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WHY IS  
RELATIVE INCOME  
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IN IRELAND?

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Responsibility for the content of the report remains solely with the authors.

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# 1. INTRODUCTION

Although relative income poverty rates vary from year to year, the rankings of different industrialised countries according to these poverty measures tend to be rather stable. Ireland is consistently among a group of countries with relative income poverty rates considerably above the European Union average (though not as high as the USA). This has not changed over the course of Ireland's recent economic boom, since our relative income poverty rates themselves have not fallen – indeed they have generally risen – over that period. This study asks why Ireland has higher relative income poverty rates than many of our EU partners? More specifically, it explores what we can learn from an in-depth comparison with a number of other European countries, including some of the best performers in the European Union in terms of that indicator.

This approach has parallels with a number of developments in the social and employment policy agenda at EU level. Atkinson (2000) notes that the Belgian government proposed that all member states should seek to match the performance of the three best states in combating poverty. This links closely with the “open method of co-ordination” agreed at Lisbon, “a process in which clear and mutually agreed objectives are defined, after which peer review, on the basis of national action plans, enables EU Member States to compare practices and learn from each other. This method respects – and is in fact built upon – local diversity.” (Vandenbroucke, 2002). Similarly, the UK's new targets for child poverty include a criterion that the UK rate should be “among the best in Europe”.<sup>1</sup>

We begin (Chapter 2) by discussing the nature of relative income poverty rates as poverty measures, their limitations and uses and their growing importance in an EU context. Chapter 3 then looks at how relative income poverty rates actually vary across EU member states, using the latest harmonised data. Chapter 4 reviews some of the main findings of previous investigations into cross-country differences in relative income poverty rates, and undertakes a new investigation of the role of wage inequality in explaining differences in relative income poverty. Our research then employs a variety of

<sup>1</sup> Department of Work and Pensions (2003) notes that “Possible ways to define being ‘among the best in Europe’ could include: having a relative child poverty rate no higher than the average of the best three countries in Europe; having a relative child poverty rate no higher than the average of the best four countries in Europe; and having a relative child poverty rate that was within 2 percentage points of the average of the best three countries in Europe.”

analytic approaches to see what is distinctive about Ireland. The implications for relative income poverty rates of differences in age structure, household structure, and labour market conditions are explored in Chapter 5, focusing on five countries. This is done by simulating what the relative income poverty rate would be if each of these countries shared a common age structure, household structure or pattern of unemployment and labour market participation. This exercise – and other studies carried out elsewhere – point towards the importance of social protection as a key influence. In Chapter 6 we therefore look in detail at social protection spending in Ireland compared with other EU countries. What would be the impact on relative poverty if the level and/or structure of social protection spending in Ireland were to become similar to that of countries with low poverty rates, such as Denmark and the Netherlands? We explore this question using *SWITCH*, the Irish tax-benefit model. The main findings are drawn together in Chapter 7.

As well as setting out the focus of the study, it is important to be clear at the outset about what it does *not* seek to do. In particular, while it looks at the impact of higher social protection spending on the numbers below relative income thresholds, it does not attempt to examine how that higher spending might be financed,<sup>2</sup> or what dynamic effects both higher spending and taxes might have on the behaviour of those affected, and on the macroeconomy. These are critically important issues. We have set out in previous studies the complex analytical issues that arise in trying to capture such behavioural effects at the level of the individual and household. While progress has been made in that direction (see for example, Callan *et al.*, 2003), much remains to be done before these effects can be comprehensively modelled. At the macroeconomic level, the relationship between taxation and economic growth is of course both much researched and hotly disputed, and Irish experience over the last ten decades or more also requires a good deal more research in that context. Our aim in this study is to ask more limited but key questions about relative income poverty, and the results serve among other things to highlight the importance of greater clarity on these overarching behavioural and macroeconomic issues.

<sup>2</sup> The simple assumption made in Chapter 6 is that higher costs are financed by higher income tax rates, but this is only one of many possible financing methods.

# 2. UNDERSTANDING RELATIVE INCOME POVERTY MEASURES

Relative income poverty rates measure poverty in terms of the percentage falling below income thresholds derived as proportions of mean or median income in the country in question. These income thresholds are often set at 50 per cent or 60 per cent of mean or median income. Such poverty measures have two central features. The first is that they rely entirely on household income as the indicator of resources, living standards and capacity to participate in the life of society. The second is that the benchmark of adequacy used in assessing whether a household has sufficient income moves strictly in line with the average (or median) income in the society. Because of these features, relative income poverty rates have serious limitations if used as the sole indicator of the level of poverty or of the types of household experiencing poverty.

These limitations have been discussed in depth in previous Economic and Social Research Institute (ESRI) studies of poverty in Ireland and in the EU, as well as in an increasing volume of other studies. Analysis of non-monetary indicators of deprivation for Irish households has shown the extent to which deprivation scores vary across households at similar income levels, with significant numbers of those falling below relative income poverty thresholds having relatively low deprivation scores. Regression analysis of the determinants of deprivation shows that, while current income does play a role, other indicators of longer-term resources and needs are better predictors of deprivation scores (see for example, Nolan and Whelan, 1996). Such findings have been broadly replicated in a series of studies using harmonised household survey data for other EU member states from the European Community Household Panel Survey (see, for example, Layte *et al.*, 2001; Whelan *et al.*, 2002). They arise essentially because a household's level of relative deprivation depends on its command over resources and its needs compared with others in the same society, not just on its measured income.

