerned — but also to their interpretation in terms of the purchasing power of the recipients. At the bottom end of the income scale, therefore, there are a number of people recorded as having negative or zero incomes. In 2005, according to the EU–SILC, almost 1.7 million people across the EU fell into this category. This is equivalent to some 0.4% of the total population, but it amounts to 12% of those with income below EUR 5 a day. The question is whether the people concerned really had no income during the year — let alone a negative amount — and, if so, how they managed to survive, since it is obviously the case that, for them, income cannot be an adequate reflection of the purchasing power they had at their disposal.

In practice, the number of people in question varies markedly between Member States — from no one, or virtually no one, being recorded as having zero or negative income in the Czech Republic, Ireland, Cyprus, Luxembourg, Austria, Portugal and Slovenia to over 300,000 in Germany, Italy and the UK, though nowhere does the number exceed 1% of the population. Moreover, with the exception of Denmark and the Netherlands, in all countries less than half of those with income of less than EUR 5 a day are recorded as having zero or negative income.

There are two main reasons, apart from simple reporting errors, why someone should be recorded in the EU–SILC as having zero or negative income. The first is that they are self-employed and have a business which made trading losses in 2005 — or live in the same household as someone who is self-employed with such a business — since the income of the self-employed is defined by the survey as their net income from trading. This, however, does not mean that they had no

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[21] It will from 2007 onwards.

[22] These figures are based on estimates made by the Polish Statistical Office in 2005 on the basis of data from national sources.

income to live on, since, in practice, much of their spending on goods and services might be accounted as business costs, while equally it may come out of the income accumulated over previous years. Either way, their income, as recorded by the EU–SILC, reflects neither their purchasing power, nor whether they suffer from deprivation and, accordingly, are at risk of social exclusion.

According to the survey, some 41% of those with zero or negative income in 2005 were either self-employed or lived with someone who was self-employed. This proportion varies markedly across countries, from 85% in the Netherlands, 74% in Greece, 67% in Denmark and 64% in Spain to only 18% in France, 16% in Latvia, 11% in Sweden and just 5% in Lithuania.

The second possible reason is that gross income less taxes paid may indeed be negative because the latter exceeds the former. This may happen because the taxes concerned relate to a previous year, when income was much higher, or because they include taxes on capital gains or some other sum received which is not included in the survey as part of income. Again, the income recorded will neither reflect purchasing power nor necessarily the risk of social exclusion.

To check the purchasing power of the individuals concerned, their responses to the questions in the survey on material deprivation can be examined to see the extent to which they report being unable to afford particular items or having financial difficulties. Such an examination indicates that, while in most cases a larger proportion of them than average for the country in question report being unable to meet unexpected costs, in around half the countries (of those in which the numbers are large enough to break down reliably), the majority report being able to meet such unanticipated costs — in Denmark, France and the UK, around two-thirds, in Belgium and Hungary, over 70%, and in the Netherlands and Sweden, over 90%.

Similarly, in around half the countries, fewer of them report being unable to afford to buy a car than the national average, and less than 10% overall. This suggests that many of the people concerned in a number of countries, though by no means all of them, have significantly positive levels of purchasing power — and certainly a higher level than EUR 5 a day would seem to imply.

Nevertheless, even if all of those recorded as having zero or negative income are excluded, this still leaves almost 3% of the EU population (some 12.5 million people) with income of less than EUR 5 a day. At the same time, many of those people (as in the case of those with zero or negative income) seem from the evidence not to have suffered from material deprivation, so presumably they had access to sources of purchasing power other than the income they received, or that was attributed to them, in 2005, in the form of accumulated wealth, as well as income in kind. Accordingly, the results of the above analysis do not necessarily imply that the people indicated have only EUR 5 a day to live on, though they do suggest that there are large numbers across the EU who are in this situation.

Concluding remarks

The first part of this chapter analysed income inequality in the EU. Among relatively high-inequality countries (Gini coefficient over 30%) we found the Baltic States, transition countries from Central and Eastern Europe (Poland and Hungary), the Southern European countries (with the exception of Cyprus) and the Anglo-Saxon countries. At the other extreme, countries with the lowest inequality (Gini index below 25%) were Sweden, Denmark and Slovenia, while other countries constitute a third group of countries with middle-level inequality.

Within-country inequality is not the only form of income differences in the EU. A substantial proportion of the income inequality between the citizens of the European Union can be explained by differences in incomes from one country to another. There are significant differences in income levels between the EU Member States: average income of the richest country exceeds by six times that of the country with the lowest income level.

According to the income figures for 2005, the proportion of the population at risk of poverty, defined in the conventional way as having a disposable income of less than 60% of the median of the country in which they live, varies between 10% and 23% in EU Member States (or at least in the 24 Member States for which comparable data are available from the EU-SILC). The risk of poverty tends to be low in the Nordic countries, along with Austria, Germany and a number of the ex-socialist countries, including the Czech Republic, Slovakia and Slovenia, while it tends to be relatively high in the Mediterranean countries and the Baltic States. The ranking of countries does not change substantially when alternative poverty thresholds of 50% and 70% of the national median are used instead of 60%, though, of course, the proportion of population at risk does — a point that needs to be kept in mind when interpreting the results of any estimation of the number of people concerned in particular countries. The average income of those below the poverty threshold in the EU25, defined in these terms, was 22% less than the threshold, which itself represents the minimum level of income regarded as being needed to avoid relative deprivation. The figure, however — the poverty gap — varied from 29% in Lithuania to 11% in Finland.

Unfortunately, no satisfactory data exist to assess the change in the proportion of people at risk of poverty over time. The data from the EU-SILC cover only the three years 2003-05 inclusive, and then only for around half the Member States; and the data from earlier surveys (the ECHP in particular) are not really comparable because of the different basis of the surveys. As it happens, the data show a small decline in the proportion at risk of poverty in the Netherlands, Slovakia, Estonia, Ireland and Poland, and a small increase in Finland, Luxembourg and Latvia. For Hungary, the data indicate a substantial increase, though this suggests measurement error — a significant difference in the sample of people surveyed between the two years — rather than a genuine rise.

The chapter also provides estimates of the relative number of people across the EU with disposable income below a certain level, as defined either in absolute terms or in relation to median income at EU level, both adjusted for differences in price levels. This perspective provides an alternative on the risk of poverty in the European Union to that based on national income levels, as is conventionally used. Moreover, it is an approach that is more suitable for assessing differences in

living standards between people in Member States and for monitoring the process by which the poorer parts of the EU catch up in income terms. It complements the approach to monitoring disparities in economic performance through GDP per head.

The measure highlights the fact that, although the problem of low incomes is most serious in many of the new Member States, there are nevertheless significant numbers of people in the richer parts of the Union whose income is well below the median level in the EU and who seem to have relatively little to live on. This remains the case even after allowance is made for those recorded as having zero or negative income, many of whom seem to have purchasing power closer to the median than the bottom end of the scale.

It remains to be decided, however, which of the different measures applied in the analysis is the most suitable for use as a threshold to indicate the relative number of people at risk of poverty, defined at an EU rather than a national level, and to monitor changes in this over time as one possible guide to whether the Treaty objective of social cohesion is coming closer or is receding.

Appendix

Table A1.1: At-risk-of-poverty rates and number of the poor population in EU countries, 2005

Country	At-risk-of-poverty rates (%)	At-risk-of-poverty rates (%) — confidence intervals		Number of poor population (000s)	Sample size
		Lower bound	Higher bound		
AT	12.6	12.0	13.1	1,027	14,883
BE	14.6	14.1	15.2	1,523	14,292
CY	15.8	16.9	18.3	120	11,069
CZ	9.8	9.4	10.2	996	17,830
DE	12.7	12.4	13.1	10,371	31,717
DK	11.8	11.2	12.3	628	14,549
EE	18.3	17.7	18.9	243	15,741
ES	19.9	19.5	20.3	8,536	34,183
FI	12.5	12.2	12.9	650	28,039
FR	12.9	12.5	13.3	7,611	24,726
GR	20.6	19.9	21.2	2,203	15,112
HU	15.9	15.4	16.4	1,581	19,902
IE	18.5	17.8	19.1	786	14,634
IT	19.6	19.3	20.0	11,549	54,512
LT	20.0	19.3	20.7	678	12,134
LU	14.0	13.3	14.7	63	10,242
LV	23.2	22.4	24.0	516	10,892
NL	9.9	9.5	10.3	1,606	23,092
PL	19.1	18.7	19.5	7,052	44,157
PT	18.5	17.8	19.1	1,947	12,042
SE	12.2	11.7	12.7	1,114	17,043
SI	11.7	11.3	12.0	234	31,276
SK	11.7	11.1	12.2	628	15,138
UK	19.3	18.8	19.8	10,997	22,542

Source: Own calculations based on EU-SILC 2006

Table A1.2: Trends in poverty risk of the total population, using 60% of median income as the poverty line

						Survey year						
Country	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
BE	16	15	14	14	13	13	13	:	15[1]	15	15	15
CZ	:	:	:	:	:	:	8	:	8	:	10[1]	10
DK	10	:	10	:	10	:	10	:	12[1]	11	12	12
DE	15	14	12	11	11	10	11	15	15	16	12[1]	13
EE	:	:	:	:	:	18	18	18	18		18	18
IE	19	19	19	19	19	20	21	:	20[1]	21	20	19
GR	22	21	21	21	21	20	20	:	21[1]	20	20	21
ES	19	18	20	18	19	18	19	19[1]	19	20[1]	20	20
FR	15	15	15	15	15	16	13[1]	12	12	14[1]	13	13
IT	20	20	19	18	18	18	19	:	:	19[1]	19	20
CY	:	:	:	:	:	:	:	:	15	:	16[1]	16
LV	:	:	:	:	:	16	:	16	16	:	19[1]	23
LT	:	:	:	:	:	17	17	17	15	:	21[1]	20
LU	12	11	11	12	13	12	12	:	10[1]	11	13	14
HU	:	:	:	:	:	11	11	10	12	:	13[1]	16
MT	:	:	:	:	:	15	:	:	:	:	15[1]	14
NL	11	12	10	10	11	11	11[1]	11	12	:	11[1]	10
AT	13	14	13	13	12	12	12	:	13[1]	13	12	13
PL	:	:	:	:	:	16	16	17	17	:	21[1]	19
PT	23	21	22	21	21	21	20	20	19	21[1]	19	19
SI	:	:	:	:	:	11	11	10	10	:	12[1]	12
SK	:	:	:	:	:	:	:	:	21	21	13[1]	12
FI	:	8	8	9	11	11	11[1]	11	11	11[1]	12	13
SE	:	:	8	:	8	:	9	11	:	11[1]	9	12
UK	20	18	18	19	19	19	18[1]	18	18	:	19[1]	19

Source: Eurostat New Cronos database
Notes: In the first row, the year refers to the survey year.
[1]Break in series; in the majority of EU15 countries the results reported under 2001 come from the last wave of the ECHP.

Potential data problems in selected countries — at-risk-of-poverty rates in the EU-SILC and national data sources

Germany

The proportion of the population at risk of poverty is about 5 percentage points lower when calculated from the EU–SILC data than when calculated from the German Socio–Economic Panel (SOEP) (Frick and Grabka 2008) (Table A1.3). Comparing the sample populations of the EU–SILC with those of the microcensus and the SOEP, Hauser (2008) finds significant differences in the coverage of poorly integrated foreigners, small children (who are under–represented in the EU–SILC) and the elderly and employed (who are over–represented). He concludes that 'this causes serious distortions to the Laeken indicators calculated' (p. 2).

Table A1.3: At-risk-of-poverty rates in Germany based on two alternative surveys (%)

	2003	2004	2005	2006
SOEP	16.3	16.7	18.0	16.5
EU-SILC	–	12.0	12.7	n.a.
Difference (in percentage points)		–4.7	–5.3	

Source: EU-SILC: own calculations; SOEP: Frick and Grabka (2008)

Hungary

The proportion of people estimated to be at risk of poverty in 2005 from the EU–SILC data is 16%, which is much more than in the previous year (13%) or than according to other data sources (13% in 2006) (see Table A1.4). According to the TÁRKI Household Monitor, the risk–of–poverty rate remained much the same between 2005 and 2007 (around 12-13%). Moreover, the most recent EU–SILC data for 2007 (currently available only in the national statistical office) also show a rate of around 13%. Accordingly, the evidence suggests that there is a problem with the 2006 data. There is no information available on data quality as regards the EU–SILC for 2006. The EU–SILC for 2005, however, had a response rate of only 51%, which suggests that there might be problems as regards its representative-ness. In addition, there seems to have been under–reporting of income compared to the two alternative official surveys by the Central Statistical Office, with incomes at the bottom being 13-14 percentage points lower than in the microcensus and the Household Budget Survey.

Table A1.4: At-risk-of-poverty rates in Hungary based on two alternative surveys (%)

	2004	2005	2006
TÁRKI Monitor	12.9	–	13.5
TÁRKI Monitor (confidence intervals at 95% level)	11.2–12.9	–	11.7–13.5
EU-SILC	13.4	15.9	12.6

Source: TÁRKI Monitor: Szivós (2008, p. 99); EU-SILC: own calculations, except for the income year of 2006: KSH (2008, Table 1)

Chapter 2 | The Factors Affecting the Risk of Poverty and Inequalities in Income Distribution

Orsolya Lelkes, Márton Medgyesi and István György Tóth

This chapter seeks to examine in more detail the risk of poverty and inequalities in the distribution of income in different parts of the EU and to consider the factors that underlie the findings presented in the previous chapter. It is divided into two parts. The first part considers the variation in the risk of poverty among people of different ages and living in different types of household, as well as the way in which it is affected by employment — or more specifically, by the lack of earnings from employment — among household members. The second part examines the extent to which these and other factors — in particular, the education level of the household head and whether or not the household is in an urban or a more rural environment — provide an explanation for both the risk of poverty and the degree of inequality in income distribution across the EU.

The risk of poverty by age, household structure and employment status[1]

The risk-of-poverty rates described in the previous chapter conceal marked differences within countries between different sections of the population. In particular, the overall rate, averaged over the population as a whole, masks the way in which this varies between people of different ages — and, accordingly, at different stages of the life cycle — and between different types of household, as well as the way in which it is affected by whether or not people are in paid employment. These variations are examined in turn below.

The risk of poverty in different age groups

The variation in the risk of poverty between different age groups indicates a life-cycle effect in many countries. Children and the elderly are, therefore, more likely to have income below the poverty line than are people of working age, although the extent to which this is the case varies from country to country (Figure 2.1). In most Member States, either children or the elderly aged 65 and over (or both) are at greater risk of poverty than are those people of working age, though in Germany, exceptionally, there is no significant difference across age groups in the proportion with income below the poverty threshold.

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[1] Based on work by Orsolya Lelkes, assisted by Eszter Zólyomi.

These differences in the age–specific risk of poverty reflect two factors in particular: the structure of households and the extent to which children and the elderly live in the same household as people of working age who are in employment; and the nature of the social protection system and the extent to which income is redistributed to those without adequate (or any) income from employment by means of taxes and benefits. The latter factor is explored in Chapter 7 below.

In the majority of EU Member States (16 of the 24 covered here), children, defined as those aged under 18, face a relatively high risk of poverty, compared to the total population. In 10 of the 16 countries, moreover, the risk of poverty is higher among children than among the elderly. Accordingly, they represent a particular focus of social policy in many countries.

The scale of the risk, or the proportion of children with income below the poverty line, varies markedly across the EU. It is lowest in Finland and Denmark (where only 9–10% of children have income this low), considerably higher in Spain, Hungary, Italy, Lithuania and the UK (where the figure is 24–25%), and highest of all in Poland and Latvia (where it reaches 26%). In Finland and Denmark, alone among EU Member States, the risk of poverty faced by children is lower than for other age groups, suggesting either that the household structure is particularly favourable among families with children, or that the income levels of the households in which they live are especially well supported by the social protection system.

In most of the Member States, the risk of poverty among people of working age (here defined as 18–64) is lower than among children or among those aged 65 and over. It is affected mainly by the extent of unemployment or inactivity and by the way that these two factors are distributed across households, and also, though to a lesser extent, by the relative number of households with large families — i.e. with children who need to be supported.

Figure 2.1: Risk of poverty of specific age groups
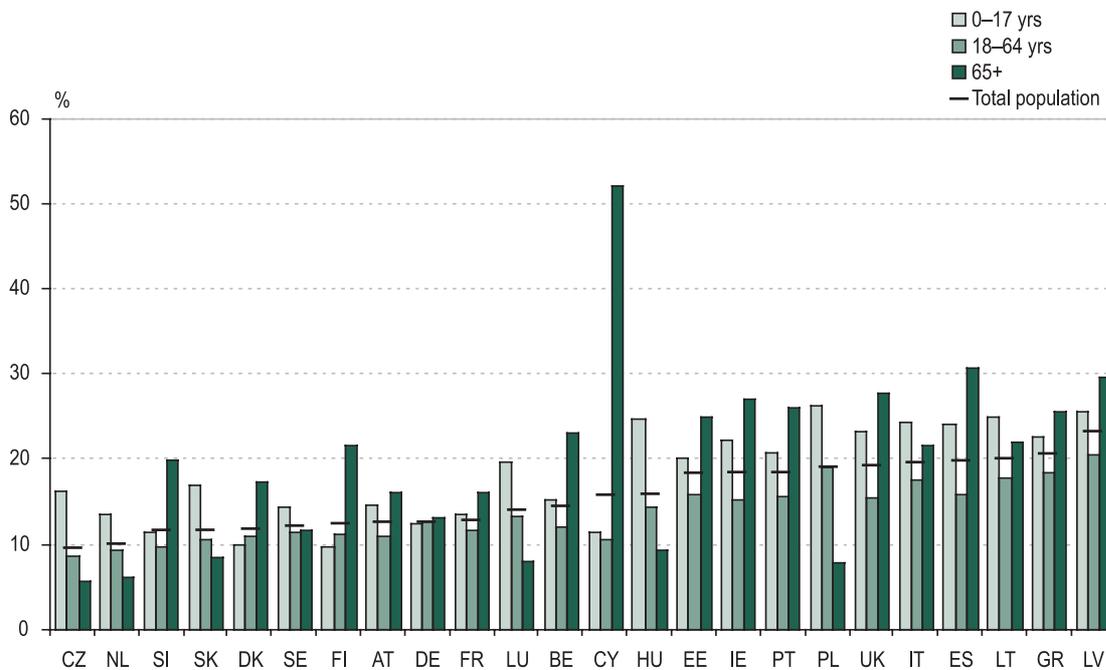
Source: Own calculations based on EU-SILC 2006

Among those aged 65 and over, the risk of poverty ranges from 6% in the Czech Republic and the Netherlands to 27–28% in Ireland and the UK, 30–31% in Latvia and Spain, to as high as 52% in Cyprus (a figure that is in line with other data sources, as well as with the EU–SILC for 2005).[2]

There are a number of countries where the risk of poverty among the elderly is much lower than among younger age groups, including four of the new Member States — the Czech Republic, Slovakia, Hungary and Poland — as well as the Netherlands and Luxembourg. In addition, the poverty risk is much the same as for other sections of the population in Sweden and Germany.

These marked differences in the risk of poverty among the elderly across the EU reflect differences in national pension systems, particularly in terms of the link between retirement pensions and earnings when in work, the relative importance of state versus private (or occupational) pensions and the extent to which the state pension is intended to provide a basic level of support, rather than a replacement income. These differences have, *inter alia*, important implications for any future harmonisation of pension entitlements across the EU within the context of encouraging labour mobility between Member States and establishing a truly unified labour market.

From a comparison of the risk of poverty among children, on the one hand, and among the elderly, on the other, the question arises: is there a trade-off in policy terms between the two? Do Member States tend to give priority to one rather than the other in the design and implementation of social protection systems? In practice, there are a number of countries where there is a marked difference in the risk of poverty between the two age groups. One group of countries, therefore, is characterised by a relatively low risk of poverty among children (compared to other age groups) and a relatively high risk among the elderly. This group includes Cyprus, Denmark and Finland. In another group of countries, the reverse is the case: child poverty is much higher than the poverty of the elderly population. This group includes the Czech Republic, Slovakia, Hungary, Luxembourg and Poland. On the other hand, there is no clear age–specific pattern of variation in the risk of poverty in the Baltic states, in the four Mediterranean countries, or in Ireland and the UK. In all of these countries, the risk of poverty among both children and the elderly is high, compared to the population of working age. In these countries, earnings from employment play a dominant role in the income of households, and the social protection system plays a relatively limited role in reducing income inequality (see the calculations based on EUROMOD[3] in Chapter 7).

Household structure

There are two main risks related to the household structure: a greater number of children and, perhaps less intuitively, living in a one–adult household (with or without dependent children).

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[2] See Pashardes (2003), who, on the basis of the Family Expenditure Survey for 1996-97, found that those aged 65 or over had a 58% higher probability of having income below the poverty line than younger age groups, other things being equal.

[3] EUROMOD is a multi–country tax–benefit microsimulation model, currently covering 19 EU countries — the 15 pre–2004 Member States and Estonia, Hungary, Poland and Slovenia (see the Appendix to Chapter 7 for further information).

Figure 2.2: Risk of poverty by type of household (households without children)
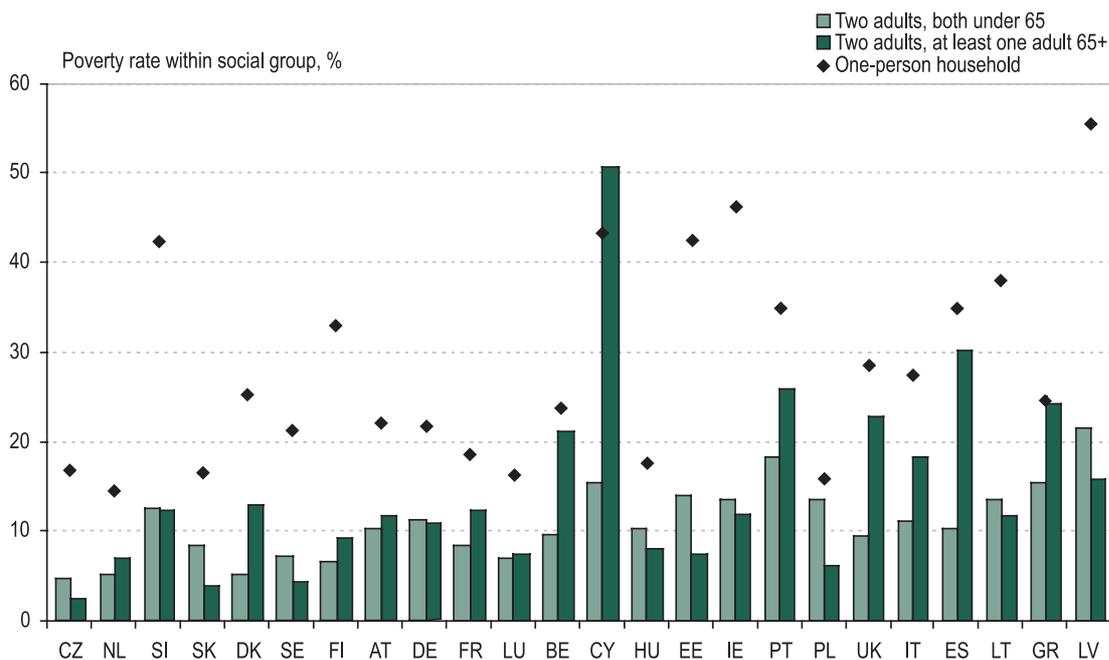
Source: Own calculations based on EU-SILC 2006

Figure 2.3: Risk of poverty by type of household (households with children)
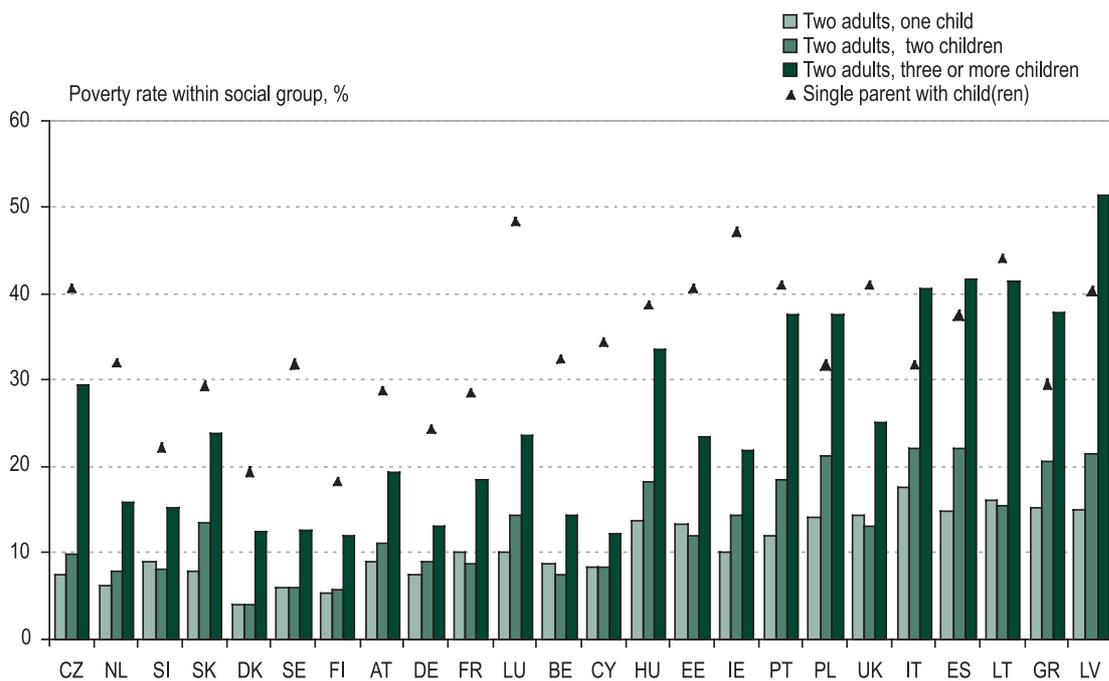
Source: Own calculations based on EU-SILC 2006

The risk of poverty among one-person households can be much higher than among two-adult households (see Figures 2.2 and 2.3). One reason for this is partly income pooling: in households where two adults cohabit, the impact of

temporary income shocks (such as unemployment or sickness) can be cushioned, since they normally affect one household member at a time. The other reason lies in the characteristics of one-adult households: a large proportion of these consist of young people who are unemployed, or elderly pensioners (predominantly women) — both groups with a higher than average risk of poverty.

Poverty among one-person households tops 40% in Cyprus, Estonia, Ireland, Latvia and Slovenia. In these countries, with the exception of Cyprus, this particular household type is exposed to a risk of poverty that is several times greater than other childless households, including even pensioner aged. The peculiarity of the situation in Cyprus is the outstanding old-age poverty: every second couple where at least one person is over the age of 65 lives in poverty. This is not a novel phenomenon and it cannot be attributed to one-off data-quality problems.

The risk of poverty among lone parents is around 30% or higher in the majority of the 24 Member States covered here, and over 40% of lone parents have incomes below the poverty line in the Czech Republic, Latvia, Lithuania, Luxembourg, Ireland, Portugal and the UK. The position of lone parents is better in Denmark and Finland, where the proportion with income below the poverty line is around 20% or lower, though this is still higher than among other sections of the population.

The risk of poverty rises significantly with the number of dependent children in the household. In around half of the countries, the risk of poverty among families with two children is higher than if the family has only one child. This is the case in the Mediterranean countries and in most of the Central and Eastern European countries. The risk of poverty, however, rises substantially among households with three or more children in these countries especially. In Greece, Italy, Portugal and Spain, therefore, as well as in Hungary, Latvia, Lithuania and Poland, at least a third of those living in households with three or more children have income below the poverty line.

Labour market factors

The focus here is on the link between the risk of poverty of households and employment — or, more precisely, the extent to which those of working age living in households are employed. The approach adopted is based on the Eurostat measure of this, which is defined as the work intensity of households (for a definition, see Glossary). A work intensity index value of 0 corresponds to no one being in employment — i.e. a jobless household. By the same token, a work intensity index value equal to 1 means all the household members of working age have been employed for the entire year.

It should be noted that, in practice, the index as defined is only a partial indicator of work intensity, since it takes no account of whether those employed work full time or part time, which clearly affects the income they earn from employment and, therefore, how far they are likely to be at risk of poverty. This should be borne in mind when interpreting the results of the analysis.

As is indicated in Figure 2.4, in most Member States jobless households are at the highest risk of poverty. The risk among such households is particularly high (over 50%) in the three Baltic countries, Ireland, the UK and Spain, while it is only

slightly lower (over 40%) in Belgium, Cyprus, Portugal, Italy and Hungary. In most countries, the risk of poverty declines significantly as the work intensity index increases.

The situation of households where at least one person is employed, but not all members have worked full time during the year (which means a work intensity of between 0 and 1) is more polarised. In Luxembourg, households where work intensity is between 0 and 0.5 show substantially higher risk of poverty than both jobless households and those with higher work intensity, while in Greece, Poland, Sweden, Finland, Hungary and Denmark the difference between the poverty rates of households with work intensity of 0 and below 0.5 is negligible. The risk-of-poverty rates among households with work intensity of between 0 and 0.5 are highest in Estonia (48%) and Latvia (45%), the same two countries that also exhibit the highest risk among jobless households. Although the poverty rates of house-holds with work intensity of between 0.5 and 1 tend to be generally lower than the national average, there are a number of countries, including the Netherlands, Slovakia, Luxembourg, Portugal, Italy and Lithuania, where this is not the case.

Figure 2.4: At-risk-of-poverty rates by work intensity of the household
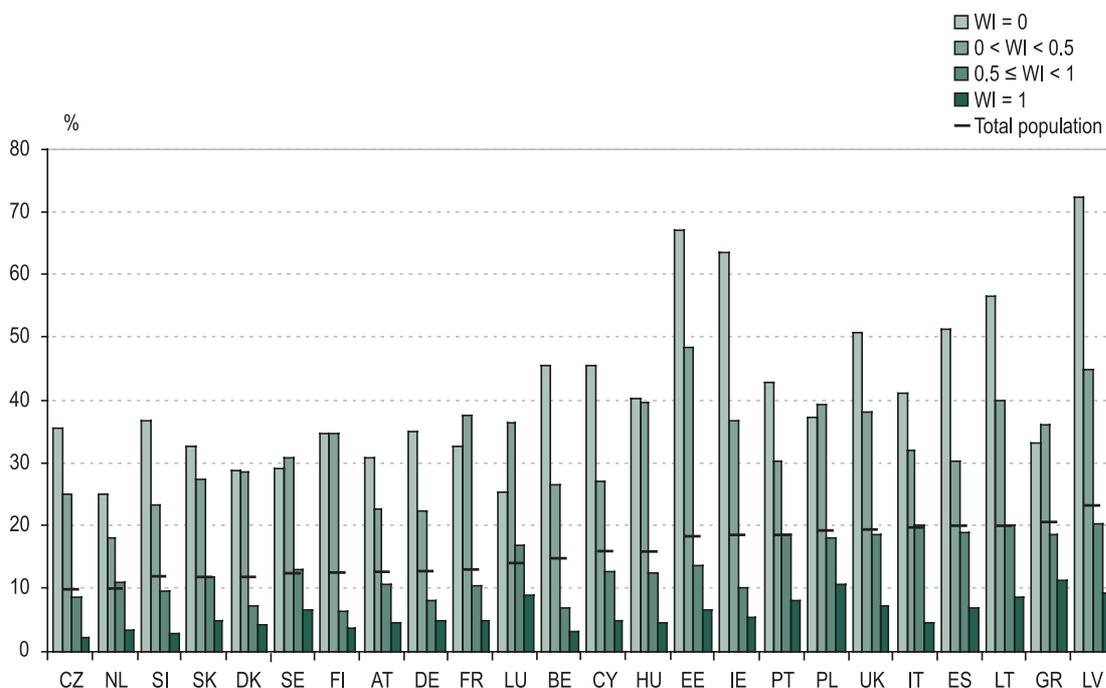
Source: Own calculations based on EU-SILC 2006

Households with work intensity equal to 1 exhibit by far the lowest risk-of-poverty rates, which indicates that full employment (meaning all household members of working age) seems the key condition to protecting people against poverty.

The Lisbon Agenda of the European Union promotes 'more and better jobs' and greater social cohesion. Although there is no clear-cut causal relationship between the level of employment and the risk-of-poverty rates, it is clear that an increase

in the latter tends to be associated with a decline in the former. A high level of employment, however, does not necessarily guarantee a low overall risk-of-poverty rate, though a low employment rate makes it difficult to avoid having a relatively large proportion of the population with income below the poverty line. This is illustrated in Figure 2.5, which is divided into four quadrants, according to the EU average of the two rates. The top-left quadrant shows countries with both a high risk of poverty and low employment, while the bottom-right panel shows high employment and low risk of poverty, thus above-average performance in both respects.

Figure 2.5: Level of employment and poverty
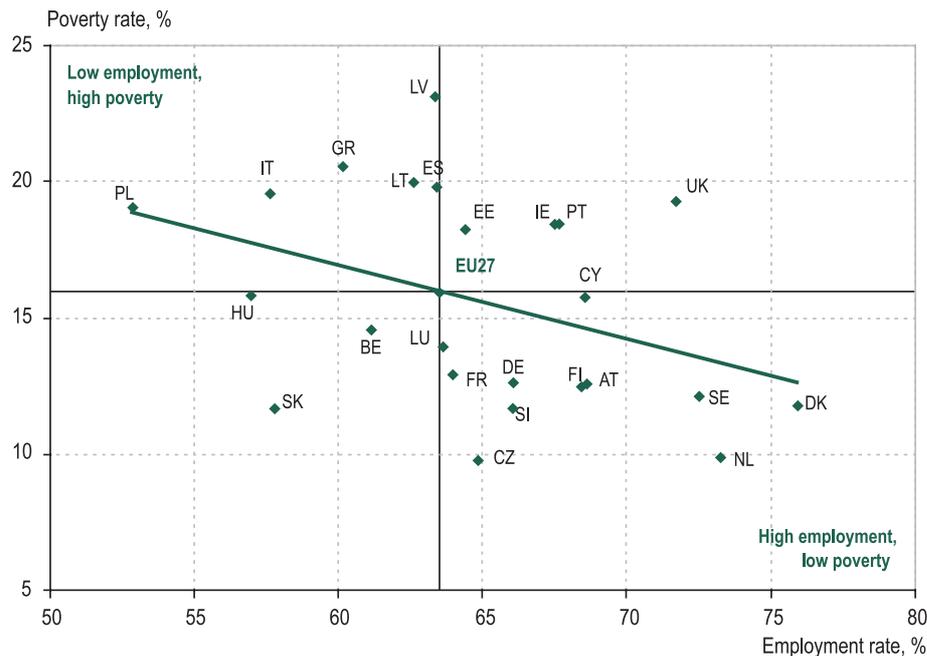
Source: Own calculations based on EU-SILC 2006

Although there is only a weak correlation between the employment rate and the risk-of-poverty rate, countries with a low employment rate tend to have a high risk of poverty, while countries with a high employment rate tend to have a lower risk. The malaise of a high risk of poverty coupled with low employment is evident in the Mediterranean countries, apart from Portugal, reflecting the relatively low level of unemployment benefits and social assistance in Greece, Spain and Italy.

Low employment, however, does not necessarily go together with a high poverty risk. There is considerable variation among the new Member States, in which employment tends to be relatively low: the risk of poverty is relatively high in Poland, around the EU average in Hungary and below the average in Slovakia. Similarly, while high rates of employment do not necessarily mean a low risk of poverty, there are more countries where this is the case than not. The actual impact of unemployment on poverty is strongly mitigated by the institutional structure of the given country (see e.g. Makovec and Zaidi 2007).

The poverty gap by age and gender

In the majority of EU Member States, the elderly are more likely to have income below the poverty threshold, but their income tends to be less far below the threshold than the income of those people of working age who are similarly at risk. In other words, the poverty gap for the elderly tends to be relatively small. Figure 2.6 shows the risk-of-poverty rate and the poverty gap for those aged 65 and over, relative to those of working age. The top-right quadrant of the graph indicates that there is only one country, Cyprus, with both a high risk of poverty among the elderly and a relatively large poverty gap (both figures as compared to the working-age population). By contrast, the elderly in the Czech Republic, Slovakia, Hungary, Poland and the Netherlands (in the bottom-left quadrant) have both a low poverty risk and a small poverty gap. The majority of countries, 17 of the 24, are situated in the bottom-right quadrant, with a relatively high poverty rate among those aged 65 and over but a relatively small gap — implying that, while the elderly population is more likely to have income below the poverty line, the extent to which it falls below that line is, on average, less than among the population of working age. This highlights the fact that pension systems tend to provide a safety net, but one that, in most countries, operates below the poverty threshold.

Figure 2.6: At-risk-of-poverty rates and poverty gaps by age. Relative ratios of the elderly (65+ years) and the working-age population (18–64 years)
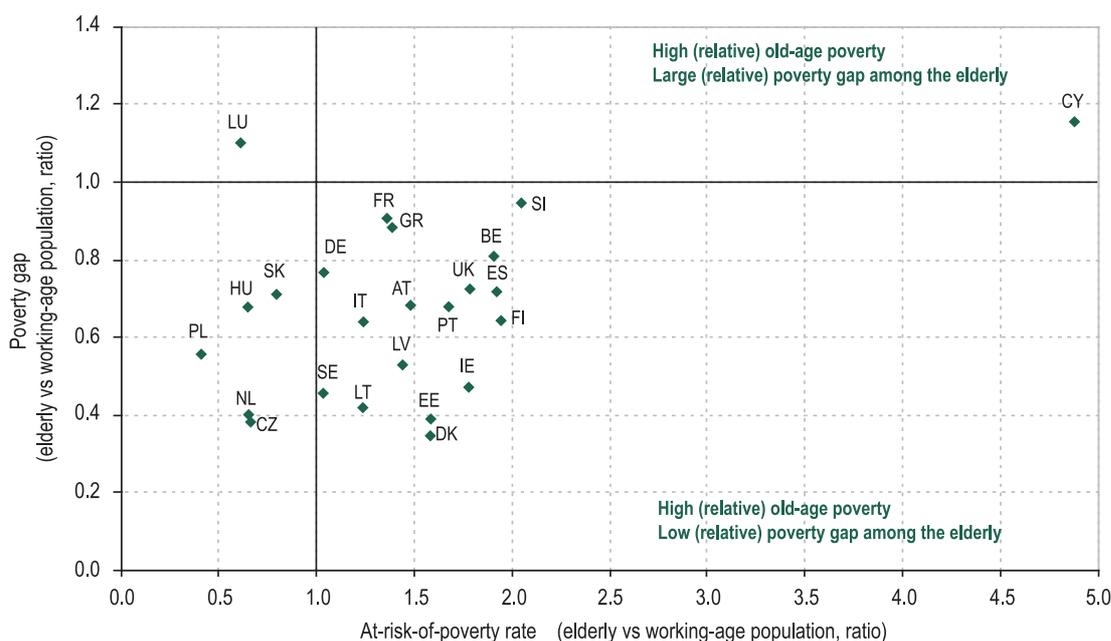
Source: Own calculations based on Eurostat New Cronos database and EU-SILC 2006

The relative situation of women shows a somewhat similar pattern to that of the elderly. Women are more likely to be at risk of poverty in most countries, but their income does not fall as far below the poverty threshold as that of men. In the majority of Member States, 14 of the 24, the risk of poverty is higher among

women, but the poverty gap is smaller (i.e. they are situated in the bottom–right quadrant of Figure 2.7. In only two countries, Cyprus and Portugal, is the poverty gap larger for women than for men (i.e. they appear in the top–right quadrant). At the same time, there are a number of countries where there is no significant difference between men and women in terms of risk–of–poverty rates (Slovakia, Hungary, the Netherlands and Sweden), or the poverty gap (Greece and the UK), or both (Luxembourg).

Gender differences in the risk of poverty, however, are strongly linked to household composition, since, because of the way incomes are measured (i.e. on an equivalised basis and shared between household members equally), any difference arises solely from the situation of men and women living alone. In particular, because of the longer life expectancy of women, there are larger numbers of women aged 65 and over living alone than of men.

Figure 2.7: At-risk-of-poverty rates and poverty gaps of women relative to men
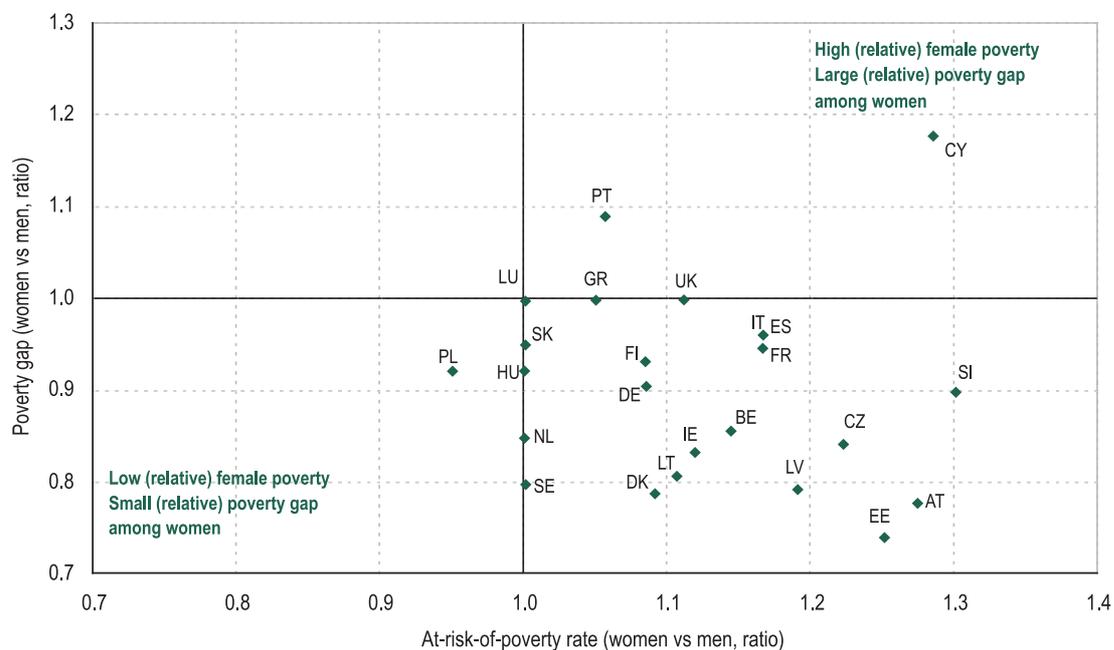
Source: Own calculations based on Eurostat New Cronos database and EU-SILC 2006

Accordingly, the size of the gender difference in risk–of–poverty rates is much smaller than the difference between age groups across countries. While the difference in the risk–of–poverty rates by age group ranges from 0.4 to 4.9, the difference between men and women only ranges from 0.95 to 1.3.

Age patterns of poverty trends between 2002 and 2005

The question of how far the risk of poverty among particular age groups has changed in recent years is difficult to answer because of the change in data sources. Nevertheless, some indication can be gained by relating the rates of different age groups to the national average. However, for only six countries — Belgium,

Denmark, Ireland, Greece, Luxembourg and Austria — are the data available to do this for a period of more than two years. The results are shown in Figure 2.8, curves above the 100% line indicating an above-average risk of poverty, and those below a below-average risk. Two data points are compared: 2002 and 2005.

Figure 2.8: Relative poverty risk by age group in six EU countries, 2002–05 (poverty rate of the entire population in each year = 100%)
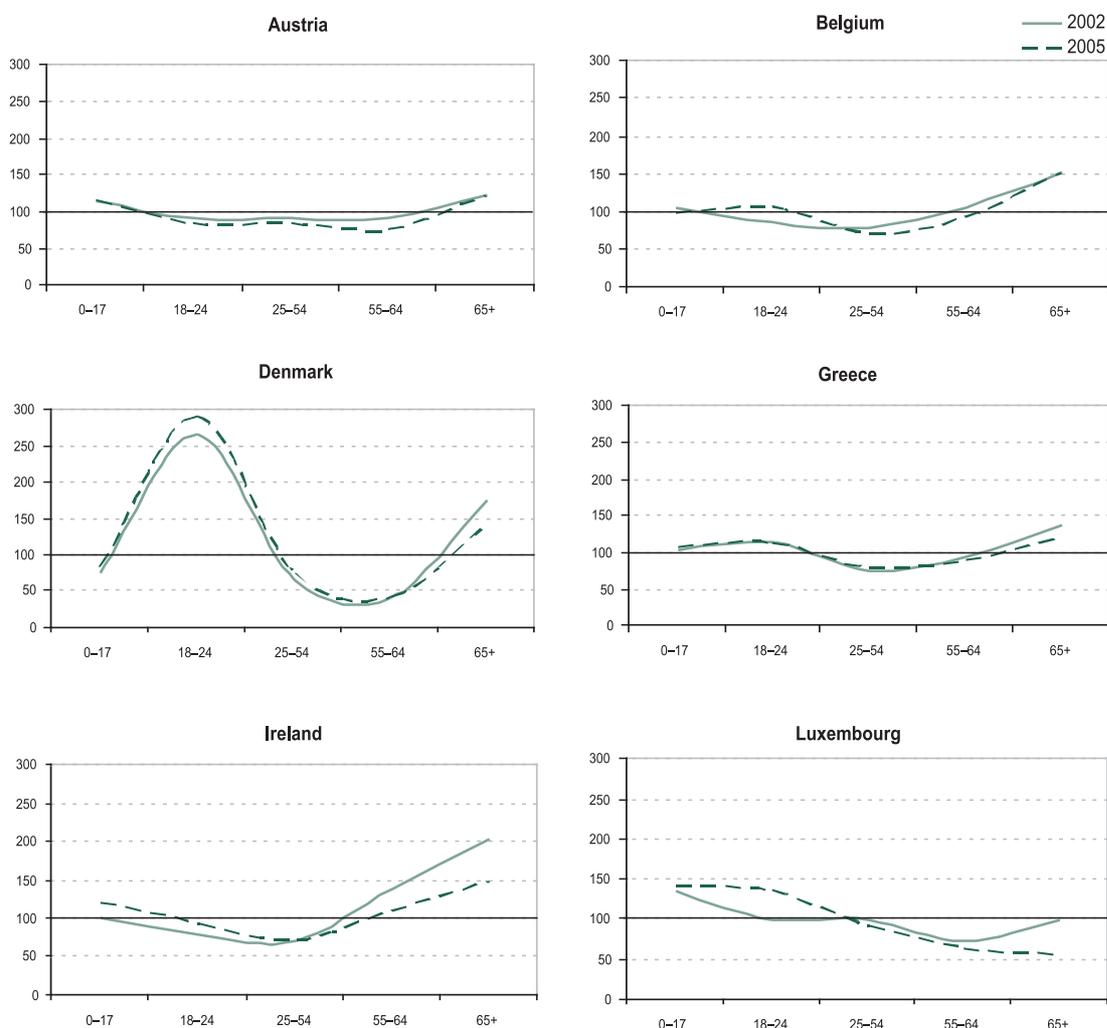
Source: Own calculations based on the Eurostat New Cronos database
Note: Relative poverty risk = poverty rate of a specific age group divided by the poverty rate for the entire population x 100.

There is no uniform pattern of change over the period, though the risk of poverty among the elderly either remained unchanged or declined in the six countries between 2002 and 2005. In contrast, there is evidence of some increase in the risk of poverty among children in Ireland, among the working-age population in Ireland and Denmark, and among young people aged 18–24 in Belgium and Luxembourg. In the latter two countries, this was accompanied by a reduction in the risk among those aged 55–64. This is broadly in line with the findings for OECD countries,[4] for which a decline in the risk of poverty was evident among the

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[4] Average of 23 OECD countries.

elderly between 'around 2000' and the 'mid–2000s', while there was an increase among working–age population during the same period (OECD 2008, p. 132).

Decomposition analysis of income inequalities[5]

As indicated by the above analysis, various factors underlie income inequalities and the risk of poverty. Earnings from the employment of households depend on the characteristics of the members, as valued by the labour market (like age, gender and education level), which tend to vary between regions (i.e. where the household is situated), as well as on whether household members decide to work or not. Households might have capital or self–employment incomes, which are also influenced by individual and household characteristics. Of course, the well–being of individuals is also dependent on the number of household members living together. Individuals living in households with more dependent members enjoy a lower well–being level for a given level of household income. Thus household structure is also an important determinant of individuals' income status and inequality of income. Differences in market income might be mitigated by government redistribution that is targeted at low–income groups.

In this part, we study the explanatory factors of income inequality and poverty. First of all, we analyse factors that explain income inequality by a given household characteristic. We then analyse the correlates of poverty.

Determinants of household income

Here we examine the main driving forces underlying inequalities. As earnings from employment are the most important part of household income, the focus is on the effect of household members being in work, as well as on important determinants of employment and earnings, such as age, education and degree of urbanisation. We also investigate the role of socio–demographic factors (like household structure) on the distribution of income.

According to human capital theory, those with higher levels of educational attainment enjoy higher wages because of their higher productivity. Workers also accumulate know–how while working, which likewise tends to increase their productivity; so experience also tends to lead to higher wages. A common argument is that the increasing inequality of earnings in developed countries is a result of technological change, which tends to increase the productivity of higher–educated workers relative to the lower educated. If, in the short term, the supply of educated people fails to match the increase in demand, the premium on education will tend to increase. Sudden technological changes might also cause a change in the steepness of the age-earnings profile, since, for example, the education of younger people may be better adapted to the requirements of the new technology than the education and skills of older workers. In this case, demand will increase more for the young who are well educated and less for older workers, which will result in a less steep age-earnings profile. The effects of the socio–demographic characteristics

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[5] Based on work by Márton Medgyesi and István György Tóth.

(age, education, household structure and degree of urbanisation) and of the labour market-related characteristics (employment and work intensity) of the household are examined below by applying decomposition of inequality indices.

Methodology of decomposition analysis

The concern is to investigate the effect of being in employment, of age and of education level on the distribution of income. The relevant question to consider in this regard can be formulated in two ways. The first is: how much inequality would be observed if age (or education or employment) were the only source of income dispersion? The second is: how much would income inequality be diminished if, starting from the actual distribution, income dispersion due to age (or education, employment, etc.) were eliminated by making age-group means identical, while preserving within-group inequality. The Mean Log Deviation (MLD) index[6] is selected here to perform the calculations because, as argued by Shorrocks (1980), in this case the answers to the two formulations coincide. The MLD index is additively decomposable, which means that it can be written as the sum of two components: a weighted sum of within-group inequalities and between-group inequality (that is, inequality that would be observed if the incomes of all individuals were replaced by their respective group means). In the case of the MLD, decomposition weights are simply population shares of different groups; the within-group component is, therefore, the sum of within-group MLD indices, weighted by the population shares of the respective groups.[7] The same methodology has been used by a number of authors to investigate the effect of various individual or household attributes on income inequality (for example, Jenkins 1995). Since the sum of between-group and within-group inequalities equals total measured inequalities, the various components can be expressed in percentage terms. While this method is not suitable for uncovering true, causal relationships, it is a first step and gives intuitive results, which can then be confirmed by more elaborate analysis.

The analysis is carried out on the basis of equivalised household income, using the OECD modified scale. Variables used for grouping in the decomposition analysis are based on the attributes of the (assumed) head of the household in which people live. Since no household head is defined in the EU-SILC, this is taken to be the oldest man of working age (18-64). If there is no man of working age, then the oldest woman of working age is taken as the household head instead. If there are no members of the household of working age, the oldest man of 65 or older is taken as the household head, or the oldest woman if there is no man.

We will be considering socio-demographic attributes: age of the household head, the household structure, the education of the household head and the degree

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[6] For a definition of the MLD index, see the Glossary.

[7] Formally, v_k refers to the share of k subgroups in total population, $v_k = n_k/n$, and λ_k to the ratio of average incomes of a k subgroup to the average incomes of the total population, $\lambda_k = \mu_k/\mu$, and θ_k to the share of k sub-population from total incomes in the population, $\theta_k = v_k\lambda_k$. Total inequality, as measured by the MLD index, can be decomposed as the sum of two components: $MLD = \Sigma_k v_k MLD_k + \Sigma_k v_k \log(1/\lambda_k)$. The first part of the right-hand side of the equation relates to the 'within-group' inequalities: it denotes the weighted average of inequalities within the subgroups. The second part of the expression relates to 'between-group inequalities': the part of inequalities that would remain if the income of each individual in a subgroup were replaced by the average of the subgroup.

of urbanisation of the household's place of residence. Age of household head is grouped into four categories: 18–35 years old, 36–49 years old, 50–64 years old, and over 65 years of age. Household structure is a five-category variable: households with a working–age head (between 18 and 64 years of age) were grouped according to the number of children (no children, one child, two children, three or more children), and households with a retirement–age head constitute the fifth category. Education of the household head is coded on a three-point scale (lower than upper secondary, upper secondary, tertiary education), employment status is also grouped in three categories (employed, active–age inactive, retired). The degree of urbanisation variable is coded: densely populated area, intermediate area, and thinly populated area.[8] Among the labour market characteristics of the household, we investigate the effect of the employment of the household head and the work intensity of the household. Work intensity of the household is defined on the basis of the total number of months worked by all household members, related to the number of total workable months.[9] In our decomposition analysis, we use a three-category version of the variable: work intensity less than one half; work intensity more than half but less than one; work intensity equal to one.

Results of the decomposition analysis

The results of the static decomposition analysis are summarised by reviewing the importance of each explanatory factor in turn.

Socio-demographic attributes

Age of household head

With the exception of five countries, age differences account for less than 5% of total inequality, as measured by the MLD index. Age differences are most important in the Nordic countries, Cyprus and Estonia. In Denmark, the between–age–group component of inequality amounts to 12% of the total, in Sweden to 8%, and in Finland and Cyprus to 7%, while in Estonia, age accounts for 6% of total inequality. On the other hand, in Poland, Portugal, Hungary and Italy, the age of the household head explains less than 2% of overall inequality (Figure 2.9).

In the countries where the effect of age is relatively important, this arises from income differences both among those of working age and between this group and those aged 65 and over, almost all of whom are retired. In Denmark, the average income of those aged 50–64 is 20% higher than the country mean, while the average income of those aged 18–35, and of those aged 65 and over is 20% lower than the overall mean. The pattern in Sweden is similar. In Cyprus, the effect is mainly due to the low incomes of those aged 65 and over, whose relative income is much less

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[8] 'Densely populated area' is a contiguous set of local areas, each of which has a density of over 500 inhabitants per square kilometre, where the total population for the set is at least 50,000 inhabitants. 'Intermediate area' is a contiguous set of local areas, not belonging to a densely populated area, each of which has a density of more than 100 inhabitants per square kilometre, and either with a total population for the set of at least 50,000 inhabitants or adjacent to a 'densely populated' area. 'Thinly populated area' is a contiguous set of local areas belonging neither to a 'densely populated' nor to an 'intermediate' area.

[9] A more detailed definition of work intensity is provided in the Glossary.

than in the other countries covered. The relative incomes of the elderly are also low in the Baltic states, Ireland, Spain and Belgium. By contrast, the elderly enjoy a relatively favourable level of income in Austria, France, the Netherlands, Luxembourg and Poland, where their average income is close to the national average.

Household structure

Household structure explains 10% of total inequality in the Czech Republic. In Cyprus and Ireland this variable accounts for 8% of inequality as measured by the MLD index, while Denmark and the UK show between-group effects of over 7% (Figure 2.9). Countries where the explanatory role of household structure is low include Luxembourg, Greece, France and Portugal, where differences between average incomes of different groups account for less than 3% of total inequality. Income differences by household structure partly mirror income differences between working-age (18-64 years) and retirement-age (over 65 years) people — something we have discussed already. The other part of income dispersion by household structure is income differences according to the number of children in families with a working-age household head. Average income of households with three or more dependent children is lower than the overall mean income in every country. The relative income situation of these families is worst in the Baltic states, Poland, the Czech Republic and the United Kingdom, where the average income of these families is less than two-thirds of the mean income of childless households. Income differences according to the number of children are least pronounced in Slovenia, Denmark, Finland, Luxembourg, Belgium and Portugal, where the average income of households with three or more children is 10-20% lower than that of childless households.

Figure 2.9: Fraction of inequality explained by socio-demographic factors: age and household structure
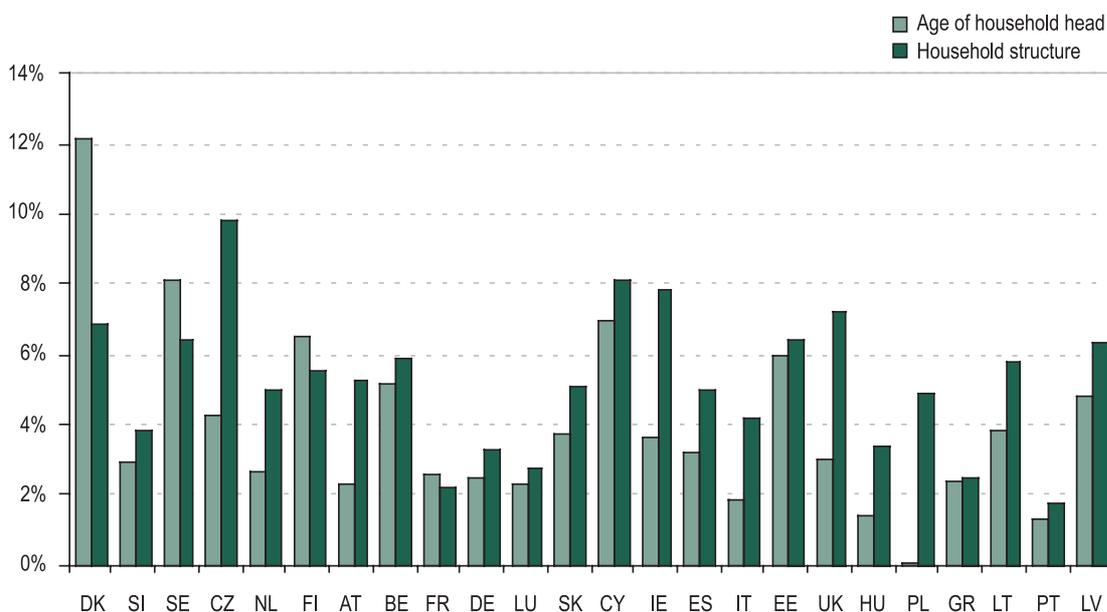
Source: Own calculations based on EU-SILC 2006
Note: Countries are ranked according to the MLD index of total inequality.

The effect of the education level of household head

In general, education is more important than age or household structure in explaining income differences, but the effect differs markedly among the countries covered[10] (Figure 2.10). In some countries — in particular, Sweden, Slovakia, Germany, Denmark and France — education accounts for less than 10% of income inequality, as measured by the MLD index. At the other end of the scale, income differences between education groups in Portugal account for 30% of total inequality, but even in countries like Hungary, Lithuania, Poland, Cyprus, Luxembourg and Slovenia it accounts for around 20% of the MLD index. Countries characterised by a between-group effect of just over 15% include Spain, Finland, Belgium and Greece, while in other countries education explains between 10% and 15% of inequality.

Income differences between those with different education levels can be important at both the lower and the upper ends of the distribution. The relative incomes of those with low education levels are lowest in the UK, Lithuania, Estonia, Latvia, the Czech Republic and Poland. The average incomes of those with tertiary education are highest in relative terms in Portugal, but relative incomes of those with tertiary education are also high in Poland, Latvia, Lithuania, Hungary, Slovenia and Italy.

Figure 2.10: Fraction of inequality explained by education and degree of urbanisation
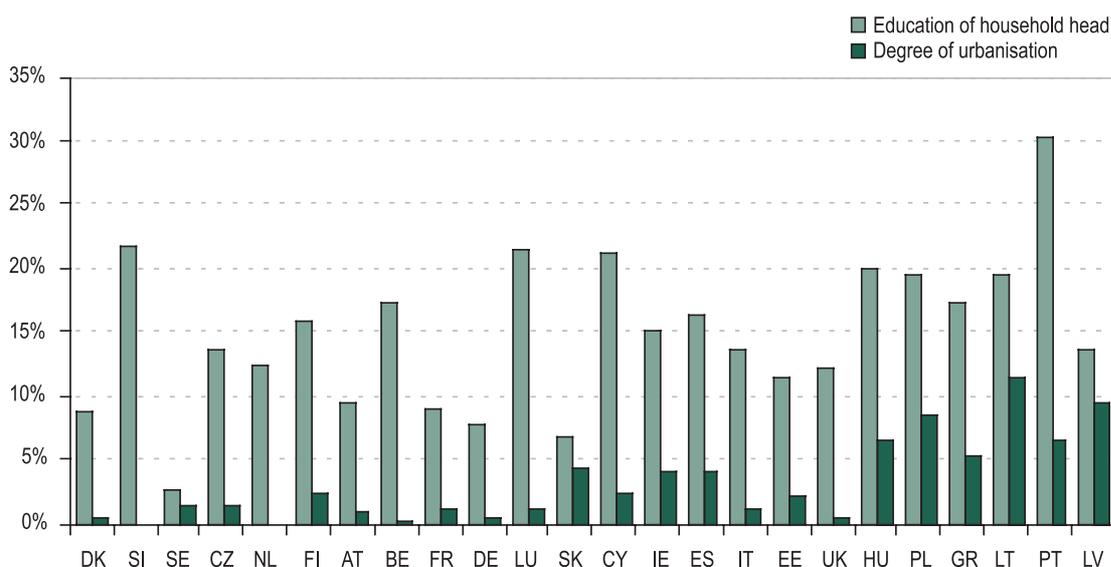
Source: Own calculations based on EU-SILC 2006
Note: Countries are ranked according to the MLD index of total inequality.

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[10] In such decompositions, it is generally not recommended to compare between-group effects across variables with different numbers of groups, since a higher number of subgroups obviously leads to more dispersion between groups and less dispersion within groups. In our case, education and labour market variables are all coded on a three-point scale, and thus between-group effects can be safely compared. When comparing the effect of age and household structure with those of labour market variables, it should be kept in mind that age and household structure comprise four and five subgroups. This, however, does not weaken our conclusion that labour market effects are stronger.

Degree of urbanisation

The degree of urbanisation of the settlement where the household resides explains the highest percentage of inequality in Latvia, Lithuania and Poland (see Figure 2.10). The first in the ranking is Lithuania, where this variable accounts for 12% of total inequality. In Latvia, the degree of urbanisation explains 10% of inequality, and in Poland, 9%. By contrast, this variable has a negligible effect in many countries. In Belgium, Denmark, the UK, Germany and Austria, degree of urbanisation accounts for less than 1% of the MLD index, while in another five countries the between-group effect is between 1% and 2% of total inequality.

Labour market status

Employment status of household head

There is also great variability in the effect on inequality of the employment status of the household head. In some countries, income differences as regards employment status account for less than 5% of income inequality (see Figure 2.11). These are Austria, Luxembourg, Italy, Greece, Portugal and Cyprus. In Estonia, Latvia, Ireland, the UK, Denmark, Belgium and the Czech Republic, income differences according to employment status account for over 15% of total inequality, while Hungary, Lithuania and Finland also show a between-group effect of over 10%.

The biggest difference between the average income of those employed and those not employed can be found in Ireland, the UK and the three Baltic states. The incomes of those employed are also relatively high in the Czech Republic, Germany, Denmark, Finland and Poland, while the incomes of those not in work are also low in the Czech Republic, Belgium and Denmark.

Work intensity

Although the actual employment status of the household head can be a good proxy for the household's labour market involvement, we can use a more precise measure, which is based on the employment situation of all household members over the year preceding the survey. This work intensity variable is based on the ratio of the total number of months worked by all household members to the total number of workable months. The value of the work intensity variable is 1 if all household members were working for the whole year, while its value is 0 if none of the household members worked during the year.

Income differences according to work intensity explain the largest fraction of total inequality in Ireland, Estonia and Belgium, where this variable accounts for more than 20% of total inequality. (Figure 2.11) Finland, Latvia, Lithuania and the Czech Republic also show relatively high between-group effects, in the 17–19% range. The countries where the work intensity of the household explains the lowest fraction of total inequality are Luxembourg, Sweden, Portugal, Cyprus, Greece and Austria. In these countries, the differences in the average income of subgroups account for between 5% and 8% of total inequality.

Figure 2.11: Fraction of inequality explained by employment status and work intensity
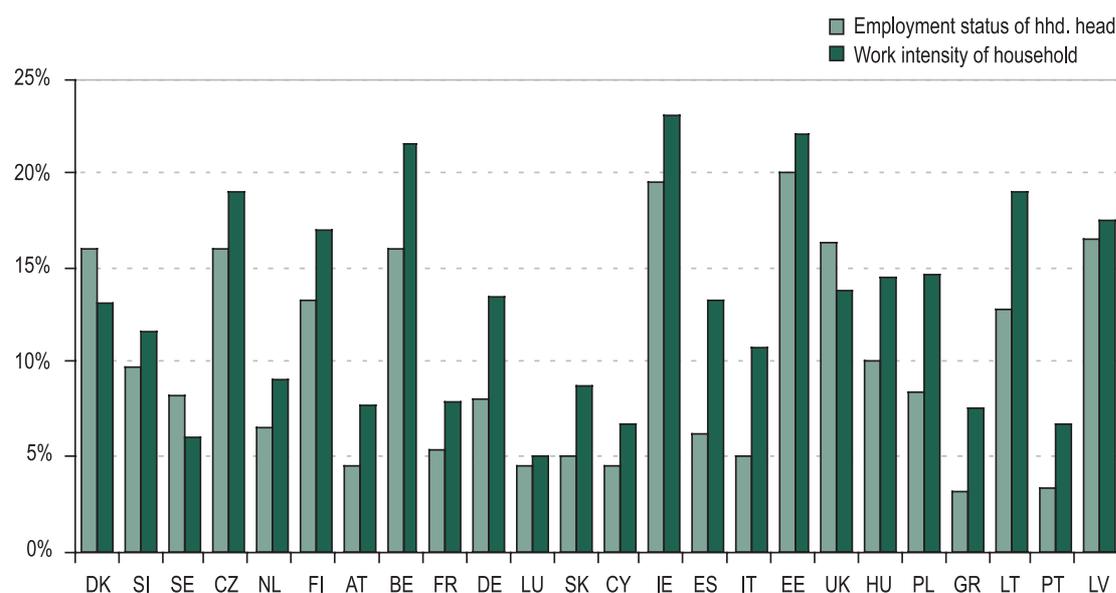
Source: Own calculations based on EU-SILC 2006
Note: Countries are ranked according to the MLD index of total inequality.

Joint effect of socio-demographic variables and labour market status

We also investigated the joint effect of socio-demographic and labour market variables on inequality. We combine household structure with the education level of the household head and with the work intensity of the household (see Figure 2.12). Education seems to have a stronger effect on the ranking of countries when we examine the combined effect of household structure and education. Household structure and education jointly explain the highest proportion of total inequality in countries where the effect of education was the strongest (see Figure 2.10). At the top of the country ranking we find Portugal, where these two variables account for a third of overall inequality, as measured by the MLD index. In Cyprus, Luxembourg, Slovenia, Poland and Hungary, the two variables explain around a quarter of total inequality. At the other end of the country ranking is Sweden, where these two variables account for less than 10% of total inequality. The combined effect of these two variables is also relatively low in Denmark, Germany, France and Slovakia, where the two variables explain between 11% and 15% of total inequality.

When examining the joint effect of household structure and work intensity, we see a country ranking that is similar to the ranking according to the work intensity variable (see Figure 2.11). Ireland is the country where these two variables explain the highest fraction of inequality (30%), but Belgium, Lithuania, Estonia, the Czech Republic and Poland also record relatively high between-group effects (22-27%). On the other hand, in Luxembourg, Portugal and Greece this variable accounts for only 11-12% of total inequality.

**Figure 2.12: The joint effect of household structure and labour market status on inequality**
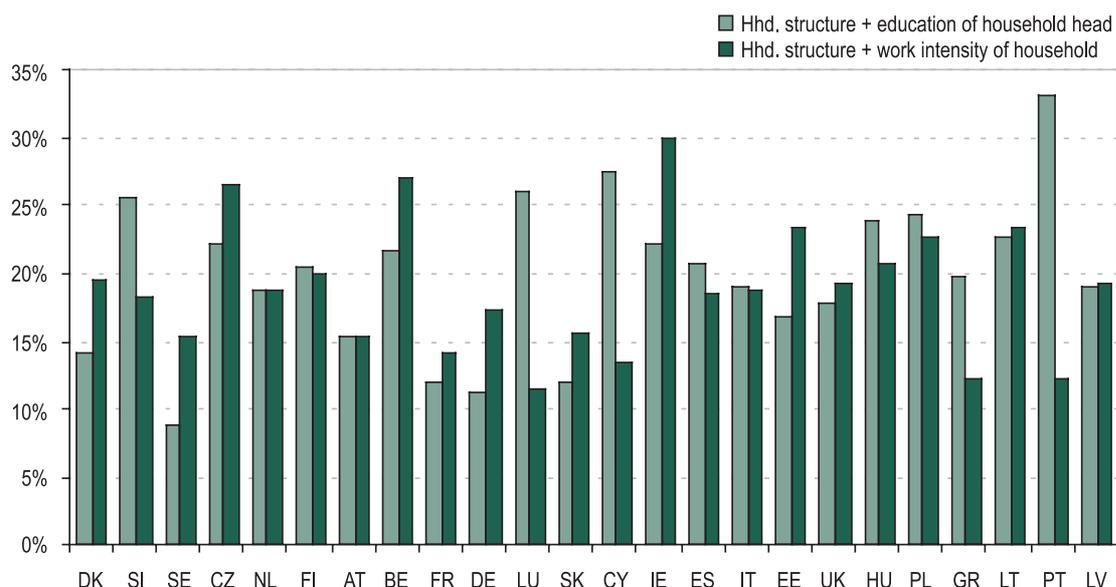
Source: Own calculations based on EU-SILC 2006

Note: Countries are ranked according to the MLD index of total inequality.

Results of static decomposition analysis by country groups

The results of the static decomposition analysis can be summarised by creating six country groups and calculating the averages of the between-group effects for each of these. The groups in question are: the Nordic countries (Sweden, Denmark and Finland), the Mediterranean countries (Portugal, Spain, Italy, Greece and Cyprus), the Continental countries (France, Germany, Belgium, the Netherlands, Luxembourg and Austria), the Anglo-Saxon countries (the UK and Ireland), the Central European countries (Poland, the Czech Republic, Slovakia, Slovenia and Hungary) and the three Baltic states (Lithuania, Estonia and Latvia). The average of the between-group components of inequality according to age, education and employment status of the household head are shown for each of these country groups in Figure 2.13.

The Anglo-Saxon and the Baltic states have a similar structure of inequality. In these countries, both education and employment explain around 15% of total inequality, and this effect is stronger than the effect of age (around 5%). The Nordic countries show a different structure of inequality, since age, education and employment all have broadly similar effects on income inequality. In the Continental, Central European and Mediterranean countries, education is the most important factor among the variables considered in this analysis. Employment also has an important effect in the Continental and Central European countries, but among the Mediterranean countries the effect of employment status has a similarly small effect to that of age.

Figure 2.13: Percentage of inequalities explained by different factors in the country groups, 2005
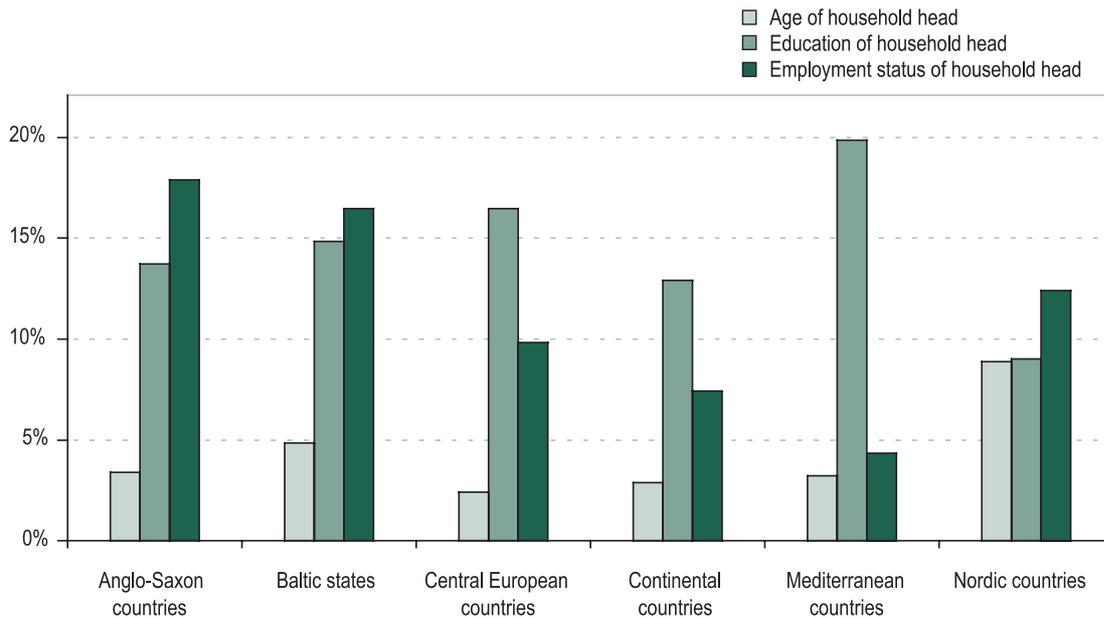
Source: Own calculations based on EU-SILC 2006
Note: Percentages are simple country averages.

Concluding remarks

Children are exposed to a relatively high risk of poverty in the majority of EU Member States (16 of the 24 covered here). In 10 of the 16 countries, moreover, the risk of poverty is higher among children than among the elderly. The occurrence of child poverty increases among households with more dependent children, but it is also high among single parents, reaching 30% in most EU countries. Note, however, that one-person households are also at high risk of poverty, and often face poverty rates that are several times higher than for two-adult households.

Employment tends to provide a route out of poverty for the overall majority of households. Jobless households, on the other hand, are at high risk: in some countries (including the Baltic States, Ireland, the UK and Spain), over half of this group have incomes below the poverty thresholds.

In recent years, we can find modest evidence for declining poverty among the elderly in Denmark, Greece, Ireland and Luxembourg, although the data series (with consistent data) is currently too short to allow sound trends to be established.

With respect to the situation of the elderly, in the majority of countries there is a high occurrence of old-age poverty (compared to the working-age population), but at the same time a relatively low poverty gap. The elderly may thus have incomes below the poverty threshold, but the *extent* to which their income falls below the poverty line is often less than among their working-age compatriots.

Women are more likely to be poor, but in most countries their poverty gap tends to be smaller than that of men. Thus, women are more likely to fall below the threshold, but, once poor, men tend to fall deeper.

On a country level, a high level of employment seems to yield low levels of poverty in most countries, but not all. The exceptions include Ireland, Portugal and the UK, where high levels of employment coincide with above-average levels of poverty. In a number of countries, low employment is coupled with high poverty, including Poland, Italy and Greece.

In the second part of this chapter, we compared the role of different factors in explaining income inequality across countries. We investigated the effect on the distribution of income of socio-demographic factors (age, household structure, and education), as well as labour market status, such as employment status and work intensity of the household.

Our analysis showed that, for a majority of countries, labour market-related factors (employment status and work intensity) and education are more important in explaining inequalities than are age or household structure. Income differences between education groups account for the largest share of total inequality in Southern European countries — e.g. Portugal or Cyprus — and new Member States, especially Hungary, Lithuania, Poland and Slovenia. Income differences according to work intensity of the household explain the largest fraction of total inequality in Ireland, Belgium and Estonia, but this variable is also important in explaining inequality in the other Baltic states, Finland and the Czech Republic.

In most of the countries, age differences account for only a relatively small part of total inequality (less than 5%). The role of age-related income differences is comparable to that of labour market-related variables only in the case of the Nordic countries. Household structure is the most important in the Czech Republic, Cyprus, Ireland, Denmark and the UK, but even in these countries the percentage of inequality explained by this variable is lower than in the case of labour market-related variables.

Appendix

Table A2.1: At-risk-of-poverty rates by household type

Country	One-person household	Two adults, no dep. children, both under 65 years	Two adults, no dep. children, at least one adult 65 +	Other households without dependent children	Single-parent household, one or more dep. children	Two adults, one dependent child	Two adults, two dependent children	Two adults, three or more dependent children	Other households with dependent children	N
AT	22.1	10.3	11.8	6.3	28.8	9.0	11.2	19.4	5.3	14,883
BE	23.7	9.8	21.2	8.5	32.5	8.9	7.6	14.4	14.6	14,292
CY	43.4	15.6	50.8	10.6	34.4	8.3	8.4	12.3	6.7	11,069
CZ	17.0	4.9	2.5	2.8	40.8	7.5	9.8	29.5	8.5	17,830
DE	21.8	11.5	10.9	6.5	24.4	7.6	9.0	13.1	8.0	31,717
DK	25.3	5.3	13.1	3.2	19.5	4.1	4.1	12.4	10.0	14,549
EE	42.5	14.0	7.6	7.0	40.8	13.4	12.0	23.5	11.3	15,741
ES	34.9	10.3	30.2	12.1	37.6	14.9	22.1	41.8	20.4	34,183
FI	33.0	6.6	9.4	4.9	18.3	5.3	5.7	12.1	7.4	28,039
FR	18.6	8.5	12.5	11.5	28.6	10.1	8.9	18.6	17.7	24,726
GR	24.6	15.5	24.3	14.9	29.6	15.2	20.7	38.0	29.6	15,112
HU	17.6	10.3	8.1	5.8	38.8	13.8	18.4	33.6	13.9	19,902

Table A2.1: At-risk-of-poverty rates by household type

Country	One-person household	Two adults, no dep. children, both under 65 years	Two adults, no dep. children, at least one adult 65+	Other households without dep. children	Single-parent household, one or more dep. children	Two adults, one dependent child	Two adults, two dependent children	Two adults, three or more dependent children	Other house-holds with dependent children	N
IE	46.3	13.6	12.0	6.7	47.3	10.2	14.5	21.9	11.8	14,634
IT	27.5	11.3	18.3	8.9	31.9	17.7	22.1	40.8	23.0	54,512
LT	38.0	13.7	11.9	9.5	44.2	16.1	15.4	41.5	13.2	12,134
LU	16.3	7.2	7.5	7.6	48.5	10.1	14.4	23.6	18.3	10,242
LV	55.4	21.6	15.9	11.3	40.4	15.1	21.6	51.6	16.2	10,892
NL	14.6	5.2	7.1	5.8	32.1	6.2	8.0	15.9	6.3	23,092
PL	16.0	13.7	6.2	11.7	31.6	14.2	21.4	37.7	23.6	44,157
PT	34.9	18.3	25.9	9.5	41.2	12.1	18.6	37.8	15.8	12,042
SE	21.3	7.3	4.5	4.7	32.0	6.0	5.9	12.7	16.3	17,043
SI	42.5	12.6	12.4	6.4	22.3	9.0	8.2	15.2	6.9	31,276
SK	16.6	8.5	4.1	4.7	29.4	8.0	13.6	23.9	12.1	15,138
UK	28.6	9.5	22.8	13.1	41.2	14.4	13.2	25.3	18.3	22,542

Source: Own calculations based on EU-SILC 2006

Table A2.2: Poverty in specific age groups and total national poverty rate

Country	Total population	0–15 years	16–64 years	65 years or more
AT	12.6	14.8	11.1	16.2
BE	14.6	15.0	12.4	23.2
CY	15.8	11.0	10.9	52.1
CZ	9.8	16.7	9.0	5.8
DE	12.7	12.1	12.8	13.1
DK	11.8	9.9	11.0	17.4
EE	18.3	19.8	16.2	25.1
ES	19.9	23.8	16.4	30.7
FI	12.5	9.1	11.3	21.7
FR	12.9	13.2	12.0	16.1
GR	20.6	21.6	18.9	25.6
HU	15.9	25.1	14.9	9.4
IE	18.5	20.9	16.2	27.2
IT	19.6	24.5	17.8	21.7
LT	20.0	24.1	18.4	22.0
LU	14.0	19.5	13.6	8.1
LV	23.2	25.5	21.0	29.8
NL	9.9	13.8	9.5	6.1
PL	19.1	26.0	19.5	7.8
PT	18.5	19.8	16.1	26.2
SE	12.2	13.9	11.7	11.8
SI	11.7	11.8	9.8	20.0
SK	11.7	16.6	11.1	8.5
UK	19.3	23.9	15.8	27.8

Source: Own calculations based on EU-SILC 2006

Chapter 3 | Vulnerable Groups: The Situation of People with Migrant Backgrounds

Orsolya Lelkes, Lucinda Platt and Terry Ward[1]

There is evidence, much of it piecemeal, that migrants and ethnic minorities are especially vulnerable to the risk of poverty and social exclusion in the EU. Verifying this and estimating the scale of the risk in different parts of the Union, as well as the reasons for it, however, is not straightforward. The most obvious way of identifying migrants in order to assess their relative position as compared to the resident population in different EU Member States is in terms of the inflows of people arriving from outside a country to live and work there. The statistics available on such inflows, however, are, for most Member States, both partial and dated. In addition, they do not always distinguish between their own nationals returning after a spell abroad, and the nationals of other countries arriving in the country for the first time. Such statistics, moreover, are in themselves of limited use for the present purposes, since they give only an indication of the characteristics of migrants and their circumstances at the time they enter the Member State concerned, whereas the concern here is with the situation of migrants living in the country, including those who have been there for some time. In other words, the focus is on the 'stock' of migrants in various parts of the EU, rather than on 'flows'.[2] There are no statistics, however, which allow migrants to be tracked after they have taken up residence in the country and begun their new lives.

There are similar problems in identifying ethnic minorities, who are not necessarily people that have moved into a particular Member State from outside the EU, but who, in many cases, are born in the EU to families that immigrated into the region many years before or several generations before, in a number of cases. A significant proportion of the ethnic minorities in most parts of the EU, therefore, are second-, third- or fourth-generation migrants, and some are even people whose ancestors migrated several centuries before, such as the Roma in a number of European countries — especially, but not exclusively, in some of the new Member States.

Just as there are no data as such on those with a migrant background, the same is true in most countries of those belonging to ethnic minorities. Indeed, in many European countries, questions on ethnicity may not legally be included in censuses or surveys — something that largely reflects the way that such data have historically

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[1] With the assistance of Mayya Hristova and Fadila Sanoussi, Applica; Lucinda Platt was responsible for the section on ethnic minorities and child poverty in the UK.
[2] For analysis of recent migration flows in Europe, see Lemaître *et al.* (2007) and, on migration from the new Member States and from elsewhere in Central and Eastern Europe, Mansoor and Quillin (2006).

been used (or abused) in certain circumstances. This creates severe difficulties in assessing the relative position of both those with a migrant background and ethnic minorities (all of whom, in a broad sense, are part of this group — though not all of the group, of course, belong to an ethnic minority) so as to gain an understanding of the nature and scale of the problems they face. It also makes it difficult to monitor their position over time, in order to evaluate any policy measures that are taken to improve their lot.

The issues examined and the approach adopted

The concern here is, first, to consider alternative ways of obtaining some indication of the size of the migrant population in the EU and to identify the people in question. Second, it is to examine the characteristics and situation of those identified in terms of income, employment, the jobs they do, their household circumstances and so on, and to compare these with the position of the non-migrant, majority population, in order to assess the extent to which they are disadvantaged as a group and the proximate reasons for this.[3]

The focus here is on three age groups — people of working age (which is here defined as 25–64 and so excludes those younger than this, many of whom are in work, but many of whom may equally well be students or trainees who have not yet entered the labour market and may be living with their parents); children, or those under the age of 16 (who are divided into two groups: those whose parents have a migrant background and others); and those aged 65 and older (again distinguishing those with a migrant background from others). The situation of those with a migrant background within each of these three groups is examined in turn, in relation to the position of the rest of the population in the same group.

A final section examines the differences between different ethnic groups in the UK — one of the few countries in the EU where data on ethnicity are regularly included as part of the statistical surveys carried out.

Given the absence of data on ethnicity in most European countries, there are two ways of estimating the migrant population living in EU Member States from the data that are available. One is to use information on nationality or citizenship as a proxy; and the other is to use information on country of birth. The problem with the former is that many migrants have citizenship of the country in which they live, having acquired it after a period of residence there, so that the number of nationals in a country tends to understate the number of people with a migrant background. How much it is understated varies from country to country because of the significant differences in the national rules and regulations for acquiring citizenship that exist across the EU. In some countries, children born there automatically acquire citizenship (*jus solis*) while in others they retain the nationality of their parents (*jus sanguinis*), in some cases being granted citizenship when they reach the age of majority. Such differences in regulations make it hard to compare either the size of the migrant population or their situation across countries on the basis of citizenship.

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[3] It should be noted that a complementary analysis to that contained here is included in EC (2008a), which concentrates on the employment and labour market status of migrants and, on a number of aspects, goes into more detail than here.

The other possible indicator is country of birth, which, unlike nationality, does not change over time, and which, therefore, indicates the number of people who were not born in the country in which they live. This, however, involves the opposite problem, insofar as the number concerned includes some nationals who happened to be born outside the country because their parents were abroad at the time. Accordingly, the indicator tends to overstate the number of people with migrant backgrounds, though the extent again varies across countries, reflecting differences in, for example, the importance of old colonial ties (such as in the case of France, Portugal or the UK) or the strength of a more general tendency for people to live abroad for a time.[4]

In general, however, the number of people wrongly recorded as migrants is likely to be relatively small in most Member States. At the same time, it should be recognised that the number of people born abroad does not capture second-generation immigrants, who, in some cases, may not have citizenship of the country in which they live and/or who might belong to an ethnic minority. The data on nationality do include such people, but only insofar as they do not acquire citizenship of the country concerned at birth or at a particular age. Again, the people in question are likely to be only a very small minority of those recorded as being foreign nationals, and this in itself does not seem to be a strong enough reason for using nationality (or citizenship) as an indicator, rather than country of birth.

It should also be noted that the data on nationality (and on citizenship) available from households surveys, which are the source of the analysis here, do not distinguish between short-stay and long-stay migrants, or between those who are in the country in question on a permanent basis and those whose stay is temporary, such as students. Distinguishing between the two is only possible on the basis of administrative data on residence, but such data are available only for some countries and, in any event, tend not to identify the characteristics or situation of migrants (which is what we are concerned with here). At the same time, it should be recognised that, because of the way they are conducted (i.e. on the basis of household registers), the household surveys in question are unlikely to cover a significant number of short-stay migrants, as is pointed out below.[5]

Data sources

Data from the two main sources used in the analysis give an indication of the number of people recorded by the two alternative measures. The EU–SILC contains information for each Member State (apart from Bulgaria and Romania, where the survey was initiated later than in the other countries) on the income and other characteristics of people born in the country, in another part of the EU, or in a country outside the EU, as well as on nationality broken down in the same way.[6] The EU Labour Force Survey (LFS) contains data on employment and other characteristics of people, such as their education level — though not their income — broken down in a similar way by country of birth and nationality, but in much

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[4] Dumont and Lemaître (2005).

[5] On the distinction between permanent and temporary migrants, see Lemaître *et al.* (2007).

[6] Data for Malta are also not available, in this case because of the non-publication of the microdata. The country is, therefore, excluded from the analysis below, based on the EU–SILC.

more detail than the EU–SILC because of the larger size of the sample covered by the survey.

It is, therefore, possible, on the basis of the LFS data, to distinguish whether those born in another part of the EU were born in a new Member State (i.e. one that entered the Union either in May 2004 or January 2007) or in an EU15 country. It is also possible to distinguish people born in parts of Europe that are outside the EU, as well as in countries in other parts of the world, and to distinguish those born in developing countries in Asia, Africa or Latin America from those born in the US or other developed countries.

Because, however, the LFS contains data only on employment–related aspects, it can give only a partial indication of the situation of migrants. Much of the analysis, therefore, is based on the EU–SILC. The first section below focuses on those aged 25–64, and begins by assessing the number of migrants in relation to the rest of the population, as well as the division of migrants by country or broad region of origin.

Because the number of migrants in most of the new Member States is very small, neither the LFS nor the EU–SILC, given their sample nature, is capable of capturing the characteristics of the people concerned. The main focus here, therefore, is on the EU15 countries, where those with a migrant background are much more numerous. Even then, both surveys almost certainly cover a disproportionately small number of migrants — especially recently arrived ones, since many of them are likely to have been missed from the sampling frame (which, in any case, is not constructed to ensure that people from other countries or with foreign citizenship are suitably represented in the sample of people surveyed — in part because of the absence, in many cases, of reliable information on their numbers).[7] Accordingly, it is only to be hoped that, despite the apparent understatement of the numbers concerned, the two surveys give a representative indication of the characteristics of those with a migrant background and of their circumstances.

The characteristics and employment situation of migrants of working age

Data from the EU Labour Force Survey provide an insight into the relative size of the migrant population according to the alternative indicators described above (and more so than the EU–SILC, because of the much larger size of the survey sample of the population). They suggest, first, that the number of people aged 25–64 living in EU15 Member States who were born in another country represented around 12.5% of the total population of this age in 2007. This figure, however, varied from only 3% in Finland and around 8% in Greece, Italy and Portugal to around 14% in France and the Netherlands, 15–16% in Spain and Sweden, and 45% in Luxembourg (Table 3.1). (It should be noted that no data on country of birth are available in the LFS for Germany and Ireland, and the totals, therefore, exclude these two countries.)

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[7] The LFS data seem to confirm this, recording, for example, a much smaller number of people born in the new Member States and living in the UK than official estimates suggest (the latter put the figure at over 1 million, whereas the LFS records a figure for those aged 25–64 in 2007 of 460,000.

Table 3.1: Division of population aged 25–64 by country of birth, 2007

%

Country	Same as country of residence	EU15	NMS12	Other Europe	Central and Eastern Europe	Other developed countries	Other deve-loping countries	Born in EU27 as % migrants
BE	87.6	5.0	0.6	0.0	1.8	0.1	4.8	45.5
DK	90.6	1.6	0.4	0.6	1.8	0.8	4.2	21.7
GR	92.0	0.6	1.1	0.0	5.3	0.2	0.8	20.7
ES	84.6	2.2	2.2	0.2	0.5	0.1	10.2	28.5
FR	86.2	3.5	0.3	0.1	0.7	0.2	9.0	27.4
IT	91.7	1.1	1.2	0.5	1.7	0.2	3.5	27.5
LU	54.9	37.6	1.4	0.3	1.4	0.5	3.9	86.5
NL	86.3	2.4	0.4	0.1	2.2	0.3	8.2	21.1
AT	81.7	3.0	3.3	0.2	8.6	0.2	3.1	34.4
PT	92.1	1.3	0.2	0.0	0.4	0.1	5.8	20.1
FI	96.9	1.1	0.4	0.0	1.0	0.0	0.6	47.8
SE	83.7	4.3	1.3	0.6	2.0	0.3	7.8	34.4
UK	86.7	2.4	1.5	0.1	0.5	1.0	7.9	29.2
EU15*	**87.6**	**2.4**	**1.2**	**0.2**	**1.4**	**0.4**	**6.8**	**28.8**

Source: EU Labour Force Survey 2007
Notes: NMS12: 12 new Member States; Other Europe: Iceland, Liechtenstein, Norway and Switzerland; Central and Eastern Europe: Balkan countries, Turkey and former Soviet Republics.
* EU15 — excluding Germany and Ireland.

Table 3.2: People aged 25–64 living in EU15 and born abroad who have citizenship, 2007

% of those born abroad in various countries

Country	EU15	NMS12	Central and Eastern Europe	Other Europe	Other developed countries	Other developing countries
BE	27.3	31.3	57.6	30.9	38.3	59.7
DK	41.4	39.6	39.3	26.2	80.8	51.0
GR	59.8	12.3	17.2	54.2	72.6	18.6
ES	35.7	0.2	2.5	85.4	34.6	17.6
FR	36.2	39.4	29.9	52.0	50.9	61.3
IT	77.7	13.8	10.3	97.8	76.5	21.0
LU	7.1	8.2	13.3	20.2	4.7	16.1
NL	42.2	48.1	66.5	54.6	64.8	79.2
AT	29.8	45.1	37.8	43.1	23.8	45.6
PT	73.1	3.9	2.0	64.5	33.3	54.6
FI	80.0	23.2	35.2	22.0	58.7	32.8
SE	53.5	73.2	81.1	27.0	43.0	79.3
UK	24.8	15.8	35.1	27.0	25.7	55.0
EU15*	**38.7**	**17.2**	**29.9**	**74.0**	**41.2**	**46.5**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

They indicate, second, that around 46% of people aged 25–64 who were born outside the EU have citizenship of the Member State in which they live (Table 3.2).

Measuring migrants through reference to citizenship, or nationality, therefore means focusing on only around half of those who were born outside the EU. Although some of these might be nationals whose parents happened to be living abroad when they were born, it is unlikely that this group constitutes a large number of the people concerned. If this population is divided into those aged 25–39 and those aged 40–64, the data show that the proportion of those born outside the EU with nationality of the country in which they now live is around a third for the younger age group and almost 60% for the older age group, which is consistent with the fact that it takes some years for migrants to obtain citizenship of the country concerned.

The proportion of those born outside the EU who subsequently acquire citizenship of the Member State in which they live, however, varies across the EU — from 90% or more in Latvia and Lithuania, and almost 80% in the Netherlands and Sweden, to only just over 20% in Italy and under 20% in Greece and Spain.

Third, the data indicate that relatively few of those who do not have EU nationality were born in an EU Member State. In the EU15 as a whole, in 2007, the proportion was just 2%. Only in Belgium is the figure much larger (18%), though in the new Member States the figure is larger still — especially (though the actual numbers are very much smaller) in the Baltic states, where it is over 40% in Estonia, around 20% in Latvia and 25% in Lithuania, reflecting the relatively large Russian population. In the EU15 countries, apart from Belgium, the figure is below 5% in all cases except Austria (where it is around 5%) and Finland (where it is 7%), suggesting that nearly all of those born in one of these countries tend to acquire citizenship at birth (though it should be noted that there are no data for Germany). It also suggests that these data cannot be used to identify second-generation migrants. Though the people in question almost certainly fall into this category, the numbers concerned are not large enough to analyse their other characteristics with any degree of reliability.

The data suggest, fourthly, that most people with a migrant background come from countries outside the EU (generally two-thirds or more), rather than from other Member States. The only exceptions to this are Belgium and Finland (where only just over half of migrants come from outside the EU) and Luxembourg, where less than 15% do.

In 2007, only 29% of those living in the EU15 and born in another country came from another Member State. Of those, around two-thirds came from another EU15 country and a third from a new Member State, which is more than their relative population size would imply (although the figures do vary from country to country — in the case of Greece, Spain, Italy and Austria, half or more of those from other parts of the EU come from the new Member States).

Of those born outside the EU, by far the largest proportion came either from low-income countries in other parts of Europe, or from developing countries outside Europe. In the EU15 (again excluding Germany), some 16% came from Central and Eastern Europe (i.e. the Balkans, Turkey or former Soviet Republics), while 78% came from developing countries outside Europe. Only around 6%, therefore, came from other developed countries in Europe, such as Switzerland and Norway, or outside Europe, such as the US (Table 3.3).

Table 3.3: Division of population born outside EU by country of birth, 2007

% of total born outside EU

Country	Central and Eastern Europe	Other Europe	Other developed countries	Other developing countries
BE	26.4	0.7	1.6	71.4
DK	23.9	7.6	11.1	57.4
GR	83.7	0.1	3.7	12.4
ES	4.7	1.6	0.7	93.0
FR	6.6	1.2	2.3	89.9
IT	28.7	8.9	3.5	58.8
LU	23.3	5.1	7.6	64.1
NL	20.3	0.6	3.0	76.1
AT	71.3	1.5	1.8	25.5
PT	6.2	0.8	1.7	91.3
FI	61.0	2.3	1.9	34.8
SE	18.6	5.6	2.4	73.4
UK	4.9	0.8	10.6	83.8
EU15*	**15.7**	**2.4**	**4.0**	**77.9**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

The data also indicate that there are slightly more women than men among those with a migrant background in the 25–64 age group in the EU15 (in 2007, around 52%, as against 48% of men). They indicate, in addition, that women make up just over half of those who come from developing countries or from low-income parts of Europe, as well as of those who come from other EU Member States, whether from the EU15 countries or the new Member States. At the same time, they show that, within the 25–64 age group, there are proportionately more people aged under 40 among migrants (as defined by their country of birth) than among the rest of the population.

In the following, the focus is, first, on the education levels of migrants, compared with non-migrants, to examine how far they are likely to boost the skill levels of the work force, as well as to indicate their earnings potential; and, second, on their position in the labour market, in terms of both the extent to which they tend to be in employment and the kind of jobs they do. Once again, the analysis is based on data from the LFS rather than the EU–SILC because of the larger sample size.

Educational attainment levels of migrants

Migrants living in the EU are very disparate in terms of their levels of education, and implicitly their skill levels. Those coming from the new Member States into EU15 countries (the focus is once again on these countries, since migration into the new Member States is relatively low) tend to have slightly higher levels of education than those who do not move: in other words, on average, a larger proportion of them have tertiary-level qualifications than the population of the new Member States as a whole (or at least those aged 25–64). At the same time, this proportion is smaller than for other people in the EU15 (i.e. those born there). Migrants who come from outside the EU tend to have a higher level of education than those born

in the EU15 if they come from other developed countries, but much the same level of education if they come from developing countries.

In 2007, therefore, just under 25% of men aged 25–64 living in an EU15 country and born there had tertiary qualifications, as against 29% of men who had moved from another EU15 country, and 17% of men who had moved from a new Member State (Table 3.4). For men who had moved into the EU from outside, the proportion varied from under 14% for those who had moved from Central and Eastern Europe and just under 25% for those who had moved from a developing country outside Europe (i.e. the same as for men born in the EU15) to 41% for those who had moved from a developed country (such as the US or Japan).

Table 3.4: Education levels by country of birth of men aged 25–64 living in EU15 Member States, 2007

% of each group

Country of birth	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU15*
Same														
Low	30.6	22.7	40.3	49.8	27.4	48.3	26.6	23.6	10.3	76.8	21.5	16.6	24.2	**36.0**
Medium	38.7	47.6	36.1	20.1	47.7	39.0	50.2	42.3	69.3	12.8	47.8	57.3	44.7	**39.5**
High	30.7	29.7	23.6	30.1	24.9	12.7	23.2	34.1	20.4	10.3	30.8	26.1	31.0	**24.5**
EU15														
Low	40.0	12.8	18.9	33.2	50.0	42.5	38.7	15.3	7.9	51.0	14.7	23.5	20.2	**34.3**
Medium	28.0	41.1	41.7	22.6	36.0	38.5	28.8	49.7	44.5	22.3	65.2	48.1	45.7	**37.0**
High	32.1	46.1	39.5	44.2	14.0	18.9	32.5	35.1	47.6	26.7	20.1	28.4	34.1	**28.7**
NMS12														
Low	24.0	11.4	42.1	19.7	22.6	24.9	6.3	5.9	10.4	27.6	23.1	11.9	21.8	**21.1**
Medium	47.9	39.6	47.9	59.6	52.4	70.3	14.2	53.0	68.1	43.7	62.0	58.1	63.0	**61.9**
High	28.0	49.0	10.1	20.7	25.0	4.8	79.5	41.1	21.6	28.7	14.9	30.1	15.2	**17.1**
Central and Eastern Europe														
Low	57.7	52.2	53.7	13.9	64.1	55.5	16.2	41.7	42.9	25.0	35.2	24.7	36.1	**47.4**
Medium	29.1	33.0	34.1	32.3	23.9	37.5	61.0	46.2	49.0	38.6	48.2	50.9	47.2	**39.0**
High	13.2	14.8	12.2	53.8	12.0	7.0	22.8	12.0	8.1	36.4	16.6	24.5	16.7	**13.5**
Other Europe														
Low	8.0	10.6	..	31.4	5.7	38.5	..	..	5.5	58.4	68.8	14.9	17.4	**28.6**
Medium	31.2	41.4	..	14.8	43.7	53.8	75.0	39.3	60.2	41.6	31.2	50.3	42.2	**45.6**
High	60.8	48.1	..	53.7	50.7	7.7	25.0	60.7	34.4	..	..	34.8	40.4	**25.8**
Other developed countries														
Low	2.4	13.0	24.0	7.8	8.8	33.1	..	20.4	..	31.5	..	6.1	7.7	**11.8**
Medium	14.2	43.0	39.0	9.2	64.3	38.1	25.4	31.3	47.4	26.8	..	36.6	50.0	**47.1**
High	83.4	44.0	37.0	83.0	26.9	28.8	74.6	48.3	52.6	41.7	..	57.2	42.3	**41.1**
Other developing countries														
Low	40.4	28.9	61.0	46.2	41.4	56.4	28.9	32.4	30.2	60.7	30.5	21.1	22.7	**39.3**
Medium	30.4	39.5	29.0	35.1	31.4	33.4	34.4	42.1	44.0	23.4	40.6	47.1	43.0	**36.1**
High	29.2	31.7	10.0	18.7	27.3	10.2	36.7	25.5	25.8	15.9	28.9	31.8	34.4	**24.6**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

The proportion of men moving into the EU15 with a low level of education (i.e. with no qualification beyond basic schooling) varied in a similar (though generally inverse) way. However, of those coming from the new Member States, relatively

few (only 21%) have only basic schooling. Some 47% of those moving from Central and Eastern Europe have low education, as do 39% of those from developing countries (as against 36% of men born in the EU15).

Table 3.5: Education levels by country of birth of women aged 25–64 living in EU15 Member States, 2007

% of each group

Country of birth	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU15*
Same														
Low	30.4	25.8	39.5	50.7	29.7	47.5	38.9	29.0	23.1	71.8	17.1	11.4	31.2	**37.9**
Medium	35.1	39.3	39.2	18.9	41.4	37.9	42.7	41.7	62.6	12.8	41.7	51.9	36.7	**35.8**
High	34.5	34.9	21.3	30.4	28.9	14.6	18.4	29.3	14.3	15.3	41.2	36.7	32.1	**26.3**
EU15														
Low	39.7	16.0	8.6	31.8	53.2	35.8	39.2	14.1	11.6	40.2	15.0	20.6	18.5	**34.1**
Medium	27.2	37.8	56.7	31.7	26.7	42.4	29.9	50.8	57.9	22.6	40.1	45.6	41.3	**35.6**
High	33.1	46.2	34.7	36.5	20.0	21.7	30.9	35.1	30.5	37.1	44.9	33.8	40.2	**30.3**
NMS12														
Low	22.0	13.1	34.1	34.5	8.7	25.5	2.5	11.4	14.3	28.1	25.1	10.3	18.8	**23.7**
Medium	39.3	46.9	47.0	45.7	38.3	57.6	22.7	57.7	63.8	41.0	43.6	50.4	57.0	**52.2**
High	38.7	40.0	19.0	19.8	53.0	16.8	74.8	30.9	21.8	30.9	31.3	39.3	24.2	**24.1**
Central and Eastern Europe														
Low	61.9	47.1	42.8	6.4	55.8	44.6	27.1	52.0	60.2	12.6	16.1	27.2	31.1	**44.6**
Medium	20.0	39.5	40.9	24.9	21.6	38.7	41.8	34.6	33.2	27.6	35.2	35.5	46.2	**34.6**
High	18.2	13.4	16.2	68.7	22.7	16.7	31.2	13.4	6.6	59.9	48.7	37.3	22.7	**20.8**
Other Europe														
Low	9.5	21.3	..	25.6	6.3	37.4	14.1	10.6	19.4	92.1	..	17.6	4.0	**26.8**
Medium	47.5	35.3	81.0	25.7	54.2	48.4	22.8	51.4	56.5	7.9	..	54.7	57.3	**47.0**
High	43.1	43.4	19.0	48.7	39.5	14.2	63.1	37.9	24.1	..	..	27.6	38.6	**26.2**
Other developed countries														
Low	11.5	17.7	9.0	3.3	12.6	28.7	..	10.0	5.7	19.0	..	5.2	8.8	**12.0**
Medium	15.5	42.5	53.0	1.4	17.7	40.7	5.8	44.7	13.6	26.1	67.6	39.4	43.9	**36.9**
High	72.9	39.8	38.0	95.3	69.7	30.6	94.2	45.3	80.8	54.9	32.4	55.4	47.3	**51.1**
Other developing countries														
Low	47.2	31.9	32.7	43.4	49.5	51.8	32.9	36.0	39.1	54.6	27.5	28.1	30.2	**42.1**
Medium	27.5	45.7	52.1	35.0	28.5	36.2	38.8	43.4	40.7	23.2	50.2	43.2	39.2	**34.9**
High	25.3	22.5	15.2	21.5	22.1	12.1	28.2	20.6	20.2	22.2	22.4	28.8	30.6	**23.0**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

The picture is similar for women. A larger proportion of women than men who were born and are resident in the EU15 had tertiary-level education, and the same is true of women from the new Member States. There is, however, a bigger gap than for men between the education levels of women moving into the EU15 from the new Member States (24% of whom had tertiary qualifications) and those of women remaining in the new Member States (18% of whom had such qualifications — not shown in table) (Table 3.5). Moreover, a larger proportion of women who moved into the EU from other Central and Eastern European countries (21%), EU15 countries (30%) and other developed countries (51%) had tertiary-level education than did their male counterparts, suggesting, perhaps, that it is more important

for women who move into the EU15 to have a high level of education than it is for men. On the other hand, the proportion of women from developing countries who moved into the EU with tertiary qualifications (23%) was smaller than for men, and smaller, too, than for women born in the EU15. Again, the picture for women with low education is largely the inverse of this, with some 42% of women who had moved from developing countries having no qualifications beyond basic schooling.

Employment rates of migrants

Among migrants in the EU, employment rates — i.e. the proportion of people in work — are similar to the rates for the rest of the population (i.e. those born in the country concerned), at least so far as men are concerned. In fact, for men who have moved from one of the new Member States into an EU15 country, employment rates tend to be significantly higher. In 2007, therefore, 88% of men aged 25–64 living in the EU15 but born in one of the new Member States were in employment, as opposed to 81% of men born in the country concerned (Table 3.6). At the same time, some 92% of men born in other developed countries were in work, as opposed to only 78% of those coming from developing countries, less than in the case of those born in the country itself. This relatively low figure, moreover, is a consequence almost as much of a high rate of unemployment (over 8% on average for men in this age group, as compared to under 4% for men born in EU15 countries) as of a high rate of inactivity.

Table 3.6: Employment rates of men aged 25–64 by country of birth, 2007

	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU15*
Country of birth										*Employment rates (% of men aged 25–64 in work)*				
Same	79.0	85.3	83.1	82.1	78.3	77.6	79.2	86.2	83.4	81.0	78.2	87.0	83.3	**81.0**
EU15	70.2	84.7	82.4	78.2	70.4	83.2	85.4	83.2	87.3	88.7	86.5	78.4	84.3	**78.2**
NMS12	78.7	84.0	92.5	88.4	63.8	92.2	91.5	84.6	79.6	95.6	79.4	74.8	92.6	88.1
Central and Eastern Europe	58.9	68.9	92.0	84.5	73.5	90.7	89.7	70.3	76.4	92.5	84.9	74.5	76.4	**81.0**
Other Europe	91.7	77.3	42.9	92.9	100.0	88.7	89.5	100.0	85.1	64.5	62.6	82.1	94.3	**89.3**
Other developed countries	90.0	84.4	99.0	92.2	93.3	89.5	94.1	85.7	77.7	98.1	47.0	84.8	92.7	**91.5**
Other developing countries	63.5	63.9	93.4	86.4	69.9	89.2	75.9	71.6	73.7	84.5	55.1	69.7	78.8	**78.2**
Country of birth		*Unemployment rates (men aged 25–64 unemployed as % of men aged 25–64 in labour force*												
Same	4.4	2.2	4.5	4.9	5.7	3.8	2.0	2.1	2.4	6.2	5.0	3.3	3.4	**3.6**
EU15	7.1	3.9	7.4	6.8	3.6	5.7	2.7	3.8	2.7	3.4	8.0	4.2	5.1	**4.0**
NMS12	12.1	3.8	2.9	7.0	8.8	4.3	8.5	..	4.6	0.7	7.1	8.7	3.3	**4.8**
Central and Eastern Europe	20.8	7.0	4.2	13.4	11.6	3.8	5.4	6.8	8.5	7.4	10.9	7.9	6.4	**6.4**
Other Europe	..	6.7	..	..	..	3.3	..	..	1.2	19.7	..	3.6	5.7	**2.6**
Other developed countries	2.6	3.2	..	5.1	..	3.1	..	1.5	3.9	0.4	53.0	3.6	2.3	**2.1**
Other developing countries	22.0	11.2	5.1	7.7	14.6	4.9	13.7	7.8	11.8	8.1	21.1	14.1	7.1	**8.3**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

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The average picture across the EU15, however, conceals pronounced differences in relative employment rates between Member States, especially as regards men coming from developing countries — or, to a lesser extent, from low-income countries in other parts of Europe — as opposed to those coming from developed countries or born in the EU15 country concerned. Whereas in the four Southern EU15 countries, the employment rate among men born in a developing country was significantly higher than the rate for those born in the country in question, in other EU15 countries the reverse was the case, with the employment rate among men born in the country being, in most cases, over 10 percentage points higher than among those men born in a developing country — and in Belgium and the three Nordic Member States, over 15 percentage points higher.

The differences in female employment rates between migrants and other people in EU15 countries are even more marked. This, moreover, is the case at the EU level, as well as in individual Member States. In 2007, therefore, the employment rate among women in the EU15 aged 25–64 averaged around 64% for those born in the country concerned. The rate was much the same for those born in one of the new Member States or in another developed country. For women born in a developing country, on the other hand, the employment rate averaged only around 57% (Table 3.7).

Table 3.7: Employment rates of women aged 25–64 by country of birth, 2007

	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU15*
Country of birth							*Employment rates (% of women aged 25–64 in work)*							
Same	64.6	77.2	53.4	57.0	69.1	51.2	60.5	71.9	69.5	67.8	74.1	82.4	70.3	**63.7**
EU15	53.4	72.2	45.4	54.7	61.7	49.3	69.1	67.8	62.6	69.0	76.6	72.1	70.1	**61.8**
NMS12	54.9	64.5	63.3	67.4	54.2	61.8	79.4	62.6	60.9	66.3	66.2	69.5	70.1	**64.8**
Central and Eastern Europe	30.9	51.2	54.3	64.5	34.3	53.7	52.1	39.6	54.3	75.3	55.0	56.5	44.1	**50.3**
Other Europe	60.6	67.8	55.2	66.6	51.3	59.6	58.7	68.7	72.7	23.2	52.6	74.4	64.8	**61.7**
Other developed countries	54.5	73.8	49.0	45.2	48.3	56.3	69.6	62.9	65.1	56.3	66.7	72.6	70.5	**63.2**
Other developing countries	39.3	49.6	53.7	66.9	51.3	53.6	56.6	54.8	54.7	74.2	53.2	56.0	53.3	**56.6**
Country of birth							*Unemployment rates (women aged 25–64 unemployed as % of women aged 25–64 in labour force)*							
Same	6.1	3.3	11.1	9.1	6.4	6.2	3.3	2.7	3.4	8.9	5.5	3.3	3.0	**5.8**
EU15	8.2	3.1	16.5	9.0	6.2	8.8	3.3	3.4	5.7	10.8	11.7	4.4	3.6	**6.2**
NMS12	16.0	7.7	9.6	13.3	26.6	10.5	4.4	2.5	9.0	11.0	11.5	9.3	7.9	**11.4**
Central and Eastern Europe	29.0	8.4	13.3	18.5	26.2	12.7	10.3	12.6	9.6	15.0	21.1	15.5	11.0	**14.4**
Other Europe	1.8	7.3	25.7	11.0	10.9	6.5	..	7.5	3.8	..	..	2.0	13.1	**7.6**
Other developed countries	13.5	3.5	7.4	4.0	6.3	7.7	..	4.2	3.8	1.3	..	2.8	5.3	**5.5**
Other developing countries	22.9	9.4	11.3	10.3	16.7	11.7	13.3	8.0	12.2	11.4	19.2	15.1	8.1	**11.9**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

As in the case of men, employment rates among women from developing countries were higher in the four Southern Member States than for those born in the country

concerned, though only marginally so in Greece. In the other EU15 countries, the reverse was the case, with the employment rate of women from developing countries being at least 15 percentage points lower, and over 25 percentage points lower in Belgium, Denmark and Sweden. Although this difference reflects similar differences in rates of economic activity, unemployment is also high among women in the EU15 from developing countries. The unemployment rate in 2007 was, therefore, around 12% on average in EU15 countries for such women — double the rate for women born in the EU15. In France and Sweden, moreover, the rate was over 15%, in Finland over 19%, and in Belgium as high as 23%.

Table 3.8: Employment and unemployment rates of men aged 25–64 with tertiary-level education, 2007

	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU15*
Country of birth	*Employment rates (% of men aged 25–64 with tertiary education in work)*													
Same	89.2	91.4	87.9	89.3	88.1	86.1	84.5	90.2	91.2	88.3	87.1	91.2	90.1	**89.1**
EU15	88.2	84.5	84.8	79.6	68.2	93.6	92.1	93.6	91.4	94.7	91.9	89.4	88.3	**84.5**
NMS12	80.8	84.5	85.4	89.5	82.6	87.4	89.3	84.2	83.4	100.0	100.0	89.9	92.6	**88.9**
Central and Eastern Europe	69.6	80.0	86.8	75.3	85.4	91.5	89.8	78.0	86.2	96.9	83.4	83.1	88.4	**83.3**
Other Europe	86.4	85.1	..	98.3	100.0	90.4	69.0	100.0	100.0	..	..	80.2	100.0	**94.4**
Other developed countries	90.9	91.4	97.2	100.0	100.0	91.3	97.3	87.3	87.8	100.0	..	97.5	94.5	**94.5**
Other developing countries	71.3	68.7	90.9	88.1	76.9	90.7	78.4	80.0	73.0	94.9	47.3	72.8	86.8	**82.5**
Country of birth	*Unemployment rates (men aged 25–64 unemployed as % of men aged 25–64 with tertiary education in labour force)*													
Same	2.5	2.6	4.0	3.4	4.2	3.0	2.0	1.8	1.3	5.4	3.2	2.7	1.8	**2.7**
EU15	3.0	3.7	9.6	8.3	3.0	2.7	1.7	1.3	1.7	3.4	3.4	2.5	5.1	**4.0**
NMS12	10.8	6.4	..	10.5	9.6	5.1	10.7	..	3.8	..	..	4.1	4.9	**7.0**
Central and Eastern Europe	19.2	3.6	7.2	21.1	14.6	2.1	10.2	..	4.7	2.8	11.5	8.2	11.6	**9.5**
Other Europe	..	6.4	..	..	..	1.0	..	..	..	..	..	2.7		**0.8**
Other developed countries	3.0	2.5	..	..	..	1.6	..	..	6.4	..	..	1.3	1.3	**1.1**
Other developing countries	16.7	11.6	7.3	6.4	11.2	4.7	12.9	5.3	12.3	3.1	28.3	14.8	4.4	**6.9**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

Employment rates of migrants by level of education

These differences in employment (and unemployment) rates cannot be explained in terms of men and women migrants from outside the EU having lower levels of education than non-migrants. Although there is a strong inverse relationship between education levels and employment rates, the extent of the difference in education levels between migrants and non-migrants is relatively small, as indicated above. Indeed, differences in employment rates are as evident for those with a given level of education as overall. This is especially the case for those with high levels of education, as indicated below.

Moreover, in all those countries, apart from the Netherlands, the unemployment rates for men with tertiary education born in a developing country were over 11%, as against less than 3% in each case for men born in the EU15 country in question.

The differences in employment rates for women with tertiary education in the EU15 (between those born in the EU15 and those born in a developing country) are even more marked. In 2007, the employment rate for women with this level of education and born in the EU15 averaged just over 83%, compared to only just over 71% for women from developing countries (Table 3.9). In this case (unlike the situation for men), women with tertiary qualifications in the four Southern Member States but born in developing countries also had lower employment rates than did those born in the countries concerned, Greece and Italy substantially so. This was also the case in Belgium and Sweden, where the difference was in excess of 20 percentage points.

These differences suggest not only that both men and women migrants with tertiary education are not being used to the best advantage in the EU economy if they come from developing countries, but also that the problems that arise from having a low level of income may extend much more to those with high education levels among the migrant population than among the population in general.

Table 3.9: Employment and unemployment rates of women aged 25–64 with tertiary-level education, 2007

	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU 15*
Country of birth	*Employment rates (% of women aged 25–64 with tertiary education in work)*													
Same	83.6	86.5	79.3	81.7	82.8	75.8	82.9	86.3	86.9	84.1	84.4	90.0	87.4	**83.4**
EU15	78.5	74.5	57.2	67.2	68.5	70.1	82.6	81.6	77.3	80.5	76.7	86.6	83.7	**75.7**
NMS12	63.6	63.7	65.0	73.6	58.3	64.2	86.3	71.8	59.8	56.5	81.9	83.7	81.0	**70.3**
Central and Eastern Europe	58.0	81.9	60.1	67.1	58.8	65.8	49.4	53.1	65.7	84.5	69.9	76.5	66.9	**65.5**
Other Europe	49.2	87.3	..	52.0	59.7	70.9	54.8	100.0	70.0	..	..	94.9	85.6	**69.0**
Other developed countries	46.5	83.4	60.9	43.7	44.8	68.3	73.9	69.6	72.4	55.3	100.0	77.4	78.0	**66.3**
Other developing countries	59.3	70.6	53.2	77.8	63.1	63.6	57.9	69.5	51.4	83.4	91.5	67.1	76.5	**71.4**
Country of birth	*Unemployment rates (women aged 25–64 unemployed as % of women aged 25–64 with tertiary education in labour force)*													
Same	2.6	2.8	8.1	5.1	4.4	4.9	3.6	1.5	1.7	7.0	2.9	2.4	1.3	**3.1**
EU15	4.1	3.0	5.9	6.2	7.7	3.3	2.4	2.5	5.2	12.7	13.9	1.5	4.0	**4.0**
NMS12	12.4	8.4	7.0	10.6	33.1	8.8	4.4	..	15.3	30.6	18.1	5.9	6.1	**10.0**
Central and Eastern Europe	22.0	1.1	13.0	21.6	17.5	12.3	4.8	18.7	9.3	10.6	11.3	11.8	12.1	**11.8**
Other Europe	4.9	63	100.0	24.5	21.1	2.7	..	..	11.8	..	..	2.6	14.4	**9.6**
Other developed countries	15.5	1.6	3.9	4.3	9.4	8.3	..	..	4.2	..	..	..	5.6	**4.0**
Other developing countries	15.4	8.8	6.6	8.4	12.9	10.7	13.6	7.6	7.0	10.4	8.5	11.5	5.3	**7.0**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.

The jobs performed by migrants

It is not simply the case that migrants, especially those from low-income countries, tend to have lower employment rates than the indigenous population (i.e. those born in the EU): rather also those who are in employment tend to work more in lower-level — and lower-paid — jobs than the indigenous population. Once again, this is best seen by focusing on men and women with high education levels, who should be best equipped to obtain high-level jobs.

Table 3.10: Division of men aged 25–64 with tertiary education between broad occupations, 2007

% of total men employed by country group

Country of birth	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU 15*
Same														
Managers, professionals, technicians	81.4	84.6	80.1	65.6	84.6	89.6	98.6	88.9	73.5	88.4	85.3	87.2	82.2	**80.9**
Clerks+office workers	10.6	2.4	3.8	7.6	3.7	4.8	0.3	4.2	3.3	5.1	1.4	2.1	4.6	**5.0**
Sales+service workers	2.2	4.3	6.7	5.4	1.9	2.4	0.1	2.7	1.6	2.5	3.1	3.3	3.0	**3.2**
Agricultural workers	0.8	1.4	1.0	1.2	2.1	0.2	0.2	0.2	4.2	0.5	1.5	0.9	1.0	**1.2**
Skilled manual workers	3.5	5.1	3.7	16.8	5.6	1.2	0.2	3.0	15.7	1.4	5.4	4.1	6.6	**7.3**
Elementary occupations	1.0	1.5	0.3	2.5	0.9	0.6	0.0	0.5	1.1	0.1	1.6	0.8	2.0	**1.4**
Developing country**														
Managers, professionals, technicians	69.1	67.9	66.8	39.0	72.6	44.0	83.2	74.8	60.3	85.2	86.4	56.7	74.5	**65.0**
Clerks+office workers	6.7	1.4	0.0	6.4	4.9	6.0	4.6	5.0	5.0	5.6	0.0	4.6	8.3	**6.3**
Sales+service workers	8.1	4.8	9.5	8.8	5.0	11.5	5.8	5.4	12.1	3.1	13.6	9.0	5.4	**6.5**
Agricultural workers	0.6	0.0	3.0	3.4	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.6	0.0	**0.7**
Skilled manual workers	8.6	13.7	17.5	28.8	9.0	23.6	6.4	10.3	9.9	4.5	0.0	21.4	6.5	**13.1**
Elementary occupations	6.5	12.3	3.2	13.3	8.0	14.4	0.0	4.6	12.6	1.1	0.0	7.8	5.2	**8.1**

Source: EU Labour Force Survey 2007
 Notes: * EU15 — excluding Germany and Ireland.
** 'Developing country' includes here developing countries in Europe (i.e. the Central and Eastern European countries in the previous tables).

In practice, in the EU15, the great majority of both men and women with tertiary education born in a developing country are employed in high-level jobs as managers, professionals or technicians. In 2007, this was the case for 65% of men aged 25–64 with this level of education from such countries (Table 3.10). This, however, compares with 81% of men with a similar level of education but born in the EU15. Moreover, some 8% of those men with high education who were born in a developing country were employed in elementary occupations (i.e. doing low-skilled manual jobs), in contrast to only just over 1% of men born in the EU15. This difference is common to all Member States, including the four Southern countries. Indeed, the difference is particularly apparent in Spain and Italy, where, in the former, only 39% of those men with high education who were born in a developing

country were employed as managers, professionals or technicians, as compared with 66% of men born in the country (in Italy the figures are 44% as compared to 90%). In both countries, moreover, 13-14% of men with high education worked in elementary occupations if they were born in developing countries, as against under 3% if they were born in the EU15.

Similar differences are evident for women. On average in the EU15, just over 62% of women aged 25-64 with high education and born in a developing country worked as managers, professionals or technicians in 2007, as opposed to just over 78% of those born in the EU15, while 8% of women from developing countries and with tertiary education were employed in elementary occupations, and almost 16% in basic sales or service jobs, as against 1% and 7%, respectively, of women born in the EU15 (Table 3.11).

Once again, the difference is common to all EU15 Member States and, as for men, was particularly large in Spain and Italy, where in both cases the proportion of women with tertiary qualifications and from developing countries who were working in high-level jobs was around 30 percentage points lower than for those born in the EU15. The difference was only slightly smaller (over 20 percentage points) in Denmark, Austria and Sweden.

Table 3.11: Division of women aged 25–64 with tertiary education between broad occupations, 2007

% of total women employed by country group

Country of birth	BE	DK	GR	ES	FR	IT	LU	NL	AT	PT	FI	SE	UK	EU 15*
Same														
Managers, professionals, technicians	76.2	87.0	83.8	69.4	78.0	86.3	96.6	86.7	84.3	87.2	78.9	89.8	75.1	**78.4**
Clerks+office workers	18.5	6.5	10.4	17.0	13.3	9.0	2.6	8.1	6.9	9.2	11.9	4.2	12.5	**12.3**
Sales+service workers	3.3	4.6	4.0	9.9	5.6	3.5	0.8	4.0	5.1	3.2	5.7	4.6	10.0	**6.8**
Agricultural workers	0.4	0.2	0.5	0.2	0.4	0.1	0.0	0.2	1.4	0.2	1.2	0.3	0.3	**0.3**
Skilled manual workers	0.7	0.6	0.6	1.5	1.4	0.5	0.0	0.5	1.7	0.0	1.2	0.6	0.9	**1.0**
Elementary occupations	0.7	1.2	0.3	1.9	1.1	0.5	0.0	0.5	0.6	0.2	1.1	0.5	1.1	**1.0**
Developing country**														
Managers, professionals, technicians	64.8	66.8	64.1	40.2	68.9	55.0	82.4	78.8	61.9	71.0	75.0	64.9	72.1	**62.4**
Clerks+office workers	19.2	11.0	3.7	11.5	14.3	6.6	4.3	11.7	15.3	14.3	0.0	4.9	12.3	**12.1**
Sales+service workers	8.5	11.5	23.5	29.1	9.0	10.9	13.3	5.4	14.6	6.7	12.7	21.9	12.4	**15.5**
Agricultural workers	0.0	0.8	0.0	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.0	0.3	0.0	**0.0**
Skilled manual workers	0.0	1.0	0.0	1.9	1.3	7.6	0.0	0.6	1.4	1.0	0.0	3.2	0.7	**1.5**
Elementary occupations	7.6	8.9	8.7	17.3	6.4	19.7	0.0	3.1	6.9	4.7	12.4	4.9	2.3	**8.2**

Source: EU Labour Force Survey 2007
Note: * EU15 — excluding Germany and Ireland.** 'Developing country' includes here developing countries in Europe (i.e. the Central and East European countries in the previous tables).

Differences of this kind are equally apparent for the migrant population as a whole in the EU (i.e. for all education levels), compared to the rest of the population. In 2007, therefore, less than 30% of men from developing countries were employed as managers, professionals or technicians, in contrast to over 40% of those born in the EU15. Similarly, 18% of the former were employed in elementary occupations, compared to just 7% of the latter (Table 3.12).

For women, the difference is even more pronounced. While almost 44% of women in employment and born in the EU country in which they live were employed as managers, professionals or technicians, this was the case for only 27% of those born in a developing country. Moreover, whereas 10% of the former worked in elementary occupations, the figure for the latter was over 30%.

Table 3.12: Division of men and women aged 25–64 in EU15 by broad occupation and country of birth, 2007

	Men: country of birth		Women: country of birth	
		% total employed in each group		
Occupation	Same	Developing country	Same	Developing country
Managers, professionals, technicians	42.3	26.9	43.7	27.2
Clerks+office workers	6.4	4.5	19.0	11.3
Sales+service workers	6.7	10.4	19.4	24.0
Agricultural workers	3.6	1.2	2.0	0.4
Skilled manual workers	32.6	38.7	5.5	6.3
Elementary occupations	7.2	18.0	10.2	30.6

Source: EU Labour Force Survey 2007
Note: Armed forces are not included, so the figures may not sum to 100.

Household circumstances and income of migrants of working age

The above differences are almost certain to be reflected in relative income levels. This is confirmed by data from the EU–SILC, which is the main source of data for the remaining part of the analysis. This examines, first, the household circumstances of people with a migrant background and, second, their levels of disposable income and risk of poverty, in both cases in relation to those of the indigenous population.

It should be noted that the EU–SILC results differ slightly from the LFS in terms of the relative number of migrants (as defined by their country of birth), and their education and employment characteristics, which is not too surprising given the relatively small sample of the population covered by both. It should also be noted that, in the same way as the LFS and for the same reasons, the EU–SILC is likely

to under-record the number of migrants, especially those who have lived in the country concerned for a relatively short period of time.[8]

More importantly, it is also the case that migrants are defined somewhat differently here, in the analysis of the EU-SILC data, than in the LFS. Not only is the focus on a slightly wider age group — those aged 16-64 — but the primary concern here is with income, which is measured on a household rather than on an individual basis, and is assumed to be shared equally between all the household members. Consequently, the income of migrants is affected by the earnings of other people in the household. In order to allow for this, migrants are defined in this part of the analysis as those living in households where all the other adult members were also born outside the country in question. Accordingly, the total number in each country recorded as being migrants is less than in the above analysis.

While the definition adopted for this part of the analysis is more restrictive and covers only a proportion of those with migrant backgrounds (insofar as it excludes those who have married, or are living with, people born in the country to which they have moved), it should give an insight into the extent of disparities between the income of migrants and that of the majority population across the EU.

According to the EU-SILC, therefore, migrants from outside the EU by this definition made up just over 5% of the total population in the EU15 aged 16-64, while migrants from other EU Member States accounted for just under 1%. The former figure varied, however, from 11% in Austria and 7% in the UK, to around only 1% in Portugal and Finland, while the proportion of those from another EU country ranged from 34% in Luxembourg and just under 5% in Ireland, to just 0.2% in Portugal and the UK.

Nevertheless, in general, the picture painted by the two surveys is very similar, despite the difference in the definition of migrants. In particular, the education levels of migrants from other EU Member States tend to be higher than for non-migrants, or the indigenous population, while for migrants from outside the EU, education levels are not much different from those of the indigenous population. (As noted above, the EU-SILC data allow people to be distinguished in terms of their country of birth only very broadly: namely, according to whether they were born in their country of residence, in another EU Member State or outside the EU. As such, unlike the LFS, the EU-SILC data do not allow migrants from the new Member States to be distinguished from migrants from EU15 countries, nor migrants from developing countries outside Europe to be distinguished from those from developed countries.)

Like the LFS, the EU-SILC also indicates that the employment rate for migrants from outside the EU is lower than for non-migrants, and that, equally, those in work tend to be disproportionately employed in lower-level jobs than the indigenous population and, conversely, less employed as managers, professionals and technicians.

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[8] This is certainly the case with regard to citizenship. For example, in Germany, a country with one of the highest migrant populations in Europe, the Central Register of Foreigners (data published by the Federal Statistical Office, Germany), records 6.7 million people with foreign citizenship living in Germany in 2006, of whom 2.2 million had EU citizenship. This implies that around 5.5% of the population had non-EU citizenship, which compares with a figure of around 2% recorded by the EU-SILC.

Accordingly, the same kinds of factor underlie the relative position of people with a migrant background in terms of income levels in the EU–SILC data as in the LFS data.

Household circumstances

The household characteristics of people of working age (here defined as 15-64) with a migrant background in the EU tend to compound their unfavourable position in relation to non–migrants. In most Member States, more of them live alone and, partly because of this, more live in households where no one is in work (i.e. workless households).

Table 3.13: Household circumstances of people aged 15–64 by country of birth, 2006

% total by country of birth

Country	Born in country of residence						Born outside the EU					
	Single person	Single person with child	Two + adults without children	Two + adults with 1–2 children	Two + adults with 3+ children	Other with children	Single person	Single person with child	Two + adults without children	Two + adults with 1–2 children	Two + adults with 3+ children	Other with children
BE	15	5	38	27	8	8	28	8	15	23	15	12
DK	24	5	34	28	6	2	33	11	14	22	19	2
DE	19	5	37	28	5	7	28	6	29	24	9	5
IE	6	6	34	22	11	21	11	17	22	38	9	2
GR	6	2	46	33	2	11	7	2	29	42	2	18
ES	4	1	44	32	2	15	7	2	35	25	7	23
FR	14	5	35	37	5	4	19	9	22	34	11	4
IT	9	3	40	31	4	14	29	3	21	27	4	16
LU	15	3	35	35	4	8	20	7	28	19	15	12
NL	17	3	38	28	8	6	32	8	19	19	19	3
AT	15	4	39	24	5	13	9	4	30	28	9	19
PT	3	2	39	34	3	19	7	0	49	19	2	23
FI	19	4	38	27	8	4	22	13	26	21	13	5
SE	21	6	31	29	7	5	23	12	16	28	12	9
UK	13	6	44	25	5	6	19	11	31	21	9	9
EU15	**13**	**4**	**39**	**30**	**5**	**9**	**21**	**7**	**27**	**26**	**9**	**10**

Source: EU-SILC 2006

According to the EU–SILC data for 2006, therefore, some 21% of migrants aged 15-64 born outside the EU but living in an EU15 Member State live alone, as opposed to 13% of those born in the country in which they live (the figure is even larger for migrants from another EU Member State — 34%). (Note that in the analysis here, both Germany and Ireland are included, since the EU–SILC contains data for these.) At the same time, 7% of migrants from both outside and inside the EU were single parents living alone with a child, compared to just 4% of the

indigenous population. This pattern is repeated in nearly all Member States, the main exception being Austria, where more of the indigenous population live alone than migrants (Table 3.13 — the situation of migrants from other parts of the EU is not included in the table because of the small number of observations for many countries, which makes the figures unreliable).

At the same time, significantly more migrants from outside Europe (though not from inside) had large families of three or more children than did those born in the country concerned. On average, 9% of the migrants in question fell into this category, compared to 5% of the rest of the population. In Belgium, moreover, this figure was as high as 15%, and in Denmark and the Netherlands, 19%. The risk of poverty among migrants, therefore, is increased, on the one hand, by many living alone and, on the other, by many having large numbers of dependent children.

The relative number of people in this age group living in workless households was also higher among migrants than among the indigenous population, reflecting their lower employment rates, as well as the larger proportion living alone. In the EU15 as a whole, in 2006 some 18% of those born outside the EU lived in house-holds where no one was in work, compared to 12% of those born in the country (Figure 3.1).

In Belgium and Finland, this figure was as high as 38%, and in the Netherlands only slightly lower, while in Germany, Ireland and Sweden, it was over 25%.

Figure 3.1: Proportion of population aged 15–64 living in workless households, 2006
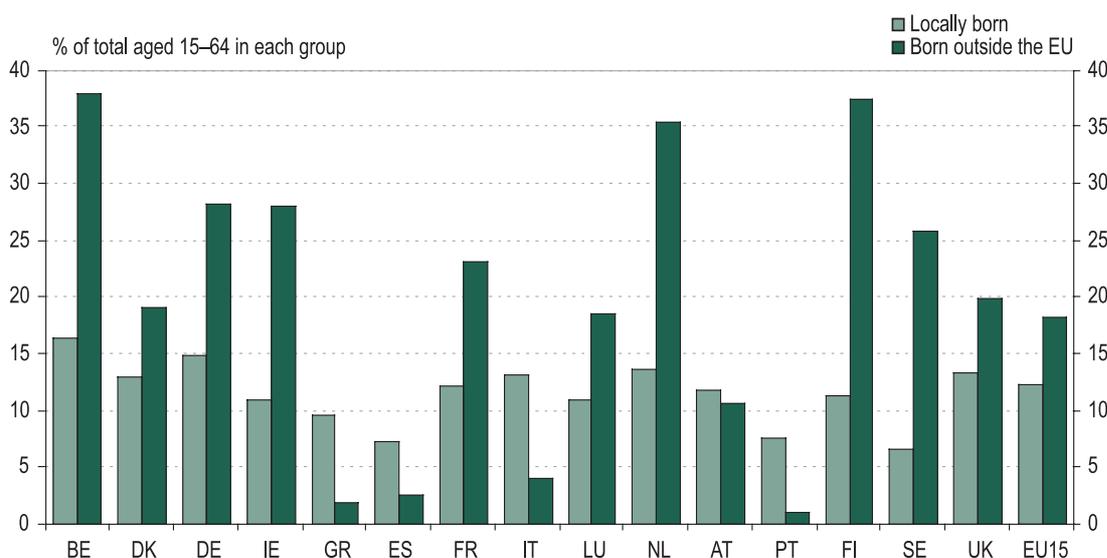
Source: EU-SILC 2006

Disposable income

As implied by the above comparisons, a larger proportion of people in the EU15 with a migrant background had low levels of income than did the rest of the popu-lation. Indeed, the relative number at risk of poverty as conventionally measured — i.e. having equivalised disposable income of less than 60% of the national median

— was more than twice as high among those born outside the EU as among those born in the country in which they lived (30% as against 13%) (Figure 3.2).

Figure 3.2: Risk of poverty among those aged 15–64, 2005
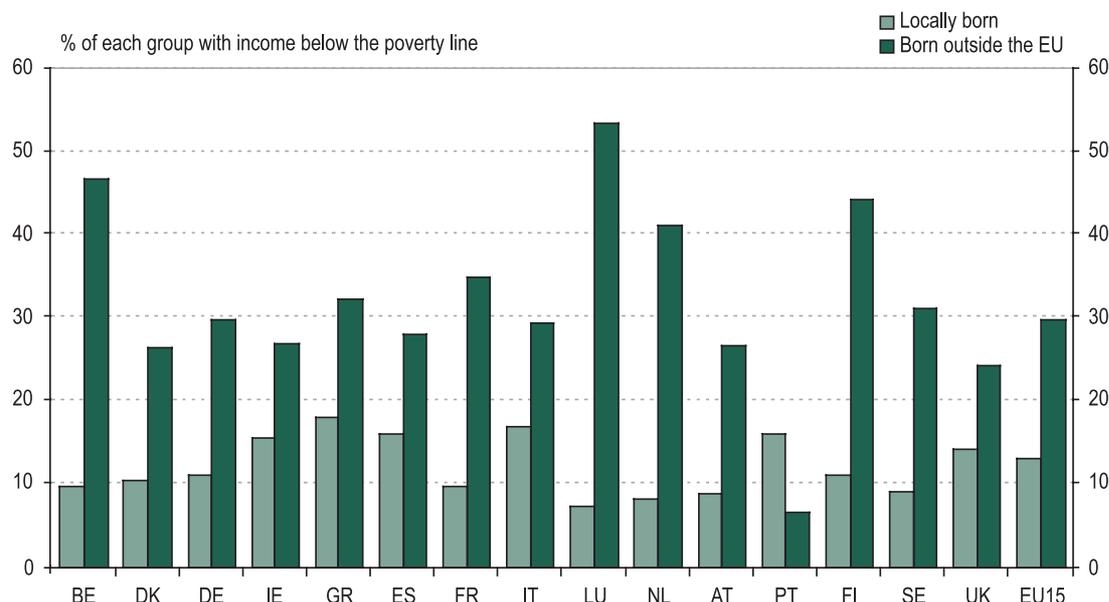
Source: EU-SILC 2006

This pattern is repeated in all Member States, with the sole exception of Portugal, where the risk of poverty was higher among the indigenous population than among migrants. In Belgium, Luxembourg and the Netherlands, as well as in Finland, the proportion of migrants from outside the EU at such risk was over 40% in each case — at least four times higher than for non-migrants.

This disparity between those with a migrant background and the indigenous population is equally evident in relation to the distribution of income more generally. If the population aged 15–64 in each country is ranked according to disposable income (again equivalised to allow for differences in household size and composition) and divided into five equal groups, or quintiles, each containing 20% of the population, some 39%, on average, of migrants in this age group from outside the EU were included in the bottom quintile in 2006 (i.e. among the 20% with the lowest level of income) and only 9% were in the top quintile (Table 3.14).

The disparity is even wider in a number of Member States. In Belgium, some 66% of those of working age born outside the EU were included in the bottom quintile; in the Netherlands, 63%; and in Finland and Luxembourg, 60%. With the exception of Portugal (13%), in no EU15 Member State was the proportion included in the bottom quintile less than 29% (the UK). Equally, in no EU15 Member State except Portugal (20%) and the UK (16%) was the proportion of those born outside the EU and in the top quintile more than 10%, and in six Member States (Denmark, Greece, Spain, Luxembourg, Austria and Finland) it was less than 5%.

Table 3.14: Distribution of those aged 15–64 born outside the EU, by income quintile, 2005

% of population aged 15–64 in each quintile

Country	Income quintiles of total population aged 15–64				
	1st	2nd	3rd	4th	5th
BE	66	20	5	3	7
DK	57	26	7	9	1
DE	40	23	14	13	10
IE	35	30	9	17	10
GR	35	29	21	12	4
ES	30	29	27	11	3
FR	51	20	13	7	10
IT	33	31	19	11	7
LU	60	24	6	7	3
NL	63	17	8	5	6
AT	45	30	12	11	2
PT	13	29	19	20	20
FI	60	29	5	2	3
SE	54	20	13	8	5
UK	29	23	18	14	16
EU15	**39**	**25**	**16**	**11**	**9**

Source: EU-SILC 2006

As is evident below, the low income levels of migrants from outside the EU have implications for the income — and risk of poverty — of children. Before we examine their position, however, we look at the situation of migrants among older people.

Household circumstances and income of migrants aged 65 and older

The relative number of people in the EU with a migrant background among the older age group — those aged 65 and older — is recorded by the EU-SILC as being smaller than for those of working age, though only slightly so. On average across the EU15, migrants from outside the EU (defined here to include only those living in households where all adult members were from outside the EU) made up 4.5% of the population of this age in 2006, according to the EU–SILC, while those from other EU Member States accounted for just over 1%.

Household circumstances

As with those of working age, more migrants in this age group from outside the EU live alone than do those of the same age who were born in the country of resi-dence — 57% in the EU15 as a whole, compared to 34% (Figure 3.3). Although the proportion varies across countries — up to around 80% in Finland and Sweden

— in all EU15 Member States, apart from Ireland and Luxembourg, the figure was higher for migrants than for the indigenous population. This might pose a social problem in the countries where this proportion is particularly high, since it has potential implications — in particular, for income support and caring — and so raises possible policy issues.

Figure 3.3: Proportion of those aged 65+ living alone, 2006
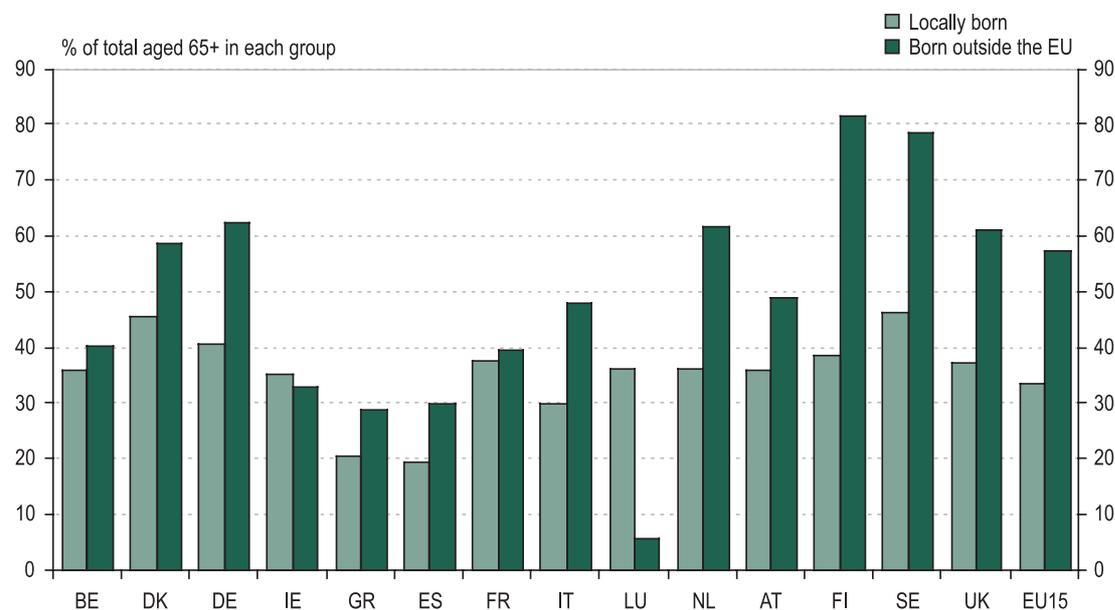
Source: EU-SILC 2006
Note: Data for Portugal too sparse to be reliable.

Disposable income

Between migrants and non–migrants, there is less of a difference in the distribution of income for those aged 65 and older than is the case for people of working age. This applies equally to the relative numbers at risk of poverty. In the EU15 as a whole, some 25% of migrants from outside the EU had disposable income below the poverty line in 2005 (defined as 60% of the national median), while this was the case for 20% of those born in the country in which they lived (Figure 3.4). The proportion at risk of poverty defined in this way was, in fact, larger among migrants from other EU Member States, amounting to some 28%.

Figure 3.4: Risk of poverty among those aged 65+, 2005

% of each group with income below the poverty line

Legend: Locally born; Born outside the EU
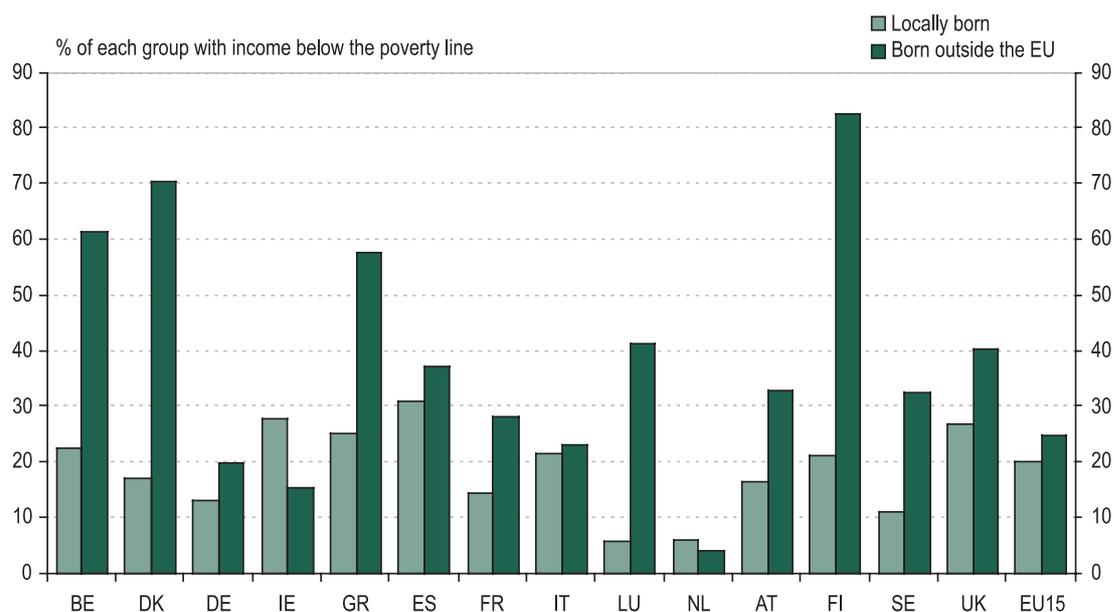
Source: EU-SILC 2006
Note: Data for Portugal too sparse to be reliable.

The proportion at risk, however, particularly for migrants from outside the EU, varied markedly between Member States, exceeding 80% in Finland, 70% in Denmark and 60% in Belgium — in each case, considerably larger than for the indigenous population in this age group. On the other hand, in Ireland and the Netherlands, the relative number with income below the poverty line was smaller among migrants from outside the EU than among non-migrants, while in Italy, it was much the same.

The generally higher risk of poverty among those aged 65 and over and born outside the EU (compared to those born in the country in which they live) is reflected in the relative income levels of the two groups: some 27% of those in this age group from outside the EU on average had income in the bottom quintile of the distribution in the EU15, while only 15% had income in the top quintile (the quintiles being defined in terms of the income of the total population aged 65 and over) (Table 3.15).

Once again, the figures varied widely between Member States, though only in Ireland were proportionately fewer people aged 65 and over from outside the EU included in the bottom quintile (16%) than if income levels were the same as for the indigenous population (i.e. less than 20%, which would be expected if the people concerned were distributed across the income quintiles in the same way as the total population). As for the risk-of-poverty rates, the proportion of those born outside the EU with income in the bottom quintile was particularly high in Belgium, Denmark and Finland (over 60% in each case), and in each case relatively few had income in the upper quintiles. Indeed, in all these countries, under 30% of those from outside the EU were included in the top 60% of people in this age group ranked in terms of their income. On the other hand, in Ireland, Italy and the

Netherlands, the proportion of those born outside the EU in the top 60% was much the same as for the indigenous population.

Table 3.15: Distribution of those aged 65+ born outside the EU, by income quintile, 2005

% of those born outside the EU in each quintile

Country	Income quintiles of population aged 65+				
	1st	**2nd**	**3rd**	**4th**	**5th**
BE	62	18	7	8	6
DK	71	0	16	0	13
DE	24	20	18	20	17
IE	16	43	21	0	21
GR	44	25	14	6	11
ES	31	10	35	22	2
FR	29	22	15	19	14
IT	23	14	19	18	26
LU	44	0	25	19	13
NL	23	16	18	25	17
AT	39	21	14	16	10
FI	83	7	11	0	0
SE	50	21	19	9	2
UK	31	24	15	21	8
EU15	**27**	**21**	**18**	**20**	**15**

Source: EU-SILC 2006

Household circumstances and the income of children of migrant families

The above differences in the income of people of working age — between those living in the EU but born outside and the indigenous population — will tend to be reflected in the relative incomes that the children of migrant families have access to. The degree to which this is the case, of course, depends on how far the relative income levels of migrants of working age with children are the same as for those without children. This is the focus of this part of the analysis, which examines the situation of the children of parents born outside the Member State in which they live, and most especially of those born outside the EU.

Again, the analysis is based on data from the latest EU–SILC, collected in 2006, but which, in the case of income, relate to the preceding year. The focus is, first, on the household characteristics of the children of migrant parents, compared to those of other children, and specifically on how many live in workless households; second, on the relative number of the children concerned who live in households with an income level that puts them at risk of poverty; and, third, on the household circumstances of those who have income of this level.

Household circumstances

As indicated above, there is a significant difference in employment rates in the EU between migrants of working age and the indigenous population. This difference is translated into a similar difference in the relative number of children living in workless households, or in those households in which not everyone of working age has a job.

In 2006, therefore, in the EU15 as a whole, some 18% of the children of parents who were born outside the EU lived in households where no one was in work, compared to just 7% of the children whose parents were born locally (i.e. in the country of residence). Only in three Member States — Greece, Spain and Italy, where the relative number of people living in workless households was small (5% or less) — was the proportion of children living in workless households the same (or smaller) for those whose parents were born outside the EU as for those whose parents were born locally. In Ireland, the Netherlands and Finland, 45% or more of the children of migrant parents lived in workless households, while in Belgium and the UK the figure was a third or more — a considerably larger proportion than for the children of non–migrants (Figure 3.5).

Figure 3.5: Children of parents born outside the EU and in country of residence by the work intensity (WI) of households in which they live, 2005
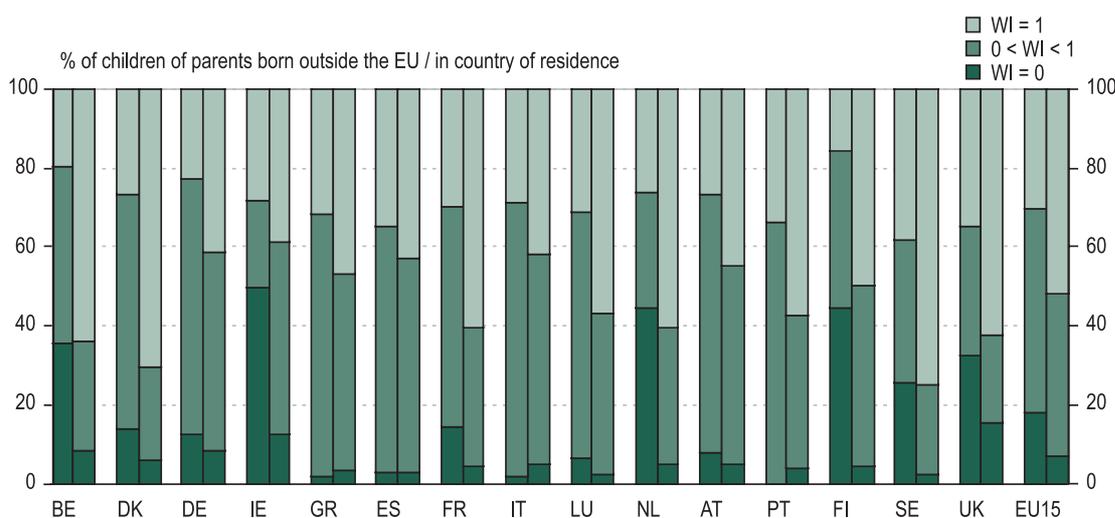
Source: EU-SILC 2006
Note: Left bar: born outside the EU; right bar: born in country of residence.

Moreover, while 52% of the children of locally born parents in the EU lived in households where everyone of working age was in employment throughout the year, this was the case for only 30% of children whose parents were born outside the EU. This difference is repeated in all EU15 Member States. In none of them did the proportion of children of migrant parents living in households where all adult members were in work exceed 40%, and only in Sweden did it exceed 35%. In Belgium, Germany and Finland, the proportion was under 25% (in the last, only 15%). By contrast, in none of the EU15 countries (with the sole exception of Ireland, where the figure was 39%) did less than 40% of the children of locally born parents

live in households where everyone was employed, and in six of the countries the figure was over 60%.

Relative income levels

The difference in the work intensity (WI) of the households in which migrant children live, as compared to the WI of households in which children of locally born parents live, is reflected in differences in the income to which children have access. On average, across the EU in 2005 (i.e. the year preceding the EU–SILC survey for 2006), the median equivalised disposable income of the children of parents born outside the EU was some 17% less than among the children of locally born parents (i.e. assuming children have an equal share of the households in which they live). In Belgium, Luxembourg, the Netherlands, Spain and Finland, it was over 40% less, and in none of the EU15 Member States was the difference under 15% less (Figure 3.6).

Figure 3.6: Median income of children of parents born outside the EU relative to that of those with parents born in country of residence, 2005
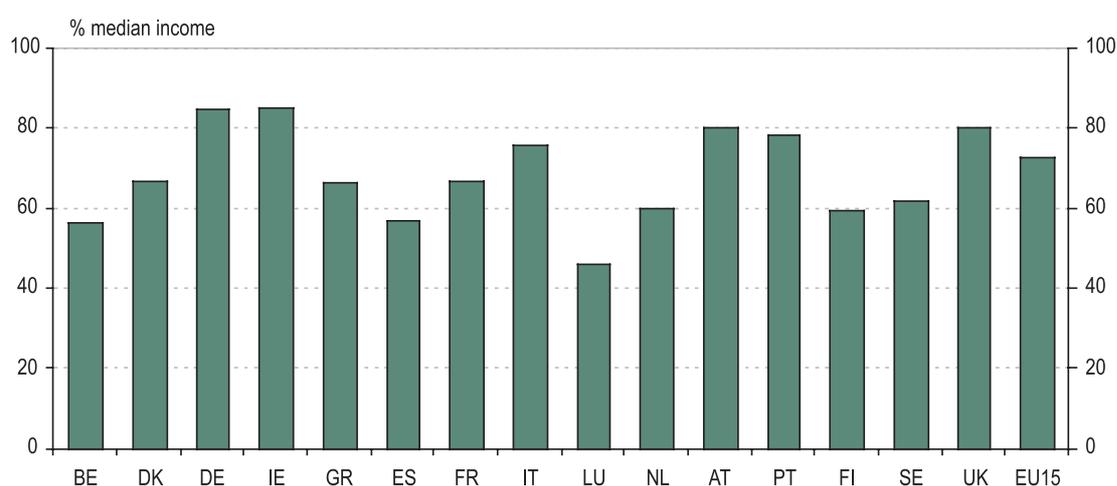
Source: EU-SILC 2006

This difference in median income levels is associated with a markedly higher risk of poverty among the children of migrant parents than among those whose parents were born locally. In the EU15 Member States taken together, some 38% of children whose parents were born outside the EU had equivalised income below the poverty line, as conventionally measured (i.e. below 60% of the national median), compared to 16% of the children of locally born parents (Figure 3.7).

Figure 3.7: Proportion of children with income below the poverty line, 2005
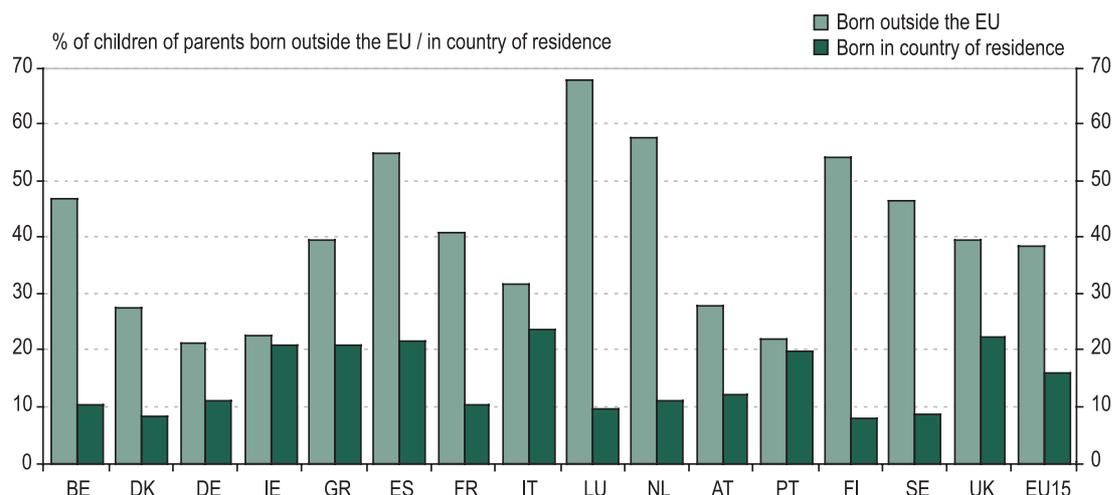
Source: EU-SILC 2006

Only in Germany, Ireland and Portugal was the proportion of the children of migrant parents with this level of income under 25% (but over 20% in each case), and apart from these three countries, only in Denmark, Italy and Austria was the proportion much under 40%. Well over half the children of migrant families in four countries — Finland (54%), Spain (55%), the Netherlands (58%) and Luxembourg (68%) — had income below the poverty line; in three of them (all except Spain) this is in sharp contrast to the relatively small proportion of children of locally born parents with income this low (8–11% — in Spain, the figure was 22%).

As indicated above, the risk of poverty among people of working age, taking those with and without children together, is significantly higher among those born outside the EU than among those born inside. Since the risk is also much higher among migrant families with children than among other families, this raises the question of the extent to which migrant families with children are more likely to have a poverty level of income than are migrants without children. It also raises the question of the degree to which children in themselves contribute to the low income of the families concerned. To assess this, migrant households can be divided into those with and those without children, and the extent to which each group has income below the poverty line can be compared to the equivalent group of non-migrant households.

In practice, households where the members were born outside the EU have a significantly higher risk of poverty if they have children than if they do not. It is still the case, however, that even those without children have a much higher risk than equivalent households where the members were born locally (i.e. in the country of residence). In 2005, in the EU15 as a whole, therefore, some 34% of households with children where the parents were born outside the EU had income below the poverty line, compared to 15% of households with children where the parents were born locally, a difference of 19 percentage points (Table 3.16 — note that the poverty rates shown in the table differ from those presented in Figure 3.7 because they relate to households rather than children). At the same time, 26% of households without children whose members were born outside the EU had

poverty–level income, as opposed to 17.5% of those whose members were born locally — a difference of 8.5 percentage points: still significant but less than half the difference for households with children.

Table 3.16: Comparison of risk of poverty of households with and without children, 2005

Country	Households with people born in country		Households with people born outside EU		Born outside EU minus born in country	
	With children	**Without children**	**With children**	**Without children**	**With children**	**Without children**
	% of households with income below poverty line				% point difference	
BE	9.7	17.1	46.2	46.9	36.5	29.8
DK	7.1	17.8	23.6	37.1	16.5	19.2
DE	10.8	16.5	19.9	22.9	9.1	6.4
IE	18.2	25.7	22.7	34.4	4.5	8.8
GR	20.0	20.1	37.2	23.1	17.1	3.0
ES	20.4	22.1	41.5	21.1	21.1	-0.9
FR	9.9	13.2	39.3	26.6	29.4	13.4
IT	22.0	18.7	33.4	29.6	11.4	10.9
LU	8.7	8.4	66.0	49.1	57.3	40.7
NL	9.3	9.7	51.3	21.7	42.0	12.0
AT	11.1	15.2	25.3	32.3	14.2	17.1
FI	7.0	20.6	43.4	61.3	36.4	40.7
SE	8.8	14.6	37.8	29.8	29.0	15.1
UK	19.9	20.5	33.6	27.3	13.7	6.8
EU15	**15.2**	**17.5**	**34.2**	**26.0**	**19.0**	**8.5**

Source: EU-SILC 2006

This pattern is common to most Member States, though to varying extents. The presence of children, therefore, adds markedly to the risk of poverty among migrants in Greece, Spain, France, Sweden and, most especially, the Netherlands. By contrast, there are four EU15 Member States — Denmark, Ireland, Austria and Finland — where the risk of poverty was less among people born outside the EU with dependent children than among those without.

Ethnic minorities and child poverty in the UK

The above analysis treats people with a migrant background, many of whom will constitute an ethnic minority in the EU, as a homogeneous group — in large part because the lack of data prevents any other approach. In practice, however, such people may well differ in terms of their characteristics and circumstances, according to which country or part of the world they come from and which minority group they belong to. Distinguishing empirically between the people concerned,

however, is not possible from the data so far collected by the EU–SILC and, as indicated at the outset, in most EU countries there are no national sources of data to fill the gap.

The UK is the exception. Here data are routinely collected on ethnicity — in large measure to inform policy–making and to serve as a basis for assessing the policies in place; this makes it possible to examine the position of different ethnic groups in terms of their household circumstances, their income and risk of poverty. These data show that there are pronounced differences in the position of these different groups, which should caution against treating people who have migrated to the EU from various parts of the world without distinction (although how far the conclusions reached from analysing these data can be generalised to other EU Member States is open to question). Nevertheless, despite the caveats, the situation in the UK is of interest, since it is at least indicative of the kinds of difference between the various groups concerned that might exist across the EU, and highlights the need to take such differences into account when framing policy that is intended to reduce poverty rates or to tackle problems of social exclusion.

According to the latest data available, minority groups, including white minorities, make up around 12% of the population of Great Britain (i.e. the UK excluding Northern Ireland) and some 15% of children. However, they account for 25% of children with income below the poverty line, as conventionally measured, or 24% if housing costs are excluded (Table 3.17).

Table 3.17: Children with income below 60% of the median by ethnic group

Ethnic group	% of all children	% below poverty line	% below poverty line after housing costs
White British	84.8	75.3	75.9
Indian	2.3	3.2	2.7
Pakistani	2.3	5.6	4.5
Bangladeshi	1.0	3.1	2.6
Black Caribbean	1.4	1.9	1.9
Black African	1.7	2.9	3.4

Source: From Households Below Average (HBA) income data, 2003/04–2005/06

These disproportionate shares reflect the relatively high poverty rates among children of ethnic minority families. However, these vary markedly between the different groups concerned. In particular, Pakistani and Bangladeshi groups are much more at risk of poverty than are Indian or Black Caribbean groups, though these, in turn, are at greater risk than the White British population (Table 3.18).

Table 3.18: Risk-of-poverty rates by ethnic group, Great Britain, average 2003/04–2005/06

Ethnic group	Children BHC	Children AHC	Working-age adults BHC	Working-age adults AHC	All individuals BHC	All individuals AHC
White British	19	26	13	17	16	19
Indian	30	34	20	23	24	26
Pakistani	53	57	48	55	49	54
Bangladeshi	64	73	54	65	57	66
Black Caribbean	30	39	22	29	25	31
Black African	37	57	27	43	29	47

Source: See Table 3.17.
Note: BHC=including housing costs income, AHC=excluding housing costs.

Particular ethnic groups are more likely to have characteristics that place them at a higher risk of poverty than others. Black Caribbean and Black African children, for example, are more likely to be living in lone-parent families, while Bangladeshi and Pakistani children are more likely to be living in large families (Tables 3.19 and 3.20, first and fourth columns).

Nevertheless, the risks of poverty that come from living in different household types are not constant across the groups. For example, lone-parent families have a high risk of poverty across all groups, but for Pakistani and Bangladeshi children the risk is greater for those living in couple-parent families (Table 3.19 — i.e. the figure in the third column is greater than the figure in the first column). The combined effect of the different distribution of children between couple-parent families and lone parents, and the specific risk of poverty in each of these, means that the shares of children with income below the poverty line living in particular family circumstances varies markedly between the different ethnic groups. Whereas, for example, some 76% of Black Caribbean children at risk of poverty are being brought up by lone parents, over 90% of Bangladeshi children at risk are in families with two parents.

Table 3.19: Children by family type and risk of poverty by family type and ethnic group, Great Britain, 2003/04–2005/06

Ethnic group	Couple-parent families % in type (1)	Couple-parent families % (risk) poor in type (2)	Couple-parent families Share of poor in type (3)	Lone-parent families % in type (4)	Lone-parent families % (risk) poor in type (5)	Lone-parent families Share of poor in type (6)
White British	75	14	55	25	36	45
Indian	90	28	83	10	48	17
Pakistani	83	55	85	17	49	15
Bangladeshi	87	66	91	13	45	9
Black Caribbean	43	17	24	56	39	76
Black African	53	29	42	47	46	58

Source: See Table 3.17.
Note: Poverty is measured BHC.

Table 3.20: Children by family size and risk of poverty by family size and ethnic group, Great Britain, 2003/04–2005/06

Ethnic group	One or 2 child families			Three or more child families		
	% in type (1)	% (risk) poor in type (2)	Share of poor in type (3)	% in type (4)	% (risk) poor in type (5)	Share of poor in type (6)
White British	71	17	62	29	25	38
Indian	70	23	54	30	46	46
Pakistani	40	49	36	61	55	64
Bangladeshi	33	41	21	67	75	79
Black Caribbean	69	27	62	31	37	38
Black African	50	26	36	50	47	64

Source: See Table 3.17.
Note: Poverty is measured BHC.

A further factor underlying the differences in poverty rates is the wide variation in employment rates between ethnic groups, especially among women but also among men (Figure 3.8). These variations are clear to see, and would be expected to have a decided impact on poverty and child poverty rates across the groups concerned.

Figure 3.8: Rates of employment and economic activity by ethnic group, Great Britain, 2002–05
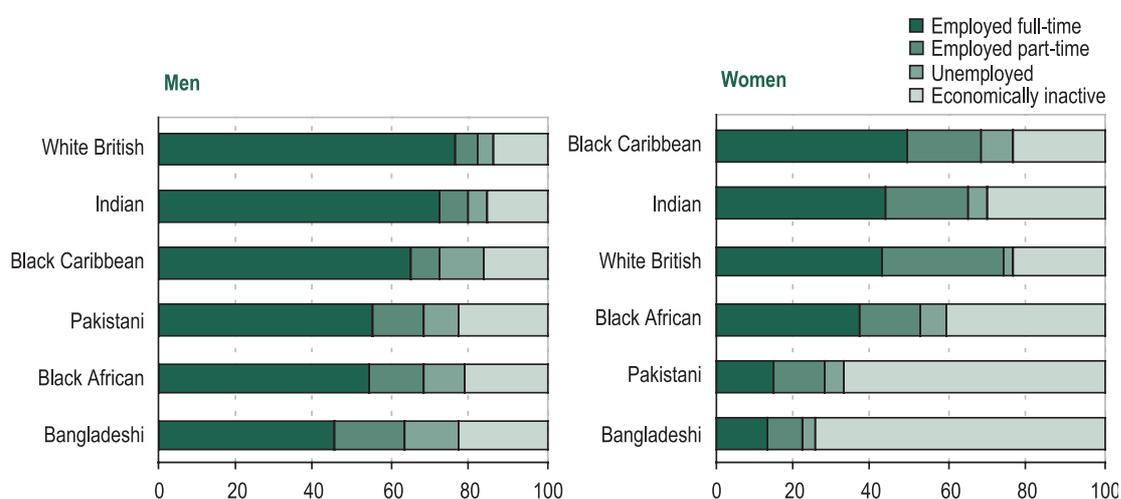
Source: UK Labour Force Survey 2002–05

Differential employment rates are only part of the story. The extent to which earnings from employment are coming into the household is also a factor. The risk of poverty is, therefore, higher (as is usual) in workless households: 60% or more of those living in such households have income below the poverty line for all the ethnic groups (Table 3.21). Nevertheless, for some ethnic minorities, the presence of someone in work in the household does not reduce the risk of poverty

substantially. For children in Bangladeshi families, in particular, the risk of poverty is more than 60% even if someone in the household is employed, which is much the same as the risk for children in White British households where no one is working. Other aspects, such as whether the work is part time or full time and wage levels, are clearly important in this regard.

Table 3.21: Distribution of children by worker status of household, risk of poverty and share of those at risk of poverty by worker status of household and by ethnic group, Great Britain, 2003/04–2005/06

| Ethnic group	No worker			One or more workers		
	% in type	% (risk) poor in type	Share of poor in type	% in type	% (risk) poor in type	Share of poor in type
White British	15	60	48	85	12	52
Indian	12	70	29	88	24	71
Pakistani	27	77	39	73	44	61
Bangladeshi	27	72	30	73	61	70
Black Caribbean	25	71	59	75	16	41
Black African	37	62	63	63	21	37

Source: See Table 3.17.
Note: Poverty is measured BHC.

Understanding of these patterns of poverty by ethnic group is limited by lack of research in the past. There are signs, however, that this is changing.[9] It also appears that policy–makers in the UK are beginning to recognise the ethnic dimension of child poverty and the part that it plays in reinforcing disparities in life chances between different groups in society.[10]

Concluding remarks

The above analysis indicates that people with a migrant background in all age groups tend to have a lower level of income and a higher risk of poverty than those born locally — i.e. the indigenous population — almost throughout the EU, or at least in those countries for which the data available are reasonably reliable (mostly the EU15 countries). For those of working age, this cannot easily be put down to lower levels of education, since there does not appear to be a significant difference between them and the rest of the population, especially as regards the relative number with tertiary, or university–level, education. On the other hand, there are marked differences in the extent to which they are in employment and (if they are) in the kinds of job they do — and the potential earnings from these — even in the case of those with tertiary–level qualifications. This is especially so for women, whose employment rate in most EU15 countries is much lower than among their locally born counterparts and who tend disproportionately to be employed in low–level jobs.

[9] See, for example, Bradshaw *et al*. (2005), pp. 71–108; Magadi and Middleton (2007).
[10] The Government Child Poverty Unit has commissioned a new study on ethnicity and child poverty. See Platt (2009).

The relatively unfavourable situation of migrants on the job market — reflected in the disproportionate number living in workless households, as well as in couple households where only one person is in work — seems to be a major cause of their low income levels, and this feeds through into the equally disadvantaged situation of children in migrant families. While children do in themselves contribute to the higher risk of poverty faced by migrant families (in the sense that there are proportionately more migrant families with three or more children than among the indigenous population), they do not seem to be the main cause. Migrants without children, therefore, also face a higher risk of poverty than do people born locally in a similar situation. The large numbers of children in low-income families among the migrant population, however, is a particular cause for concern, given the potentially damaging effect on their future life chances.

The factors underlying the higher risk of poverty faced by those aged 65 and over with a migrant background are less apparent, though it may be a reflection of the low levels of income — and earnings — they had before they retired. Moreover, they may have relatively limited entitlement to pension because of less-complete contribution records than people of the same age born in the country in question. At the same time, the difference in their risk of poverty, as compared to the indigenous population, is less than in the case of migrants of working age, which might suggest that they have access to a higher level of income support (such as from minimum pensions) than do their younger compatriots.

Finally, evidence from the UK demonstrates the wide disparities in income, household circumstances and access to employment that exist between different ethnic groups within those with a migrant background.

Chapter 4 | The Risk of Poverty and Income Distribution at the Regional Level

Terry Ward[1]

The extent to which inequality in the distribution of income and in the risk of poverty varies across regions within countries is of relevance for policy. The more that people with income below the poverty line are concentrated in particular regions, the more should policy be similarly concentrated and, in addition, should take account of the regional aspects of the problem, such as a low rate of employment in the region in question. Similarly, the more that income distribution varies between regions, the greater is the risk to social cohesion, even if inequalities at the national level are kept within bounds.

Up until now, however, any examination of this issue has been hampered by a lack of data on income per head at the regional level. Although data on GDP per head (and, more recently, estimates of household income) suggest that there are substantial differences in regional income levels across countries, little can be deduced from this about differences in income distribution and the relative number of people in different regions with income below the poverty line, as defined at the national level.

The data available and their reliability

Data from the EU–SILC enable the dispersion of income per head to be examined at the regional level in a number of EU Member States. The coverage, however, is far from complete, largely because the sample selected for survey in a number of countries has not been determined in such a way as to be representative of the population in different regions. This is the case in the UK, the Netherlands and Sweden, in particular. Moreover, in most of the countries that are covered — i.e. those in which the sample surveyed is representative at the regional level — the regional breakdown is relatively broad as a consequence of the comparatively small size of the sample from which data are collected by the EU–SILC. Nevertheless, these data potentially provide a valuable insight into regional variations in the Member States concerned.

Before analysing the data, however, an initial task is to assess their reliability, in the sense of examining how representative the sample of people surveyed is of

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[1] With the assistance of Mayya Hristova and Erhan Özdemir, Applica.

the population of the regions concerned, given the small number of households covered. This is hard to do because of the lack of other information against which the data can be compared. However, comparing the age structure of the population in each region, as reported by the EU–SILC, with demographic statistics provides at least a basic check. Although any significant differences between the two sets of figures would not necessarily imply that the income data reported by the EU–SILC for the region in question is unrepresentative, it would give rise to some doubts. Similarly, if the demographic structure of particular regions shown by the two sources is the same, that does not necessarily imply that the income reported is representative, but it would tend to increase confidence in this being the case.

A comparison of the structure of the population reported by the EU–SILC with that shown by demographic statistics indicates that, in practice, there is a close similarity, in most cases, between the age structure shown by the EU–SILC data and demographic statistics, dividing the population into five groups for this purpose — children under 14; young people aged 14–24; people of working age from 25–54; older people aged 55–64; and the elderly aged 65 and over. In overall terms, however, there is a slight tendency for the EU–SILC to underestimate the relative number of children and young people, and to overstate the relative number of older people aged 55–64 and 65 and over. On the other hand, there are very few regions where the proportion of working–age population reported by the EU–SILC differs significantly (in statistical terms) from that shown by demographic statistics. This gives a measure of confidence in the data and the analysis based on them, since population of working age is the main source of income in all regions.

Moreover, although the EU–SILC tends to overstate the relative number of older people in retirement or close to it — who are particularly vulnerable to having low levels of income and, therefore, to being at risk of poverty — it does so fairly systematically, so that it is unlikely to be a major cause of distortion when comparing risk–of–poverty rates or income distribution between regions.

The regions where the difference in the share of working–age population is significant are mostly in France and, to a lesser extent, in Spain, in both of which the EU–SILC gives data for NUTS 2 level regions instead of NUTS 1 or an even higher level of regional aggregation, as in most other Member States.[2] To allow for this, in both countries regions are aggregated to a NUTS 1 level, and the analysis is carried out for these regions at that level rather than NUTS 2.

Average disposable income in the EU-SILC and regional accounts

It is also possible to compare the figures for average household disposable income in the different regions given by the EU–SILC with those shown by the regional accounts produced by Eurostat, both defined in the same terms as the mean per head of population (instead of the median per equivalised head of population, which is the usual way that average income is measured in the rest of this report — and indeed later in the present chapter). The comparison can, moreover, be

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[2] NUTS: The Nomenclature of Territorial Units for Statistics. For a more detailed definition, see Glossary.

extended to include GDP per head, which is the usual way that regional income across the EU is measured (even if mistakenly), if only to show the differences between this and disposable income per head, as well as the similarities in many cases.

It should be said, however, that the regional accounts cannot be assumed to give a more reliable — or accurate — figure for household disposable income than the EU–SILC, involving as they do a significant amount of estimation. If the EU–SILC figures for income, therefore, differ from the regional accounts, this does not necessarily reflect a problem with the data.

The comparison, in fact, indicates a reasonably close similarity between the EU–SILC and the regional accounts in terms of the ranking of regions by disposable income per head (though also some differences). In Belgium, in particular, the EU–SILC indicates a much higher figure for the Brussels capital region, relative to both the EU25 average and the other two Belgian regions (Table 4.1). This figure, however, is considerably lower than that for GDP per head. That figure is greatly distorted by the effect of commuting, which pushes up GDP through the output generated by the substantial number of people travelling into the region to work (who represent almost half of the regional work force) but which leaves population (i.e. the number of heads over which GDP is measured) unchanged. The figures for household disposable income per head, therefore, are unaffected by this distortion, since both numerator and denominator are measured in relation to resident population, while they take account equally of transfers between regions (i.e. income flows such as benefit payments and taxes or the profits of companies based elsewhere) and the income generated within regions.[3] In consequence, whereas the GDP per head of the Brussels region is around twice that of the Flemish region (Vlaams Gewest), average household disposable income, as reported by the EU–SILC, is only 20% higher, and actually lower according to the regional accounts.

In the Czech Republic, the ranking of regions is similar according to the three sources, though, once again, the figure for GDP per head in Praha (Prague), the capital city region, is distorted by inward commuting. Moreover, the regional accounts show Severozapad in the north-west of the country, bordering the eastern part of Germany, having the lowest income level of all the Czech regions, whereas the EU–SILC shows the lowest figure to be in Moravskoslezsko in the east of the country.

The figures for Germany are similar in terms of the ranking of regions, if not the level of income relative to the EU average, which is much higher according to the regional accounts than according to the EU–SILC. Within the country, all three sources indicate a much lower level of income in the new Länder in the east of the country than in the western part. The extent of the difference shown by the GDP per head figures, however, is much wider than that shown by the income data — hardly unexpected, given that they do not include inward transfers, which add to the income of households in the region and are significant in this case. In addition, the EU–SILC shows a lower figure for the northern regions (Bremen, Hamburg, etc.) than the regional accounts.

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[3] The income generated within regions gives a reasonable indication of their economic strength, which is a focus of attention for EU cohesion policy and the deployment of the Structural Funds, but does not necessarily indicate the prosperity of regions, since the income generated within a region does not necessarily stay there (the income produced by the oil or natural gas extracted in a region being a good example).

Table 4.1: Average income per head according to alternative sources, 2005

% EU25 average

Country, regions	Average household disposable income per head in PPS		GDP per head in PPS
	Regional accounts	EU-SILC	Regional accounts
Belgium	**106**	**118**	**116**
Région de Bruxelles-Capitale	101	142	231
Vlaams Gewest	113	118	115
Région Wallonne	97	109	84
Czech Republic	**58**	**61**	**74**
Praha	78	83	154
Stredni Cechy	61	65	68
Jihozapad	57	62	67
Severozapad	51	59	59
Severovychod	55	58	62
Jihovychod	56	57	65
Stredni Morava	53	56	57
Moravskoslezsko	53	55	63
Germany	**122**	**111**	**111**
Baden-Württemberg	133	117	124
Bayern	129	115	130
Nordrhein-Westfalen	129	117	110
Hessen + Rheinland-Pfalz + Saarland	123	115	118
Berlin + Brandenburg + Mecklenburg-Vorpommern + Sachsen + Sachsen-Anhalt + Thüringen	101	100	82
Bremen + Hamburg + Niedersachsen + Schleswig-Holstein	126	109	113
Greece	**94**	**86**	**93**
Voreia Elláda	85	76	72
Kentriki Elláda	88	78	75
Attiki	116	101	126
Nisia Aigaiou, Kriti	84	88	79
Spain	**97**	**86**	**99**
Noroeste	91	86	84
Noreste	117	97	118
Comunidad de Madrid	116	100	129
Centro (ES)	87	74	83
Este	102	95	107
Sur	78	72	78
Canarias	85	73	90

| Country, regions | Average household disposable income per head in PPS | | GDP per head in PPS |
	Regional accounts	EU-SILC	Regional accounts
France	**115**	**112**	**108**
Île de France	143	130	166
Bassin Parisien	112	110	94
Nord-Pas-de-Calais	96	101	85
Est	113	103	94
Ouest	107	108	96
Sud-Ouest	110	107	96
Centre-Est	116	114	105
Méditerranée	109	104	96
Italy	**101**	**105**	**101**
Nord-Ovest	119	123	122
Nord-Est	115	119	120
Centro (IT)	108	114	113
Sud	75	80	67
Isole	75	80	68
Hungary	**55**	**48**	**62**
Közép-Magyarország	80	58	101
Dunántúl	49	47	54
Alföld és Észak	41	42	41
Austria	**128**	**126**	**124**
Ostösterreich	132	132	131
Südösterreich	121	120	106
Westösterreich	129	123	125
Poland	**48**	**42**	**49**
Centralny	57	49	67
Południowy	50	44	49
Wschodni	39	35	35
Północno-zachodni	49	40	49
Południowo-zachodni	47	45	48
Północny	44	39	44
Finland	**85**	**117**	**111**
Itä-Suomi	78	107	82
Etelä-Suomi + Åland	91	126	128
Länsi-Suomi	81	110	98
Pohjois-Suomi	77	104	95

Source: Eurostat, EU-SILC, 2006 and Regional accounts

In Greece, all three sources indicate Attiki, the Athens region, to have by far the highest level of income per head, if to differing degrees; however, in contrast to the regional accounts, the EU–SILC shows Nisia Aigaiou and Kriti as the region with the second–highest level.

In Spain, Madrid has by far the highest level of GDP per head, which almost certainly, in part, is a consequence of inward commuting, while the two income series indicate a level similar to that in the Noreste (North–East) region. All three series show Sur (the South) as having the lowest level of income, though only marginally so in the case of the EU–SILC.

In France, all three sources show a similar ranking of regions, with Ile de France (Paris) having the highest income level and Nord–Pas–de–Calais the lowest, excluding the overseas regions. In Italy, the three series also show a similar ranking, but whereas GDP per head in the Nord–Ovest (North–West) was 80% higher than in the South (Sud and Isole), the difference in income was smaller, at around 55–60%, according to both the regional accounts and the EU–SILC, reflecting the effect of transfers.

In Hungary and Austria, the ranking of regions is again the same, though for the former, the EU–SILC indicates a much smaller difference between the capital city region, Közép–Magyarország, and the rest of the country than either the regional accounts or figures for GDP per head.

For Poland, the ranking of regions is similar, as it is for Finland, at least as between the two income series, though the main difference lies in the much lower level of income per head shown by the regional accounts than either the EU–SILC or the GDP per head figures. According to the regional accounts, therefore, the level of income per head in Finland is less than in Greece or Spain, and, according to EU–SILC and GDP per head figures, it is only marginally below the figure for Belgium.

Risk of poverty at the regional level

According to the EU–SILC — the only source of data on income distribution — there are wide variations in the proportion of the population at risk of poverty between regions, measured in the conventional way as those with equivalised income below 60% of the national (rather than the regional) median. They also indicate, at the same time, that these variations are not always in line with those in median disposable income per head — i.e. that the regions with the largest proportion of people with disposable income below 60% of the national average are not always those with the lowest income levels. This reflects variations in the distribution of income across regions, which in some cases offset the differences in average income levels, a point that is addressed directly in the next section. As indicated below, therefore, the regions with the highest income levels in a country are also, in some cases, those in which the distribution of income is most unequal, especially at the bottom end of the scale.

In Belgium, therefore, there is a reasonably close association between the risk of poverty in the three broad regions and median equivalised disposable income per head, in that in 2005 the Brussels capital region had by far the largest propor-tion of people with income per head below 60% of the national median (26%) and the lowest level of median income per head — 27% below that of Vlaams Gewest (Flanders) and 12% below that of the Wallonne region (Table 4.2).

Table 4.2: Risk-of-poverty rate in regions across the EU, 2005

Country, regions	Population with income < 60% national median			% total in Member State with income < 60% median			Median equiva-lised disposable income per head in PPS
	%	95% confidence interval		%	95% confidence interval		% EU average
		Lower	Upper		Lower	Upper	
Belgium	**15**	**14**	**15**				**121**
Région de Bruxelles-Capitale	26	24	28	17	16	19	101
Vlaams Gewest	11	11	12	45	43	47	128
Région Wallonne	17	16	18	38	36	40	113
Czech Republic	**10**	**9**	**10**				**63**
Praha	5	3	6	6	4	7	77
Stredni Cechy	8	7	10	10	8	12	66
Jihozapad	6	5	7	7	6	9	68
Severozapad	16	14	18	18	16	20	59
Severovychod	9	8	10	13	11	15	61
Jihovychod	8	7	9	14	12	15	61
Stredni Morava	11	9	13	14	12	16	59
Moravskoslezsko	16	14	17	19	17	22	57
Germany	**13**	**12**	**13**				**110**
Baden-Württemberg	11	10	13	11	10	12	115
Bayern	13	12	15	15	14	17	112
Nordrhein-Westfalen	11	10	12	16	15	18	114
Hessen + Rheinland-Pfalz + Saarland	11	10	13	13	12	14	114
Berlin + Brandenburg + Mecklenburg-Vorpommern + Sachsen + Sachsen-Anhalt + Thüringen	15	14	16	30	28	32	102
Bremen + Hamburg + Niedersachsen + Schleswig-Holstein	12	11	14	15	13	16	107
Greece	**21**	**20**	**21**				**87**
Voreia Elláda	25	24	27	40	38	42	77
Kentriki Elláda	28	26	30	29	27	31	79
Attiki	13	11	14	23	21	24	102
Nisia Aigaiou, Kriti	18	16	20	8	7	9	88
Spain	**20**	**19**	**20**				**94**
Noroeste	20	18	21	10	9	11	90
Noreste	11	10	12	6	5	6	112
Comunidad de Madrid	13	11	15	9	7	10	109
Centro (ES)	29	28	30	18	17	19	79
Este	14	13	15	20	19	21	104
Sur	29	28	30	31	30	33	77
Canarias	28	26	31	6	6	7	78

Country, regions	Population with income < 60% national median			% total in Member State with income < 60% median			Median equivalised disposable income per head in PPS
	%	95% confidence interval		%	95% confidence interval		% EU average
		Lower	Upper		Lower	Upper	
France	**13**	**13**	**14**				**112**
Île de France	11	10	12	15	14	17	131
Bassin Parisien	11	10	12	15	14	17	107
Nord-Pas-de-Calais	15	13	17	8	7	9	104
Est	14	12	16	10	9	11	109
Ouest	12	10	13	13	11	14	110
Sud-Ouest	16	14	18	13	12	14	109
Centre-Est	10	9	12	9	7	10	112
Méditerranée	20	18	22	18	16	20	105
Italy	**20**	**19**	**20**				**105**
Nord-Ovest	11	10	12	15	14	16	121
Nord-Est	10	9	10	9	9	10	121
Centro (IT)	14	13	15	14	13	14	112
Sud	34	33	35	42	40	43	80
Isole	35	34	37	21	19	22	79
Hungary	**16**	**15**	**16**				**47**
Közép-Magyarország	8	7	9	14	13	16	56
Dunántúl	13	12	14	26	24	27	48
Alföld és Észak	23	22	24	60	58	62	41
Austria	**13**	**12**	**13**				**129**
Ostösterreich	15	13	16	48	46	51	131
Südösterreich	13	11	14	21	19	23	126
Westösterreich	10	9	11	30	28	33	128
Poland	**19**	**19**	**19**				**42**
Centralny	17	16	18	18	17	19	44
Południowy	15	14	15	16	15	17	46
Wschodni	25	24	26	23	23	24	37
Północno-zachodni	19	18	20	16	15	16	41
Południowo-zachodni	19	17	20	10	9	11	44
Północny	21	20	22	17	16	18	40
Finland	**13**	**12**	**13**				**118**
Itä-Suomi	17	15	19	17	15	19	110
Etelä-Suomi + Åland	11	10	11	41	39	44	124
Länsi-Suomi	13	12	15	28	25	30	116
Pohjois-Suomi	14	13	16	14	12	16	108

Source: Eurostat, EU-SILC, 2006

The relative levels of median income per head, it should be noted, differ from those shown by the average (i.e. mean) income figures presented above: by the

latter measure, Brussels had a much higher level of income than Vlaams Gewest. The explanation lies in the much more unequal distribution of income in Brussels than in the other two regions, which results in the mean income level being much higher than the median.

Nevertheless, despite the much lower risk-of-poverty rate in Flanders than in Wallonia, there are still more people with equivalised income below 60% of the national median in the former region (45%) than in the latter (38%) because of the larger number of people living there.

In the Czech Republic, there is a relatively close relationship between the risk of poverty and income per head. Only 5% of the population in Praha (Prague), where income per head is well above that in the rest of the country, have income below the poverty line, while in Severozapad and Moravskoslezsko, which have among the lowest levels of income per head, some 16% of people have poverty levels of income. Nevertheless, the relationship is not entirely systematic, as a region with an equally low level of income per head, Stredni Morava, has a much smaller proportion of people with income below the poverty line (11%).

In Germany, data are available only for very broadly defined regions, in most cases above NUTS 1 level. These indicate that the risk of poverty is higher in the eastern Länder, which have a median income level 7% below that in the rest of the country, with some 15% of the population having equivalised income of less than 60% of the median, compared to a country average of 13%. These Länder, as a result, account for some 30% of the total German population with income below the poverty line. In the western part of the country, the risk of poverty varies only slightly between broad regions, being highest in Bayern (Bavaria) in the south at 13%, where GDP per head is the highest in the country but where median income per head, according to the EU-SILC, is slightly below that in most other parts of the west of the country.

In Greece, in contrast to Belgium, the risk of poverty in the capital city region (Attiki), which has a median income per head around 17% higher than the national average, is much lower than in other parts of the country (13% as against an average of 21%). Because of its size, however, some 23% of all those with poverty levels of income live in the Athens region.

The risk of poverty is also relatively low in Madrid, compared to the rest of Spain, affecting 13% of the people living there, though this is more than in the north-east region (11%), where median income per head is slightly higher. The risk of poverty, by contrast, is much higher in the central and southern regions and in the Canaries, which have the lowest levels of income per head in the country: in each of these some 28–29% of people have income below the poverty line. Some 57% of those with poverty levels of income live in these three regions, which account for only 38% of the total Spanish population.

In France, the variation in the risk of poverty is less, but the proportion of people with income below the poverty line still amounts to 20% in the Mediterranean region in the south, which has among the lowest levels of income per head. This is well above the rate in Nord-Pas-de-Calais in the north (15%), where income per head is slightly lower, reflecting the more unequal distribution of income in the Mediterranean region. Similarly, Ile de France has a risk of poverty that is slightly higher than that of Centre-Est and the same as that in Bassin Parisien, but an income per head that is significantly higher.

In Italy, the proportion of people with income below the poverty threshold is markedly higher in the south of the country, in both the Sud and Isole (Island) regions (together the Mezzogiorno), where the figure reaches some 34–35%, as compared to only 10–11% in the north of the country, reflecting the relatively low level of income per head (almost 25% below the national average). Accordingly, around 63% of the population in Italy with poverty levels of income live in the Mezzogiorno, almost twice its share of the country's total population.

In Hungary, the risk of poverty in Közép–Magyarország, the region where Budapest is situated, is much less (8%) than in the rest of the country, especially than in Alföld és Észak in the north and east, where the rate reaches 23%, reflecting the much lower level of income per head in the latter.

Unlike in Hungary or other countries, the risk of poverty in Austria is (at 15%) highest in the region that contains the capital, Vienna — the eastern region (Ostös–terreich); but this region also includes Burgenland, an Objective 1 region in the past. Since this region has a higher level of income per head than the rest of the country, the relatively large proportion of people with income below the poverty line suggests that it also has a more unequal distribution of income.

In Poland, there is a relatively close association between the risk of poverty in the different broad regions and median income levels, with the lowest risk being in Południowy (which contains Silesia and the city of Krakow), where median income per head is highest. The risk is only slightly higher in Centralny, where Warsaw and Lodz are situated and where median income per head is marginally less. It is highest (25%) in Wschodni, in the agricultural east of the country, where income per head is lower than in the other NUTS 1 regions.

Similarly, in Finland, the proportion of the population below the poverty line is smallest (11%) in Etelä–Suomi in the south of the country, where Helsinki is located and where income per head is well above that in other regions. It is highest (17% and 14%, respectively, though these proportions are not significantly different from each other) in Itä–Suomi in the east of the country and Pohjois–Suomi in the north, which have the lowest levels of income per head.

Distribution of income at the regional level

The implications for the distribution of income of the relationship between the proportion of people below the poverty line and median income per head in the different regions can be examined directly in terms of two measures of inequality — the average income of those in the top 20% of the income distribution relative to those in the bottom 20% (the S80/S20 ratio) and the ratio of the 9th decile (or 90th percentile) to the bottom decile (or 10th percentile — the P90/P10 ratio), which relates the income of the person 10% from the top of the income ranking to that of the person 10% from the bottom. The relationship between the two indicates the degree of inequality between those at the top and the bottom ends of the income scale, in that the higher S80/S20 is relative to P90/P10, the higher is the average income of the top decile relative to the decile second from top and/or the smaller the income of the bottom decile relative to the decile second from bottom.

Table 4.3: Measures of the degree of inequality of income distribution in EU regions, 2005

Country, regions	Measures of income dispersion		95% confidence interval for S80/S20		Risk of poverty (people with income < 60% median)
	P90/P10	S80/S20	Lower	Upper	% total
Belgium	**3.3**	**4.2**	**4.0**	**4.3**	**15**
Bruxelles-Capitale	4.8	11.1	8.7	12.3	26
Vlaams Gewest	3.0	3.6	3.7	3.6	11
Région Wallonne	3.2	3.7	3.7	3.8	17
Czech Republic	**2.8**	**3.5**	**3.5**	**3.6**	**10**
Praha	3.4	4.2	3.9	4.4	5
Stredni Cechy	2.8	3.7	3.6	3.8	8
Jihozapad	2.5	2.8	2.8	2.8	6
Severozapad	3.0	4.1	3.7	4.4	16
Severovychod	2.7	3.2	3.1	3.3	9
Jihovychod	2.6	3.0	2.9	3.0	8
Stredni Morava	2.7	3.3	3.2	3.3	11
Moravskoslezsko	3.1	3.5	3.5	3.5	16
Germany	**3.1**	**4.1**	**4.1**	**4.0**	**13**
Baden-Württemberg	3.0	3.9	3.9	3.9	11
Bayern	3.2	4.3	4.3	4.3	13
Nordrhein-Westfalen	3.0	4.4	4.7	4.1	11
Hessen + Rheinland-Pfalz + Saarland	3.2	4.3	4.5	4.2	11
Berlin + Brandenburg + Mecklenburg-Vorpommern + Sachsen + Sachsen-Anhalt + Thüringen	2.8	3.5	3.5	3.6	15
Bremen + Hamburg + Niedersachsen + Schleswig-Holstein	3.0	4.0	4.0	4.0	12
Greece	**4.6**	**6.1**	**6.1**	**6.0**	**21**
Voreia Elláda	4.5	5.6	5.6	5.7	25
Kentriki Elláda	4.8	6.5	6.6	6.5	28
Attiki	4.2	5.3	5.3	5.3	13
Nisia Aigaiou, Kriti	4.0	5.5	5.6	5.5	18
Spain	**4.3**	**5.3**	**5.2**	**5.3**	**20**
Noroeste	3.8	4.7	4.6	4.7	20
Noreste	3.8	4.4	4.4	4.4	11
Comunidad de Madrid	4.3	5.1	5.1	5.1	13
Centro (ES)	4.4	5.5	5.5	5.5	29
Este	3.9	4.6	4.6	4.6	14
Sur	4.5	5.6	5.6	5.5	29
Canarias	4.4	5.6	5.7	5.6	28

Country, regions	Measures of income dispersion		95% confidence interval for S80/S20		Risk of poverty (people with income < 60% median)
	P90/P10	S80/S20	Lower	Upper	% total
France	**3.2**	**4.0**	**3.9**	**4.0**	**13**
Île de France	3.7	4.5	4.5	4.4	11
Bassin Parisien	2.9	3.8	3.5	4.0	11
Nord-Pas-de-Calais	3.0	3.7	3.6	3.9	15
Est	2.8	3.4	3.4	3.4	14
Ouest	2.9	3.5	3.4	3.5	12
Sud-Ouest	3.4	4.0	3.9	4.0	16
Centre-Est	3.0	3.9	3.9	4.0	10
Méditerranée	3.5	4.1	4.0	4.1	20
Italy	**4.3**	**5.5**	**5.5**	**5.5**	**20**
Nord-Ovest	3.6	4.7	4.6	4.7	11
Nord-Est	3.4	4.4	4.4	4.4	10
Centro (IT)	3.9	4.9	4.8	4.9	14
Sud	4.7	5.9	6.0	5.9	34
Isole	4.9	6.1	6.2	6.1	35
Hungary	**3.8**	**5.5**	**5.4**	**5.5**	**16**
Közép-Magyarország	3.6	5.2	5.3	5.2	8
Dunántúl	3.4	4.7	4.6	4.9	13
Alföld és Észak	3.8	5.7	5.5	5.7	23
Austria	**3.0**	**3.7**	**3.6**	**3.7**	**13**
Ostösterreich	3.4	4.2	4.2	4.2	15
Südösterreich	2.8	3.2	3.2	3.2	13
Westösterreich	2.8	3.4	3.3	3.4	10
Poland	**4.6**	**5.6**	**5.6**	**5.6**	**19**
Centralny	5.5	6.9	6.8	6.9	17
Południowy	4.4	5.1	5.1	5.1	15
Wschodni	4.1	5.1	5.1	5.1	25
Północno-zachodni	4.0	4.9	4.8	4.9	19
Południowo-zachodni	5.2	6.0	6.0	6.1	19
Północny	4.5	5.3	5.3	5.3	21
Finland	**3.0**	**3.6**	**3.6**	**3.7**	**13**
Itä-Suomi	2.8	3.5	3.4	3.8	17
Etelä-Suomi + Åland	3.0	3.8	3.7	4.0	11
Länsi-Suomi	2.9	3.3	3.3	3.3	13
Pohjois-Suomi	2.7	3.3	3.3	3.4	14

Source: Eurostat, EU-SILC, 2006

In general, the measures of income dispersion support the implications for income distribution noted above. In particular, the degree of inequality of income distri-bution is much greater in the Brussels region than in either Vlaams Gewest or Wallonne, the S80/S20 ratio being around three times higher than that in the latter two regions (Table 4.3).

In addition, the degree of inequality is also greater in the Mediterranean region of France than in Nord–Pas-de-Calais, though less so than between the two Belgian regions. It is less, however, than in Ile de France, which has the widest dispersion of income in the country, as does Praha in the Czech Republic, despite the relatively low risk–of–poverty rates in both cases.

This, however, is not a universal feature of capital city regions. Even though it is also evident in Poland (the S80/S20 ratio being 7 in Centralny, as against around 5 in most other regions) and in Etelä-Suomi in Finland, it is not evident in Hungary, Spain or Greece.

What is evident, on the other hand, as implied by the above, is the general absence of a relationship between the degree of income inequality and the risk–of–poverty rate. In a number of countries, therefore, the region with the widest dispersion of income has the smallest proportion of people with income below the poverty line — the Czech Republic, France, Poland and Finland — while in others the region with the widest dispersion also has the largest share of the population at risk of poverty (Belgium, Spain and Italy).

Concluding remarks

The estimates of disposable household income at the regional level that can be obtained from the EU-SILC data, although far from complete, reveal interesting differences in the risk of poverty between regions within countries. These differences are not, in all countries, in line with differences in average household income levels and still less with those in GDP per head, which is a commonly used indicator of regional incomes but which can be affected significantly by income transfers into and out of regions and, in some cases much more importantly, by both inward and outward commuting.

The data on household disposable income compiled by the EU-SILC seem to show a similar pattern of average income levels across regions in many (but not all) countries and, moreover, in some countries show a markedly different level of income relative to the EU average.

The data also show significant differences in the distribution of income between regions of particular countries, Belgium being the main example, but also Italy. Such differences are, in some cases, reflected in variations across regions in the risk–of–poverty rate (again, such as in Belgium and Italy), whereas in others they are not, such as in the Czech Republic, France or Finland.

Chapter 5 | Material Deprivation

Terry Ward[1]

The usual means of measuring people's standard of living and their vulnerability to poverty, deprivation and social exclusion is by reference to the disposable income that they have access to. The earlier chapters of this report, therefore, focused on both the distribution of income within Member States (and, more widely, across the EU), as an indicator of the degree of inequality in purchasing power, and the relative number of people with income at levels that put them at risk of poverty. The underlying assumption throughout the analysis was that income was a suitable measure of these aspects. There are a number of reasons why this might not be the case.

As noted above, the fact that the indicator used to identify the risk of poverty in the above chapters is a relative measure, expressed in relation to median incomes, means that it takes no account of the level of the median itself and what this is capable of purchasing. In addition to this, however, there are a number of potential problems with the use of income itself, as conventionally measured, as an indicator of purchasing power, or the command over resources, which is the ultimate concern of social policy-makers.

In particular, income as such takes no account of accumulated savings and wealth — except in the form of the interest they generate — which can equally be used to purchase goods and services. Moreover, since it is generally measured on an annual basis, the figure reported for any 12-month period does not take account of year-to-year fluctuations in the amount received, which might be substantial for some of the self-employed especially, and, accordingly, is not necessarily a good guide to long-term — or 'permanent' — income and, therefore, the command over resources. Equally, it does not incorporate any income in kind in the form, for example, of free or subsidised goods and services, or food and other goods produced for one's own consumption.

While these factors are reasons why income may understate purchasing power, there are also reasons why it might overstate it. For example, the income received in a given year might be much higher than that received in previous years and, accordingly, might be accompanied by the need to service significant debts, so reducing the amount that can be used for purchases. Alternatively, it might be that people have unusually high expenses or living costs that they need to meet because of their personal or family circumstances — such as having a disability, a

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need to care for a relative, or high housing costs — which reduces their effective purchasing power once these commitments have been met.

We examine the information on the extent of material deprivation, which can be used to supplement the data on disposable income in order to gain additional insight into the purchasing power of households and individuals across the EU.

Low incomes and material deprivation

One way of overcoming the shortcomings of income as a measure of the command over resources is to try to identify directly people who suffer deprivation, in the sense of not being able to enjoy a standard of living that is generally considered acceptable. Such an approach has, over the years, been advocated by a number of people.[2] The concern here is to examine the extent of material deprivation on the basis of information collected by the EU–SILC on the ability of people to afford certain consumer items that most households possess, and their capacity to cover essential financial costs and to meet unexpected spending needs. The focus is not only on the relative number of people who appear from their responses to these questions to be materially deprived, but also on whether or not they are recorded as being at risk of poverty, as measured by having a level of disposable income below 60% of the national median. The aim is twofold. First, it is to examine how far those with disposable income above the poverty threshold nevertheless report being materially deprived according to the indicators covered by the survey (which, accordingly, gives an indication of the limitations of annual income as a measure of poverty and deprivation). Second, it is to identify the extent to which those with income below the poverty line also suffer material deprivation (and, therefore, how far the two indicators are correlated in different countries).

A further aim is to examine how far the different measures of material deprivation themselves are correlated — whether those who are unable to afford particular consumer items also report an inability to afford other items or having financial difficulties of one sort or another. In addition, however, it is also to consider the opposite of such an accumulation of problems: namely, the relative number of people who report being deprived according to at least one indicator.

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[2] See, in particular, Atkinson, Cantillon, Marlier and Nolan (2005), who argue the case for a multi-dimensional indicator of deprivation in a report prepared for the Luxembourg Presidency of the EU in 2005 as a follow-up to their report to the Belgian Presidency in 2001 (Atkinson, Cantillon, Marlier and Nolan 2002). This follows extensive literature on the concept and measurement of material deprivation, initiated 26 years earlier by Townsend (1979), who interpreted deprivation in the wide sense of not being able to live a decent life. The concept was subsequently redefined as not having adequate resources to lead a minimum acceptable way of life in the country in question (Callan *et al.* 1993; Kangas and Ritakallio 1998; Layte *et al.* 2001; Whelan *et al.* 2002; Perry 2002) or, alternatively, as lacking the necessities that society regards as essential (Bradshaw and Finch 2003; Nolan and Whelan 1996). A number of empirical studies of material deprivation have been undertaken in the EU in recent years, largely based on data from the European Community Household Panel. See Boarini and Mira d'Ercole (2006), for a summary of these. It was taken up by Guio and Maquet (2007), who both argued and demonstrated that a measure of those affected by material deprivation could usefully complement the present income-based indicator of the risk of poverty in order to capture the people missed by the latter. This was especially the case in respect of the new Member States, where income levels are very much lower than in most EU15 countries.

Moreover, throughout the analysis, a parallel concern is to examine the relation-ship between the relative number of people who report being materially deprived according to the different indicators and the median disposable income per head in the country in question, measured in purchasing power parity (PPP) terms. This is done by ranking countries in the various graphs and tables in terms of the latter measure. As such, this gives a guide as to how far the indicators of material depri-vation provide a means of taking account of differences in absolute income levels across the EU.

A point to note at the outset is that, although the data in the EU–SILC relate to the ability of households to afford certain consumer items, cover financial costs and so on, the analysis here is conducted in terms of *individuals*, in order to take explicit account of variations in household size — in order, in other words, not to give equal weight to households with one person and to those with several. The focus, therefore, is on the relative number of people living in households that have the difficulty in question.

Ability to afford key consumer durables

Very few people in (nearly) any of the EU countries report being unable to afford either a telephone, colour TV or washing machine — or, more accurately, live in households that cannot afford at least one of these items (see Figure 5.1 — where, as noted above, countries are ranked from left to right in terms of median income per head measured in PPP terms, in order to indicate the relationship between the inability to afford any of these items and the level of income, or more accurately, purchasing power, in the country). Around half of those living in households that report such difficulties have income above the poverty line (60% of the national median). In all countries, however, there is a much greater probability of those with income below the poverty line not being able to afford at least one of these items than those with income above.

In overall terms, the proportion of people who are unable to afford at least one of the consumer goods in question is around 2% or less in nearly all the EU15 coun-tries, along with Cyprus, Slovenia and the Czech Republic, and there is no system-atic tendency for the figure to vary with median income per head across countries. The countries with the highest income levels, however, tend to show the lowest figures; and the two countries with the lowest levels, Greece and Portugal, have the highest figures.

Of the EU15 countries, only in Portugal is the figure much above 2% (almost 7%). In five of the new Member States covered, however, the proportion exceeds 4%. In Hungary, it is almost 6% and in Latvia and Lithuania, around 11%. In the new Member States, therefore, there is a tendency for the relative number unable to afford one or more of the items to increase as average income falls.

Figure 5.1: Proportion of population not able to afford a telephone, colour TV or washing machine, 2006
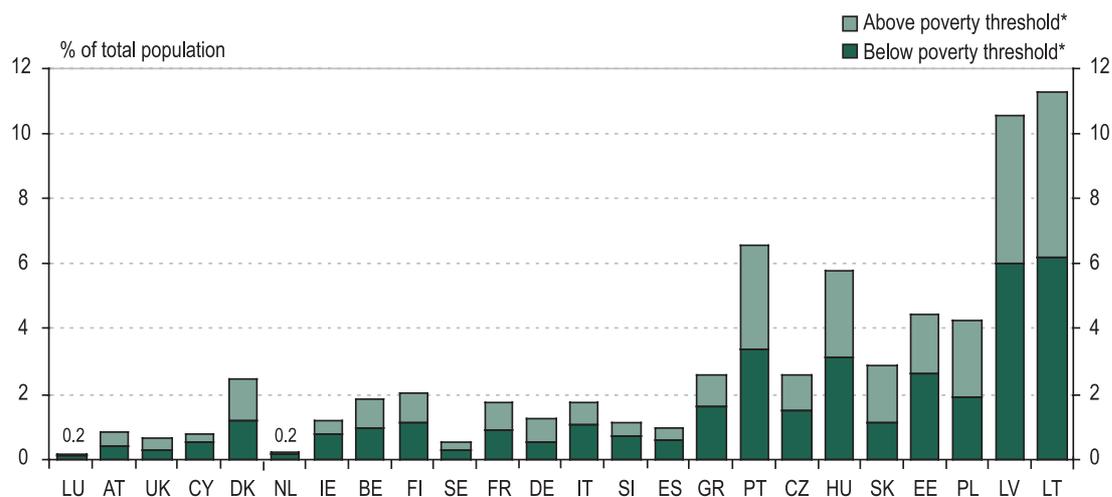
Source: EU-SILC 2006
Notes: Malta: no data available.
* Poverty threshold: 60% of the national median equivalised income. Countries are ordered by average disposable income per (equivalised) head measured in PPP terms.

In all parts of the EU, there are more people living in households that are unable to afford a car. Nevertheless, in most countries the number is relatively small, especially in the EU15 Member States. In most of these countries, therefore, together with Cyprus and Slovenia, the proportion is less than 10%, the only exceptions being Ireland (marginally) and Portugal (Figure 5.2).

Figure 5.2: Proportion of population not able to afford a car, 2006
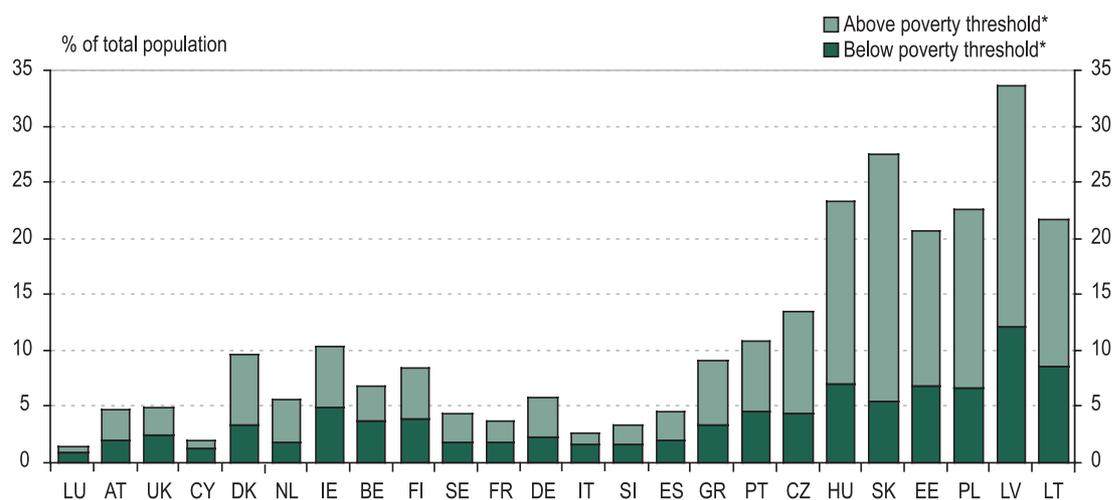
Source: EU-SILC 2006
Notes: Malta: no data available.
* Poverty threshold: 60% of the national median equivalised income. Countries are ordered by average disposable income per (equivalised) head measured in PPP terms.

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Among the new Member States, however, apart from Cyprus, Slovenia and the Czech Republic, it exceeds 20%. In Slovakia, it is around 28%, and in Latvia as much as 34%. In each case, substantially more people who report not being able to afford a car have income above the poverty line than below (though again, the probability of not being able to afford a car is much greater among those below — around 40% or more in most of the new Member States, including the Czech Republic). Again, a broad tendency is evident for the proportion able to afford a car to decline across countries as median income declines.

Whether not being able to afford a car represents a strong form of deprivation or social exclusion is likely to depend, in particular, on how widespread car owner-ship is in the community in which a person lives. While almost all households can afford a telephone, colour TV and washing machine (and accordingly the sense of deprivation is correspondingly high among those that cannot), the proportion of households that own a car is only around 80% in the EU15 countries (though still high enough for it to represent a significant element of deprivation). In the Czech Republic, Hungary, Poland and the three Baltic states, however, less than 40% of people have cars, so the feeling of deprivation is correspondingly much less than in the case of a TV, telephone or washing machine.

Ability to afford a decent meal every other day

A smaller proportion of people in most EU15 countries report not being able to afford a meal with meat or fish (or the vegetarian equivalent) at least every other day — something that is defined as a basic need by the World Health Organization. In most of these countries, the proportion is less than 5%, and it is much above 6% only in Austria and Germany (around 10% in each): in both countries, many more people with income above the poverty line than below report such an inability (Figure 5.3). Given the relative prosperity of these countries, such a finding is diffi-cult to explain and may, perhaps, owe more to the interpretation of the question than to genuine budget difficulties.

In the new Member States, however, a slightly larger proportion in most cases report not being able to afford a meal with meat or fish every other day than report not being able to afford a car. The main exception is Estonia, where the proportion is unexpectedly small given the average income per head, and may again reflect differences in the way the question was interpreted in that country. In Hungary, Slovakia, Poland and Latvia, the proportion is around 28% or more (in Slovakia, around 37%). Most of the people concerned, moreover, have income above the poverty line (Figure 5.3).

Figure 5.3: Proportion of population not able to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day, 2006
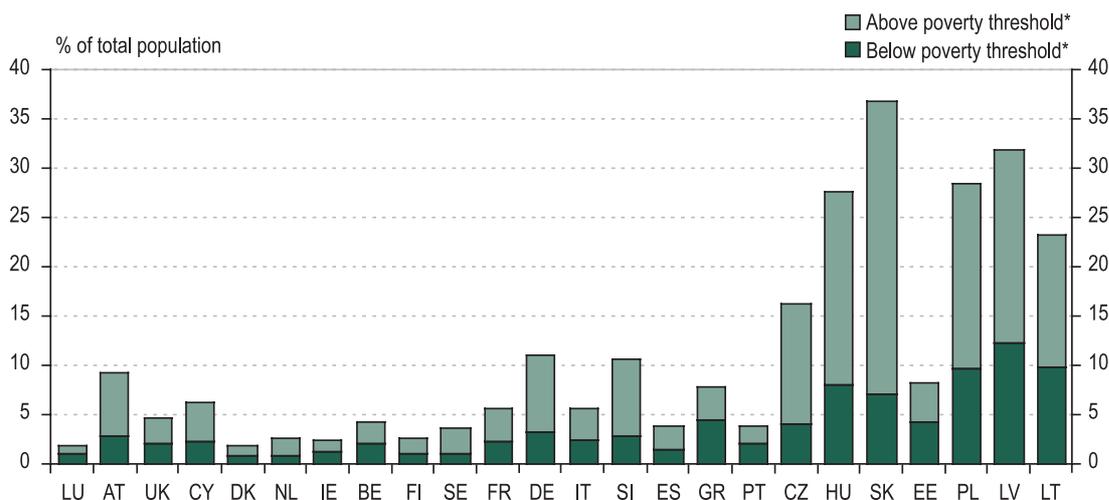
Source: EU-SILC 2006

Notes: Malta: no data available.

* Poverty threshold: 60% of the national median equivalised income. Countries are ordered by average disposable income per (equivalised) head measured in PPP terms.

Ability to afford an annual holiday

A significantly larger proportion of people throughout the EU report not being able to afford one week's holiday away from home a year — so much so that, in many countries, it is not really a measure of deprivation as such, since most of the population are in the same position. Nevertheless, it seems closely to reflect differences in purchasing power across both countries and households within countries.

In the EU15 countries, therefore, the proportion unable to afford an annual holiday is under 20% only in the three Nordic Member States, Luxembourg and the Netherlands (Figure 5.4). It is just over 30% in France, close to 40% in Italy and Spain, around 50% in Greece and 60% in Portugal. The proportion is, therefore, highest in those countries with the lowest levels of income per head; though, at the same time, it does not vary systematically with income per head in the countries with relatively similar levels of income. In all of the countries, those with income above the poverty line make up the majority of those unable to afford a holiday — in most cases, around two-thirds or more.

Figure 5.4: Proportion of population not able to afford paying for one week's annual holiday away from home, 2006
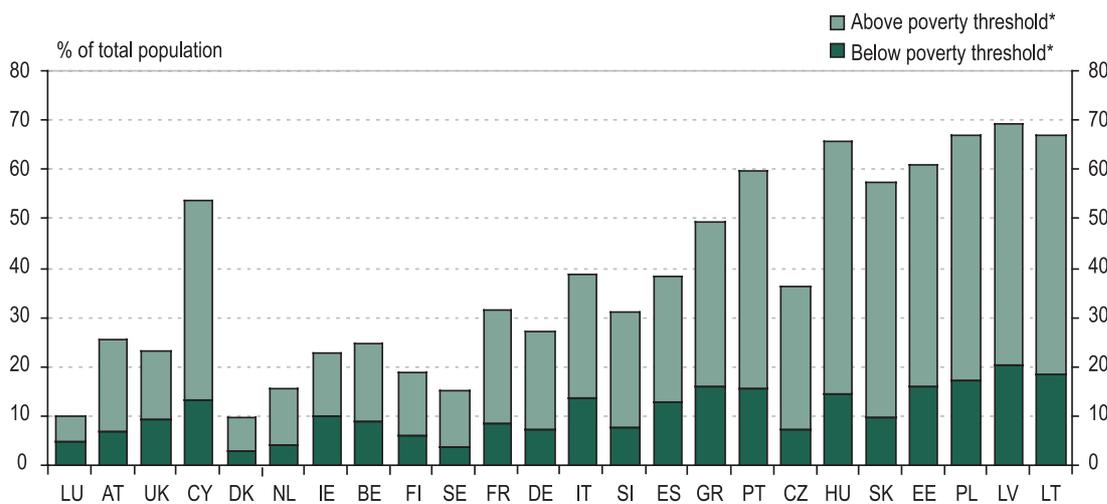
*Source: EU-SILC 2006*
Notes: Malta: no data available.
* Poverty threshold: 60% of the national median equivalised income. Countries are ordered by average disposable income per (equivalised) head measured in PPP terms.

In the new Member States, the proportion unable to afford an annual holiday is over 50% in all countries apart from Slovenia (around 30%) and the Czech Republic (36%), and is over 60% in Hungary, Poland and all three Baltic states. It is notable that it is also well over 50% in Cyprus, which, according to the EU–SILC, has one of the highest levels of median income per head in the EU. In all of these countries, those with income above the poverty line make up well over 70% of the people concerned. Nevertheless, in all countries throughout the EU, the probability of not being able to afford an annual holiday is much greater for those with income below the poverty line than above, the proportion concerned being around 60% or more in most EU15 Member States and around 90% in Hungary, Poland and the three Baltic states.

Financial indicators of deprivation

Capacity to pay utility bills

The EU–SILC contains a number of indicators of financial difficulty, including being in arrears with rent or mortgage payments, with hire purchase or other loan payments and with utility bills. This last seems the most relevant of the three to serve as an indicator of deprivation, since nearly all households are likely to have such bills, whereas this is not necessarily the case with the other two (particularly housing costs, which are not relevant for a substantial proportion of those on low incomes in most EU Member States). More than the other indicators examined above, however, it is likely to reflect differences in household behaviour — in

particular, the extent to which the people concerned seek to avoid having debts — as well as financial hardship as such.

This is perhaps reflected in the fact that there is less of a difference between the EU15 countries and the new Member States in the relative number reporting being in arrears with paying their utility bills. The number concerned is relatively small in most EU15 countries — around 5% or less in the majority of cases, and over 8% only in Italy (11%) and, most markedly, in Greece, where the proportion is higher than anywhere else in the Union (just over 25%) (Figure 5.5). In the new Member States, it is only around 6–7% in the Czech Republic, Slovakia and Estonia, but elsewhere 10% or more (over 20% in Poland). In all countries, most of the people concerned have income above the poverty line.

Figure 5.5: Proportion of population in arrears with utility bills, 2006
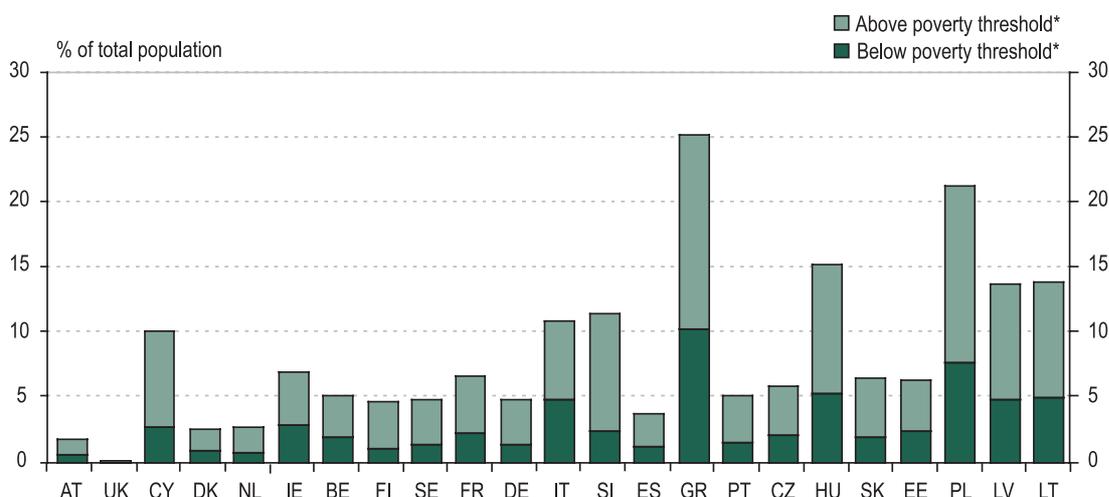
Source: EU-SILC 2006
Notes: Malta: no data available.
* Poverty threshold: 60% of the national median equivalised income.

Although there is some overlap between the people who are in arrears with their utility bills and the other measures of deprivation examined above, it is by no means complete. In particular, many of the people who report being unable to afford a meal of meat or fish every other day do not report being behind with their utility bills, seemingly confirming that financial hardship as such does not necessarily lead to the accumulation of debt.

In the EU15 countries, therefore, with the exception of Austria and, to a lesser extent, Germany, relatively few of those who report being behind with their utility bill payments report not being able to afford a decent meal every other day, apart from in the case of those with income below the poverty line (Table 5.1).

In the new Member States, however, apart from Cyprus and Slovenia, the overlap is greater, especially among those with income below the poverty line, with well over 60% of those reporting being in arrears with their utility bills also reporting an inability to afford a meal with meat or fish every other day in the Czech Republic,

Hungary, Slovakia, Poland, Lithuania and Latvia. Even among those with income above the poverty line, the proportion is around a third or more.

Table 5.1: Overlap between being in arrears with utility bills and not being able to afford a meal of meat or fish every other day

Country	In arrears and unable to afford a meal every other day	
	% above poverty line	% below poverty line
LU	5.2	33.2
AT	49.7	47.7
UK	0.0	11.1
CY	16.8	19.5
DK	8.8	13.2
NL	8.6	41.2
IE	12.4	22.4
BE	11.0	29.1
FI	4.5	13.0
SE	18.3	17.7
FR	16.5	31.2
DE	23.5	39.6
IT	10.1	24.5
SI	20.5	31.3
ES	7.8	10.4
GR	15.0	31.5
PT	2.0	11.2
CZ	38.8	63.4
HU	43.1	67.4
SK	65.6	72.7
EE	17.3	44.3
PL	38.4	62.4
LV	40.3	75.9
LT	32.9	72.7

Source: EU-SILC 2006

Capacity to face unexpected expenses

The EU–SILC also contains a question on the capacity of households to cover an unexpected cost from their own resources. In order to try to make this more objective, and the answers more comparable across Member States, the amount of the unexpected cost was explicitly related to the level of income in each country (specifically to the poverty threshold).[3] The number of people who reported not having the ability to do so was relatively large in all Member States. It was consid–

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[3] Specifically, respondents were asked whether their household could afford an unexpected required expense of an amount equal to the poverty threshold, expressed as a monthly sum, from its own resources.

erably larger, however, in most of the new Member States than in other parts of the EU, despite the fact that the scale of the cost involved represented a similar share of income as in other parts of the EU. This suggests that the ability to meet such costs is not proportionate to income but is less in low–income countries, reflecting the smaller amount of money left over after essential items have been purchased.

Therefore, in the EU15 countries (with the exception of Luxembourg, Sweden and, perhaps surprisingly, Portugal), over 20% of the population reported difficulties in meeting an unexpected cost of this size. In Ireland, France and Greece, the proportion was over 30%, and in Germany it was over 40% (Figure 5.6).

In all the new Member States (with the sole exception of Estonia, where the question asked was somewhat different and not comparable to that asked in other countries), over 40% of the population reported that they would have difficulty — including in Cyprus and Slovenia, where average income levels are higher. In Hungary and Slovakia, the proportion was around 50%; in Poland and Lithuania, close to 60%; and in Latvia, almost 70%. In broad terms, therefore, the ability to cover a significant unexpected cost varies with income levels. In all countries, however, the inability to cover such costs is by no means restricted to those with low levels of income within countries; people with income above the poverty line accounted for many more of those concerned than those with income below the line (in all of the new Member States, except Estonia, over 70% of the total).

Figure 5.6: Proportion of population unable to face unexpected financial expenses, 2006
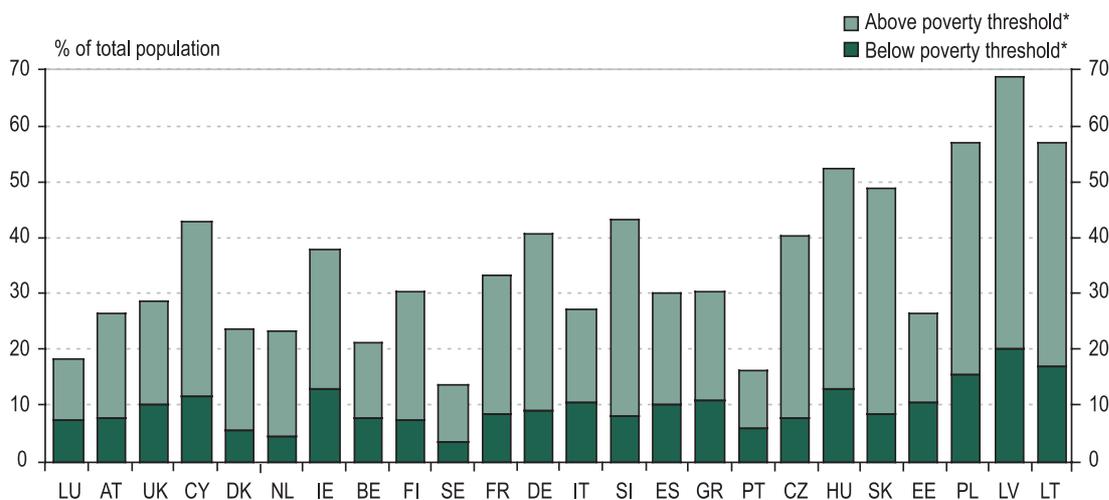
Source: EU-SILC 2006
Notes: Malta: no data available.
* Poverty threshold: 60% of the national median equivalised income. Countries are ordered by average disposable income per (equivalised) head measured in PPP terms.

Housing costs

Although housing costs are an important potential burden on households, in a significant number of cases these costs do not apply, in the sense that the households are owned by the people living in them or, in some cases, are rent free. In the EU25 Member States for which data are available — all except Denmark and the Netherlands — an average of 45% of those with income above the poverty threshold (60% of the national median) had no housing costs either because they had paid off any mortgages they had had or because they were living in rent-free accommodation (Figure 5.7). The proportion concerned was even higher in the case of those with income below the poverty threshold (51%).

The relative number of people with no cost of accommodation to meet out of their disposable income was particularly high in the four Southern EU15 Member States — around two-thirds or more for those with income below the poverty line in each case. The figures were even higher in the new Member States, apart from the Czech Republic and Slovakia. On the other hand, the proportion was less than a third for both those with income below the poverty line and those with income above in Germany, France and the UK, and less than 15% in Sweden. In most countries, there was relatively little difference in the proportions paying no housing costs between those with income above the poverty line and those with income below.

The main reason in all countries for people not having housing costs was that they owned their own accommodation. Only in Poland did the proportion with rent-free accommodation exceed 20% among those with income above the poverty line, and only in Poland, Cyprus, Austria and Luxembourg was this the case among those with income below the line.

Figure 5.7: Proportion of people with no costs of accommodation in the EU, 2006
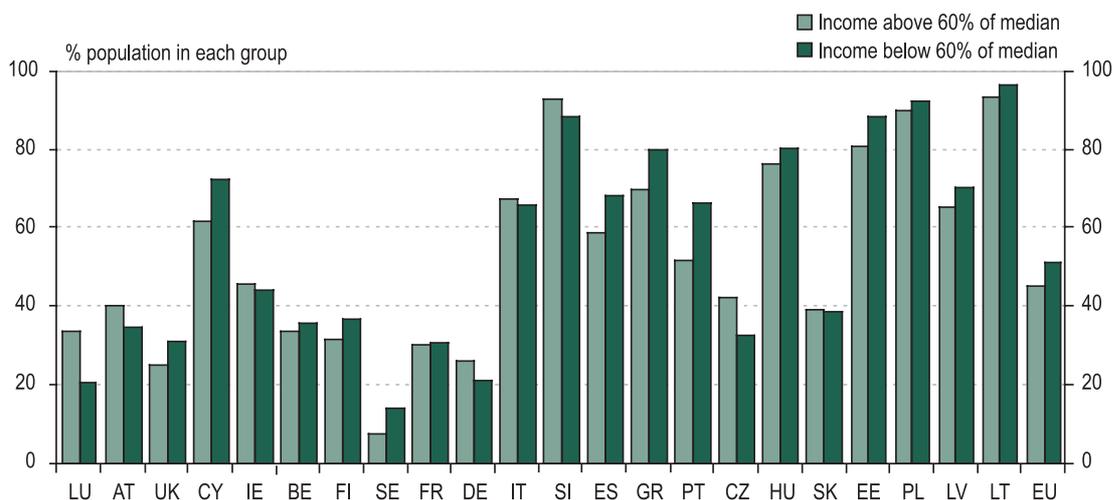
Source: EU-SILC 2006
Note: Germany data are for 2005; no data for Denmark, Malta and Netherlands.

People experiencing at least one form of deprivation

There is a good deal of overlap between the people reporting having difficulty in affording the items examined above, being in arrears with paying their utility bills and not being able to cover unexpected costs. The degree of overlap, however, is by no means complete, so that the number of people experiencing material deprivation according to at least one of the items considered above is much larger than those deprived according to any single item. The proportion concerned, moreover, varies with the median level of income per head of countries, but only relatively broadly.

Table 5.2: Proportion of people living in households reporting being deprived according to at least one indicator, 2006

%

Country	Unable to afford phone, TV, washing machine, car, meal or to pay utility bills (% of total population)			Unable to afford phone, TV, washing machine, car, meal or to pay utility bills or meet unexpected costs (% of total population)			Extent of overlap of capacity to meet unexpected costs with items in first columns (% unable to meet unexpected costs in each group)		
	Total	Income above 60% median	Income below 60% median	Total	Income above 60% median	Income below 60% median	Total	Income above 60% median	Income below 60% median
LU	4.0	1.9	2.1	19.5	11.7	7.9	15.8	9.7	24.4
AT	13.2	9.0	4.2	30.4	22.0	8.4	35.1	30.7	45.8
UK	9.1	5.0	4.1	30.4	19.6	10.8	26.0	21.1	34.8
CY	16.2	10.8	5.4	45.9	33.7	12.2	31.3	27.3	42.0
DK	12.2	8.2	4.0	27.7	21.0	6.7	34.4	29.4	50.5
NL	9.5	6.6	2.9	25.7	20.5	5.3	30.0	25.1	49.3
IE	15.7	9.0	6.7	40.0	26.5	13.5	35.8	29.1	48.5
BE	13.1	7.4	5.7	24.8	16.1	8.6	44.7	33.8	62.8
FI	14.6	9.3	5.3	33.8	25.3	8.5	36.2	29.1	57.1
SE	10.6	7.2	3.4	18.6	13.5	5.1	41.4	37.6	51.7
FR	13.6	8.8	4.8	36.0	26.9	9.1	32.5	26.5	49.6
DE	18.4	13.2	5.3	44.7	35.0	9.7	35.7	31.1	51.5
IT	16.5	9.6	6.9	32.6	20.7	11.9	41.4	33.8	53.5
SI	21.1	15.8	5.3	48.0	39.0	9.0	37.7	33.5	55.5
ES	10.6	6.8	3.8	33.6	22.6	11.0	23.4	19.8	30.3
GR	32.1	19.6	12.6	44.2	29.3	14.9	60.6	50.2	79.0
PT	20.1	12.4	7.7	27.8	18.2	9.6	52.9	44.1	68.2
CZ	26.8	20.2	6.6	47.3	38.8	8.5	49.3	42.6	76.9
HU	44.7	33.3	11.4	62.3	48.6	13.7	66.3	61.0	82.3
SK	51.3	42.5	8.8	66.1	55.9	10.2	69.7	67.0	83.2
EE	29.8	19.7	10.1	40.7	27.6	13.1	59.0	50.8	71.4
PL	49.2	35.2	14.0	66.8	50.0	16.8	69.0	64.2	81.8
LV	53.5	36.2	17.3	74.6	53.9	20.7	69.3	63.5	83.3
LT	42.5	28.3	14.2	64.7	46.7	18.0	61.3	54.4	77.5
EU	**19.2**	**12.9**	**6.3**	**39.2**	**28.5**	**10.7**	**41.7**	**26.1**	**15.7**

Source: EU-SILC 2006

Note: Countries are ranked by median disposable income per head on an equivalised basis and measured in purchasing power terms.

Leaving aside the capacity to face unexpected expenses, the proportion of people reporting not being able to afford any one of a telephone, TV, washing machine, car or decent meal at least once every other day, or who were in arrears with their utility bills, amounted to just 4% in Luxembourg, the country with by far the highest median income per head, much lower than anywhere else in the EU (Table 5.2). Similarly, within the EU15, the proportion was highest in the two countries with the lowest income per head, Greece (32%) and Portugal (20%). Moreover, except for Cyprus, the proportion was higher in the new Member States than in the EU15 countries, being close to 50% or above in Slovakia, Poland, Lithuania and Latvia. Nevertheless, between most EU15 countries, there was little systematic variation of the proportion with median income per head.

In most countries, and in all the new Member States, around two-thirds or more of those reporting being deprived according to at least one indicator had income above the poverty line.

If the range of indicators of financial hardship is extended to include a lack of capacity to meet unexpected expenses, the proportion of people measured as being materially deprived according to at least one indicator is increased significantly in all countries, reflecting the limited overlap between this indicator and the others in many cases. The proportion of people concerned increases to 25% or above in all Member States except Luxembourg and Sweden, in both of which it is around 20%. In Ireland, Germany and Greece, it is increased to 40% or above, though in Portugal it remains below 30%, the same level as in Denmark. The proportion is also increased significantly in all the new Member States, except Estonia, to over 45%, even in Cyprus and Slovenia, and to around two-thirds in Slovakia, Poland and Lithuania, and 75% in Latvia.

In the new Member States, apart from Cyprus and Slovenia, there also tends to be a higher degree of overlap between being unable to meet unexpected expenses and the other indicators of deprivation or financial hardship than in the EU15 countries, apart from Greece (Table 5.2 last three columns). In Slovakia, Poland and Latvia, this amounted to around 70% of the people concerned and over 80% in the case of those with income below the poverty line.

If the indicators of material deprivation are extended in this way, there remains a clear, if relatively broad, inverse relationship between those measured as being deprived and median income levels, with Spain and Portugal, as well as Sweden, having a smaller proportion materially deprived according to at least one indicator than suggested by the average relationship, and Slovenia and Cyprus, as well as Germany and Ireland, having a larger proportion (Figure 5.8).

Figure 5.8: Distribution of EU Member States by equivalised median household income (in PPS) and proportion of population deprived,* 2005

% of total population deprived

Equivalised median income
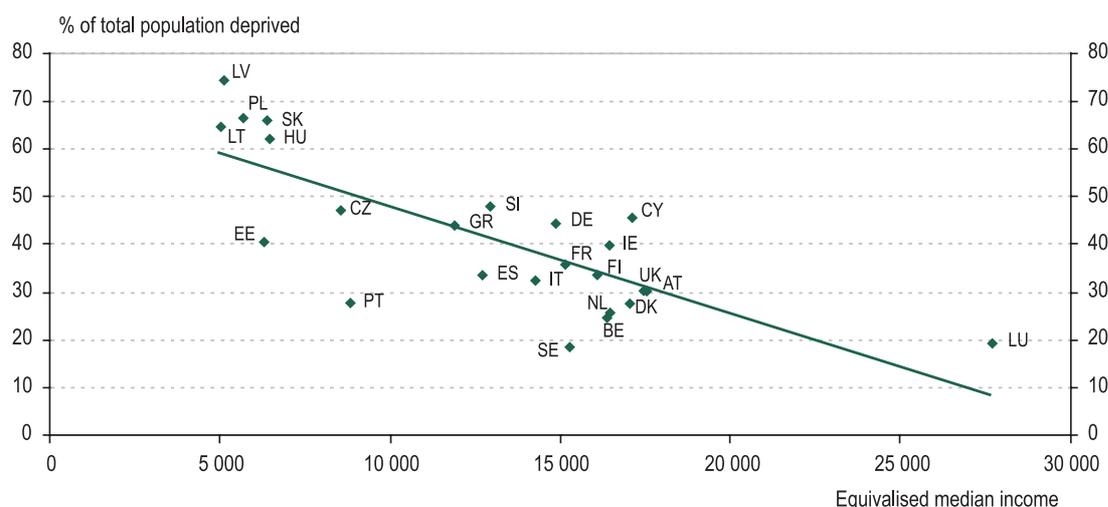
Source: EU-SILC 2006

Note: * Unable to afford phone / TV / washing machine / car / decent meal and/or unable to face unexpected expenses.

Concluding remarks

The above analysis suggests that the extent of material deprivation and financial hardship across the EU is reflected only to a limited extent by the income–based indicator conventionally used to measure the risk of poverty. This is particularly so in many of the new Member States, where a significant proportion of the popula-tion live in households that report not being able to afford particular consumer goods or a decent meal at least once every other day. Most of the people concerned have income above the risk–of–poverty threshold. The same is the case for other indicators of financial hardship, in particular being in arrears with utility bills and not having the resources to meet unexpected costs.

This in itself suggests a need to supplement the income–based measure used to identify and monitor the risk of poverty and social exclusion across the EU with indicators of material deprivation and financial difficulty. The fact that there is a clear (inverse) link between the proportion of people who report being materi-ally deprived and median levels of income per head across countries gives an added reason for this, since such a move would help to overcome the limitations of defining the income measure in relative rather than absolute terms when making comparisons between countries.

Chapter 6 | Economic Growth and Income Inequalities

Márton Medgyesi and István György Tóth[1]

This chapter provides an analysis of inequalities and poverty in relation to economic growth. The classical study of Kuznets on the effect of growth on inequality states that, at the initial stages of the development process, inequality rises with growth; then, at later stages, inequality starts to decrease with further expansion of the economy. Recent empirical studies investigating cross-country relationships between the rate of growth and inequality conclude that growth tends to be distribution neutral on average: among growing economies, inequality tends to fall about as often as it rises (Ravallion 2004). Reviews of the relationship between growth and inequality conclude that it is not growth *per se* that seems to affect inequality, but the way in which growth comes about, and what its precise effects are.

In this chapter, we investigate the evolution of the growth and inequality relationship in the EU countries during the first half of the decade. We briefly review economic literature on the relationship between growth and inequalities in general, and on the effect of growth on different aspects of inequality. We then present our results on the relationship between GDP and employment and aggregate income inequality and its change. Finally we provide empirical results regarding different channels of the growth-inequality relationship.

Economic growth and aggregate inequality

Income distribution — and poverty in general — is determined by a broad set of factors like economic growth, the skills distribution of the work force and changing demand for labour with different skills, demographic developments (ageing, family formation, etc.), the dynamics of domestic policy (electoral cycles, different social and economic policies) and a number of (residual) country-specific factors. While the list of the determinants is not much in dispute, the weights given to the individual explanatory factors described above vary greatly in the literature.

Despite a growing body of literature on the topic, the links between growth and inequalities are far from clear. The original formulation of the often-quoted

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Kuznets curve (Kuznets 1955) implies that a change in inequality is a result of the expansion of a high–income modern sector of the economy at the expense of a low–income traditional sector. This sectoral shift is supposed to result in an inverted 'U' shape of inequalities over time. The literature contains arguments for and against the relevance and explanatory power of this general relationship (for reviews, see, for example, Ferreira 1999; Arjona, Ladaique and Pearson 2001). Some authors criticise the inevitability of the process (like Deininger and Squire 1997, or Atkinson 1999), while others question the direction of causation (see Ravallion and Chen 1997, for example).

In the more recent literature, as Ravallion (2004) puts it, empirical findings on the relationship between the change in inequality and economic growth show virtually zero correlation. Economic growth may be accompanied by a reduction in inequality or an increase (with equal probability) (for surveys, see Ravallion and Chen 1997; Dollar and Kraay 2002).[2] However, while growth seems to be distribution neutral on average, the absolute poverty–reducing effects of growth seem to be demonstrated by many studies (for recent examples, see Ravallion 2004; World Bank 2005a; 2005b). The mechanism underlying this, however, needs to be clarified further, paying special attention to the role of various institutions channelling growth to societal developments.

Different effects of growth on inequality

When describing different types of growth effects, we focus on the distribution of labour income and assume a simple two–sector economy, as in Fields (1987) or Jeong (2008). Let us assume that the economy can be divided into a high–productivity/high–wage sector and a low–productivity/low–wage sector, with uniform wages in each sector. GDP growth can be decomposed into the sum of growth in the two sectors, which in turn might be further decomposed into the effects of employment growth and average productivity growth (GDP/employed) in the given sector.[3] Economic growth will not necessarily change the income distribution. If employment in both sectors grows in the same proportion, or if productivity (and wages) grows at the same rate in both sectors, labour income inequality among the employed does not change.[4] But economic growth might also occur in distributionally non–neutral ways:

(1) Growth might come about through an increase in the productivity of one of the two sectors: if productivity of the low–productivity/low–wage sector rises, inequality falls; while inequality will rise if productivity rises in the high–productivity sector.

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[2] The almost complete absence of a correlation may be due to methodological rather than substantive reasons. Such methodological problems in measuring the effect of growth on inequality involve measurement errors (in inequalities), the inability of the Gini coefficient to capture growth–induced inequalities and reductions in poverty, and the inability of cross–sectional inequality measures to capture 'churning' phenomena (Ravallion 2004).

[3] More precisely, if employment in time t and sector k is e^k_t and productivity is p^k_t, total output is $g_t = \Sigma_k \ e^k_t p^k_t$ Change in total output is $\Delta g = \Sigma \underline{p}_k \Delta e_k + \Sigma \underline{e}_k \Delta p_k$ where Δ is the time difference operator, and underline stands for time average (see, for example, Jeong 2008).

[4] This conclusion, of course, requires that our inequality measure fulfils population independence and scale independence properties.

(2) Differential employment growth: from an inequality perspective, it is not the same if employment grows in the high-productivity/high-wage sector or the low-productivity/low-wage sector.

(3) Growth might come about by labour moving from the low-productivity sector to the high-productivity sector.

Growth by the first mechanism has an effect on inequality by changing the income gap between different groups, while the second and the third mechanisms have an effect on inequality by modifying the composition of the population. The distinction of low-productivity/high-productivity sectors above might correspond to the division between sectors of the economy or regions. But the framework might be understood more generally as pertaining to all types of subgroups that differ in their productivity and income level, for example, skilled *vs* unskilled workers. Of course, sectors might differ not only in mean incomes but also in within-sector income dispersion. In such cases, the inequality effect of structural changes is more complicated: for example, the inequality effect of an increase in the share of the high-productivity sector will be different, depending on the relative within-group dispersion in the two sectors.

As it is household income that ultimately determines individuals' well-being, it is clearly important to study how growth affects the distribution of labour income among households. Gregg and Wadsworth (1996) or Redmond and Kattuman (2001) investigate the effect of 'employment polarisation' on the distribution of incomes. 'Employment polarisation' means that the distribution of employment among households is becoming more unequal: the proportion of jobless households is increasing and, at the same time, the proportion of households with multiple workers is also increasing. A related topic is the correlation of labour income between husbands and wives. A number of authors (e.g. Gronau 1982; Callan *et al.* 1998; Cancian and Reed 1998) have analysed the effect of a spouse's earnings on the labour income distribution among households. Their conclusion is that assortative mating is likely to increase the inequality of labour income among households. Thus, employment or wage growth might have an inequality-decreasing effect on the distribution of labour income between households if it is concentrated in workless or low-income households, and an inequality-increasing effect if it is concentrated in higher-income households.

Growth and aggregate inequality in the EU

Overview of growth trends

Here, we first review trends regarding economic growth in the European Union. In the first half of the decade, the most rapid economic growth was observed in the Baltic countries: in Estonia, Lithuania and Latvia gross domestic product expanded by 8% annually on average. Ireland followed the Baltic states as the fastest-growing European country, with an average annual growth rate of 5.4% during this period. Slovakia (4.9%), together with Greece and Hungary (4.3%), also recorded average annual growth levels of above 4%. The group of countries with an annual average growth rate of between 3% and 4% was composed of the Czech

Republic, Luxembourg and Slovenia (around 3.5%) and Spain, Cyprus and Poland (3.2%). In Finland, Sweden and the UK economic growth was around 2.5% annually. In the rest of the EU countries, average economic growth did not reach 2% during this five-year period. In Portugal, Italy and Germany, the five-year growth rate was even below 1%.

GDP growth can be decomposed into the effect of employment growth and productivity growth. Figure 6.1 shows the rate of employment growth and productivity growth in EU countries during the first half of the decade. Employment growth was highest in Spain, Luxembourg, Cyprus and Ireland. In these countries, annual average employment growth was around 3% during the first half of the decade. Other countries recorded a slower pace of employment growth. In Latvia, Estonia, Italy and Greece, the average annual growth rate of employment was over 1%, and employment increased by a rate close to 1% annually also in the United Kingdom, Lithuania and Finland. Other countries recorded slower employment growth. In Hungary and the Czech Republic, employment stagnated, while employment in Poland, Germany and Denmark decreased during this period.

In the transition countries, the technological catching-up continued during these years, which resulted in productivity growth rates that were higher than in other EU countries. Productivity increased most in the Baltic countries: in Lithuania, Latvia and Estonia, GDP per employed person increased annually on average by more than 6% during these five years. Other transition countries, such as Slovakia, Poland, the Czech Republic and Hungary, also exhibited a considerable increase in productivity (of around 4%). Also Greece, Slovenia, Ireland and Sweden registered an annual productivity increase of close to or above 2.5%. By contrast, in countries such as Spain, Italy and, to a lesser extent, Cyprus and Luxembourg, productivity stagnated between 2000 and 2005.

Figure 6.1: Productivity growth and employment growth in EU countries between 2000 and 2005
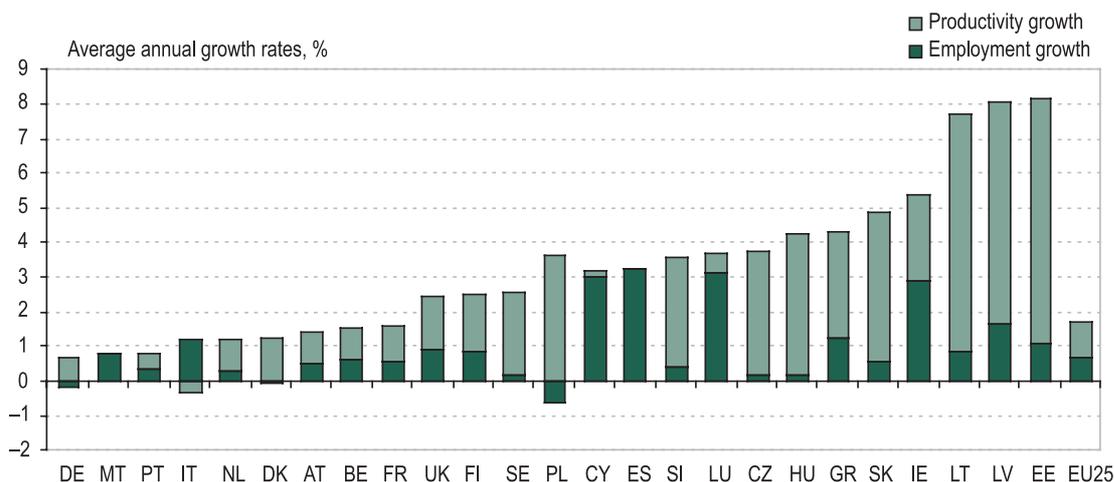
*Source: Eurostat New Cronos database*
Note: Countries are ranked according to rate of GDP growth (2000–05).

Levels of economic development and inequality

Figures 6.2 to 6.5 present bivariate correlations between GDP levels and employment rates of the population aged 15–64 in European countries, on the one hand, and, on the other, poverty/inequality levels as measured by the at-risk-of-poverty rates and Gini indices of disposable person-equivalent incomes of households. The explained variables are always for period *t*, while the background variables reflect period *t*–1.

Income inequality is relatively strongly and negatively related to GDP per head across the EU countries observed. The slope of the relationship is negative for both the EU15 countries and the new Member States (the EU10 joining in 2004, plus Bulgaria and Romania). There is clearly a large difference between the level of economic development of the two groups, while the internal variance by the level of inequalities seems to be similar in the two subgroups of the EU.

Figure 6.2: GDP per capita (EU27=100) and income inequality in 2005
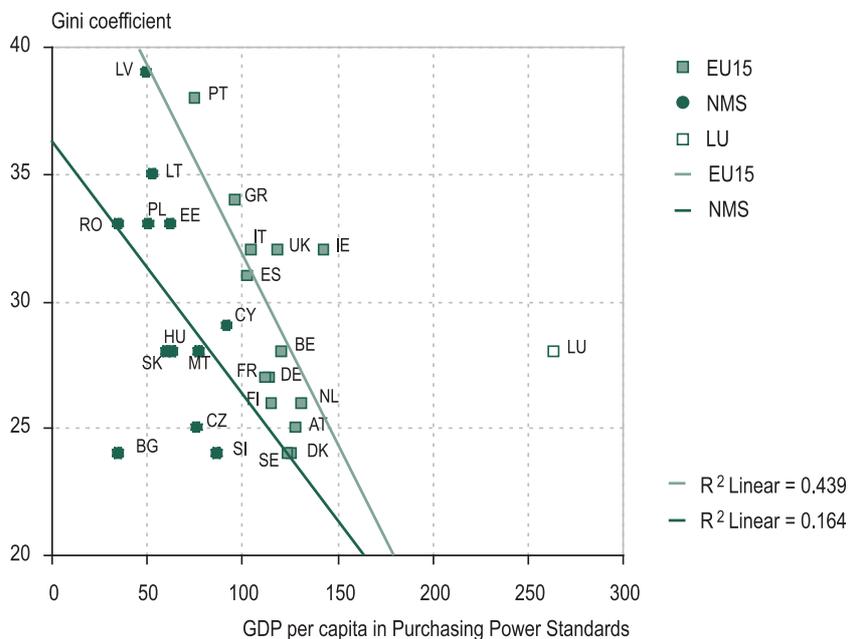
Source: Eurostat New Cronos database (downloaded: 1 June 2008)
Variables: GDP PPS 2005 (EU27=100); Gini: 2005 (except for Hungary (2004)).

Figure 6.3: GDP per capita (EU27=100) and income poverty in 2005

While the overall risk of poverty is also negatively associated with GDP per head, the pattern of variation across countries is somewhat different. Four groups can be identified.[5] The first group, containing the Scandinavian countries and most of the EU15 countries with conservative social welfare regimes, has a relatively low overall risk of poverty and a relatively high GDP per head. The second group, comprising the EU15 Member States with liberal and Mediterranean social welfare regimes, has more variable levels of GDP per head and a relatively high risk of poverty (around 20%). The other two groups contain the new Member States with, in general, a lower level of economic development but varying levels of relative poverty. Some new Member States, like the Czech Republic, Slovenia, Slovakia, Hungary, Bulgaria, Malta and Cyprus, have lower poverty levels; others, like Poland, the Baltic states and Romania, recorded higher relative poverty levels.

Turning to employment rates and poverty/inequality levels, the picture seems less clear (Figures 6.4 and 6.5). Among the 'old' Member States, a higher level of employment tends to be associated with a lower degree of income inequality (the same holds true for poverty rates as well), even if the relationship is relatively weak. Among the new Member States, no clear pattern emerges. While it looks evident that there are two different poverty regimes (by and large, those groups below a 15% relative poverty rate and those above), there might be very different employment levels corresponding to the same 11–13% or 17–18% poverty rates. This may hint at the very complex nature of poverty–inequality and employment relationships.

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[5] … and, as a fifth 'group', Luxembourg is an extreme with its per capita GDP.

Figure 6.4: Employment rate (15–64) and income inequality
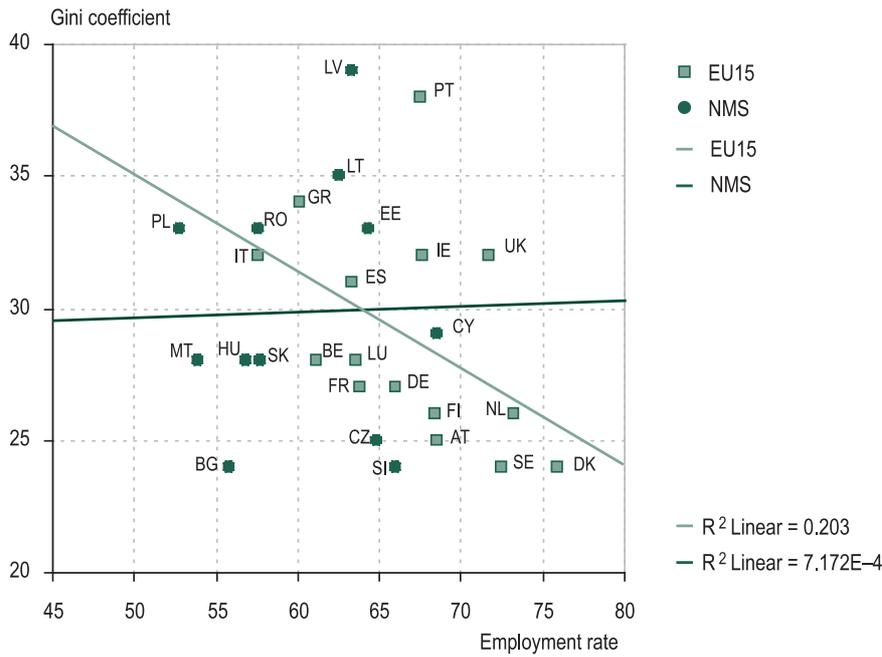
Source: Eurostat New Cronos database (downloaded: 1 June 2008)

Variables: Employment rate 2005 (employed person 15–64); Gini coefficient: 2005 (except for Hungary (2004)).

Figure 6.5: Employment rate (15–64) and income poverty
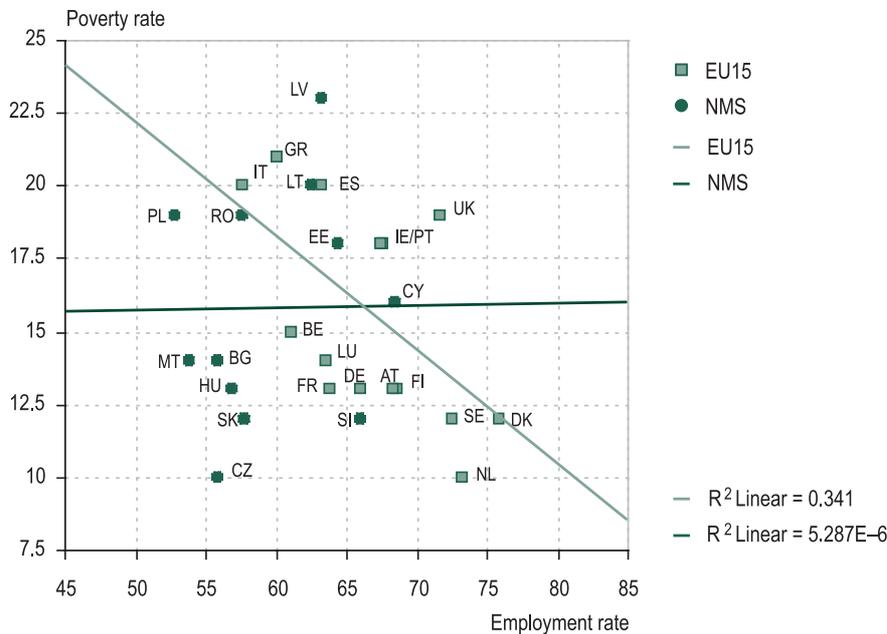
*Source: Eurostat New Cronos database (downloaded: 1 June 2008)*

Variables: Employment rate 2005 (employed person 15–64); at-risk-of-poverty rate (after social transfers) 2005 (except for Hungary (2004)).

The extent of poverty and the degree of inequality is shaped by a wide range of factors, including the level of economic development, structural factors (employment levels) and social policy factors like the scale of social expenditure and the way that this is spent in any given country. European countries are different in those aspects related to inequality, and also there is a great deal of variation between them in terms of the mix of institutional factors (and not solely in terms of those factors that are capable of being captured in the analysis). The specific circumstances prevailing in any country suggest a need for caution in interpreting the results, especially when drawing policy conclusions. The same policy measures may lead to different results in different countries because of differences in the national context. In general, higher levels of GDP per head may help to alleviate poverty, but lower levels of relative poverty do not necessarily result from higher GDP.

Aggregate growth, employment growth and aggregate inequality

The above conclusions were, however, drawn from an analysis of cross-sectional data, which, as always, cannot necessarily be carried over to interpretation of the effect of different patterns of development in particular countries. When, for example, it is concluded that higher levels of GDP (expenditure, employment, etc.) are associated with lower levels of poverty (inequality, etc.), it is not safe to assume from this that an increase in GDP (expenditure, employment, etc.) in a given country will automatically lead to a lower level of poverty (inequality) as well.

This has, however, been assumed several times in the past. When Kuznets, for example, carried out his famous analysis, he had cross-sectional data for various countries at various stages of their economic development. Many analysts interpreting his curve assumed that country A, with a 'lower level' position at date t_0 can be expected to move to a position taken by country B at a 'higher level' of development at date t_0. However, this assumption of linear development paths is clearly an oversimplification (at the very least) and represents a fallacious mixing-up of cross-sectional differences with time series trends. Therefore, careful analysis of the relationship between economic growth and inequalities requires longitudinal data for each and every country (data for countries A and B, for both dates at t_0 and t_1. The dataset we use from Eurostat is a big step forward in this direction, but the current length of the inequality data series still only allows a partial and short-term analysis.

Attempts are made in this section to explain changes in inequality (measured as shifts in the Gini coefficient and in relative poverty) in terms of changes in GDP and in the employment rate. The period analysed covers the years 2000 to 2005. Changes in the different variables were classified into seven ranges (applying different thresholds for each separately). These are described in Table 6.1.

Table 6.1: Magnitude and direction of change in the variables examined between 2000 and 2005

Country	Gini coefficient 00/05	Poverty rate 00/05	GDP PPS 00/05	Total employment rate — employed persons aged 15–64 00/05	Total employment rate of older workers — employed persons aged 55–64 00/05	Social protection benefits in the % of GDP 00/05
AT	0	+	0	0	++	0
BE	0	++	0	0	+++	++
BG	–	– –	+++	..	..	..
CY	..	..	0	..	..	..
CZ	0	+++	++	0	+++	0
DE	+	++	0	0	+++	0
DK	+	++	0	0	+	0
EE	–	0	+++	+	+++	..
ES	–	+	+	++	++	0
FI	0	++	0	0	+++	+
FR	0	0	0	0	+++	+
GR	0	0	++	+	+	0
HU	++	++	++	0	+++	++
IE	++	– –	+	0	++	+++
IT	++	+	– –	+	++	+
LT	++	++	+++	+	+++	– –
LU	0	++	+	0	++	++
LV	++	+++	+++	++	+++	– – –
MT	..	..	–	..	..	++
NL	0	–	0	0	+++	+
PL	+	++	+	0	0	..
PT	0	–	0	0	0	++
RO	+	++	+++	–	– – –	..
SE	0	+++	0	0	+	0
SI	+	+	++	+	+++	0
SK	..	..	+++	0	+++	– –
UK	–	+	0	0	++	0

Notes: 0: no change; +/–: magnitude of change: 5–10%; ++/– –: magnitude of change: 10–15%; +++/– – –: magnitude of change: 15%<;
.. : lack of data.
The change in Gini and poverty rate: Hungary: 2000–04, Latvia: 1999–2005.

At this level, it is hard to make many general statements on the basis of the data presented. Between 2000 and 2005, a marked increase (++) in income inequalities and relative poverty is evident in Hungary, Italy, Ireland, Latvia and Lithuania. For the other countries, the change was negligible or marginal. In the majority of those countries that recorded an increase in inequality, GDP (relative to the overall EU average) showed a significant increase (at least 10–15% over the five–year period). Italy and Ireland are exceptions: in those countries income inequality rose despite slower or no relative GDP growth).

As for the relationship between employment growth and the change in inequality, the picture is also mixed. A reduction of more than 5% in the employment rate

(employed persons aged 15–64) occurred in Romania, where the overall employment rate was already quite low at the beginning of the period. The other countries showed either no change or some rise in the employment rate (especially Spain and Latvia, but also Estonia, Greece, Lithuania and Slovenia). In Spain and Estonia, an increase in the employment rate was associated with decreasing inequality, but in other cases (e.g. Italy, Latvia and Lithuania) inequality increased during a period of an increasing employment rate. Romania, the only country with a decreasing employment rate, showed an increase in inequality.

Viewing the data from another perspective — and using a graphic method — we plotted the combined changes in inequality and relative poverty in a two dimensional space (Figures 6.6 to 6.9). Inequality indicators (Gini and poverty rate) are regarded here as dependent variables, while the explanatory variables are relative GDP change and overall employment rate change, respectively. From the various patterns of arrows (which represent the changes) the conclusion strengthens the results demonstrated in Table 6.1: there is no clear pattern of interaction and no path dependencies are observable, in the sense that the level of inequality at the beginning of the period does not seem to influence the direction and the magnitude of the change in inequality.

Figure 6.6: The change in the Gini coefficient and the change in GDP PPS per capita, 2000–05
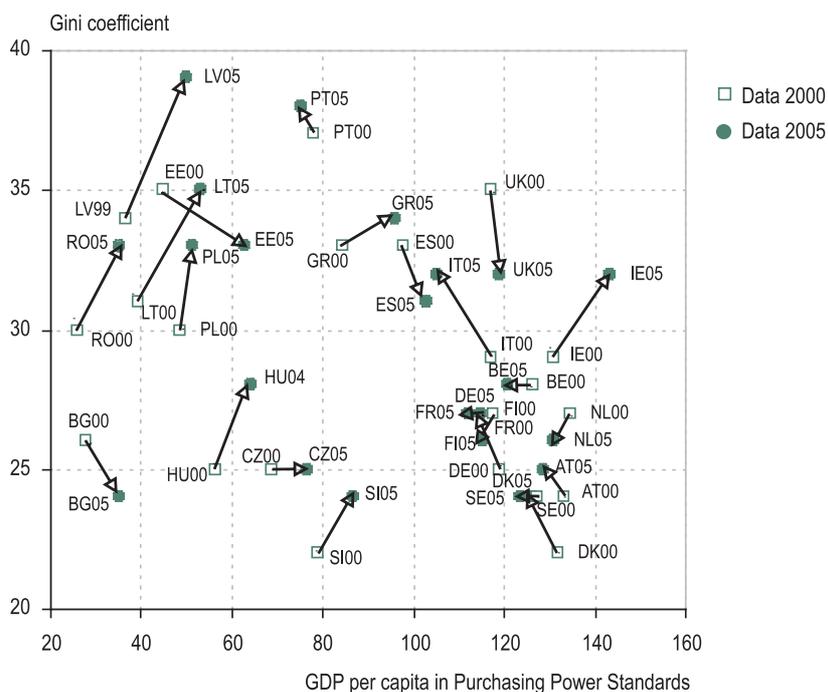
Source: Eurostat New Cronos database (downloaded 1 June 2008)
Variables: GDP PPS (EU27=100), data refer to 2000–05; Gini coefficient, data refer to 2000–05. In case of Gini: Hungary: 2000–04, Latvia: 1999–2005.
Sample: EU27, but Cyprus, Malta, Slovakia and Luxembourg are not included in the analysis.

Figure 6.7: The change in the poverty rate and the change in GDP PPS per capita, 2000–05
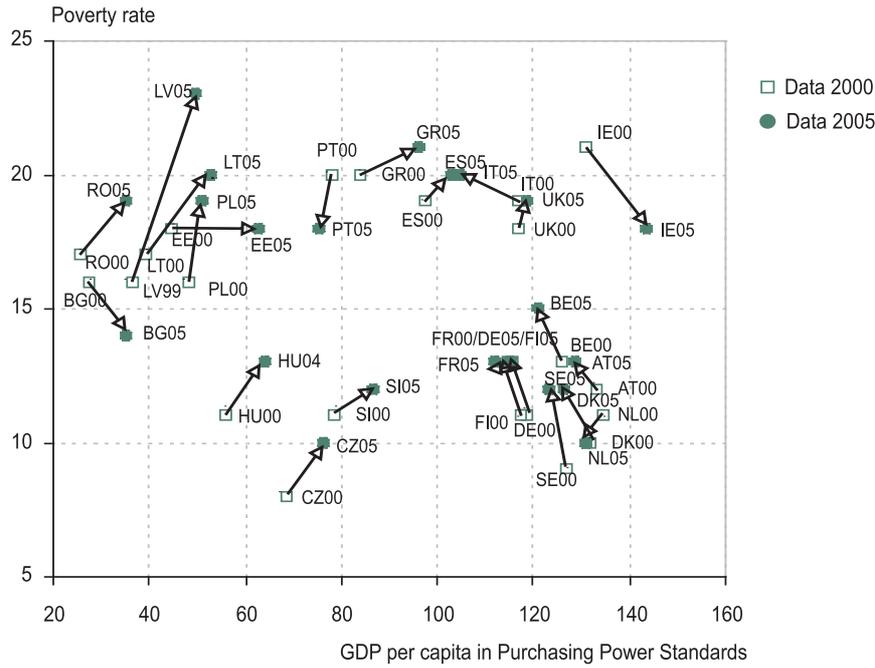
Source: Eurostat New Cronos database (downloaded 1 June 2008)
Variables: GDP PPS (EU27=100), data refer to 2000–05; at-risk-of-poverty rate (after social transfers), data refer to 2000–05.
In case of poverty rate: Hungary: 2000–04, Latvia: 1999–2005.
Sample: EU27, but Cyprus, Malta, Slovakia and Luxembourg are not included in the analysis.

Figure 6.8: The change in the Gini coefficient and the change in the employment rate, 2000–05
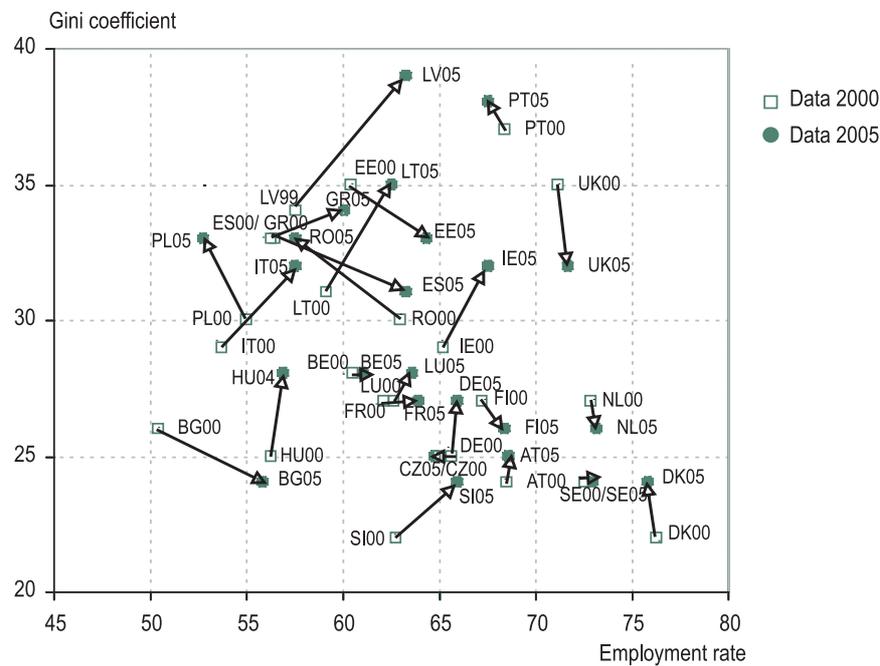
Source: Eurostat New Cronos database (downloaded 1 June 2008)
Variables: Employment rate (employed person: 15–64), data refer to 2000–05; Gini coefficient, data refer to 2000–05.
In case of Gini coefficient: Hungary: 2000–04, Latvia: 1999–2005.
Sample: EU27, but Cyprus, Malta and Slovakia are not included in the analysis.

Figure 6.9: The change in the poverty rate and the change in the employment rate, 2000–05
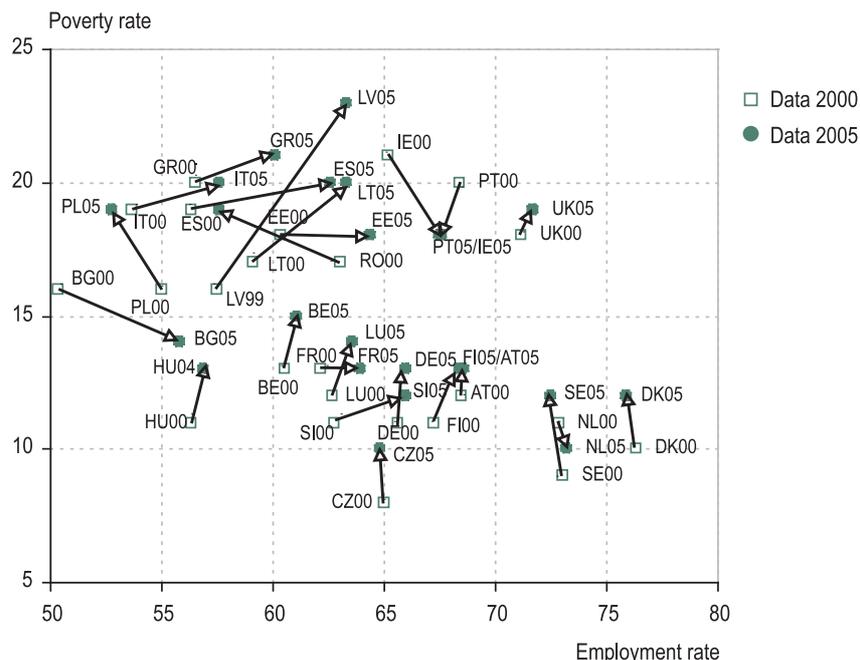
Source: Eurostat New Cronos database (downloaded 1 June 2008)
Variables: Employment rate (employed person: 15–64), data refer to 2000–05; at-risk-of-poverty rate (after social transfers),
data refer to 2000–05. In case of poverty rate: Hungary: 2000–04, Latvia: 1999–2005.
Sample: EU27, but, Cyprus, Malta and Slovakia are not included in the analysis.

From the analysis, therefore, it follows that the distributional effects of growth may vary greatly, depending on the nature of growth itself (which sectors drive it, how it affects employment, etc.) and the nature of the social welfare system (the extent and structure of social expenditure, as well as, perhaps, the social and labour market legislation in place). This accords with the results of recent studies, which suggest that the performance of various European social models differs in terms of efficiency and equity (Boeri 2002; Sapir 2005).

The next step of the analysis is to examine the correlation of employment and inequalities in a more sophisticated manner.

Effects of growth on earnings inequality

The previous section showed that there is no unambiguous relationship between growth experiences and changes in the distribution of disposable household income in the EU Member States. The reason for this is that there are multiple ways in which economic growth can modify the income distribution. In this section, we investigate different types of growth–inequality linkages and their importance in different Member States. As was argued in the introduction, economic growth might come about by increasing average productivity in the economy. If productivity increase is not uniform in different sectors of the economy, inequality between sectors will be altered. If the productivity of the low–productivity/low–wage

sector rises, inequality falls, and inequality will rise if productivity of the high-productivity sector rises.

Growth might also occur through increased use of labour in the economy, or by increasing the proportion of people employed in the high-productivity sector. Both of these phenomena have an effect on inequality by modifying the composition of the employed. Growth occurring through the structural change of the economy is the kind of development process Kuznets described. His main conclusion was that the effect of growth on inequality is likely to be different at different levels of development. Increasing population share of the initially smaller high-income sector first causes inequality to rise. But after a certain point, further expansion of the high-income sector will decrease inequality. Atkinson (2007) also draws attention to the importance of composition effects on inequality. Inequality might change even if the income gap between education groups remains unchanged. When demand and supply of skilled workers grow at the same rate, the skill premium converges to an equilibrium, but earnings inequality continues to change due to the changing skill composition of the labour force.

Thus the inequality effects of economic growth — both by differential productivity increase and by changes in population composition — are ambiguous: they might be inequality decreasing or inequality increasing. Moreover, the different inequality effects of growth can reinforce or offset each other. This complexity of the growth-inequality relationship lies behind the empirical results, which are unable to find consistent patterns of correlation between the two variables.

In the remaining part of the section, we present empirical results on different growth-inequality relationships. First, we describe the changes in the composition of employment that occurred between 2000 and 2005. Then we investigate the role of the changes in population composition and of between-group income differences on the changes in inequality. Finally, we investigate the effect of an increase in employment on the distribution of employment among households.

Characteristics of employment growth and changing structure of employment

Employment growth in EU countries has not been uniform in all segments of the labour force (EC 2006a). For example, in almost all the countries, employment growth has been higher than average among the better educated, and lower than average among the lower educated. Exceptions are Lithuania and Sweden, where the employment growth of the higher educated has been lower than average employment growth, and Latvia, where employment growth among the lower educated has been higher than average employment growth. Employment of the lower educated increased in only three of the EU countries: Spain, Cyprus and Latvia. Other characteristics of employment growth were increasing female employment, and rising part-time and fixed-term employment. The age-employment relationship has also been modified: employment of older people aged 55-64 increased, while youth employment declined in the first half of the decade.

Figure 6.10: Changing structure of employment according to education in EU countries
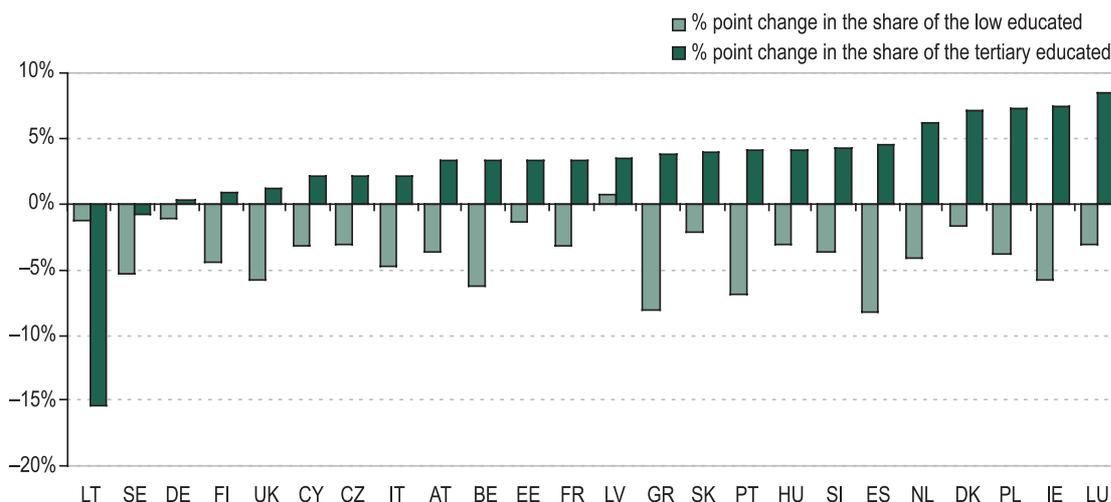
Source: Labour Force Survey
Note: Education is a three-category variable: low education (completed education level lower than upper secondary); middle-level education (upper secondary education — not shown on the graph); and tertiary education.

Differential employment growth resulted in changing composition of the employed in EU countries. As Figure 6.10 shows, the average education level of the employed has generally increased in EU countries: the percentage of those with tertiary education has increased and the percentage of those with education below upper secondary has decreased. The percentage of those with tertiary education increased most in Luxembourg, Ireland, Poland, Denmark and the Netherlands. The most important decrease in the percentage of the lower educated was observed in Greece, Spain, Portugal and also the UK, Ireland and Belgium. Of course, other characteristics of employment growth, such as increasing female participation, the rising proportion of part-time and fixed-term employment, and increasing participation of older people aged 55–64 also show up in the changing composition of the work force.

The effect of changes in between-group differences and structural changes on inequality of labour income

Here we analyse the effect of changing between-group differences and changing employment structure on the evolution of inequality of the labour income distribution. We consider changes in the gender, age and education composition of the labour force. The methodology of the analysis follows the methodology proposed by Mookherjee and Shorrocks (1982) for the decomposition of inter-temporal change of inequality. This method starts with a grouping of individuals according to some attribute (age, region, education, etc.). The method decomposes the change in inequality as measured by the MLD index[6] in three components. The first compo-

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[6] For a description of the Mean Log Deviation (MLD) index, see the Glossary.

nent[7] is a 'pure' effect of inequality increase — that is, the effect attributable to an increase in within-group inequalities. The second component is the effect of change in relative population shares of the various subgroups. The effect of structural change can be further decomposed into two terms. One term measures the change in inequality brought about by the changing population share of sectors with different levels of within-group inequality. For example, the increasing share of a sector with high within-group inequality exerts an increasing effect on overall inequality. The second effect of changing population structure is the changing population share of sectors with different mean incomes. This term measures the effect of growth on inequality emphasised by Kuznets. The effect of the increasing share of a sector with high mean income on aggregate inequality is ambiguous. It is likely to increase inequality if the initial population share of the high-income sector is low; but it can also result in decreasing inequality if the share of the high-income sector is already high at the beginning. The third component of the change of overall inequality measures the effect of change in relative mean incomes of the various subgroups. Economic growth is most directly linked to the last two terms of the decomposition — that is, to the effect of changing sectoral mean incomes and to the effect of a change in population share of sectors with different mean income levels (Jeong 2008). Because of this, we will be mostly interested in these two components of the decomposition.

Unfortunately, there is no European database that covers the last five-year period. This is why we investigate the growth-inequality relationship by comparing the 2005 EU-SILC with data for 1998 that come from the Consortium of Household Panels for European Socio-Economic Research (CHER) version of the European Community Household Panel (ECHP). The ECHP is a harmonised household panel of 14 European countries, which was initiated in 1994 and terminated in 2001 (Peracchi 2002). The EU-SILC has been constructed to replace the expired panel as a base for calculating the so-called Laeken indicators, used in the process of open coordination of the social policies of EU Member States. Nevertheless, there are several differences between the methodologies of the ECHP and EU-SILC (EC 2005). There is a difference between the income concept used in the two studies: the EU-SILC tries to follow most closely the recommendations of the Canberra group regarding measurement of household income. New components of disposable income have been added to the survey, like inter-household transfers, taxes on wealth, interest paid on mortgage loans, imputed rent, non-cash employee income, value of goods produced for own consumption, etc. Here, in this analysis, we compare the distribution of monetary earnings for persons who have worked full year, full time in the past 12 months. Consequently, changes

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[7] The change in the MLD index between two time periods, t and $t + 1$ can be written, following Mookherjee and Shorrocks (1982)

$\Delta \text{MLD} \equiv \text{MLD}_{(t+1)} - \text{MLD}_{(t)}$

$\cong \quad \Sigma_k \underline{v}_k \Delta \underline{\text{MLD}}_{(k)} + \quad \Sigma_k \underline{\text{MLD}}_{(k)} \Delta v_k + \quad \Sigma_k [\underline{\lambda_k} - \log(\underline{\lambda_k})] \Delta v_k + \Sigma_k (\theta_k - \underline{v}_k) \Delta \log(\mu_k).$

$\quad$ [A component] $\quad$ [B1 component] $\quad$ [B2 component] $\quad$ [C component],

where Δ is the time difference operator, and underline stands for time average, v_k is the share of subgroup k in total population ($v_k = n_k/n$), λ_k is the relative mean income of subgroup k ($\lambda_k = \mu_k/\mu$), and θ_k is the income share of subgroup k ($\theta_k = v_k \lambda_k$). Component A denotes inequality change due to change in within-group inequalities. Component $B1$ denotes inequality change caused by the changing population share of sectors with different levels of within-group inequality. Component $B2$ is the change in inequality due to changing population share of sectors with different mean incomes. Component C denotes inequality change due to changes in group mean incomes.

in the income concept do not affect our results.[8] It should be kept in mind that, in the case of some countries, we compare income data from survey-based ECHP with income data in EU-SILC based on administrative registers. Our intention was to analyse the change in the distribution of gross earnings, but in the case of some countries only net income figures are comparable across the two studies. We use weights provided by Eurostat to correct for non-response, and thus our data can be considered to be representative of the households of the given country in the given year. As new Member States did not participate in the ECHP, we do not cover those countries. Due to comparability problems, we also omit France, the Netherlands and Germany from the analysis. In this preliminary analysis, we use gender (male, female), age (18-24, 25-40, 41-54, 55+ years) and education (less than upper secondary, upper secondary, tertiary) of the respondent as grouping variables.

Table 6.2: Inequality of yearly labour income

Country	Inequality of yearly labour income mong those employed full year, full time				Inequality of yearly labour income among those of working age	
	Gini coefficient		MLD index		Gini coefficient	
	1998	2005	1998	2005	1998	2005
AT	0.269	0.293	0.136	0.176	0.560	0.555
DE	0.255	0.275	0.124	0.159	0.572	0.610
DK	0.213	0.228	0.088	0.112	0.455	0.468
ES	0.358	0.287	0.218	0.137	0.714	0.591
FI	0.261	0.257	0.208	0.127	0.545	0.519
GR*	0.280	0.241	0.166	0.101	0.665	0.631
IE	0.310	0.311	0.166	0.162	0.668	0.635
IT*	0.209	0.236	0.088	0.100	0.634	0.566
LU*	0.287	0.314	0.148	0.164	0.571	0.581
PT*	0.343	0.352	0.209	0.200	0.616	0.613
UK	0.302	0.322	0.159	0.183	0.600	0.574

Source: Own calculation based on CHER 1998 and EU-SILC 2005 data
Note: Based on gross incomes except for countries marked with asterisk, which are based on net income figures.

As is shown in Table 6.2, the most important increase in inequality of earnings of full-year, full-time employees, as measured by the MLD index, occurred in Austria, Germany and Denmark. Also in the case of the UK, Italy and Luxembourg there was an increase in inequality, albeit to a lesser extent. Spain, Finland and Greece, on the other hand, recorded decreasing inequality. No change in the value of the MLD index was observed in Ireland and Portugal.

The results of the decomposition analysis are summarised in Table 6.3, and more detailed results are shown in Tables A 6.1-A 6.3 of the Appendix. The decomposi-

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[8] There are other methodological differences between the two studies. First of all, the ECHP follows a pure panel design, while the EU-SILC follows a rotational panel design. Income information in the ECHP is always based on survey data, while in the case of EU-SILC some countries provide income data based on administrative registers. While in the EU-SILC the income at component level is recorded gross, in the ECHP the income components are recorded net.

tion analysis shows that, in general, the most important component of inequality change has been the change in within-group inequalities. In some cases, however, the role of factors related to growth also contributed to the change in inequalities. Decomposition according to the gender of the respondent shows that the decreasing earnings gap between men and women has an inequality-decreasing effect in the case of Italy, Luxembourg and, to a lesser extent, Germany. The population share of men and women among the full-year, full-time employed changes very little, and thus structural changes according to gender do not contribute to inequality change. In the case of the role of age, we can see an inequality-increasing effect of growing earnings differences between the young and the older employed in Italy and Luxembourg. In the case of Spain and the UK, earnings differences according to age diminish, which results in a decreasing effect on inequality. The effect of the changing population share of age groups with different mean income does not play an important role in explaining inequality change. Increasing earnings differences according to education contributed to the increase in inequality in the case of Luxembourg, the UK and Denmark. A decreasing earnings gap according to education level has an inequality-decreasing effect in Spain and Greece. Improving educational composition of the employed exerts a significant inequality-increasing effect in Austria and Italy.

Table 6.3: Summary of effects related to economic growth (1998–2005)

	Gender		Age		Education	
	Effect of change in population structure*	Effect of changing group mean incomes	Effect of change in population structure*	Effect of changing group mean incomes	Effect of change in population structure*	Effect of changing group mean incomes
Inequality increase	..	DE (–)	..	IT (+)	AT (+)	DK (+)
	..	IT (–)	..	LU (+)	IT (+)	LU (+)
	..	LU (–)	UK (–)	UK (–)	UK (–)	UK (+)
Decrease of inequality	..	..	..	ES (–)	..	ES (–)
	..	..	..	..	..	GR (–)

Notes: +/– means that the given effect increased/decreased inequality by more than 10% of total inequality change.
*Effect of change in population share of groups with different mean incomes (Term *B2* according to the terminology used earlier in footnote 7).

Employment growth and inequality of labour income among those of working age

Employment growth modifies inequality of earnings among the employed by changing the composition of the employed. On the other hand, as we stressed above, employment growth is likely to have a direct effect on the distribution of earnings among all working-age persons. Employment growth modifies income differences between the employed and those not working at the beginning of the period. In this case, employment growth (or, more precisely, the increase in the employment rate) is expected to have an inequality-reducing effect. In Table 6.2, the last two columns show the change in inequality in labour income among those of working age. The most important increase in the Gini index occurred in Germany, where the Gini increased from 0.57 to 0.61. In the rest of the coun-

tries, the Gini remained unchanged or even decreased. The greatest decrease in inequality occurred in Spain, where the Gini coefficient decreased by almost 20% — from 0.71 to 0.59. There has been an important decrease in inequality in Italy as well, and Greece and Ireland also show decreasing Gini indices. Table 6.4 shows the relationship between the change in the employment rate and the change in inequality. As we can see, all countries that saw an increase in the employment rate recorded declining inequality of labour income among those of working age. In the case of Spain and Greece, inequality of earnings was already decreasing among the employed; but in the case of Italy and Ireland, the inequality-decreasing effect of the rising employment rate was able to dominate increasing (Italy) or stagnating (Ireland) inequality of earnings among the employed.

Table 6.4: Change in employment rate and change in inequality (1998–2005)

| | | Inequality of labour income among those of working age | | |
		Decline	No significant change	Increase
Employment rate	**Decline**	—	PT	—
	No significant change	—	AT, BE, DK, FI, NL, UK	DE
	Increase	ES, GR, IT, IE	—	—

The effect of employment growth on inequality of earnings distribution among households

The effect of employment growth on distribution of labour income among households might be different from the distribution among individuals. Employment growth might have an inequality-decreasing effect if it is concentrated in workless or low-income households, and an inequality-increasing effect if it is concentrated in work-rich and/or higher-income households.

The proportion of people aged 15-64 living in workless households increased most in Portugal (from 7% to 8%), the Netherlands (from 12% to 13%) and France (from 16% to 17%). The largest decline in the proportion was detected in the Baltic states: in Estonia and Latvia the proportion decreased from 14% to 10%, and in Lithuania from 12% to 10%. The proportion also decreased (albeit to a lesser extent) in Finland, Austria, Belgium, Germany, Hungary, Poland and Slovenia. As the following chart shows, the employment rate is negatively correlated with change in the proportion of those living in workless households. In countries where the employment rate is on the rise, the proportion of those living in jobless households is declining. The rate of decline is less than proportionate, however: a one percentage point increase in the employment rate is associated with just over half a percentage point decline in the proportion of those living in jobless households. It can also be seen that countries differ in the extent to which the proportion of those living in jobless households respond to changes in the employment rate. For example, in Finland, Austria, Hungary, Latvia and Estonia, the decline in the proportion of those living in workless households has been more pronounced than

might have been expected on the basis of the increase in the employment rates in those countries. By contrast, in Greece and Spain the proportion of those living in workless households has declined only modestly compared to the significant increase in the employment rate.

Figure 6.11: Change in employment rate and in the proportion living in workless households, 2002–06

% point change in proportion living in workless households

$y = -0.5912x + 0.2041$

$R^2 = 0.627$
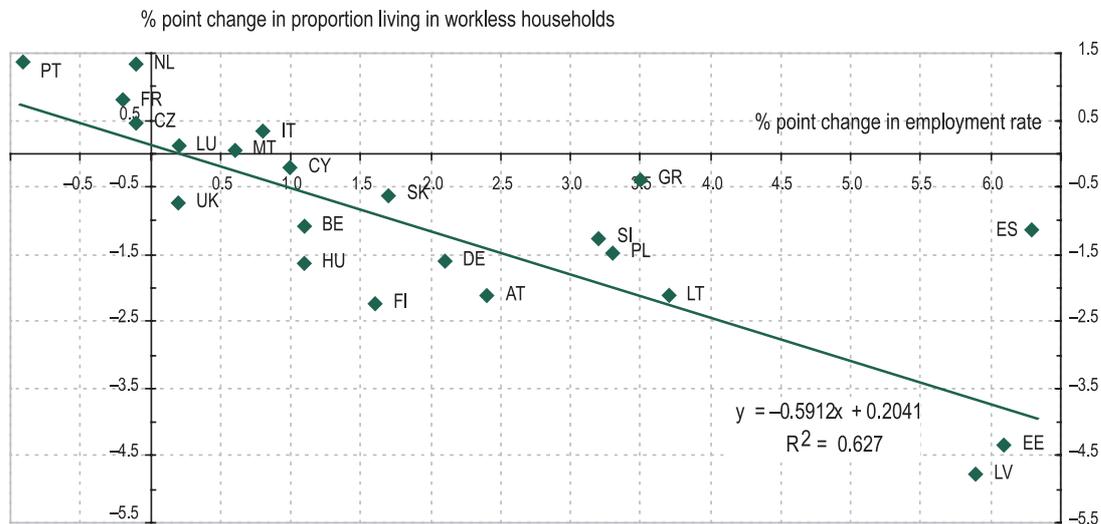
Source: Labour Force Survey
Note: Data refer in the case of France, Malta, Poland, Slovakia and Finland to 2003–06; and in the case of Italy and Austria to 2004–06.

Concluding remarks

In this chapter, we have investigated the relationship between economic growth and income inequality in EU countries during the first half of this decade. The countries with the most rapid growth were the Baltic states, but Ireland, Slovakia, Hungary and Greece also recorded above–average growth rates. In transition countries, the main engine of growth was the increase in productivity, while countries such as Ireland, Spain, Luxembourg and Cyprus showed considerable employment growth. It proved difficult to find consistent patterns of a growth–inequality relationship. We found increasing aggregate income inequality in countries with a relatively high growth rate and in countries with a low growth rate. In the second part of the chapter, we investigated the growth-inequality relationship in more detail. We focused on the effect of growth on inequality of labour income among full-time workers, in order to abstract from the effects of government redistribution. We decomposed the change in inequality, looking at the effects of changes in within–group inequality, changes in population structure and changes in group mean incomes. Inequality changes were most often related to changes in within–group inequality, but in some cases changing population structure and changing group mean incomes proved important as well. We were able to demonstrate the direct inequality-decreasing effect of employment growth. In countries where economic

growth brings about an increase in the employment rate (or a decrease in unemployment), inequality of earnings among those of working age tends to decline. Increasing employment tends also to reduce the proportion of those living in jobless households, thus contributing to a more equitable distribution of employment and labour income between households.

Appendix

Table A6.1: Decomposition of change in labour income inequality (MLD) according to gender

Country	Change in MLD index	The role of different components in explaining inequality change (%)			
		Term *A*	Term *B1*	Term *B2*	Term *C*
AT	0.040	108	0	0	–8
DE	0.034	114	0	0	–14
DK	0.024	92	1	0	7
ES	–0.081	103	0	0	–3
FI	–0.081	100	0	0	0
GR	–0.065	95	1	0	4
IE	–0.004	(–86)	(11)	(–2)	(178)
IT	0.011	129	1	0	–30
LU	0.016	145	1	–1	–45
PT	–0.008	(87)	(1)	(0)	(12)
UK	0.024	110	–2	1	–9

Note: Based on the ECHP 1998 and the EU-SILC 2005. First column shows the absolute change in the MLD index. Second to fifth columns show the results of the decomposition. Component *A* is inequality change due to change in within-group inequalities. Component *B1* denotes inequality change caused by the changing population share of sectors with different levels of within-group inequality. Component *B2* is the change in inequality due to changing population share of sectors with different mean incomes. Component *C* denotes inequality change due to changes in group mean incomes.

Table A6.2: Decomposition of change in labour income inequality (MLD) according to age groups

Country	Change in MLD index	The role of different components in explaining inequality change (%)			
		Term *A*	Term *B1*	Term *B2*	Term *C*
DE	0.034	2	5	40	53
DK	0.024	84	5	6	6
ES	–0.081	85	–2	1	16
FI	–0.081	105	–3	–1	0
GR	–0.065	95	–3	4	5
IE	–0.004	303	–98	15	–121
IT	0.011	59	17	–1	25
LU	0.016	22	43	4	30
PT	–0.008	224	–161	108	–71
UK	0.024	109	15	–12	–12

Note: See note for Table A6.1.

Table A6.3: Decomposition of change in labour income inequality (MLD) according to education

Country	Change in MLD index	The role of different components in explaining inequality change			
		Term *A*	Term *B1*	Term *B2*	Term *C*
AT	0.041	75	9	17	–1
DE	0.034	68	–16	–21	69
DK	0.022	72	6	7	15
ES	–0.081	68	–4	2	34
FI	–0.081	104	2	0	–7
GR	–0.065	84	2	1	14
IE	–0.004	204	–74	–117	87
IT	0.011	47	28	20	5
LU	0.016	68	0	0	32
PT	–0.008	50	–52	–77	179
UK	0.024	75	24	–27	27

Note: See note for Table A6.1.

Table A6.4: Proportion of people aged 15–64 living in workless households in 2002 and 2006

Country	2002	2006
AT	14.5	12.4
BE	19.4	18.4
CY	8.0	7.8
CZ	11.6	12.1
DE	16.5	14.9
EE	13.9	9.5
ES	9.3	8.2
FI	16.2	14.0
FR	15.8	16.6
GR	13.4	13.0
HU	18.3	16.7
IT	12.8	13.1
LT	12.0	9.9
LU	11.2	11.3
LV	14.3	9.5
MT	10.6	10.6
NL	11.6	12.9
PL	17.8	16.4
PT	6.6	7.9
RO	14.1	12.8
SI	12.5	11.3
SK	13.7	13.1
UK	14.4	13.7

Source: Labour Force Survey
Note: Workless household: a household in which all persons aged 15 and over are either unemployed or inactive. Years are 2003–06 in case of France, Malta, Poland, Slovakia, Finland and 2004–06 for Austria and Italy.

Chapter 7 | The Effect of Taxes and Benefits on Income Distribution

Alari Paulus, Francesco Figari and Holly Sutherland[1]

One of the main ways in which governments can influence income distribution is through the system of cash benefits and personal taxes. Taxes tend to be progressive, in the sense that people with higher incomes pay a higher proportion of their income in tax. Benefits may be targeted at the poor or, even if flat rate, they will narrow the proportional difference between the incomes of the rich and the poor. When benefits are paid to people in particular circumstances, these tend to be correlated with low income or greater needs (such as childhood, disability, etc.) or are benefits that are specifically intended to replace income from work (unemployment benefit, pension).

This chapter focuses on the effects of taxes and benefits on income distribution. First, we present some summary measures of the effects of taxes and benefits on income inequality and the composition of disposable incomes, focusing on the redistributive impact of taxes and benefits. The scale of this redistribution varies significantly across countries, depending not only on the extent of social security arrangements and the total personal tax burden, but also on how benefits are targeted and the progressivity of the tax and contribution systems, as well as the distribution of original incomes. Second, we show the absolute differences across countries and by income level in the composition of household income and the relative roles of taxes and benefits of different types. Third, we focus on the two most vulnerable age groups and analyse the income sources available to elderly people, on the one hand, and the support provided through the tax-benefit system to children, on the other. Finally, we consider the effect of taxes and benefits on the risk of poverty for the overall population and the two subgroups previously considered.

The estimates are derived using EUROMOD, a multi-country tax-benefit micro-simulation model, currently covering 19 EU countries — the 15 pre-2004 Member States and Estonia, Hungary, Poland and Slovenia (see Box 7.3, Appendix and Sutherland (2007) for further information). The estimates are based on the latest available policy year for each country, ranging from 2001 to 2005.

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[1] This chapter draws partly on Paulus *et al.* (2008).

The effect of taxes and benefits on income inequality

Across European countries, the distribution of original income varies as much as the contribution of tax-benefit systems in reducing inequality levels. Figure 7.1 shows the Gini coefficient for the original income (empty square), original income with public pensions (empty circle), gross income (green diamond) and disposable income (green circle) — see Box 7.1 for income definitions, equivalised using the modified OECD scale. The difference between original income inequality and disposable income inequality represents the total redistributive effect of benefits and taxes; alternatively, if one is to exclude public pensions, the total redistributive effect would be limited to the difference between inequality in original incomes plus public pensions, and inequality in disposable incomes.

**Box 7.1: Income definitions**

Throughout the analysis, **original income** refers to income before taxes are deducted or cash benefits added. It includes earnings from employment, income from self-employment, income from capital, private pension income and transfers from other households (such as alimony and child maintenance). **Gross income** is original income plus cash benefits. **Disposable income** is gross income less taxes. **Taxes** include income taxes and employee and self-employed social contributions, together with other direct taxes customarily included in the concept of disposable household income, such as Council Tax in the UK and Church taxes in Finland. Locally administered income taxes are included along with national taxes, while indirect taxes are not included. **Benefits** include all the main cash benefits and public pensions received by households. In some cases, we divide benefits further into public pensions, means-tested benefits and non-means-tested benefits.

Public pension income is defined as restricted to those aged 65 or over (67+ for Denmark, since that was the Danish pension age in 2001) and to benefits specifically intended to provide income during old age or to replace earnings during retirement. Any other pensions paid to younger people or other benefits paid to the elderly are included in one or other of the cash benefit categories, rather than as pension income. We do not consider means-tested old age schemes to be pensions, unless they are an integral part of the pension system. If low pensions are topped up to reach a certain minimum, we count these supplements as pension income. This distinction can be somewhat arbitrary in practice. Other means-tested schemes for the elderly are included as other benefits. Essentially, we try to distinguish state-enforced savings for retirement from public pensions, as one could argue that these should be excluded from redistribution analysis and be considered along with private pensions, which are included in the market income concept.

Entitlement to **means-tested benefits** depends on the amount of other current income and/or capital. These are benefits targeted specifically at those with larger needs or lower resources and, therefore, explicitly involve redistribution. They are distinguished separately, so that we can see whether they in fact achieve more in terms of redistribution than **non-means-tested benefits** — which are usually based on contingencies such as disability, intended for horizontal redistribution (e.g. to children) or as earnings replacement (sickness, maternity/paternity or unemployment).

Inequality in original incomes across these 19 EU countries, measured by the Gini coefficient, ranges from 0.39 to 0.55. The country with the lowest original income inequality is the Netherlands (0.39), followed by Sweden and Austria (both 0.44). At the other extreme, Hungary and Poland have the largest inequality in original income (both 0.55).

Figure 7.1: Income inequality (Gini coefficient) before and after taxes and benefits
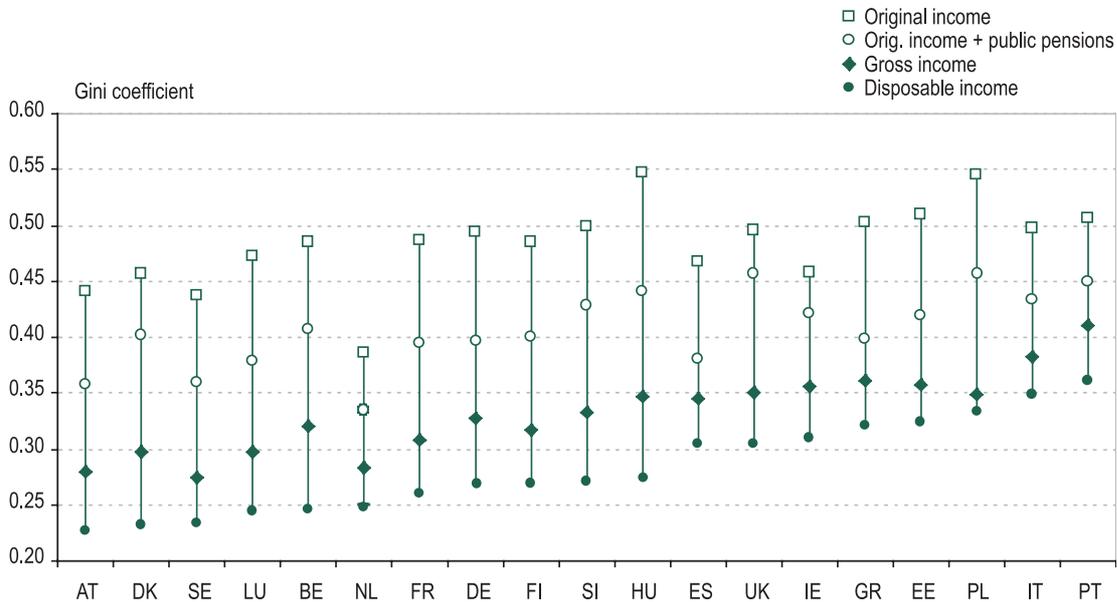

Source: EUROMOD

Note: Countries are ranked by the Gini coefficient for (equivalised) disposable income, and estimates apply to various years 2001–05.

In order to reduce inequality of original income, taxes and benefits play complementary roles. Their combined redistributive effect is not strictly correlated with inequality in original income due to the re-ranking of countries when we consider the distribution of disposable income. The total redistributive contribution of taxes and benefits in absolute terms is larger in Hungary (with an absolute change in the Gini equal to 0.27) and Belgium (0.24), and smaller in the Netherlands (0.14) and Portugal, Italy and Ireland (0.15 in each). Considering disposable income, inequality is then lower in the Nordic and the Continental countries (led by Austria, Denmark and Sweden with a Gini of 0.23 in each). Inequality is high, on the other hand, in the Southern European (Greece, Italy, Portugal and Spain) and the Anglo-Saxon countries (the UK and Ireland), with Portugal (0.36) and Italy (0.35) having the most unequal distribution of disposable income. The four Eastern European countries that we consider do not form a distinct group of their own in terms of disposable income inequality. Poland (0.33) and Estonia (0.32) are closer to the high-inequality groups of countries, while Hungary and Slovenia (0.27 in each), in the middle of the ranking in Figure 7.1, are more like the Continental countries in this respect.[2]

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[2] It should be emphasised that the estimates for (equivalised) disposable income presented here relate to the period 2001-05 and are derived using EUROMOD (version D24), which considers simulated rather than recorded income under the assumption of full benefit take-up (see Box 7.2) and absence of tax evasion. Overall, the results are similar to those presented elsewhere in this book (cf. Chapter 1); however, due to different data sources and income reference periods, there are notable differences for

Benefits are more effective in Poland and Hungary (with Ginis falling by 0.20), while they have a weaker effect in Portugal, Ireland and the Netherlands (with corresponding Ginis falling by 0.10). Although benefits and taxes always have an equalising effect on incomes, the extent to which they contribute to reducing inequality differs significantly across countries. The absolute contribution of benefits (including public pensions) is substantially higher than that of taxes in all countries (see Figure 7.2). Public pensions and other benefits each individually have effects that are comparable in size to those of taxes, and in some cases larger.

Figure 7.2: Original income inequality reduction due to taxes and benefits
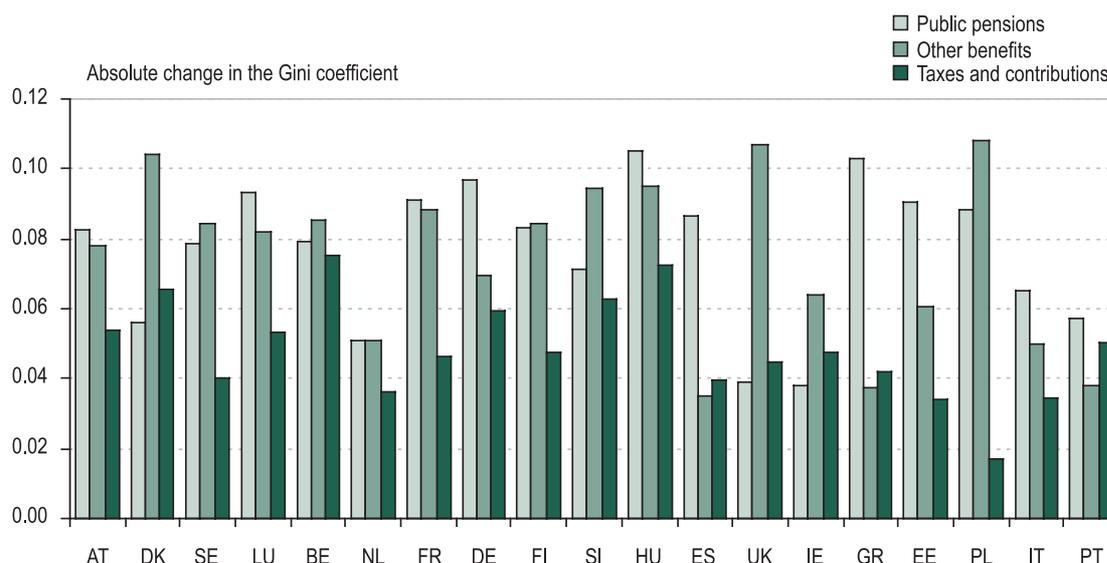
Source: EUROMOD

Note: Countries are ranked by the Gini coefficient for (equivalised) disposable income, and estimates apply to various years 2001–05.

Box 7.2: Take-up of benefits

EUROMOD calculations assume 100% take-up of benefits — i.e. that all eligible individuals or families claim the benefits they are entitled to. However, depending on a particular benefit, this can be a rather strong assumption. More often, this tends to be a problem with means-tested benefits (e.g. social assistance) and less of a concern with universal and contributory benefits (e.g. public pensions). There are a number of potential reasons for this: claiming can be costly or have a negative associated image (the so-called 'stigma' effect), or there could be lack of information about entitlements, etc.

In the SSO 2008 research note by Matsaganis *et al.*, the effects on targeting efficiency and poverty measures of incomplete take-up of means-tested

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some countries (e.g. Hungary, Italy, Slovenia). Differences in the results might also be affected, though to a lesser extent, by some methodological differences concerning, for example, whether or not households with non-positive incomes are included in the calculations and whether any bottom-/top-coding has been applied to incomes. EUROMOD estimates include all households in the sample without any coding of their incomes. The concern here is not so much with the estimates of income inequality in different countries *per se*, but with the effect of benefits and taxes on these.

social assistance were studied in five countries (France, Poland, Portugal, Sweden and the UK). Target efficiency was considered according to three measures: vertical expenditure efficiency, measuring the share of benefit received by individuals below the poverty line before the transfer; poverty reduction efficiency, which is the fraction of total expenditure allowing poor individuals to approach or reach but not cross the poverty line; and poverty gap efficiency, measuring the extent to which the transfers succeed in filling the aggregate poverty gap. It was shown that the results for the first two measures differed little between complete and incomplete take-up of the benefits. However, poverty gap efficiency was reduced by 10-50%. The effect on poverty also depended on the measure — head-count ratio (FGT0) and poverty gap (FGT1) did not change much, while the weighted poverty gap (FGT2) increased by 30-75%.

The composition of incomes

The redistributive effect of a tax-benefit system depends on the resources involved, the size and the structure of the various components, and the underlying characteristics of the population in terms of income distribution. Figure 7.3 presents the composition of (unequivalised) disposable incomes at the household level in terms of the average size of each income component as a percentage of average household disposable income. As such, it shows how much market income is necessary, on average, to achieve a given level of disposable income; how much is added as (cash) benefits and deducted as (direct) taxes.

Figure 7.3: Household income composition, whole population
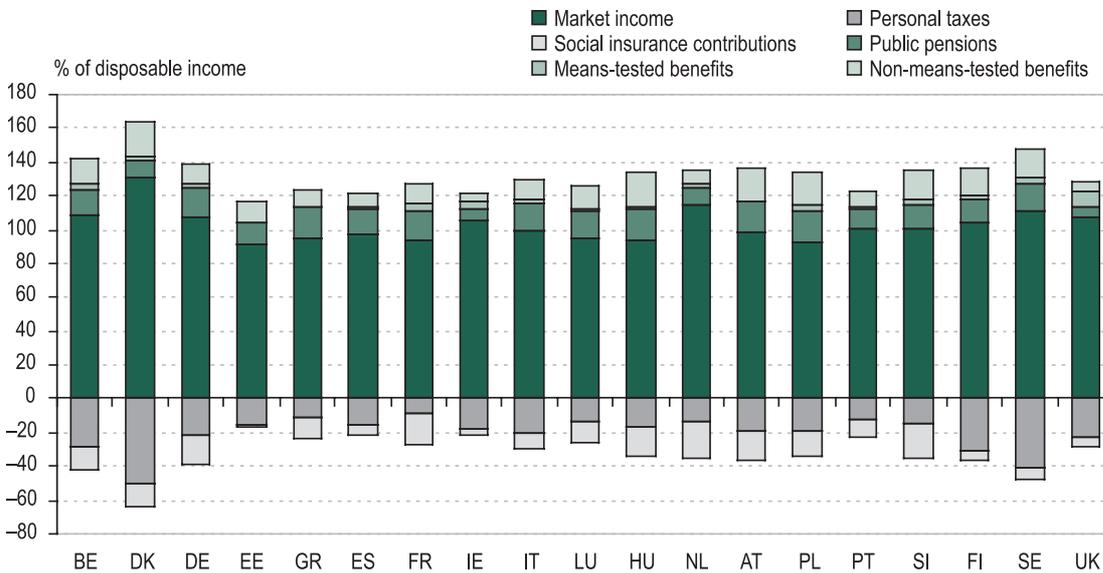
Source: EUROMOD
Note: Estimates apply to various years 2001–05.

Overall, market income equal to 100% of disposable income means that direct taxes and cash benefits balance each other. Among the 19 EU countries, average household market income ranges from 91% of disposable income (in Estonia) to

131% (in Denmark). In other words, (net) cash support (i.e. benefits less taxes) contributes 9% of household disposable income on average in Estonia, while taxes and contributions exceed benefits on average in Denmark by an amount equal to 31% of average household disposable income.

On the deduction side, income taxes dominate social insurance contributions, except in Greece, France, the Netherlands and Slovenia. Denmark and Sweden tax incomes the most, while Estonia, Ireland and the Southern European countries tax the least. In terms of benefits, the bulk of spending is made up of public pensions and non-means-tested benefits, except in the UK and Ireland, where means-tested benefits are equally important. Public pensions are noticeably low in Ireland, the UK, Denmark and the Netherlands: most pensions are provided through the private sector (except in Denmark). Ireland, the UK, the Netherlands and the Southern European countries have the smallest shares of income from non-means-tested benefits, while Hungary, Denmark, Poland and Austria have the largest shares.

The composition of incomes differs for the rich and the poor across countries because taxes may be more progressive and benefits more targeted on those with fewer financial resources. Some indication is provided by Figure 7.4 and Figure 7.5, which show the same information as Figure 7.3, but for the households in the bottom and the top decile groups of the equivalised disposable income distributions, respectively.

As expected, all types of benefits (and especially means-tested benefits) are much more important for low-income households (Figure 7.4). Net cash support (benefits less taxes) varies from 87% in Ireland and 81% in the UK to 29% of disposable income in Italy and Hungary, and only 20% in Poland.[3] Social benefits and pensions represent a share of disposable income varying from 46% in Italy to between 50% and 75% in the majority of countries, over 75% in the Nordic countries and Belgium, and as much as 92% in the UK and 94% in Denmark. Although most income taxes are progressive, people with low income still pay some taxes, particularly in Poland, Denmark and Hungary, where taxes and social insurance contributions together make up as much as 46%, 34% and 33%, respectively, of the disposable income of the poorest decile group.

At the top of income distribution, the relative impact of taxes and benefits on disposable income is reversed (see Figure 7.5). In all countries, the taxes and contributions paid in the top decile group are much greater than the benefits received. The share of social benefits is still relevant in a few countries — 35% in Austria and less than 25% in others — while it accounts for only 2% of disposable income in the UK and Ireland, where social transfers are more targeted on those with low levels of financial resources. Households in the high-income group pay most taxes in Denmark and least in Estonia, along with the Southern and the Anglo-Saxon countries.

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[3] The results for Poland are partly due to the agricultural tax that is based on imputed earnings from farm land. In our calculations, we do not consider these imputed earnings as part of disposable income, though the tax is taken into account. Therefore, there are a number of households with a significant tax liability compared to disposable income that end up in the bottom of income distribution. In the case of Hungary, the results are influenced by relatively high average social insurance contributions for the self-employed, and further accentuated by a fixed-amount component, making the incidence of contributions rather regressive.

Figure 7.4: Household income composition, bottom decile group
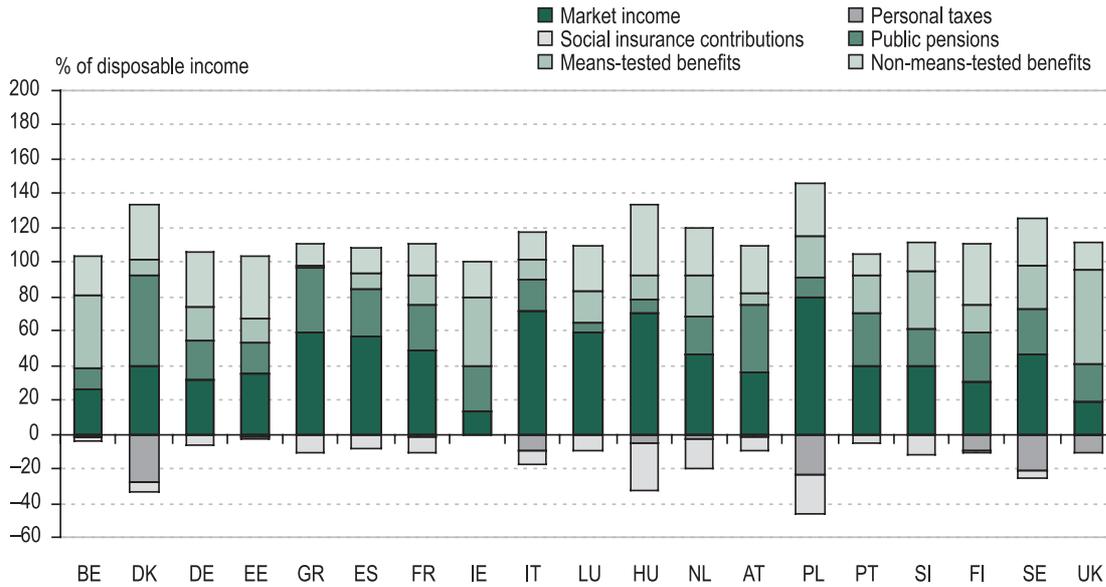
Source: EUROMOD

Note: Decile groups are based on equivalised household disposable income, each including 10% of the population. Estimates apply to various years 2001–05.

Figure 7.5: Household income composition, top decile group
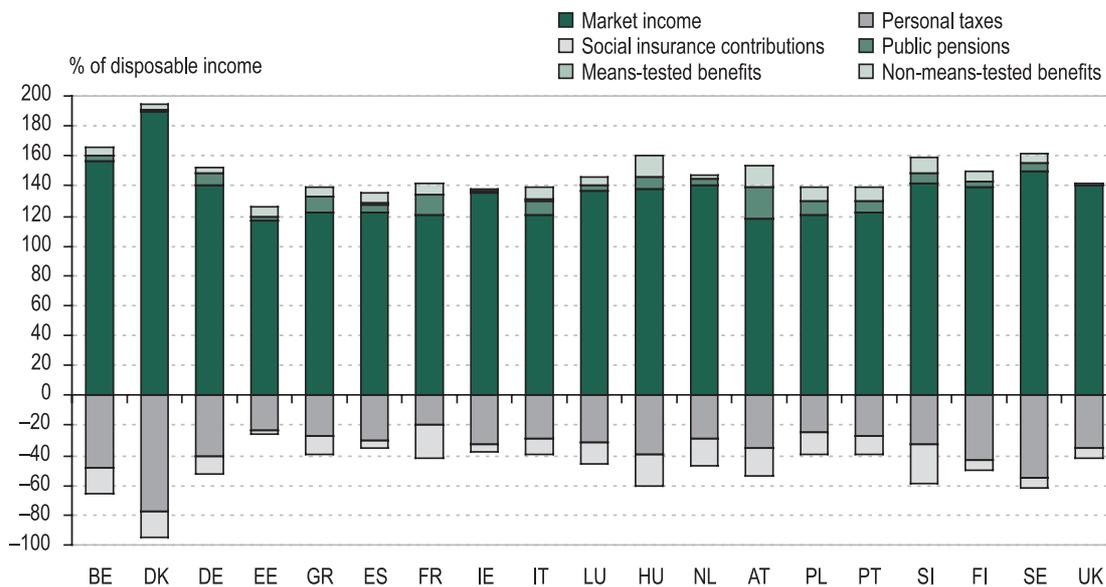
Source: EUROMOD

Note: See note for Figure 7.4.

While previous figures focused solely on structural differences in the income composition, Figure 7.6 also shows absolute differences across the income distribution in each income source per person (normalised to the overall average per capita disposable income).[4] The results are presented by quintile groups, which have been constructed on the basis of equivalised household disposable income. Income sources are grouped following the same classification adopted above (see Box 7.1 — but separating private pensions from other market income sources), giving an indication of the relative importance of different market income components and policy measures in different countries.

We can consider all sources of income net of taxes and social contributions — disposable income — by subtracting the negative parts of the bars from the positive. Denmark and Sweden show the smallest difference in disposable incomes between the top and the bottom quintile. By contrast, in the Southern European countries and Poland, the relative income differences between top and bottom quintile groups are more evident.

As expected, original income is distributed more towards the upper end of the income scale, with larger disparities among quintile groups in Denmark, the UK, Portugal, Ireland and Belgium. Among those countries, Denmark and Belgium, together with Germany, Slovenia, Sweden and Hungary show also the largest differences in the tax burden (the negative parts of the bars as a proportion of the positive) across quintile groups, helping to reduce the differences in disposable income between the top and the bottom of the distribution. By contrast, Austria, France, the Netherlands and Hungary are the countries where the relative differences in terms of original income between the first and last quintile groups are least pronounced.

The relative importance of public pensions and other social benefits depends on the distribution of the individuals entitled to receive them and their amount relative to disposable income — factors that vary from country to country. They account for the bulk of the income of individuals in the bottom quintile of the income distribution in the UK (mainly due to means-tested benefits), Denmark, Estonia (due to the contribution of public pension and non-means-tested benefits) and Ireland (due to public pension and means-tested benefits). By contrast, in Hungary, Poland, Greece and Italy, original income contributes significantly to the total income of individuals even in the bottom quintile.

A focus on pension incomes

Figure 7.7 shows the different sources of income in relation to the average per capita disposable income by income quintile in each country for those aged 65 and over. In most of the countries these are at or over the age of retirement, with the main exception of Denmark, where the retirement age in 2001 was 67 years. It also indicates the proportion of the population in this age group in each income quintile (black line).

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[4] Incomes here are considered at the individual level. However, where the unit of assessment for a social benefit is not the individual, the benefit is assumed to be split equally between all the adult members of that unit. Also, in countries where tax liability of couples is considered jointly, taxes are allocated to partners in a couple proportionally to their share of the tax base.

A large proportion of the population aged 65 and over falls 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 32–39% in Ireland, Finland, Sweden, Belgium and Portugal. As income increases, so 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 the elderly are found in the quintile second from bottom, while a relatively pronounced 'inverted U' pattern is observed in Italy, Luxembourg, Hungary and Poland.

Market incomes contribute significantly to the total incomes of older people 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 group, where the population share of the elderly is typically small (in some cases, very small, and therefore gives rise 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 of almost three times the average, 62% of which is made up of earnings from market sources rather than 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 misrecorded in some cases as capital income in the input data). The main exceptions are Sweden, the UK and, most notably, the Netherlands, where 16% of the elderly are in the top quintile group (with disposable incomes twice the average) and receive 84% of their income from private pensions.

Social benefits other than pensions (mainly housing benefits and/or social assistance) make up a small part of the income of the elderly in Austria, Belgium, Slovenia and, most of all, the UK (means-tested benefits) and Denmark (non-means-tested benefits).

Public pensions 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 quintile groups. On the other hand, in countries featuring strong 'Bismarckian' 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 Eastern European countries included in the analysis falls somewhere in between.

Figure 7.7 also shows the relative importance of taxes (mainly income taxes) and social contributions paid by those over 65 years of age. 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 quintile groups. Due to basic tax allowance and special tax relief for pensioners, the majority of them effectively pay no income tax in Estonia, Slovenia and Finland (if they receive only the state pension). Moreover, public pensions are tax exempt in Hungary, and minimum pension schemes are tax exempt in Belgium, France, Hungary, Italy, Poland and Spain.

Figure 7.6: Income sources per person by quintile group
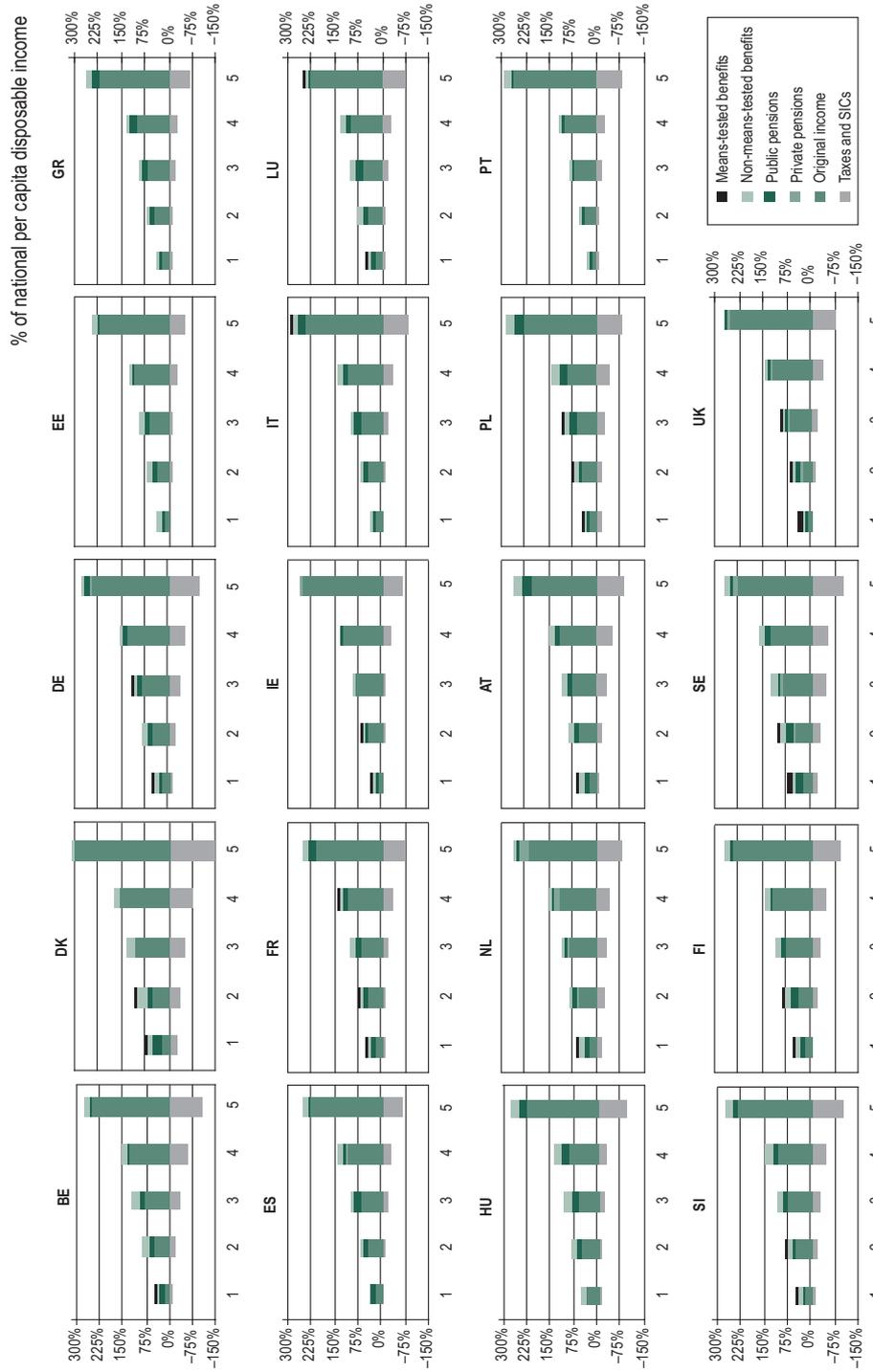
% of national per capita disposable income

Source: EUROMOD

Notes: See Box 7.1 for definition of income concepts. Bars show income sources as a proportion of overall average per capita disposable income, by quintile group. Quintiles have been constructed on the basis of equivalised household disposable income of the entire population. Estimates apply to various years 2001–05.

SIC: Social insurance contribution

Figure 7.7: Income sources per elderly person (65+) by quintile group
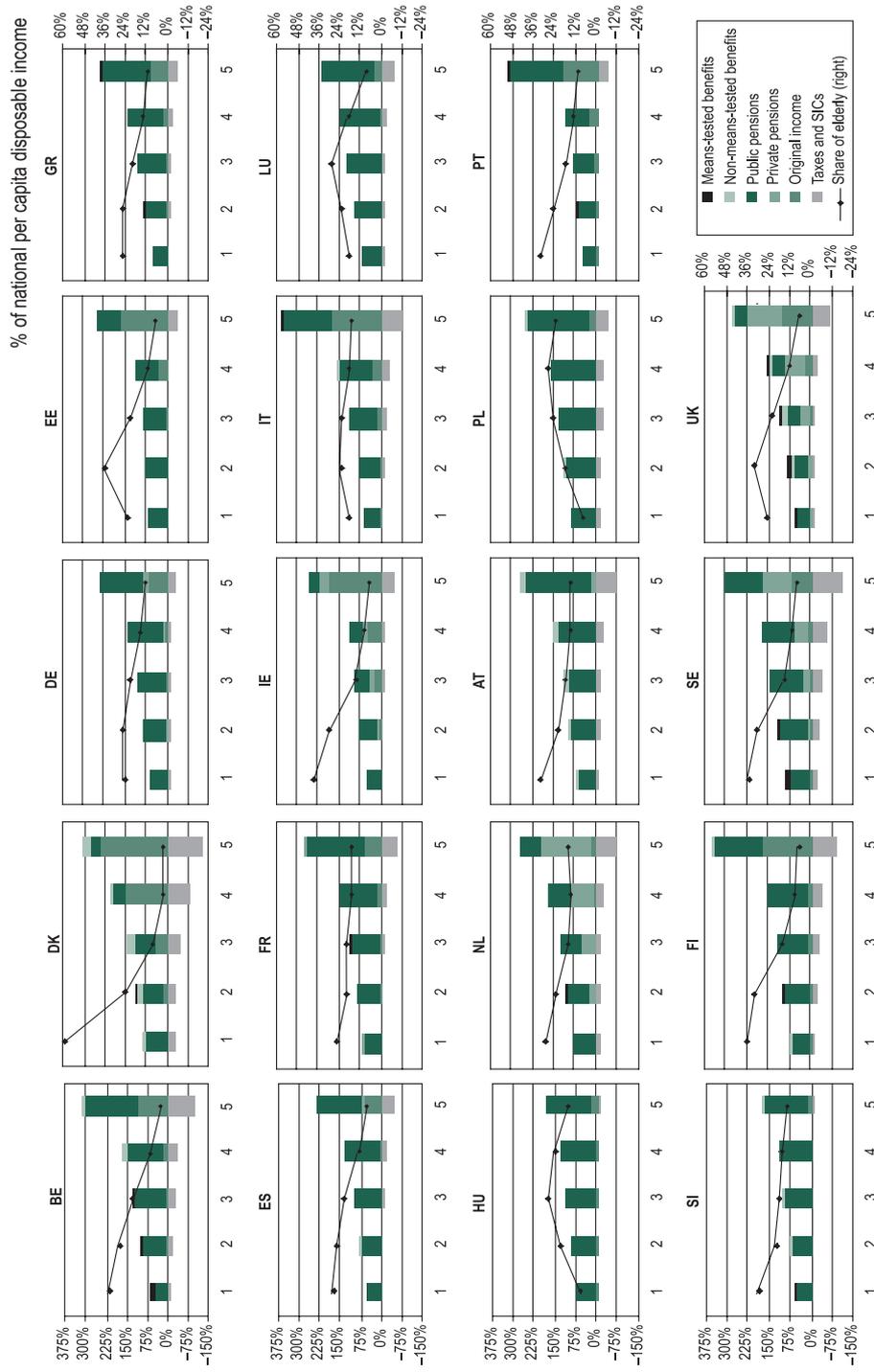
% of national per capita disposable income

Legend:
- Means-tested benefits
- Non-means-tested benefits
- Public pensions
- Private pensions
- Original income
- Taxes and SICs
- Share of elderly (right)

Source: EUROMOD

Notes: See Box 7.1 for definition of income concepts. Bars show income sources of elderly persons (65+) as a proportion of overall average per capita disposable income, by quintile group. Quintiles have been constructed on the basis of equivalised household disposable income of the entire population. Share of elderly (65+) by quintile group is shown on the right-hand axis. Estimates apply to various years 2001–05.

SIC: Social insurance contribution

A focus on cash support for children

We now consider the size and distribution of cash support for families with children (aged under 18). We estimate the overall (net) support, differentiating between the instruments that are explicitly targeted at children and those that are not. For that purpose, we define 'child-contingent income' as the parts of the tax and benefit system that are due by virtue of the presence of children. This is a broader concept than simply counting benefits labelled as family, child or parental benefits, since some other benefits contain elements for children, and there may be child-related tax concessions. We term the remainder of benefits 'other benefits'. Furthermore, in both cases we split the net effect into the gross payment and taxes paid on these benefits. Note that child-contingent taxes, i.e. taxes paid on child-contingent benefits, are also net of child-related tax concessions.[5] See also Box 7.3 for further discussion on interactions between taxes and benefits.

The size of total net payments per child at each point in the income distribution is shown by the lines plotted in Figure 7.8. As in Figure 7.6 and Figure 7.7, the payments have been normalised by the national per capita household disposable income, so that the charts can be compared across countries,[6] and the decile groups are constructed on the basis of national equivalised household disposable income. As one can see, children are not uniformly distributed by household income, so this chart does not indicate the distribution of resources for children across the income distribution. Instead, it shows the relative amounts received for each child, depending on where their household is placed in the income distribution. In most countries, the basic shape of the curves indicates that children in lower-income households receive higher support than do children in higher-income households. This is strongly the case in Denmark and the UK (except the bottom decile). It is also clearly (but less strongly) so in Belgium, Finland, Ireland and Sweden. In Germany and the Netherlands, the payment is particularly large at low incomes and then fairly uniform. It is also fairly uniform, although at a rather different level, in Estonia, Luxembourg, Austria, Portugal and Slovenia. It favours children in the middle-income households in Poland and better-off households in Greece, Spain and Hungary, partly due to the presence of child-contingent tax concessions. It has a rather irregular shape in France and Italy.

There is no particular relationship between the scale of benefits that are contingent on the presence of children and that of benefits that are non-child contingent. They neither complement nor substitute each other in any systematic way. This is also evident in the way the size of both sorts of payment varies by household income level.

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[5] We assume that such child-contingent benefits are the 'top slice' of the relevant tax base (i.e. subject to marginal taxes). Thus any taxes on child-contingent benefits are computed as the difference between tax paid on all taxable income and tax paid on income without gross child-contingent benefits. Tax on other benefits is computed as the difference between the tax paid on all taxable income less the tax paid on original income, minus the tax on child-contingent benefits. We also assume that all sources of income, including child-contingent payments, are shared equally among household members. See Sutherland and Levy (2005), Sutherland *et al.* (2006) and Figari *et al.* (2007) for results based on an alternative sharing assumption, namely that child-contingent payments are entirely incident on children.

[6] See Sutherland *et al.* (2007) for an example using PPP-adjusted euros as the basis for normalisation. The relative ranking of countries was not affected much.

**Box 7.3: Interactions between taxes and benefits**

There are often interactions between taxes and benefits, as some benefits might be taxed or their entitlements depend on after-tax income. For some analysis, these interactions can be crucial for the results, and taxes and benefits, as collected in the survey data, will be of very limited use even if they provide otherwise reliable and detailed estimates. Instead, the relevant tax liabilities and benefit entitlements need to be simulated in full detail, based on their statutory rules, to capture their dynamic effects. This is where tax–benefit microsimulation models are the appropriate and valuable tools to be used.

A prime example is when taxes paid on particular income (e.g. employment income or parental benefit) need to be identified in order to derive the net value of the income. For example, in the last section of this chapter we present the effects of both gross and net benefits on the risk of poverty. Although the difference in this case is not large, it does vary across countries and population subgroups. Therefore, for the analysis to be based on comparable measures, benefits should be considered net of the taxes levied on them, and some effort is needed to identify these taxes.

Another more complex situation involves identifying taxes and benefits that are conditional on certain individual characteristics. In this section, we analyse child–contingent payments; in order to identify properly all payments conditional on the presence of a child, it is not enough merely to distinguish benefits on the basis of whether or not they are explicitly targeted at children (e.g. family benefits). This is because other benefits may also contain a child-related component. Furthermore, there might be child-related tax concessions, which must be considered along with any potential tax liability levied on those benefits.

For example, in Belgium the size of child–contingent benefits seems quite uniform across household income decile groups, and it is the relative size of non–child–contingent payments (here including public pension payments) that gives the combination its pro-poor character. At the same time, tax concessions for children seem to favour middle-income households. Something similar can be seen to apply in Finland, although the effect of taxes is rather uniform, and also the Netherlands, although the taxes (which are, in fact, contributions paid on benefits) have a larger effect at low household incomes. In the UK, both child–contingent benefits and other benefits have a higher cash value for children with low household incomes, and the same applies in Ireland and Germany. In Denmark, non–child–contingent benefits, net of the significant taxes paid on them, are most important for children in the second, third and fourth decile groups, and child–contingent benefits accentuate this distributional effect. However, as is shown in Figure 7.8, there are rather few children in the second decile group in Denmark, suggesting that those that are in this group may belong to households with particular configurations — such as large families — that attract high levels of benefit.

Figure 7.8: Spending per child and the share of children by decile group

% of national per capita disposable income
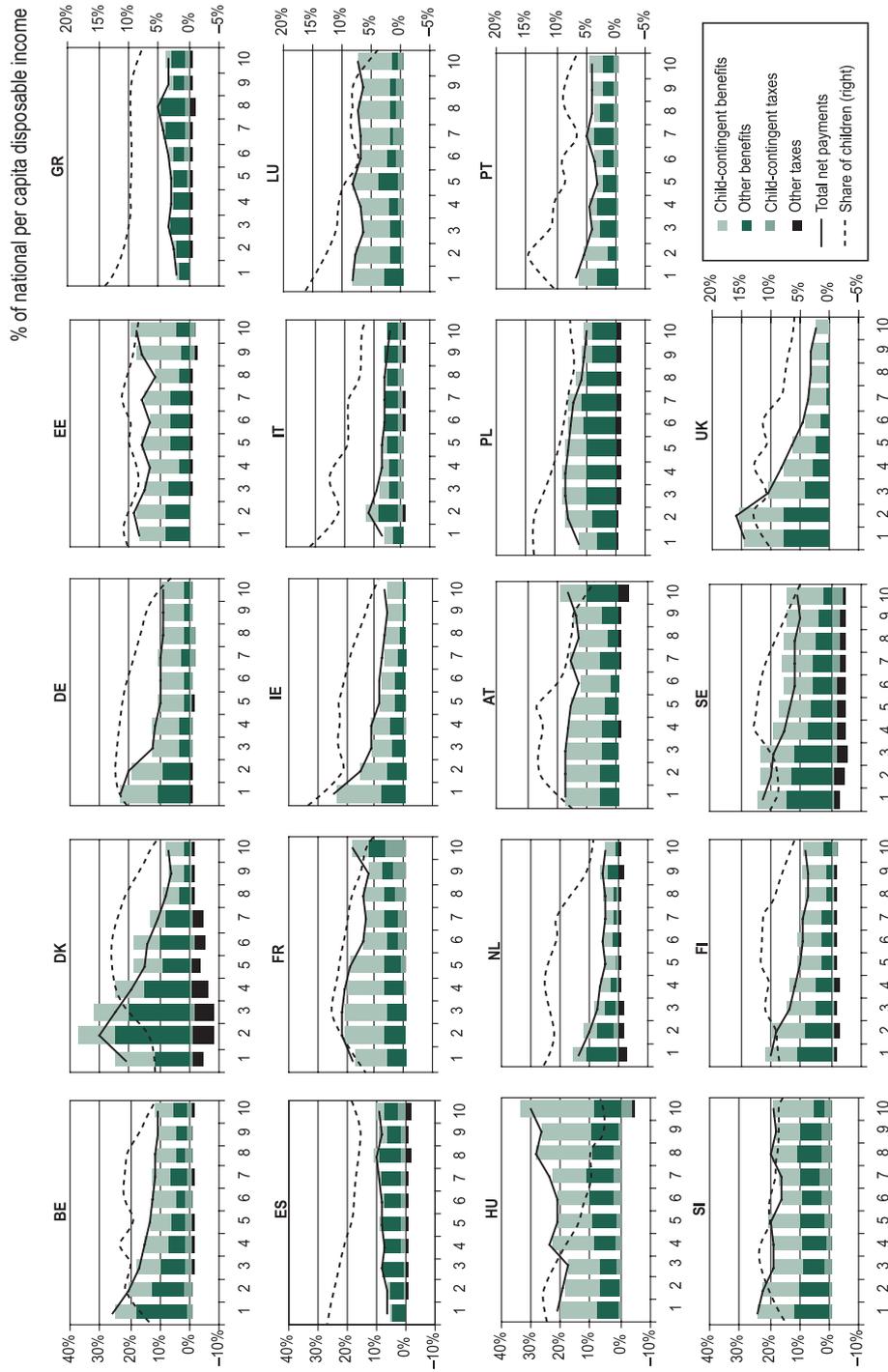
Source: EUROMOD

Notes: Bars show components of spending per child as a proportion of overall average per capita disposable income, by decile group. Deciles have been constructed on the basis of equivalised household disposable income of the entire population. Estimates apply to various years 2001–05.

Sweden looks rather similar to Belgium in terms of gross payments, with the pro-poor character being introduced by non-child-contingent benefits. However, taxes on both types of benefit are relatively high in all decile groups. In France, and partly in Slovenia, child-contingent benefits are worth less per child at high household incomes, but this is balanced by large child-contingent tax conces-sions, which to some extent offset the effect. A similar effect is evident in Luxem-bourg, although here the tax concessions compensate for a falling average value of non-child-contingent benefits as incomes rise. The four Southern European countries have rather undeveloped systems of child-contingent support through benefits. Moreover, these countries have some child tax concessions that benefit children in higher-income households. Estonia, Hungary and Slovenia differ from other countries by also having the highest child-contingent benefits at the top of the distribution, while the amount is rather flat across the rest of the distribution. In Poland, both child-contingent and other benefits are largest for middle-income households.

It is instructive, in order to understand the make-up of child-contingent benefits, to consider their composition according to their source. We use the following cate-gories: family benefits (including, among other things, support for childcare and disabled children), parental benefits, social assistance (including housing benefits) and other benefits, i.e. old age and survivor benefits, health-related benefits, unemployment benefits, etc., which sometimes include child-contingent addi-tions.

Figure 7.9: Child-contingent cash payments per child by benefit and tax categories

Legend:
- ■ Social insurance contributions
- ■ Income taxes
- ■ Family benefits
- ■ Parental benefits
- ■ Social assistance benefits
- ■ Other benefits
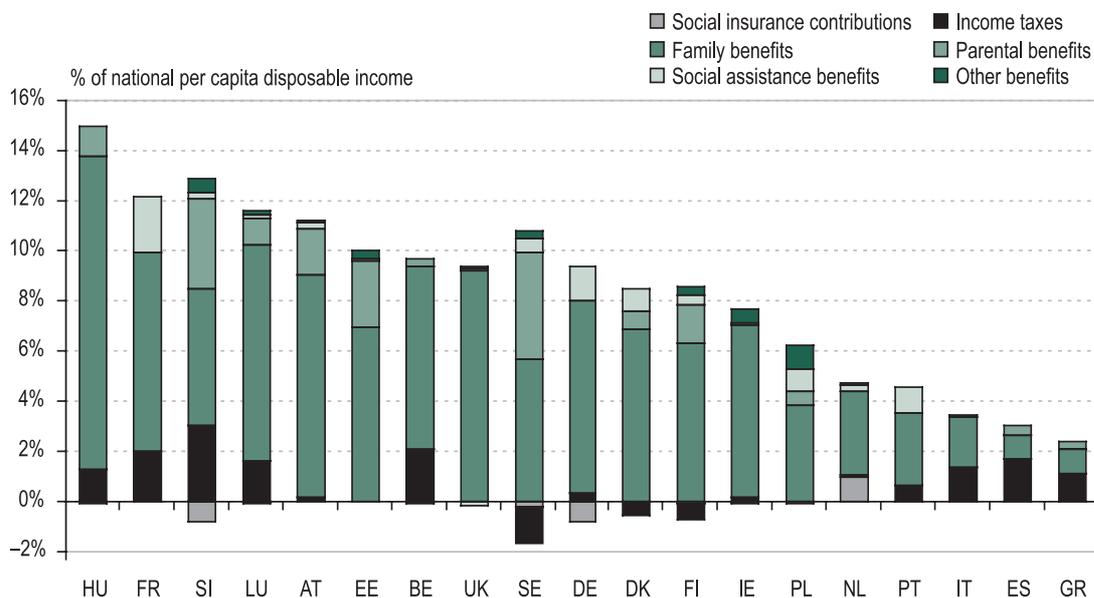
Source: EUROMOD

Note: Countries are ranked by the size of the total net payment per child (as a proportion of national per capita disposable income). Estimates apply to various years 2001–05.

Child-contingent benefits (see Figure 7.9) consist, unsurprisingly, on average mostly of family benefits. Parental benefits are of secondary importance, with the largest share in Sweden, Slovenia and Estonia. Social assistance is the third-

largest group of benefits, contributing more to income in France, Germany, Poland, Portugal and the Nordic countries, while the other types of benefit account for only a marginal share (and here are grouped together as 'other benefits'). Additional support through tax concessions is also at a relatively low level, but nevertheless exceeds support from social assistance on average. In Greece and Spain, it even exceeds the total income from child-contingent benefits, which are very low. The main contribution on the tax side comes in the form of income tax allowances — except in the Netherlands, where most of the effect comes through lower social insurance contributions. Taxes and contributions paid on child-contingent benefits dominate child-contingent tax concessions in the three Nordic countries and Germany. Overall, net child-contingent payments — indicated by the height of the positive parts of the bars less the negative parts — are largest in Hungary (14.9% of per capita disposable income per child), France and Slovenia (12.1% in each) and smallest in Spain (3.1%) and Greece (2.4%).

The effect of taxes and benefits on the risk of poverty

In the following section, we explore the extent to which benefits and taxes reduce the risk of poverty for the population as a whole in each country, as well as for two subgroups — children and elderly people. We distinguish the effect of taxes and benefits by showing how much poverty rates would change if, first, net benefits were excluded from disposable incomes and, second, if gross benefits were excluded, therefore capturing the effect of taxes. In each case, (national) poverty thresholds are held constant at the baseline levels, i.e. 60% of the median equivalised household disposable income.

Figure 7.10 shows the EUROMOD estimates of the risk of poverty among the population as a whole. The risk of poverty, using the standard equivalised household disposable income measures (green triangle), ranges from around 9% in Sweden to 22% in Ireland.[7] The green square markers show how much higher poverty would be if there were no benefits (including public pensions) net of taxes, and the points indicated by empty diamond shapes show the risk-of-poverty rate without gross benefits. It should be emphasised that these figures show the impact of taxes on benefits, not taxes as a whole.[8] For the populations as a whole, all net benefits reduce the poverty risk from 30-50% to 10-20%, depending on the country. Taxes on benefits do have an impact on their poverty-reducing effect in all countries, but the effect is small, exceeding 3 percentage points in only two countries — Sweden (5.7 percentage points) and Denmark (4.3). The poverty-reducing effect of net benefits in aggregate is quite well correlated with the ranking of countries according to the disposable income poverty rate: countries with the lowest poverty rates have benefit systems that achieve most in terms of poverty reduction and vice versa. The highest *proportional* reduction is achieved in Denmark, France, Austria, Sweden and Belgium, all achieving proportional poverty reduction above

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[7] In practice, poverty rates calculated using EUROMOD tend to be either much the same or lower than those from EU-SILC (cf. Chapter 1) and that is to be expected, given that benefit take-up in EUROMOD is assumed to be 100%. The main exceptions are Ireland, the Netherlands and Slovenia, where poverty rates calculated using EUROMOD are higher, but this can be explained by the use of different data sources at different points in time.

[8] It is assumed that benefits represent the top slice of the tax base (i.e. are subject to the marginal tax rate).

that of the 19 countries as a whole, which is 63% (based on the national poverty lines). The smallest proportional reduction is achieved in the Southern European countries and Ireland.

Figure 7.10: Poverty rates for whole population based on equivalised household disposable income in the baseline, without net benefits and without gross benefits
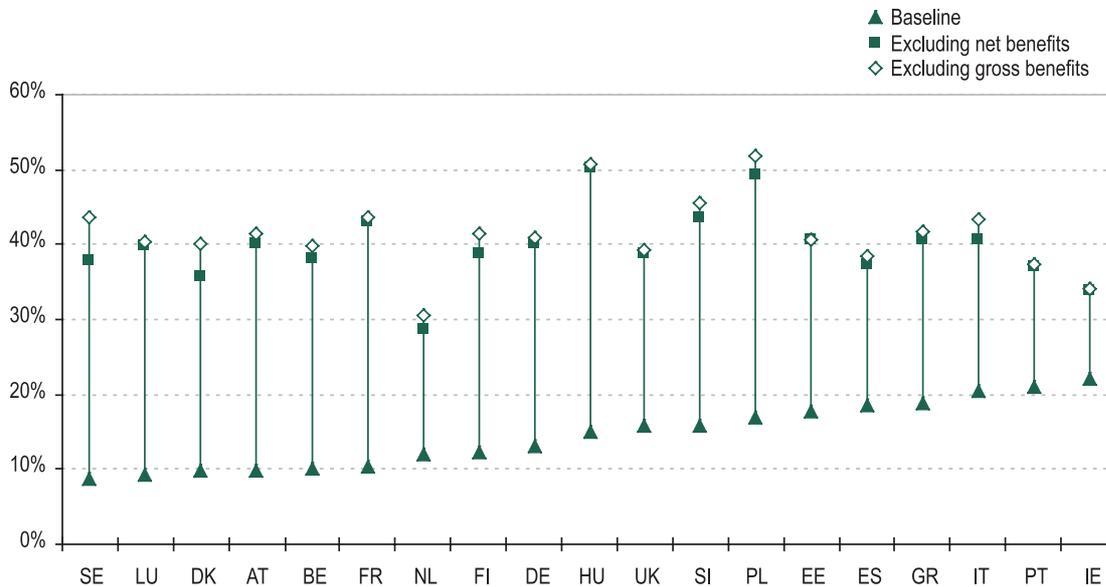

Source: EUROMOD

Notes: Countries are ranked by the baseline poverty rate for the whole population, using national poverty lines defined as 60% of median equivalised disposable income; benefits include public pensions. Estimates apply to various years 2001–05.

Figure 7.11 shows the same for elderly people (aged 65+). The risk is lowest in Luxembourg (3%) and highest in Ireland (43%). Not surprisingly, pensioner poverty would be extremely high in all countries without any net benefits (including public pensions). Pensions are, after all, intended to replace market incomes from work and are therefore the main income source for elderly people. However, the presence of private pensions and other market incomes prevents poverty rates reaching 100% in any country, and these, combined with the (assumed) sharing of incomes with other household members, would leave at least 20% of the elderly above the poverty line, even without benefit and public pension payments in Ireland, Italy, the Netherlands, Portugal and the UK. Again, the difference between the poverty–reducing effect of net benefits and gross benefits is rather small (albeit slightly larger than for the population as a whole) — the largest is in Sweden (6.3 percentage points) and Italy (4.9).

Figure 7.11: Poverty rates for elderly people (65+) based on equivalised household disposable income in the baseline, without net benefits and without gross benefits
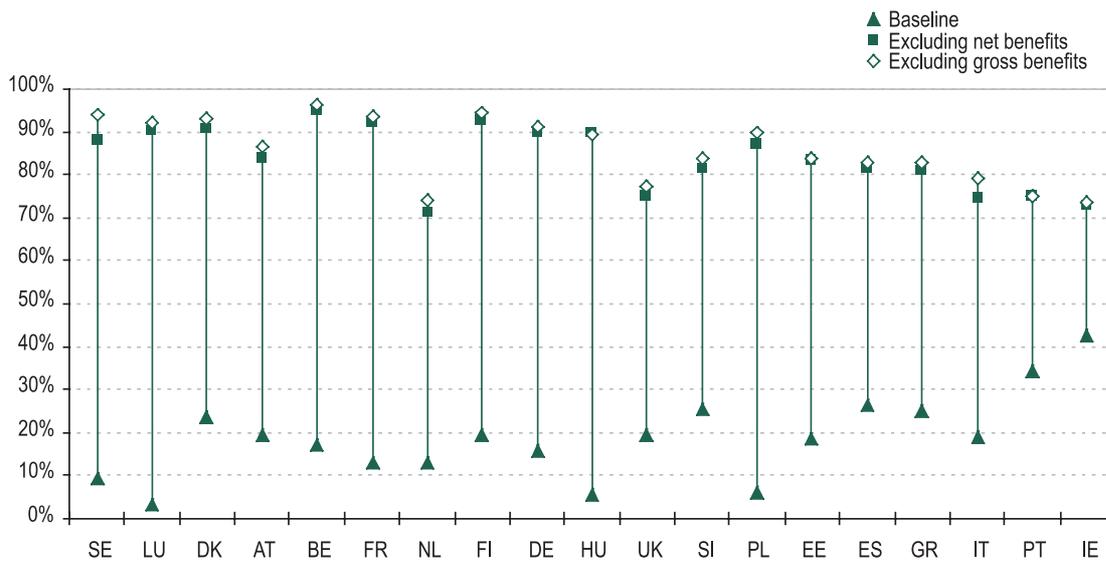
Source: EUROMOD
Notes: See note for Figure 7.10.

Figure 7.12: Poverty rates for children (0–17) based on equivalised household disposable income in the baseline, without net benefits and without gross benefits
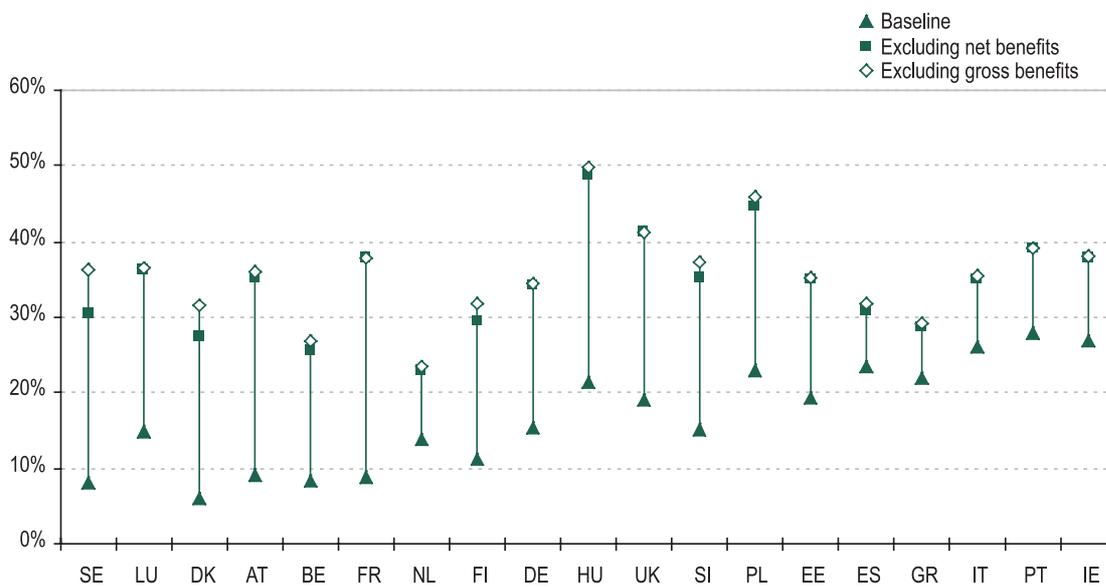

Source: EUROMOD
Notes: See note for Figure 7.10.

Last, we consider child poverty and show, in Figure 7.12, the EUROMOD estimates of the risk of poverty among people aged below 18. Denmark has the lowest rate (6%) and Portugal the highest (28%). Public support plays an important role in child

poverty reduction, even if many children are in households with above-poverty levels of market income. Without net benefits, the child poverty rate would range from 23% in the Netherlands to as high as 51% in Hungary. The *proportional* reduction in the child poverty rate is largest in the same five countries as for the whole population (Denmark, France, Austria, Sweden and Belgium), which also have the lowest baseline child poverty rates. The additional effect due to taxes on benefits is negligible in most countries, except the Nordic countries.

Figure 7.13: Poverty rates for children (0–17) based on equivalised household disposable income in the baseline, without net child-contingent payments and without total net payments
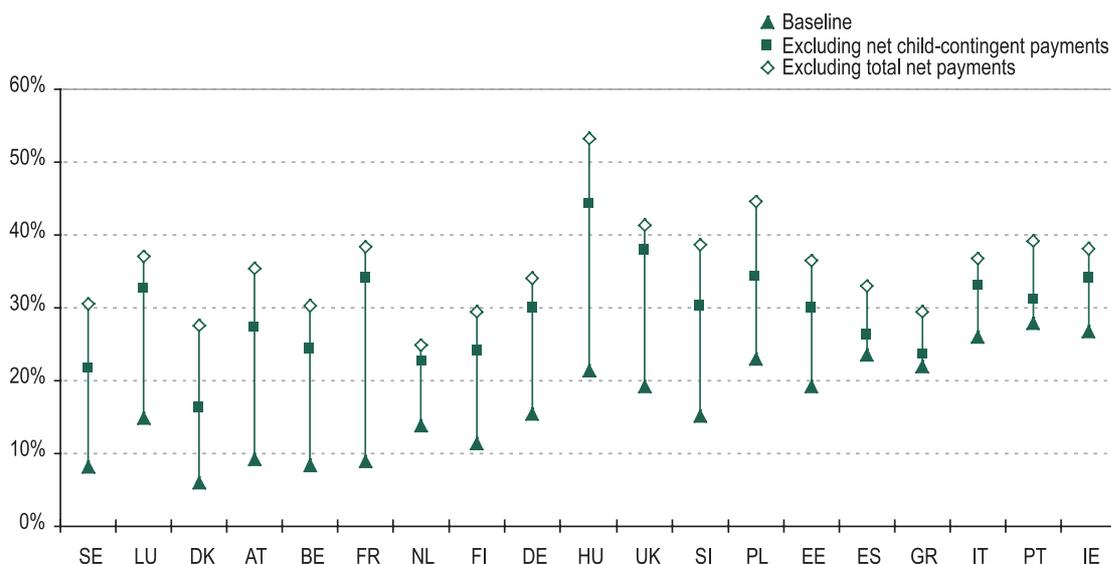
Source: EUROMOD

Note: Countries are ranked by the baseline poverty rate for the whole population, using national poverty lines defined as 60% of median equivalised disposable income. Estimates apply to various years 2001–05.

An alternative perspective on child poverty reduction is provided by Figure 7.13, which shows the effect of net child-contingent payments and total net payments[9] on child poverty. Without net child-contingent benefits and tax concessions, child poverty would be much higher in all countries except Greece, Spain and Portugal, where we have seen that such payments are minimal and are mainly not targeted on low-income households. This is shown by the green square markers. Child-contingent payments offer the most protection, in terms of absolute reduction in poverty risk in France, Hungary, the UK and Austria. The *proportional* reduction in the child poverty rate is notably large in France (74%). In many countries, the additional effect of other benefits, shown by the empty diamond marker, is relatively small. It is less than 30% of the total poverty-reducing effect in Finland, Hungary, Belgium, Germany, the Netherlands, Luxembourg, the UK and France. However, in Denmark and Poland, non-child-contingent benefits play a role that is similar in scale to that of child-contingent benefits, while in the Southern European coun–

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[9] The difference between total net payment in Figure 7.13 and net benefit in Figure 7.12 is due to child-contingent tax concessions, which are included in the former but not in the latter.

tries (except Italy) non-child-contingent benefits have the main effect, although it is modest in size.

Child poverty reduction is higher in those countries that have higher child-contingent benefit per child (France, Hungary, the UK, Austria and Luxembourg) (Figure 7.9). However, of those, only in France and the UK do the poorest individuals receive bigger shares of child-contingent benefits, while Hungary, for example, has clearly pro-rich child-contingent benefits (Figure 7.8). This shows that, although the distribution of benefits varies markedly between countries (as noted above), its effect on the extent to which the risk of child poverty is reduced is less straightforward and is likely to be influenced by other factors, such as the location of children in the income distribution.

Concluding remarks

In this chapter, we have analysed the effect of taxes and benefits on income distribution in 19 EU countries. The estimates, related to 2003 or 2005 for most countries, are derived by using EUROMOD and address a number of issues in order to compare the relative size of payments across countries. Moreover, we have explored the effects of benefits and tax concessions that are contingent on the presence of children in the household and have identified the taxes paid on particular benefits, exploiting EUROMOD's unique capacity to do this.

- Taxes and benefits play a complementary role in reducing income inequalities. The absolute contribution of benefits, including public pensions, is substantially higher than that of taxes in all countries (Figure 7.2). However, the effects are of comparable size if public pensions are considered separately from other benefits. The extent to which all three components contribute to reducing inequality varies significantly across countries.

- There are noticeable differences in the composition of household incomes across countries. In general, a large share of benefits is made up of public pensions and non-means-tested benefits, while income taxes dominate social insurance contributions within the calculation of the overall tax burden (Figure 7.3). While, on average, people with low income pay much less tax (Figure 7.4) and the share of income from benefits is relatively minor for the top of the distribution (Figure 7.5), the tax burden in the bottom of the distribution can still be rather high, and benefits can account for a considerable share of income for the rich households in some countries.

- A large proportion of the elderly population is located in the bottom of the income distribution (Figure 7.7). Their income consists mostly of public pensions, which are usually either distributed equally by income level or are more concentrated in higher-income groups. Other social benefits are rather small and private pensions virtually non-existent (with a few notable exceptions). Although pensions are mostly taxable, due (at least in part) to additional special tax reliefs, average taxes are low.

- Support for children is mainly channelled through child-contingent benefits in all countries, with the exception of the Southern European countries (Figure 7.8), which show the lowest levels of support, along with the Netherlands. Generally, child-contingent benefits and other benefits are neither substitutes nor complements for each other in any systematic way. In most countries, children in lower-income households receive higher support than do children in richer households, and this is particularly true in Denmark and the UK.

- In some countries, children are also supported through tax concessions that generally have a pro-rich effect. In France, Luxembourg and Slovenia, child-contingent tax concessions compensate for a falling average value of other benefits as income rises. In the Southern countries, the absence of generous child benefits is combined with child tax concessions that benefit children in higher-income households. Taxes and social contributions on child-contingent benefits are generally low and are relevant only in Denmark, Finland and Sweden.

- Child-contingent benefits consist mostly of family benefits (Figure 7.9). Maternity benefits are the second largest, followed by social assistance, while all other types of benefit are negligible, when looked at in aggregate. Although child-related tax concessions are allowed at a relatively low level, their size exceeds support from social assistance on average.

- Benefits as a whole, when measured net of taxes, reduce the overall risk of poverty from 30–50% to 10–20%. The countries with the lowest rates (Denmark, France, Austria, Sweden and Belgium) have benefit systems that achieve most in terms of proportional poverty reduction, both for the whole population (Figure 7.10) and specifically for children (Figure 7.12). Taxes on benefits do have a small impact on the gross effect (less than 3 percentage points for most countries). Not surprisingly, pensioner poverty would be extremely high in all countries without any net benefits, including public pensions (Figure 7.11). However, at least 20% of the elderly would be above the poverty line even without net benefits in Ireland, Italy, the Netherlands, Portugal and the UK.

- Public support plays an important role in child poverty reduction in all countries except Spain, Greece and Portugal (Figure 7.12). Without net benefits, the child poverty rate would reach 23–51% (instead of 6–28%). In most countries, child poverty is reduced mainly by child-contingent benefits. In Denmark and Poland, non-child-contingent benefits have an equally important role, and in the Southern countries (except Italy) non-child-contingent benefits have the main effect.

Appendix

EUROMOD

EUROMOD[10] is a static tax-benefit microsimulation model that currently covers the 15 pre-2004 European Union Member States, plus Estonia, Hungary, Poland and Slovenia.

The model calculates direct taxes, social contributions and cash benefits on the basis of the tax-benefit rules in place. Instruments that are not simulated are taken directly from the data, as are market incomes. The model takes no account of any failure to take up benefits (see Box 7.2) or any tax avoidance or evasion. It is assumed, therefore, that the legal rules are universally respected and that the costs of compliance are zero. This can result in the overestimation of taxes and benefits.[11] See Sutherland (2007) for further information.

The datasets that are used in the current version of EUROMOD are shown in the table below. The choice of dataset is based on the judgement of the national EUROMOD experts, who decide which is the most suitable available dataset for scientific research. In most cases, the input datasets of household circumstances refer to a period a few years prior to this, and the original incomes derived from them are updated to this date. This process relies on indexing each income component (which is not simulated) by appropriate growth factors, based on actual changes over the relevant period.[12] In general, no adjustment is made for changes in population composition. The tax-benefit systems simulated refer to different years in different countries, ranging from 2001 to 2005 (see below Table A7.1 for details).

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[10] See Immervoll *et al.* (1999) and Sutherland (2007) for general descriptions. Sutherland (2001; 2005) provides descriptions and discussions of technical issues. The version of EUROMOD used in this paper is D24.

[11] It can also result in the underestimation of poverty rates, although this depends on the relationship between the level of income provided by benefits and the poverty line (potential claimants may be poor whether or not they receive the benefits to which they are entitled). For a comparison of poverty rates estimated using simulated incomes from EUROMOD with those calculated directly from survey data by the OECD or available through the Luxembourg Income Study (LIS), see Corak, Lietz and Sutherland (2005).

[12] This process is documented in EUROMOD Country Reports, see: www.iser.essex.ac.uk/msu/emod/documentation/countries/

Table A7.1: EUROMOD latest (version D24) datasets and simulated tax-benefit systems

Country		Dataset	Date of collection	Income reference period	Tax-benefit system
BE	Belgium	Panel Survey on Belgian Households	2002	annual 2001	2003
DK	Denmark	ECHP	1995	annual 1994	2001
DE	Germany	German Socio-Economic Panel Study	2002	annual 2001	2003
EE	Estonia	Household Budget Survey	2005	monthly 2005	2005
ES	Spain	EU-SILC	2005	annual 2004	2005
FR	France	Enquête sur les Budgets Familiaux (EBF)	2000/01	annual 2000/01	2001
GR	Greece	Household Budget Survey	2004/05	monthly 2004	2005
IE	Ireland	Living in Ireland Survey	1994	monthly 1994	2001
IT	Italy	Survey of Households Income and Wealth	1996	annual 1995	2001
LU	Luxembourg	Socio-Economic Panel (PSELL-2)	2001	annual 2000	2003
HU	Hungary	EU-SILC	2005	annual 2004	2005
NL	Netherlands	Sociaal-economisch panelonderzoek	2000	annual 1999	2003
AT	Austria	Austrian version of ECHP	1998+1999	annual 1998	2003
PL	Poland	Household Budget Survey	2005	monthly 2005	2005
PT	Portugal	ECHP	2001	annual 2000	2003
SI	Slovenia	A sub-sample of Population Census merged with administrative records	2005 (2002)	annual 2004	2005
SE	Sweden	Income distribution survey	2001	annual 2001	2001
FI	Finland	Income distribution survey	2001	annual 2001	2003
UK	United Kingdom	Family Expenditure Survey (FES)	2000/01	monthly 2000/01	2003

Chapter 8 | Distributional Effects of Publicly Funded Childcare

Manos Matsaganis and Gerlinde Verbist[1]

Public policies that aim to secure access to affordable childcare are a key ingredient of a broader set of strategies, at the European and the national level, which seek to reconcile work and family life, promote equal opportunities and combat social exclusion.

The policy instruments used to achieve this aim vary considerably. On the provision side, central and local governments run childcare facilities themselves, providing services to families with children of pre-school age at (often heavily) subsidised rates. On the funding side, while it is obvious that governments bear the direct cost of subsidies to public childcare facilities, they may also indirectly fund services that are purchased from private childcare providers (e.g. through childcare-related tax concessions and cash benefits available to parents).

Focusing on the former, the intended aim of subsidies to publicly provided childcare is to render it more affordable, especially to low-income families that might not be able to use it if they had to pay for it. However, we know little about exactly how subsidies to publicly provided childcare are distributed — for instance, whether low-income families benefit from it as much as families further up the income scale.

One way of assessing the distributional effects of childcare subsidies is to treat benefits in kind just as we treat benefits in cash, i.e. as income support to families. The question then becomes just how the income distribution is affected as a result of subsidies to publicly provided childcare.

In this chapter, we aim to quantify the distributional effects of subsidies to publicly provided childcare in five EU countries: Belgium, Finland, Germany, Greece and Sweden.

Methodology

Households that use childcare can be identified in EU-SILC or other similar databases. The 2005 EU-SILC survey was used in the case of Greece and Sweden; the Belgian version of EU-SILC 2004 in the case of Belgium; the 2001 (updated

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to 2003) Income Distribution Survey in the case of Finland; and the 2002 Socio-Economic Panel (SOEP) in the case of Germany.

Only formal, registered, centre-based childcare is included in the analysis. For illustration, in EU-SILC this corresponds to variables RL010, RL030 and RL040. In other words, our definition includes pre-school (RL010), but excludes primary school (RL020), child minders (RL050) and informal care (RL060).

In general, subsidies were calculated as public expenditure on childcare per child in a subsidised centre, by intensity of use (e.g. full time *vs* part time), by type of centre (e.g. crèche *vs* pre-school), taking into account regional/other variations (if possible), net of user fees (if applicable).

User fees typically depend on family income, family size and/or number of children in childcare, family type (e.g. single parent) and, sometimes, other characteristics such as social assistance beneficiary, municipal employee, etc.

In order to assign subsidies to users, it was necessary first to identify whether the type of childcare facility used by a family in the dataset was eligible for public funding, and then to establish the family-specific level of subsidy (net of user fees). (A detailed account of how this was done can be found at: **www.socialsituation.eu/WebApp/MonitoringReports.aspx**)

Finally, in the spirit of treating benefits in kind as part of a broader concept of income, net childcare subsidies were added to users' income. Once this was done, it was possible to recalculate inequality and poverty indices, allowing the poverty line to shift, and compare these to the baseline of monetary income alone.

More specifically, the distributional impact of childcare subsidies was assessed in terms of:

(1) use of subsidised childcare by quintile of equivalent income;

(2) distribution of childcare subsidies by quintile;

(3) income share of childcare subsidies by quintile;

(4) effect of childcare subsidies on inequality; and

(5) effect of childcare subsidies on poverty, including child poverty.

Results

The maximum and average values of childcare subsidies per child, as well as the standard deviation around the average, are shown in Table 8.1. This indicates that the sums involved can be substantial. In Sweden, the average childcare subsidy per child exceeds EUR 10,000 annually; in Belgium the maximum subsidy is estimated at EUR 13,600 a year. In all countries except Sweden, moreover, there seems to be considerable variation in the value of subsidies between childcare users.

Table 8.1: Value of childcare subsidies

EUR

	Belgium	Finland	Germany	Greece	Sweden
Maximum subsidy per child	13 600	9 066	6 100	3 250	11 250
Average subsidy per child	3 951	6 698	2 447	2 646	10 252
Standard deviation	1 767	2 367	1 230	423	304

Note: Figures are annual public subsidies per child attending publicly funded childcare.

Patterns of use of centre–based childcare differ considerably both from country to country and between income groups within countries (Table 8.2). For instance, in Sweden as many as two children in three aged below 6 appear to use formal child-care, compared to less than one in three in Greece. In the other three countries covered, participation rates range from 37% to 49%.

In terms of use by income group, the highest proportion of users in Finland, Greece and Sweden are found in income quintile 5 (those with the highest incomes), while in Belgium and Germany, it is quintile 4. By contrast, participation rates in income quintile 1 (those with the lowest incomes) are significantly below average in Finland and Greece, and somewhat below average in Belgium and Sweden. Only in Germany do low–income families appear to use childcare as much as families further up the income scale.[2]

Table 8.2: Use of childcare

% of children under 6

Income quintiles	Belgium	Finland	Germany	Greece	Sweden
Quintile 1 (poorest)	43.7	20.8	40.1	19.4	57.9
Quintile 2	47.9	28.9	33.5	24.9	64.1
Quintile 3	52.6	40.7	37.6	25.0	69.8
Quintile 4	54.8	48.4	52.6	33.3	69.4
Quintile 5 (richest)	43.2	51.8	41.2	40.3	71.5
All	**48.7**	**37.2**	**40.1**	**29.6**	**66.4**

Excluding privately funded care changes the picture a little. Table 8.3 reports the proportion of families with children under 6 using publicly funded childcare facili-ties, who accordingly are in receipt of benefits in kind. Excluding users of private, non–subsidised childcare facilities reduces participation rates in Greece and, to a lesser extent, in Belgium (i.e. comparing Table 8.3 with Table 8.2), but has no effect in the other three countries, indicating that the use of private facilities is negligible in Finland, Sweden and Germany.

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[2] Note that income is measured on an equivalised basis, using the OECD modified scale (the first adult in a household is assigned a weight of 1, other adults 0.5 and children under 14 — 0.3.

Table 8.3: Use of publicly funded childcare

% of children under 6

Income quintiles	Belgium	Finland	Germany	Greece	Sweden
Quintile 1 (poorest)	43.7	20.8	40.1	19.4	57.9
Quintile 2	47.9	28.9	33.5	21.2	64.1
Quintile 3	51.1	40.7	37.6	16.9	69.8
Quintile 4	54.8	48.4	52.6	23.5	69.4
Quintile 5 (richest)	41.8	51.8	41.2	27.3	71.5
All	**48.1**	**37.2**	**40.1**	**22.2**	**66.4**

Again, it is evident that the proportion of families with young children receiving childcare benefits in kind varies significantly not only between but also within countries. It is above 50% in quintiles 3 and 4 in Belgium, in quintile 5 (i.e. among those with the highest incomes) in Finland, in quintile 4 in Germany and in all quintiles in Sweden. It is well below 50% in the top quintile in Belgium, the bottom three quintiles in Finland and Germany — as well as in the top quintile in the latter — and in all income quintiles in Greece.

Table 8.4 shows the distribution of public expenditure on childcare subsidies between income groups in the five countries. With the sole exception of Germany, public expenditure on childcare subsidies tends to be concentrated towards the middle and top of the income distribution. In other words, the population in the quintiles concerned receive a larger share of total childcare subsidies than their share of population (by definition each quintile represents 20% of the population). More specifically, public expenditure on such subsidies goes disproportionately to quintiles 3 and 4 in Belgium, quintiles 3 to 5 in Finland, quintile 2 and, most especially, quintile 5 (those with highest incomes) in Greece, and quintiles 2 and 3 in Sweden.

Table 8.4: Distribution of childcare subsidies

% of total expenditure on childcare

Income quintiles	Belgium	Finland	Germany	Greece	Sweden
Quintile 1 (poorest)	18.7	12.1	36.5	19.2	17.8
Quintile 2	15.4	16.8	17.6	21.3	23.0
Quintile 3	22.4	23.3	19.7	12.4	24.7
Quintile 4	26.9	25.4	17.9	19.1	19.9
Quintile 5 (richest)	16.6	22.3	8.3	28.0	14.7
All	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Public expenditure is net of user fees. Both childcare funding and household disposable incomes are equivalised to adjust for differences in household size and composition.

In Germany, on the other hand, by far the largest share of benefits in kind go to those in the bottom income quintile (37%), which, since the proportion of children under 6 receiving such benefits is the same as the average across all quintiles,

implies that the average amount per child is much larger than for other quintiles (and/or that there are many more children in this quintile).

An alternative way of viewing the distribution of childcare subsidies is to relate the value of subsidies received by those in each income quintile to their total disposable income (Table 8.5).

Table 8.5: Childcare subsidies as a share of income

expenditure as a % of disposable income

Income quintiles	Belgium	Finland	Germany	Greece	Sweden
Quintile 1 (poorest)	3.4	1.7	2.4	1.1	3.6
Quintile 2	1.7	1.7	0.8	0.8	2.8
Quintile 3	1.9	1.9	0.5	0.4	2.4
Quintile 4	1.8	1.6	0.5	0.4	1.6
Quintile 5 (richest)	0.7	0.8	0.1	0.4	0.9
All	**1.6**	**1.4**	**0.6**	**0.6**	**2.3**

Note: Public expenditure is net of user fees. Both childcare funding and household disposable incomes are equivalised to adjust for differences in household size and composition.

Not unexpectedly, the distribution of childcare subsidies in relation to disposable income is progressive in all countries, though only in broad terms in Belgium, Finland and Greece. In these countries, therefore, although the contribution of childcare benefits to income is highest in proportionate terms in the bottom income quintile and lowest in the top quintile, there is little or no variation in the percentage contribution in the middle quintiles — or between quintiles 3 to 5 in the case of Greece.

Accordingly, the inclusion of childcare subsidies as part of disposable income affects distribution across the population. This can be seen by estimating three inequality indicators with and without these benefits included: (1) the Gini coefficient, which is sensitive to changes around the middle of the distribution; (2) the Atkinson index (with the value of the inequality aversion parameter ε set equal to 0.5; and (3) the Atkinson index with the value of the inequality aversion parameter ε set equal to 1.5, indicating greater concern for the position of those with the lowest incomes (Table 8.6).

The effect of including childcare benefits in the definition of income is to reduce inequality in the distribution of income in all countries as measured by the Gini coefficient. The same holds with respect to the Atkinson index for $\varepsilon = 0.5$, implying that the inequality-reducing effect of childcare subsidies is confirmed when a moderate degree of inequality aversion is assumed. On the other hand, assuming a higher degree of inequality aversion (i.e. $\varepsilon = 1.5$) yields mixed results, the effect of the subsidies in reducing inequality being strengthened in Belgium and Germany but being reversed in Finland and Sweden, while in Greece the effect is to leave the degree of inequality as measured by the index unchanged.

Table 8.6: Impact of publicly funded childcare on inequality

	Belgium	Finland	Germany	Greece	Sweden
Gini coefficient					
Baseline	0.266	0.269	0.283	0.333	0.232
Baseline + subsidies	0.264	0.269	0.280	0.332	0.228
Percentage change	–0.7%	–0.04%	–0.9%	–0.3%	–1.4%
Atkinson (ε=0.5)					
Baseline	0.060	0.069	0.066	0.094	0.048
Baseline + subsidies	0.059	0.069	0.065	0.093	0.046
Percentage change	–1.9%	–0.5%	–2.0%	–0.6%	–4.0%
Atkinson (ε=1.5)					
Baseline	0.241	0.163	0.199	0.245	0.152
Baseline + subsidies	0.235	0.164	0.195	0.245	0.153
Percentage change	–2.5%	0.2%	–2.2%	0.0%	0.7%

The inclusion of childcare benefits as part of income also affects the measurement of the risk of poverty. This can be seen in terms not only of the relative number of people in the population as a whole estimated to be at risk by having a level of disposable income below 60% of the median, but also of the poverty gap, or the average shortfall of income of those at risk below the poverty threshold (the latter being also measured in weighted terms by setting the value of the parameter α equal to 2, indicating greater concern for those with the lowest incomes) (Table 8.7).

Table 8.7: Impact of publicly funded childcare on poverty

	Belgium	Finland	Germany	Greece	Sweden
Poverty rate					
Baseline	0.154	0.122	0.162	0.196	0.093
Baseline + subsidies	0.153	0.129	0.157	0.195	0.106
Percentage change	–0.9%	5.0%	–2.7%	–0.6%	14.3%
Poverty gap (FGT α=1)					
Baseline	0.042	0.022	0.044	0.063	0.03
Baseline + subsidies	0.040	0.023	0.042	0.062	0.031
Percentage change	–4.2%	5.9%	–4.8%	–1.3%	3.3%
Weighted poverty gap (FGT α=2)					
Baseline	0.019	0.006	0.019	0.038	0.054
Baseline + subsidies	0.018	0.007	0.018	0.037	0.048
Percentage change	–5.8%	6.7%	–6.4%	–3.7%	–10.2%

Note: FGT = Foster Greer Thorbecke.

A critical point to emphasise is that when the net value of childcare benefits received by families is included in the income definition used here, the poverty line is shifted upwards as a result of the increase in median income. Accordingly, the inclusion of these benefits does not necessarily result in a reduction in the relative number of people below the poverty line (even though the income of the people concerned is increased), if the poverty line itself is raised, thus pushing non–benefit recipients, in particular, below the line. The inclusion of childcare benefits, therefore, reduces the proportion at risk of poverty in Belgium, Germany and Greece, as well as the (unweighted) poverty gap, but not in Finland and Sweden.

In all five countries, including the value of childcare benefits in kind in disposable income results in a considerable re–ranking of the relative positions: families with children under 6 using publicly funded childcare have their incomes increased, while for other population groups (e.g. pensioners), income is unchanged in absolute terms but is reduced relative to a higher median income and, hence, relative to the poverty line. In Finland and Sweden, therefore, the former effect is weaker than the latter (i.e. childcare subsidies result in more pensioners dropping below the poverty line than families with children rising above it); in the other three countries, it is stronger.

The relative position of those receiving childcare subsidies is also of importance. In particular, applying the weighted poverty gap measure instead of the unweighted one reverses the sign of the FGT index for Sweden, implying that the effect of childcare subsidies is relatively large towards the very bottom of the income distribution.

Although the effect of the inclusion of childcare benefits on the risk of poverty of the population as a whole is important, the effect on the risk among children is even more important, since a primary objective of providing such benefits is precisely to assist families with children. As might be expected, in all countries the effect is greater on the risk of poverty among children (Table 8.8).

Table 8.8: Impact of publicly funded childcare on the risk of poverty among children

	Belgium	Finland	Germany	Greece	Sweden
Poverty rate (<60% of median)					
Baseline	0.179	0.107	0.252	0.204	0.094
Baseline + subsidies	0.155	0.103	0.233	0.196	0.083
Percentage change	−13.6%	−3.5%	−7.6%	−3.7%	−11.5%
Poverty gap (FGT α=1)					
Baseline	0.051	0.016	0.073	0.067	0.030
Baseline + subsidies	0.041	0.016	0.063	0.064	0.024
Percentage change	−20.0%	−0.7%	−12.9%	−5.3%	−19.1%
Weighted poverty gap (FGT α=2)					
Baseline	0.024	0.003	0.032	0.045	0.083
Baseline + subsidies	0.018	0.003	0.026	0.040	0.070
Percentage change	−22.1%	0.0%	−16.6%	−10.3%	−15.6%

Notes: The poverty line is equal to 60% of median disposable income, equivalised for household size and composition. The poverty line is allowed to shift when childcare subsidies are included.
FGT = Foster Greer Thorbecke.

Though the poverty line is higher (as a result of having childcare benefits included), the number of children in poverty is reduced by around 3.5% in Finland and Greece, by 7.5% in Germany, by 11.5% in Sweden and by as much as 13.5% in Belgium.

The child poverty gap is also reduced markedly in most countries — by 19–20% in Belgium and Sweden — while the weighted poverty gap is diminished by around 15.5% in Sweden, 16.5% in Germany and 22% in Belgium. Only in Finland is the effect small to negligible.

Overall, the effect of childcare subsidies is to reduce child poverty more consistently and more significantly than is the case with respect to poverty in the general population.

Concluding remarks

The above analysis indicates that childcare subsidies have very different distributional effects across countries. Except in Germany, a greater share of the public expenditure involved appears to go to high- and middle-income groups than to low-income ones. Nevertheless, in proportionate terms, the contribution of childcare subsidies to the disposable income of poorer families tends to be larger than for more prosperous families.

The inclusion of childcare benefits in the definition of income tends to reduce the degree of inequality of income distribution. It also reduces the risk of poverty in most countries among the population as a whole, though the effect of increasing the disposable income of poorer families is offset to some degree by the increase in the poverty line that results from the provision of benefits. In particular, it reduces the risk of poverty — and the poverty gap — among children in all five of the countries selected for study, though less so in Finland and Greece than in Belgium, Germany and Sweden.

The results of the analysis have clear implications for policy and, more especially, for the indicators used to monitor policy. In general, treating childcare benefits in kind as additions to monetary income has the effect of reducing the inequality of income distribution, as well as the measured risk of poverty among children. Nevertheless, the distributional effects are, in some cases, perverse depending on the index used and the specific focus, though this result needs to be treated with caution.

In particular, in Finland the relative poverty rate is increased as a result of accounting for childcare subsidies. It would be simplistic to conclude from this, however, that an easy way of reducing the risk of poverty would be to abolish publicly funded childcare. In reality, no one is worse off as a result of treating childcare benefits in kind as additions to monetary income, and nor could they be. The proportion of people with income below the poverty line is increased only because the line itself is raised.

More generally, it is important to note that the results are driven, to a large extent, by patterns of use, which may or may not reflect patterns of provision. The reason, therefore, why the distributive effects of publicly funded childcare are not greater is that low-income families with children of pre-school age do not use childcare

services as much as similar families higher up the income scale (who might have more to gain from both parents being able to work). By implication, extending the use of childcare, which might imply improving its availability and the access to it, would be the best way of increasing its redistributive effects in all countries.

In addition, it is also necessary to distinguish between a static analysis of the distribution of incomes with and without childcare subsidies, as presented here, and a fuller analysis, including the dynamic effects. In practice, by ensuring access to affordable childcare services, governments make it possible for parents (typically mothers) to take up paid employment. These dynamic effects are central to any assessment of the effects of introducing or extending subsidised childcare facilities.

Finally, public funding of childcare can also be seen as a means of redistributing incomes horizontally — from those without children to families with children — which can be justified if children are seen, to some extent, as 'public goods', bringing future benefits to society as a whole. On this perspective, therefore, it is appropriate for society as a whole to bear some of the costs of bringing up children.

Chapter 9 | Policy Developments Affecting Income Distribution, 2004–08

Manos Matsaganis and Péter Szivós[1]

Achieving a high level of social protection is a distinctive feature of the European social model and, as part of the open method of coordination, certain common objectives are set for social inclusion. However, responsibility for tax–benefit policy lies firmly with the EU Member States. As a result, the measures that are taken to achieve particular goals with regard to social benefits and taxation — and the priority that is attached to different objectives — vary significantly from country to country. The variation reflects differences in the scale and the nature of social problems, as well as differences in the underlying political and economic circumstances, in the design and nature of the tax and benefit system and in social attitudes towards income redistribution and poverty relief.

Given all that, it is by no means straightforward to detect common trends in the policy changes of recent years that affect income distribution and, in particular, the relative position of those on low incomes across the 27 EU Member States and the two candidate countries. Nevertheless, alongside the differences, there are certain similarities in the policy developments that have occurred in these countries over the past five years. This is evident from a review of the measures taken in four broad policy areas over this period:[2]

(1) lowering direct tax rates and simplifying the tax structure;

(2) making work pay;

(3) supporting families on low incomes; and

(4) increasing the adequacy and sustainability of pensions.

Each of these areas has been the focus of policy concern across much of the EU in the recent past, and the purpose here is to review the nature of the action taken in the different countries, as well as the effect on income distribution and the risk of poverty.

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[1] Based on contributions from national experts.

[2] This review is based on information provided by a network of country experts on the main changes in taxes, social benefits and other relevant aspects of policy that have occurred since about 2003, as well as on their assessment of the effects of these on different income groups.

Lowering taxes and simplifying the tax structure

With very few exceptions, income tax rates have been cut and/or tax allowances increased over recent years, while attempts have also been made to simplify the tax system. That has been the experience in most European countries (e.g. Belgium, Bulgaria, Denmark, Germany, Estonia, Ireland, Spain, France, Cyprus, Lithuania, Slovenia, Finland and the UK). Only a handful of countries have bucked the trend: Hungary (where the top rate of income tax has actually been increased), and Germany and Portugal (where an additional rate on very high incomes was introduced). At the same time, wealth taxes have also been lowered in a number of countries, such as France and Greece, as well as in the high-taxation Scandinavian countries (Denmark, Finland and Sweden).

On the other hand, most new Member States now operate a flat-rate tax regime. Following Slovakia and the Baltic countries (Estonia, Latvia and Lithuania), where such a regime was adopted back in the 1990s, more recently Bulgaria, the Czech Republic and Romania have also adopted this kind of system, with very low flat rates indeed. Furthermore, the flat rate of income tax has actually been lowered in Estonia and Lithuania. Only in Slovenia were earlier plans to introduce a flat-rate tax apparently abandoned.

Even though tax reductions may benefit those on low incomes, those on high incomes usually tend to gain most by such a move. Moreover, any positive effects at the bottom end of the scale are often tempered by the fact that many of those concerned pay no tax and therefore gain nothing at all. A policy shift towards refundable tax credits (discussed in the next section) might remedy this. On the whole, however, tax changes seem to have benefited higher earners disproportionately and to have made the distribution of income more unequal.

The main policy changes in respect of tax policy over the period 2004–08 are outlined below, on a country-by-country basis.

In **Belgium**, the income tax reform phased in over the period 2002–07 abolished the top two marginal tax rates (52.5% and 55%), broadened the middle tax brackets (where marginal rates of 30% and 40% apply), aligned the basic tax allowance for single or cohabiting people with that of married people, increased the tax credit for low earners and for dependent children, and extended the tax deductibility of work-related expenses.

In **Bulgaria**, income taxation was radically reformed in two steps: tax rates were cut in 2005 from 12–29% to 10–24%, and in 2008 a flat-rate tax regime (at 10%) replaced the formerly progressive tax schedule. Moreover, tax allowances for dependent children were introduced in 2006. The corporate tax rate was also reduced to 10% (from 19.5%) in 2005–07. It is estimated that the combined effect of income tax and social contribution reductions (discussed below) has been to increase tax compliance and formal employment significantly.

In the **Czech Republic**, a flat-rate tax regime (at 15%) replaced the formerly progressive income tax schedule in 2008, while the corporate tax rate was also reduced gradually from 28% in 2004 to 21% in 2008. Combined with the introduction of an upper earnings threshold to social contributions in 2008 (discussed below), the effect of these changes has been to raise the net incomes of high earners.

In **Denmark**, the most important policy change in recent years, the so-called 'tax stop', was introduced in 2002 and has affected developments throughout the subsequent period. Under this measure, no tax can rise in either relative or absolute terms except as a result of changes in incomes (e.g. when taxable income rises) or prices. It is estimated that high earners and owner occupiers have gained the most from this policy. A tax commission, due to deliver its report in 2009, is expected to recommend further reductions in earned income taxation from 2010.

In **Germany**, the top rate of income tax was gradually lowered from 51% in 2000 to 42% in 2005, but a new top rate of 45% was introduced in 2007 on very high incomes (of over EUR 500,000 for couples). At the same time, the tax base was broadened in 2006 by abolishing the home–owner cash grant and certain other tax reliefs (e.g. for commuting costs), and a childcare tax allowance and tax credits for domestic services were also introduced. In addition, in 2007 the standard rate of VAT went up from 16% to 19%.

In **Estonia**, the flat rate of income tax was steadily reduced from 26% in 2004 to 21% in 2008, while the standard tax allowance was raised over the same period from EEK 16,800 (EUR 1,075) to EEK 27,000 (EUR 1,725). Moreover, a supplementary tax allowance (worth EEK 24,000 or EUR 1,535 a year per child) was gradually extended to all families with children aged under 17.

In **Ireland**, the 2007 budget cut the top rate of income tax from 42% to 41%, which resulted in a small gain in income for those in the top quintile of income earners.

In **Greece**, while the top rate of income tax remained unchanged at 40%, its scope was reduced markedly by increasing the threshold from an annual income of around EUR 28,400 in 2004 to EUR 75,000 in 2008. At the same time, other rates were cut substantially over the period. As a result, average tax rates for high earners were reduced significantly. Inheritance tax was also reduced considerably and its scope greatly limited. A similar change was applied to lifetime gifts, so that a large number of property transfers were taken out of tax altogether.

In **Spain**, the 2007 income tax reform reduced the top rate of income tax to 43%, eliminated the 15% tax bracket, and raised personal and dependent–children tax allowances substantially. In addition, investment income from all sources was separated from earned income, and a single, flat rate of tax was applied.

In **France**, income taxation was reformed significantly under both the Chirac and the Sarkozy presidencies. The top rate was reduced to 40% (from 54% in 2000), while the basic rate was cut to 5.5% (from 10.5% in 2000). In 2007, the income tax schedule was made less progressive, with a reduction in tax brackets from six to four, while the cap on the total tax payable, in the form of income, wealth and local taxation, was lowered to 50% of income. A number of other tax changes were also introduced in May 2007, with the intention of reversing the 'brain drain' of highly skilled workers moving abroad by improving the position of high earners. The regressive effect of these reforms was mitigated only slightly by a substantial increase in refundable tax credit, *Prime Pour l'Emploi* (discussed below).

In **Italy**, the 2007 budget changed the definition of taxable income and the tax base and introduced a system of tax credits to replace the previous tax allowances. The new tax structure increased disposable income linearly — by up to 1.3% for

those in the fourth income decile. Thereafter, as income rose, the increase diminished, disappearing entirely from the eighth decile upwards.

In **Cyprus**, marginal tax rates remained unchanged over the period 2004–08, after the 2002 tax reform cut the top rate of income tax from 40% to 30%. However, income tax brackets were raised faster than earnings rose, which resulted in a significant reduction in average tax rates, especially among high earners.

In **Latvia**, following the introduction of a flat-rate income tax in 1995, subsequent changes in income taxation were directed at increasing the personal allowance, which rose steadily from LVL 252 (EUR 359) in 2004 to a planned LVL 1,200 (EUR 1,707) in 2009, while the flat rate remained unchanged at 25%. The allowance for dependants was also raised from LVL 126 (EUR 179) in 2004 to LVL 840 (EUR 1,195) in 2009.

In **Lithuania**, rapid economic growth, and the increased tax revenue resulting from this, enabled the government to reduce the flat income tax rate from 33% in 2006 to 24% in 2008.

In **Hungary**, earlier tax cuts were reversed with the introduction of the 2006 stabilisation package, which was aimed at reducing the budget deficit. The package raised the VAT basic rate to 20% and the top income tax rate to 40%, and similarly raised social contributions (discussed below).

In **Austria**, the 2004–05 reform exempted 2.5 million tax units (or 43% of the total) earning less than EUR 15,770 a year, and introduced tax credits for employees and for dependent children (discussed below). The initial gains for all income earners have, however, been almost totally offset by fiscal drag in subsequent years, as the Austrian income tax system has no regular adjustment mechanism for inflation or earnings growth.

In **Portugal**, the 2006 budget created an additional income tax bracket of 42%, which was applied to annual incomes above EUR 60,000 (EUR 62,456 in 2008).

In **Romania**, a flat rate of income tax of 16% was introduced in 2005.

In **Slovenia**, piecemeal changes to income tax were introduced in 2006. The number of tax brackets was reduced from five to three, while the top marginal tax rate was cut from 50% to 39%. The personal allowance was raised, but at the same time virtually all tax deductions were eliminated, the main exception being voluntary pension contributions to supplementary pension schemes. It has been estimated that the changes increased disposable income right across the income distribution — by 5% in the bottom decile and by 1.6% in the top decile.

In **Slovakia**, a major tax reform that introduced a 19% flat rate of income tax took place some years ago. Subsequently, a degree of 'reform fatigue' seems to have set in, with proposals for further reform met with political and social resistance.

In **Finland**, a shift from progressive income tax (set by central government) to proportional tax (operating at the municipal level) has occurred in recent years, thus reducing the progressive nature of the tax system overall. The top rate of tax was reduced from 35% in 2003 to 31.5% in 2008, while the basic rate was reduced from 12% to 8.5% over the same period. At the same time, the 14% tax bracket (for annual incomes of between EUR 17,000 and EUR 20,000) was abolished in 2007, so that incomes in this range are also taxed at 8.5%. The rate of capital

tax was also reduced, from 29% to 26% in 2005, though this was offset by the partial re-imposition of double taxation of dividends. However, a tax of 0.8% on net wealth in excess of EUR 250,000 was abolished in 2006.

In **Sweden**, as a result of changes introduced under both the centre-right coalition that came to power in 2006 and the social-democratic government that preceded it, taxes on wealth have been reduced substantially. Specifically, taxes on lifetime gifts and inheritance were abolished in 2004-05, property tax was reduced in 2007, and wealth tax was abolished and real estate tax was replaced by a new municipal charge in 2008.

In the **United Kingdom**, structural changes in income taxation were introduced in 2008. The initial 10% income tax band was abolished, while the basic rate of income tax was reduced from 22% to 20%. At the same time, the personal tax allowance and the corresponding allowance for the elderly were raised above the rate of inflation, and refundable tax credits were increased (as discussed below).

In **Croatia**, the personal income tax allowance was raised in 2005 and again in 2008, and currently stands at HRK 1,800 (EUR 253).

In **Turkey**, the main tax changes have included a reduction in the top rate of income tax in 2004, a significant tax cut on low wages in 2006, a reduction in the rate of corporate tax from 30% to 20% (also in 2006) and the introduction in 2004 of a lower rate of VAT (at 8%) on medicines, food and school items.

Making work pay

There has been a widespread tendency across the EU to seek to improve incentives to work. Various means have been employed in the pursuit of a policy of making work pay by trying to ensure that income from employment is always significantly higher than income from social benefits.

More specifically, refundable earned income tax credits and other in-work benefits have recently been introduced in a number of countries (Luxembourg, Malta, Finland, Sweden), or, if they already existed at the beginning of the period under examination, have been further increased (Belgium, Denmark, France, Austria, the UK).

On the other hand, significant reductions in social contributions have been made in several countries — sometimes targeted at specific groups (Belgium, Spain and Turkey) and sometimes across the board (Bulgaria and Poland). Only in Italy have social contributions actually increased.

Other 'make work pay' policies, such as the introduction of wage subsidies (Germany) or allowing social assistance recipients who take up a new job to continue, for a limited period, to claim benefit while earning a wage (France, the Netherlands, Slovakia, Finland), have also been implemented to this end. Only Germany (under the 'Hartz IV' reform package) and, to some extent, Italy have taken the more problematic route (given its implications for the poverty rate) of attempting to make low-paid jobs more attractive by reducing the generosity of social benefits.

Increasing the minimum wage is another means of making work pay at the lower end of the labour market. Such a strategy is demanding in terms of governing and regulating the labour market, since, unless they are closely monitored and controlled, employers may be tempted to pay wages below the statutory minimum. At the same time, it has rather obvious advantages in terms of both equity considerations and incentives for employers to invest in skills. In fact, the minimum wage was substantially increased in most new Member States (Bulgaria, Latvia, Lithuania, Romania, Slovakia), in southern countries (Greece, Spain, Portugal) and in the two candidate countries (Croatia and Turkey) over the period 2004–08.

The range of policy changes adopted with the aim of making work pay are summarised below.

In **Belgium**, *Bonus à l'emploi/Werkbonus*, the social contributions rebate for low earners introduced in 2000, was increased in 2008 to a maximum of EUR 175 a month for both manual and non-manual workers. The full rebate is paid to employees on the minimum wage (currently EUR 1,362 a month), and is then reduced proportionately until gross earnings reach EUR 2,204 a month. In addition, a new subsidy for employer social contributions was introduced in 2007 to encourage the employment of older workers. The subsidy is worth EUR 200 a year to the employers of workers who earn less than EUR 3,000 a month at age 50. Employers of higher-paid workers of 57 or above are now eligible for a subsidy of EUR 1,200 a year, over and above the general reduction in employer social contributions introduced in 2007, which was worth at least EUR 1,600 a year.

Moreover, the 2002–07 tax reform increased the tax credit for low earners and for dependent children, and extended the tax deductibility of work-related expenses. In 2007, the Flemish regional government also introduced an income tax reduction (*Jobkorting*) for employees on low and middle incomes, operating via the withholding tax system. From 2009, all employees living in the Flemish region became eligible for the tax reduction, which is worth EUR 300 a year to low and middle earners and EUR 250 to higher earners.

In **Bulgaria**, social contributions were reduced from 35.5% to 26.5% in 2006–07. In addition, while average earnings rose by 71% (in nominal terms) in 2004–08, the statutory minimum wage increased by 83%, thus improving the income of those employed on low earnings (but also reducing the incentive for employers to take on low-skilled workers).

In the **Czech Republic**, an upper earnings threshold on social contributions was imposed in 2008 at four times average earnings, thus reducing the amount payable on high income (though doing little to change the balance between working and not working for those further down the income scale).

In **Denmark**, the tax credit on earned (as opposed to unearned) income was raised in 2008 from 2.5% to 4.25%, up to a ceiling of DKK 13,100 (EUR 1,760).

In **Germany**, the 'Hartz IV' labour market reforms were introduced in 2005. These included the replacement of earnings-related unemployment insurance benefit (at 50% of previous earnings) by means-tested social assistance (payable at a lower rate) after 12 months of receiving benefit (after 18 months in the case of older workers). The reform also reduced benefits for certain categories of the unemployed, but improved the position of low-income families with children and (in

combination with wage subsidies on low-earning jobs) made part-time work more attractive. Overall, the distributional implications of 'Hartz IV' are unclear. On the one hand, social contributions for unemployment insurance were lowered to 4.2% (from 6.5%); on the other, pension and health insurance contributions (for certain sickness funds) were raised.

In **Estonia**, the rate of employee social contributions for unemployment insurance was reduced from 1% to 0.6% in 2006, while the minimum wage was raised from EEK 2,480 (EUR 158) a month in 2004 to EEK 4,350 (EUR 278) in 2008 (its relative value remaining at around a third of the average wage).

In **Greece**, the minimum wage was increased in real terms by 9.5% over the period 2004–08, though it still continued to lag behind average earnings. A large number of firms, however, are known to pay wages below the statutory minimum, especially when employing female migrant workers.

In **Spain**, the lower earnings threshold for payment of social contributions was raised by 10% in real terms for employees, while it was reduced (from a higher base) by 9% for the self-employed. The employee upper earnings threshold was also reduced, by 5% in real terms, so narrowing the earnings range on which social contributions are payable.

In **France**, the refundable tax credit, *Prime Pour l'Emploi*, was increased significantly, to a maximum of EUR 960 a month in 2008 (from EUR 470 in 2004). In addition, the failure of earlier schemes and the persistence of poverty traps led, in 2007, to the experimental introduction of 'active solidarity income' (*revenu de solidarité active*), under which 90,000 recipients of guaranteed minimum income (*revenue minimum d'integration*) who take up a job are allowed to combine social assistance and earnings from work for up to three years. The objective is to ensure a total income above the poverty line (EUR 817 for a single person in 2008). The scheme is intended to replace the existing income support system and will be extended to the entire country in 2009, partly financed by a 1% tax on capital income.

In **Italy**, the temporary increase in the duration and rates of unemployment benefits for selected groups has been suspended: from 2008, the benefit rate has been reduced to 40% of previous earnings and the maximum duration of benefit to six months. In addition, the 2007 budget increased social contribution rates from an average of 17.5% to around 19.5% of earnings for the self-employed, and from 8.9% to 9.2% of the gross wage for employees.

In **Latvia**, the social contributions rate remained unaltered, but the minimum wage was raised from LVL 90 (EUR 128) in 2006 to a planned LVL 180 (EUR 256) in 2009. The aim is to increase it to 50% of the average wage in 2010.

In **Lithuania**, the minimum wage was also increased significantly, from LTL 550 (EUR 159) in 2006 to a planned LTL 846 (EUR 245) in 2009, though, since average earnings rose markedly over this period, the inequality-reducing effect on income has been limited.

In **Luxembourg**, the child tax credit (*Modération pour enfant*) was replaced in 2008 by a refundable child tax credit (*Boni pour enfant*) at the same rate (EUR 922.50 a year per child). It is estimated that this will reduce child poverty by 2 percentage points.

In **Malta**, both tax bands and rates were altered with a view to improving work incentives, while a tax credit for women returning to employment was also introduced in an attempt to raise the country's low labour participation rate.

In **Austria**, following the 2007 agreement between social partners on working-time flexibility, overtime pay at 125% of the hourly wage was extended from 2008 to approximately 720,000 part-time employees. In addition, the option was introduced of extending the normal working time of full-time workers to 10 hours a day, so long as there is agreement between employers and the individuals concerned. On the other hand, the upper earnings threshold was increased in 2005–06 to EUR 52,500. Moreover, contribution rates for pension insurance were raised from 15% to 15.5% for the self-employed, and from 14.5% to 15% for farmers. In addition, unemployment insurance contributions were abolished in 2004 for women over 56 and for men over 58 and, for other employees, were linked to income (rather than charged at a flat rate) in 2008. Those earning less than EUR 1,100 a month now have to pay unemployment insurance contributions, while the contribution rate is raised gradually to 3% (as before) for those earning over EUR 1,350 a month. Moreover, the 2004–05 reform increased tax credits for dependent children and made them refundable for single parents, while a general refundable tax credit for employees (worth up to EUR 110 per year) was introduced, and the income threshold for entitlement to it was raised.

In the **Netherlands**, a number of measures aimed at increasing labour participation by making work pay for low-income groups were announced in 2008 and will be implemented in 2009. These include tax reductions, childcare subsidies, and the possibility of combining benefit receipt with some earnings from work. Policy changes to lengthen the working time of (mostly women) part-time workers and to increase the participation of ethnic minority women have also been discussed.

In **Poland**, the cost of disability insurance to employees was reduced by 3 percentage points in 2007, while a further reduction of 4 percentage points (evenly split between employees and employers) was implemented the following year. As a result, the overall rate of disability insurance contribution was cut from 13% of gross earnings in 2006 to 6% in 2008.

In **Portugal**, the minimum wage has been raised substantially in recent years as a result of the 2006 agreement between government and social partners, which stipulated that it should reach EUR 500 a month in 2011 (it is currently EUR 426).

In **Romania**, social contribution rates were lowered, and in 2007 the minimum qualifying period for access to social health insurance benefits was reduced from five years to six months for new entrants to the labour market. In addition, the minimum wage was raised by 12% in real terms over the period 2004–08, to EUR 600 a month or EUR 8,400 a year (the monthly minimum wage is payable 14 times a year).

In **Slovakia**, the minimum wage has also been increased. In 2008, unemployed workers participating in active labour market measures, such as training programmes or voluntary work, were made eligible for a temporary benefit equivalent to the minimum income level, currently set at SKK 1,680 (EUR 55) a month for a person living alone. Employer incentives to take on or retain low-wage workers at risk of losing their jobs were also introduced at the same time.

In **Finland**, the proportional municipal tax includes a non-refundable earned income allowance, intended to protect low incomes and to increase work incentives. This allowance went up from EUR 925 in 1999 to EUR 3,850 in 2005, but was subsequently reduced to EUR 3,250 in 2007. At a national level, an earned income tax credit targeted at low earners was introduced in 2006 and raised in later years, while the tax treatment of commuting expenses was made more favourable. On the other hand, the duration of unemployment benefit paid by central government was limited to 500 days, after which the cost is split between central and local government, and recipients are required to accept either a job or a place on a training programme. Other activation measures included a more generous mobility allowance paid to jobseekers travelling for an interview outside their commuting area, a travel allowance of EUR 700 a month paid to unemployment benefit recipients who accept full-time work for at least two months in a location outside their commuting area, and relocation support of up to EUR 700.

In **Sweden**, a number of measures (including the earned income tax credit introduced in 2007 and made more generous in 2008) have been taken to improve work incentives for low earners. On the other hand, the tax deductibility of unemployment insurance membership fees was abolished in 2007.

In the **United Kingdom**, the income disregard for child tax credit and working tax credit assessment was increased substantially in 2006, from £2,500 to £25,000 (from around EUR 3,000 to EUR 30,000). The upper earnings threshold for employees was also increased in 2008, while the minimum wage has been raised to keep it in line with the growth of average earnings over recent years.

In **Croatia**, a minimum wage was introduced in 2008, at 39% of the previous year's average gross earnings.

In **Turkey**, employers' social contributions were cut by 5% in 2008, while, under a new scheme to promote female and youth employment, employers who take on workers aged 18–29 or women of any age will have their contributions paid out of the unemployment insurance fund for up to five years. The minimum wage was also increased by 35% in real terms between 2003 and 2007.

Supporting families on low incomes

Reforms to make work pay and to restrain public expenditure have, in many cases, been accompanied by compensating measures, usually taking one of two forms (or both). The first form consists of real increases in guaranteed minimum incomes or rates of social assistance, intended to avoid exposing those on very low incomes to reduced levels of income support. Such an approach was adopted in Belgium, Estonia, Cyprus, Hungary and Portugal, though it should be noted that, in some countries (such as Bulgaria and Poland), minimum income benefit rates were frozen in nominal terms and/or eligibility rules were tightened. The changes made in Germany and Italy, where unemployment benefits were cut, contrast with this (as was noted in the previous section).

The second approach consists of policies (such as family allowances and, in particular, parental benefits) aimed at improving household incomes and at supporting

mothers, so that they can cope better with the competing demands of work and family responsibilities. Such policies were introduced, extended and/or improved in a large number of European countries, including Belgium, Bulgaria, the Czech Republic, Germany, Estonia, Ireland, Spain, Lithuania, Hungary, Malta, Austria, Romania, Slovenia, Slovakia and the UK. In Greece and Cyprus, benefits for large families were increased, while those for families with one or two children were reduced in real terms.

Changes in social assistance and other benefits for those of working age are outlined below on a country-by-country basis.

In **Belgium**, benefit rates under the guaranteed minimum income scheme for those of working age (*Minimex*) have been increased by some 15% since 2003, and now stand at EUR 474 a month for couples, EUR 712 for those living alone and EUR 949 for single parents. In addition, an allowance for school expenses (*Allocation de rentrée scolaire*) was introduced in 2006. The allowance, which varies according to the age of the child, is universal and is paid as a lump sum in addition to the standard child benefit. Supplementary child benefits for lone parents on low incomes were also increased, and the income ceiling was raised to improve labour incentives.

In **Bulgaria**, child benefits were raised in 2005 (albeit from a very low level), and in 2007 maternity leave (at 90% of previous salary) was extended from 135 to 315 days. Other changes, however, went in the opposite direction: the guaranteed minimum income was frozen at its 2006 level, while in 2007 receipt of means-tested social assistance was limited to a maximum of 18 months and further reduced in 2008 to 12 months.

In the **Czech Republic**, the rules concerning the calculation of living and subsistence minimum (*Zákon o životním a existenčním minimu*) were modified in 2006-07. The reform introduced a guaranteed 'living' minimum income and a higher 'subsistence' level, which varies according to the number and age of the people in the household. The amount received varies between the living minimum and the subsistence level (minus own income), depending, in particular, on whether recipients actively look for work. In addition, parental benefit was increased considerably over the period 2006-09, though in 2008 the maximum value of means-tested child benefits was reduced from four times the subsistence minimum to 2.4 times.

In **Germany**, the parental leave system was reformed in 2007 along Scandinavian lines. The core of the reform was the replacement of the means-tested parental leave benefit by an earnings-related benefit for a period of one year (at 67% of earnings up to EUR 1,800 a month, and 100% for lower earners).

In **Estonia**, a parental allowance, paid at 100% of former earnings for 11 months, was introduced in 2004; its duration was extended to 19 months in 2008. Parents with zero earnings over the previous year are still able to claim parental benefit at a fixed rate (EEK 3,600 or EUR 230 in 2008, up from EEK 2,200 or EUR 141 in 2004). In addition, the monthly rate of minimum guaranteed income, used to calculate entitlement to means-tested social assistance, was increased from EEK 500 (EUR 32) in 2005 to EEK 1,000 (EUR 64) in 2008. (Note that the cost of the minimum food basket was estimated at EUR 66 in 2007.) Since 2006, an additional benefit of EEK 200 (EUR 13) a month has been payable to single parents.

Moreover, while the real value of the universal child benefit was eroded by inflation, the basic rate remaining unchanged over the period 2004-08, a higher rate for families with three or more children was introduced in 2005. Unemployment assistance, payable on a means-tested basis to those no longer eligible for unemployment insurance, was raised from its 1999 level of EEK 400 (EUR 26) a month to EEK 1,000 (EUR 64) in 2007.

In **Ireland**, universal child benefit was increased substantially, along with the means-tested family income supplement. An early childcare supplement, paid to families with children aged under 6, was introduced in 2006 and was increased by 10% in 2008. In addition, unemployment, sickness and invalidity benefits were raised by more than the rate of wage inflation over the period.

In **Greece**, the favourable treatment of families with four or more children was extended in 2006 to those with three children, recipients being eligible for preferential access to higher education, public sector jobs and licences to set up a small business, as well as generous cash benefits. Public support for families with one or two children remains very limited. On the other hand, unemployment insurance benefit, left unchanged for three consecutive years, was raised significantly in 2007 and again in 2008 — to 13% above its 2004 value in real terms.

In **Spain**, non-contributory child benefit rates, which had remained unchanged in nominal terms since 2000, were raised in 2008 for children aged under 3 — from EUR 291 a year to EUR 500.

In **Cyprus**, the level of minimum income guarantee was increased by 19% over the period 2004-08. Child benefit rates for families with one or two children, however, fell in real terms, while other benefits rose in line with inflation.

In **Lithuania**, maternity leave benefit was raised in 2007-08 to 100% of previous earnings (up from 70%) for the first 12 months, and its duration was extended to a second year (at 85% of earnings), while a one-month paternity leave benefit (at 100% of previous earnings) was introduced in 2006. In addition, the maximum age at which child benefit is payable was raised from 3 to 12 years in 2007, and the income threshold for social assistance was increased from LTL 155 (EUR 45) in 2006 to LTL 315 (EUR 91) in 2008.

In **Hungary**, universal family allowances were increased in 2006, while means-tested child benefits were abolished at the same time, and child tax credits were restricted to families with three or more children, up to a certain level of income. In addition, the social assistance threshold was raised to 90% of the minimum old age pension in 2007 (from 80% in 2006), though the amount of benefit was capped at the net minimum wage (so that no one can be better off on social assistance than when in work). Moreover, a new system of means-tested subsidies for domestic heating, introduced in 2007, replaced the previous system of across-the-board subsidised prices. As a result, 2 million households (two-thirds of the total) receive price subsidies, which, for 1 million low-income households, fully compensate for price increases. Unsubsidised households saw their heating bills increase by 40-65% in 2007, and further still in 2008.

In **Malta**, the child allowance payable for the second and each subsequent child under 16 was made universal in 2008 and was raised to twice its former value (to EUR 249 a year per child).

In the **Netherlands**, incomes policy is aimed at spreading the gains from growth (or the costs of decline) as equally as possible among wage earners. As a result, income distribution remained broadly unchanged over the period 2004–08. Significant policy developments over this period include the introduction of the Work and Social Assistance Act (*WWB*) in 2004, which separated the resources available to local authorities for funding social benefits and activation policies. Because of stricter eligibility rules and firmer enforcement of the need for recipients actively to look for work, some vulnerable groups have experienced a decline in income.

In **Austria**, family allowances (*Familienbeihilfe*) were increased in real terms in 2008, when a 13th monthly payment a year was introduced, while supplements for the third child and subsequent children were also raised. In addition, since 2008, parental benefit (*Kinderbetreuungsgeld*) recipients have been able to choose from three different combinations of benefit level and duration (EUR 800 a month for 15+3 months — for the primary and the secondary carer; EUR 624 a month for 20+4 months; or EUR 436 a month for 30+6 months). The personal income threshold for eligibility for parental benefit was also raised to EUR 16,200 a year. Moreover, a care allowance of up to EUR 800 a month (targeted at persons in need of round–the–clock assistance, provided their net family income is below EUR 2,500 a month) was introduced in 2007.

In **Poland**, family benefits were streamlined and eligibility rules for social assistance were tightened in 2004, while a universal birth grant was introduced in 2006. In addition, a National Food Programme was set up in 2006, which aims to provide food to poor children in schools and local social assistance centres. Direct subsidies for farmers, who make up a significant proportion of those below the poverty line, paid under the Common Agricultural Policy, have also played an important role in raising incomes in rural areas and reducing the gap with living standards in cities.

In **Portugal**, means–tested family benefits, the social pension and the minimum income guarantee were all raised in real terms over the period 2004–08, especially in the first two years.

In **Romania**, universal child allowances were differentiated by age in 2007, with their value for children aged under 2 (or under 3 if disabled or chronically ill) being raised substantially. As a result, the benefit rate for young children is almost nine times the equivalent rate for older children. The change has provided assistance to non–working mothers, previously unable to take advantage of contributory maternity and parental leave benefits.

In **Slovenia**, legislation was introduced in 2006 to ensure price indexation of all social benefits, except contributory pensions (indexed to net wages). Large price increases in the first half of 2008 led to the legislation being amended, with indexation occurring twice a year rather than once. Large–family allowances were also raised in 2006 by between 17% (three children) and 43% (four or more children).

In **Slovakia**, a new supplement to the birth grant for the first child was introduced in 2007 at EUR 362 (raised to EUR 673 in 2008). Social assistance rates were also increased.

In **Sweden**, unemployment allowances were reduced in 2007, and in 2008 the rate of sickness benefit was cut to 75% of earnings. However, parental leave and

child benefits had earlier been increased (in 2005 and in 2006, respectively), while housing benefits for pensioners were raised in 2007 and the income test for access to these was relaxed a little in 2008.

In the **United Kingdom**, as discussed above, child tax credit was increased by substantially extending the income disregard in 2006.

In **Croatia**, the basic level of social assistance was increased to HRK 500 (EUR 70) a month in 2008, while maternity allowances and child benefits were raised in 2007, as were unemployment benefits (to HRK 1,200 or EUR 169 a month), though the contribution record required for workers to be eligible for unemployment assistance was lengthened at the same time.

In **Turkey**, health insurance was made universal, and a Green Card programme was set up to provide health insurance coverage to low-income groups and those without sufficient contributions. In addition, unemployment benefits were increased in 2008, and their level indexed to 40% of gross earnings.

Increasing the adequacy and sustainability of pensions

A major aim of policy over recent years has been to improve the long-term financial viability of pension systems in the context of demographic ageing, while at the same time continuing to provide basic income security for those already in retirement. By contrast, in a few countries where retirement benefits were particularly low to start with (for example, in Bulgaria, Estonia, Cyprus, Ireland, Lithuania, Hungary, Poland, Romania and Slovenia) there have been increases across the board, usually through the introduction of wage indexation or other changes in pension formulae.

The main changes in pension policy that occurred in the period 2004–08 across the EU are presented below.

In **Belgium**, pensions throughout the period were indexed to price inflation alone, though one-off payments were also made to recipients of minimum pensions. By contrast, the minimum income guarantee for the elderly (*GRAPA — Garantie de revenue aux personnes agées*) was increased in 2007 and, from then on, has been linked to changes in average incomes, not just prices.

In **Bulgaria**, as a result of the 2003 adoption of the 'Swiss' indexation formula (average of price and earnings growth), pensions have increased significantly in real terms. In 2008, their average value was 55% of average earnings.

In **Denmark**, the introduction of a means-tested supplement to the state pension in 2004, and its subsequent increase, has raised low incomes among those in retirement.

In **Estonia**, the minimum pension guarantee was increased from EEK 931 (EUR 59) in 2004 to EEK 1,913 (EUR 122) in 2008, while over the same period the average old age pension was raised from EEK 2,072 (EUR 132) to EEK 4,534 (EUR 290). Changes in the indexation mechanism introduced in 2008 are set to link future pension rises more closely to receipts from contributions, and to raise the flat-rate element of pensions relative to the earnings-related element.

In **Ireland**, the state pension was increased substantially over the period, rising much faster than earnings and reducing the number of older people with income below the poverty line.

In **Greece**, a new pension reform bill was approved by parliament in April 2008. Its main provisions were to merge certain social insurance funds in order to reduce fragmentation; to increase the statutory retirement age for certain categories of people from 2013 onwards; and to create funds for financing future expenditure on pensions from various sources (such as 10% of the proceeds from privatising utilities and 4% of VAT revenue). Before this, the Social Insurance Funds' Solidarity Account (*ΛΑΦΚΑ*), set up in 1992 to redistribute resources between social insurance funds, was abolished in 2005, with the effect of increasing income inequality among pensioners still further. On the other hand, large increases were made in the means–tested Pensioners' Social Solidarity Supplement (*EKAΣ*) and the farmers' basic pension, of 42–43% in real terms over the period 2004–08. By contrast, minimum pensions increased very little over the period (just over 1% in real terms). Since 2005, all contributory pensions have been increased at a uniform rate, whereas, in the past, low pensions were uprated more than higher ones.

In **Spain**, contributory pensions declined by almost 2% in real terms over the period, while non–contributory pensions rose by 3% and minimum pensions by 10–20% (42% in the case of widows with dependent children).

In **Cyprus**, where the risk of poverty among older people is the highest in the EU (52% of those aged 65 and over having income below the poverty line in 2005), retirement pension used to be non–contributory and paid at a flat rate. An earnings–related element was introduced in 1980, so that those who retired before then are still eligible only for a flat–rate amount. As more people receive an earnings–related pension, the average amount tends to increase (by almost 10% in real terms between 2004 and 2008). Basic pensions were increased by 5% in real terms over the period, as were non–contributory minimum and social pensions (fixed at 85% and 81% of the basic pension, respectively). A special allowance, inversely related to the original pension, was introduced in 2002 and was raised substantially in 2007. This has served to increase low pensions considerably, though many of the people benefiting live in relatively prosperous households.

In **Lithuania**, contributory pensions were raised in real terms over the period 2004–08, while a non–contributory social pension for those with an inadequate contribution record was introduced in 2005–06.

In **Luxembourg**, pensions were generally increased in line with earnings.

In **Hungary**, the progressive introduction of a 13th monthly pension, together with other changes, raised the real value of pensions by 15–20% in the period 2003–07. However, in 2008 the ability to combine earnings from employment work with pension income was limited to the annual equivalent of the minimum wage.

In **Malta**, pension reform in 2007 was aimed at raising the age of retirement and increasing low incomes in old age. Contribution credits of two years per child (four years in the case of a child with disabilities) were also introduced.

In **Austria**, a policy of the progressive uprating of pensions resulted in low pensions being raised by around the rate of inflation, while higher pensions declined slightly in real terms. Pensioners on lower incomes also benefited from more substantial

increases in the minimum pension top-up. As rates of income support in Vienna are tied to the minimum pension top-up, social assistance recipients in the capital aged over 60 (in the case of women) or 65 (in the case of men) also benefited.

In **Poland**, indexation was introduced for pensions, the current formula being the rate of price inflation plus 20% of the increase in real earnings.

In **Portugal**, the 2006 tripartite agreement on social security reform introduced a 'sustainability factor', under which pension rules were adjusted in line with changes in life expectancy. The pension formula was also modified to take account of the full contribution record of workers, and pensions for low earners were increased. A means-tested solidarity supplement to pensions (*Complemento solidário para idosos* or *CSI*) was also introduced in 2006 with the aim of providing a basic safety net for the elderly. The scheme initially covered those aged 80 and over, but was extended to the 70-79 age group in 2007, and to everyone aged 65 and over in 2008. At present, the annual income threshold is set at EUR 4,800 for those living alone (EUR 8,400 for couples), and the supplement is expected to reduce the risk of poverty among older people significantly.

In **Romania**, pensions were increased both in real terms (by 9% over the period 2005-07) and relative to average earnings (to 36% in 2007). Nevertheless, the failure to uprate minimum pensions and the fact that many people retire with incomplete contribution records have moderated the effect of increases in pensions on the risk of poverty among those aged 65 and over.

In **Slovenia**, pensions were indexed in line with net wages in 2006, while minimum pensions were also adjusted and a one-off increase was paid to those on low pensions in 2008, to compensate for price inflation.

In **Finland**, a major pension reform was introduced in 2005 to improve the long-term viability of earnings-related pensions by lengthening average working lives by 2-3 years. The reform increased the pension rate for workers aged 63-67, abolished the cap on maximum pensions for those with a long employment record, and calculated pensionable earnings over the full working career (rather than over the last 10 years, as previously). In addition, in an attempt to ease pressure on social contributions, the government and its social partners agreed to relax restrictions on the investment of pension fund reserves in 2006.

In **Sweden**, only minor changes have been made to the pension system since the reforms, based on the 'notional defined contributions' principle, were fully implemented in 2003. The earnings-related component increased because of wage indexation, while increases in housing benefits raised the income of those on low pensions.

In the **United Kingdom**, pensions and other benefits for older people tend to be linked to price or wage inflation. There was, however, a gradual increase over the period 2004-08 in means-tested pension credit and the associated means-tested benefits for pensioners, as well as a one-off increase in the universal winter fuel payment to the elderly in 2008.

In **Croatia**, the position of those retiring after January 1999, which had been adversely affected by earlier changes, improved substantially under the terms of the 2007 agreement between the government and the Pensioners' Party (*HSU*). In addition, in 2005, the local authority in Zagreb introduced a substantial pension

supplement, inversely related to the level of the pension. This amounts, for example, to HRK 400 (EUR 56) a month for those on a pension of below HRK 900 (EUR 127) a month.

In **Turkey**, the Social Security and Universal Health Insurance Law, enacted in October 2008, was aimed at unifying existing pension schemes.

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Glossary

Active labour market policies: Measures aimed at improving recipients' prospects of finding gainful employment or increasing their earnings capacity or, in the case of employers, at encouraging them to take on people or to maintain jobs. These include public employment services, vocational training programmes, job subsidies and job creation measures.

At-risk-of-poverty rate (may also be shortened to the **poverty rate):** The proportion of people with an equivalised disposable income below the at-risk-of-poverty threshold, which is conventionally set at 60% of the national median equivalised disposable income (after social transfers and direct taxes). The at-risk-of-poverty rate is part of the set of indicators adopted by the Laeken European Council.

Benefits in kind: The provision of social services, such as child or elderly care, at a subsidised price or free of charge.

Canberra Group on Household Income Statistics: A group set up to improve national household income statistics by developing relevant standards on conceptual and practical issues. To improve international comparability, the Group has developed and recommended international guidelines and standards. For more information, see: **www.lisproject.org/ links/canbaccess.htm**

Cash benefits: Income support for individuals in the form of monetary payments, in contrast to benefits in kind.

Citizenship: The legal nationality of the person concerned.

Confidence interval: An interval that is known to include the true value of a variable with a certain, and relatively high, probability (generally 95% or 99%).

Contributory pension scheme: A pension scheme funded by contributions from the individuals concerned and, in many cases, by their employers.

Cross-sectional data set: Data that relate to a single point in time, rather than a time-series data set, which consists of observations over successive periods of time (e.g. monthly or annually).

Decile: One of the nine variate values that divide a total frequency distribution (such as that of disposable income) into 10 equal parts in terms of the population covered, once the population has been ranked in terms of a particular variable (such as disposable income).

Decile group: The population included within one of the 10 equal parts. For example, the bottom income decile group represents the 10% of the population with the lowest income in a country or region.

Disposable income: Gross income less income tax, regular taxes on wealth, compulsory social insurance contributions paid by the individual concerned plus social transfers and any private transfers received.

Duration of unemployment: The (continuous) period during which a person is both available for work and actively seeking work.

ECHP: The European Community Household Panel, a panel survey in which the same selected sample of households and the people living in them were interviewed each year about their income, financial situation, working life, housing situation, social relations, health and other aspects of their living conditions. Altogether, there were eight annual surveys, or waves, of ECHP between 1994 and 2001, before it was terminated, to be replaced by the EU–SILC (see below).

Educational attainment: The highest education or training level successfully completed, usually defined in terms of the International Standard Classification of Education (ISCED).

Employed person: Defined according to international conventions as anyone aged 15 and over who, during a particular week (the reference week), worked at least one hour in a job or business, or had a job or business from which they were temporarily absent. The definition includes unpaid family workers. In some parts of the EU–SILC or Labour Force Survey (see below), employment can also be self-defined.

Employment rate: The proportion of those aged 15–64 who are in employment.

Equivalised (household) disposable income: The total disposable income of a household (i.e. the sum of the income of all members) divided by the number of people living in the household, weighted to allow for the economies associated with collective consumption. The weights used in the analysis here, and in most studies, conform to the modified OECD scale, which attributes weight of 1.0 to the first adult, 0.5 to everyone else aged 14 and over, and 0.3 to each child aged under 14. Each person in the household is, therefore, assigned the same 'equivalised disposable income', on the implicit assumption that the income of the household is shared equally between the members.

EU10: The Member States that entered the EU on 1 May 2004 — i.e. the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia.

EU15: The 15 Member States prior to the accession of the EU10 — i.e. Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, the Netherlands, Austria, Portugal, Finland, Sweden and the United Kingdom.

EU25: The EU15 plus the EU10.

EU–SILC: The EU Statistics on Income and Living Conditions, an annual survey to collect comparable data in EU Member States on these and related aspects. The survey project was launched in 2003 and covered six Member States (Belgium, Denmark, Greece, Ireland, Luxembourg and Austria) plus Norway; it was extended in 2004 to a further seven (to the EU15 — with the exceptions of Germany, the Netherlands and the UK — plus Estonia). In 2005, the survey covered all EU25 countries, and from 2007 it will cover Bulgaria and Romania as well (together with Turkey and Switzerland). Additional information can be found at: **http://forum.europa.eu.int/Public/irc/dsis/eusilc/library**

EUROMOD: A tax-benefit microsimulation model of households in EU Member States, which enables the effects on income of policies and policy reforms to be estimated in a comparative way across countries.

Eurostat: The Statistical Office of the European Communities and part of the European Commission.

Fiscal drag: The process by which tax revenue tends to increase with inflation or growth because tax thresholds or allowances are not adjusted in line with inflation or the growth of income.

GDP: Gross domestic product, an aggregate measure of output produced or income generated in an economy.

Gini coefficient (or **Gini index**): A measure of inequality or concentration, here used mainly in respect of income. The Gini coefficient is derived from the Lorenz curve (see below), which plots cumulative shares of the population, from the poorest upwards, against the cumulative share of incomes that they receive. The Gini coefficient is defined as the ratio of the area between the Lorenz curve and the total area delineated by the 45-degree line, which indicates an equal distribution of income, with everyone receiving the same amount. The Gini coefficient, therefore, varies between 0, when it would be the same as the 45-degree line and 1, when a single individual (person or household) has all the income.

Household: One or more persons living in the same place, or at the same address, and, by assumption, sharing income and purchases.

Household Budget Surveys: Sample surveys of household expenditure on various goods and services.

Imputed rent: An estimate of the equivalent market rent for a household that is owned by the occupier(s) or for which the actual rent paid is subsidised or free of charge.

Inactive person: Someone who is economically inactive.

Inactivity rate: The proportion of the population of working age (conventionally taken as 15-64) that is neither employed nor recorded as being unemployed.

Income quintile share ratio (S80/S20): The ratio of total equivalised disposable income received by the 20% of the population with the highest income (top quintile) to that received by the 20% with the lowest income (lowest quintile).

Indexation: The periodic adjustment of the monetary value of regular payments, allowances or thresholds to take account of inflation.

Labour force: The sum of those recorded as being employed and unemployed.

Labour Force Survey: A quarterly household survey of the employment circumstances of people living in a representative sample of households.

Laeken indicators: A set of indicators of key aspects of social exclusion and poverty agreed by the Laeken European Council in December 2001. A new set of overarching indicators was adopted by the Social Protection Committee in June 2006.

Lorenz curve: A curve that plots the cumulative percentages of income received by individuals or households ranked in terms of income.

Material deprivation: The enforced lack of particular items, services or facilities considered important for an acceptable standard of living.

Mean Log Deviation (MLD) index: The MLD index is a measure of inequality. It takes its minimum of zero when every individual in society has the same income, and higher levels of the MLD index show higher inequality. The MLD index belongs to the so-called Generalised Entropy Family of indices, members of which share the property of 'additive decomposability'. This property can be exploited when one seeks to quantify the importance of a grouping variable (e.g. region of residence, age or education) in 'explaining' inequality. 'Additive decomposability' means that the index can be written as the sum of two components: a weighted sum of within-group inequalities and between-group inequality — that is, inequality that would be observed if the incomes of all individuals were replaced by their

respective group means. Formally the MLD $= (1/n)\Sigma_{i=1,...,n}\log(\mu/y_i)$, where y_i are individual incomes, n is sample size, μ is sample mean income.

Means-tested benefits: Social transfers that are subject to a means test, i.e. an assessment of the income and accumulated savings of households to determine whether the level of the two is low enough to entitle them to payment.

Median: The value of the variate which divides a total frequency distribution into two halves. Median income is, therefore, the level at which 50% of the population has income higher than this and 50% lower than this.

Minimum income schemes: Social transfers designed to bring the income of households up to a minimum level.

NUTS: The Nomenclature of Territorial Units for Statistics. This is a multi-level hierarchical system for classifying regions in the EU which is based to some extent on the administrative structure in place at regional level in the different countries. Each Member State above a minimum size is subdivided into NUTS 1 regions, each of which is in turn subdivided into NUTS 2 regions and so on. For more details, see
http://ec.europa.eu/eurostat/ramon/nuts/home_regions_en.html

Outlier: A data value that diverges a long way from that of most observations.

Participation rate: The proportion of working-age population that is either employed or unemployed.

Poverty gap (or **At-risk-of-poverty gap**): A measure of the extent of risk of poverty, defined as the difference between the median income of those with income below the poverty threshold and the threshold itself, expressed as a percentage of the latter.

Poverty line (or **threshold**): The income chosen to denote an acceptable level. Those with income below this level, here taken to be 60% of the median, are defined as being at risk of poverty.

Poverty rate: See **At-risk-of-poverty rate**.

Purchasing Power Standard (PPS) or **Parity (PPP):** A unit of account that measures the ability to purchase a given basket of goods and services in different countries, which accordingly adjusts for differences in price levels.

Social assistance: Transfers by government to households, intended to provide income support for households that are either not eligible for social insurance benefits or for which the amount of those benefits received is considered insufficient to bring their income up to an acceptable level.

Social exclusion and **inclusion:** A multi-dimensional view of poverty and deprivation, which includes non-monetary as well as monetary aspects.

Social insurance benefits: Transfers, usually funded mainly by contributions to social insurance, or security and schemes, entitlement to which is typically determined by a person's contribution record.

Tax allowances: Amounts deducted from gross earnings to arrive at taxable income.

Tax credits: Amounts that are subtracted from a person's tax liability to determine the tax payable. In a number of countries, they represent a form of transfer to those in work with low earnings and a means of increasing their income to a more acceptable level.

Unemployed person: Defined according to international conventions as somebody who is available for work and actively seeking work, though in some parts of the EU-SILC or Labour Force Survey (see above), such as when indicating employment status during the previous year, unemployment can also be self-defined.

Unemployment rate: The number of unemployed as a percentage of the labour force.

Work intensity: A Eurostat measure, calculated as the ratio between the number of months spent in employment during the year by household members of working age (i.e. those aged 16–64) and the number of months they could potentially spend in work, if they were all employed. A work intensity index value of 0 corresponds to no one being in employment — i.e. a jobless household. A work intensity index value equal to 1 means that all the household members of working age have been employed for the entire year, while an index value of between 0 and 1 reflects a situation in which either only one household member has worked for the full year, or household members have worked for only part of the year.

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