This provides the essential rationale for seeking to measure levels of deprivation directly, and using non-monetary indicators together with income to measure and understand poverty. The measure of 'consistent' poverty developed at the ESRI seeks to do this with Irish data; the construction of this measure and the way it has

evolved over time are detailed in a series of studies of poverty in Ireland (see, for example, Callan, Nolan and Whelan, 1993; Nolan and Whelan 1996; Callan *et al.*, 1996; Layte *et al.*, 2001; and most recently Nolan *et al.*, 2002). In summary, it identifies as poor those who are both below relative income poverty lines and experiencing basic deprivation, with basic deprivation being captured by a specific set of non-monetary indicators which analysis has suggested best suit that purpose. This measure provides a more reliable basis than relative income alone on which to identify those who are unable to participate in the ordinary life of the society due to lack of resources. The National Anti-Poverty Strategy has framed its poverty reduction targets in terms of this ‘consistent’ poverty measure. Difficult issues have to be faced in constructing the measure about the choice of non-monetary indicators and how best to adapt these over time as living standards and expectations adjust, and these once again have been discussed in the studies mentioned.

While relative income poverty rates have serious limitations as a measure of poverty at a point in time, they do contain valuable information about underlying trends, which will have major implications for the design of policy and for the way poverty is likely to evolve in the future. As we have argued in previous publications, the ‘consistent’ poverty measure on its own cannot be expected to tell the whole story, particularly in the quite unusual set of circumstances Ireland has recently experienced. Average incomes have grown exceptionally rapidly, those on low incomes have shared in that growth and seen their real living standards rise significantly, but those relying on social welfare have not kept pace with the increase in incomes from work. The ‘consistent’ poverty measure – showing a substantial decline in the numbers unable to afford what are regarded as basic necessities – is certainly capturing a central feature of what has happened over this period, which a purely relative income poverty standard – showing no progress or even a deterioration – misses.

However, particularly over a lengthy and more “normal” period when living standards are growing less rapidly, ignoring the evolution of the numbers falling below purely relative income thresholds may also mean an important part of the story is being missed. As incomes reach higher levels and ordinary living standards improve, societal expectations will also adjust and may catch up and adjust fully to higher average incomes. Higher real incomes and lower deprivation levels do not necessarily then mean that everyone is able to participate fully in society, precisely because what is involved in “participating fully” itself evolves over time as ordinary living standards improve.

The key challenge in setting and monitoring poverty targets is thus to capture the reality of rising living standards and falling deprivation, but also take into account the long-term consequences of lower incomes, and social security rates in particular, lagging behind the average. We have suggested that what is required is a

broadening in the scope of NAPS poverty targets (see Nolan, 1999, 2000, Callan *et al.*, 1999). As well as the combined income/deprivation measure, there could be distinct targets for the key elements underpinning it. Whatever about the way targets are formulated, it is clear that anti-poverty policy needs to be framed in the light of an understanding of Ireland's relative income poverty rate. In examining the evolution of poverty over the 1990s, we have in previous studies identified the key factors underpinning recent trends in relative income poverty – notably the fact that incomes from work rose more rapidly than transfers from the social welfare system. What that did not address, however, were the reasons why Ireland has a comparatively high percentage falling below such relative income thresholds in the first place: it is this underlying structural question, rather than recent trends, which is the concern of the present study.

The importance of exploring these structural factors is reinforced by the nature of the social inclusion indicators recently adopted at EU level. In December 2001, the European Council held at Laeken in Belgium adopted a set of commonly agreed and defined indicators of social inclusion, which will in the future play a central role in monitoring the performance of the Member States in promoting social inclusion. These indicators are intended to allow the Member States and the Commission to monitor progress towards the goal set by the European Council of Lisbon of making a decisive impact on the eradication of poverty by 2010. They were developed by the Social Protection Committee and its Indicators Sub-Group, which recommended that a specific set of Primary and Secondary Indicators be employed. The first of the Primary Indicators is the percentage falling below 60 per cent of median income in the country in question.

The Indicators Sub-Group emphasised that this was to be seen as a measure of people who are “at risk of being poor”, not a measure of poverty – and for that reason it is labelled the “low income rate”. It is complemented by other Primary indicators also based on this relative income threshold. One measures the depth of the shortfall for those below the 60 per cent threshold. Another measures low income persistence, that is the number of people below 60 per cent of median income who had also been below that income line for at least two of the previous three years. The Secondary indicators also include the numbers below alternative relative income thresholds, set at 40 per cent, 50 per cent and 70 per cent of the median. In addition they also include a “low income rate” where the income threshold is anchored at a moment in time and indexed to price increases rather than purely relative (indexed to median income as it changes over time). However, in tracking low income the dominant focus in the agreed social inclusion indicators is clearly on relative income thresholds. Since performance vis-à-vis those thresholds is going to receive a great deal of attention at EU level, it is all the more

important to understand the factors underlying Ireland's ranking in terms of this "low income" or relative income poverty rate.

# 3. RELATIVE INCOME POVERTY: IRELAND IN COMPARATIVE PERSPECTIVE

So where does Ireland rank in terms of relative income poverty? The obvious place to start in answering this question is with the figures, produced by Eurostat from the European Community Household Panel Survey, presented among the agreed indicators of social inclusion in the EU's *Second Joint Report on Social Inclusion* (2004). We reproduce in Table 3.1 the figures shown there for the percentage falling below 60 per cent of median income in each of the EU Member States, for 1995, 1997, 1999 and 2001. (Note that while these are the years the survey results presented were gathered, the income figures in fact refer to the previous calendar year.)

We see that in 1995, Ireland had 19 per cent of persons below this relative income threshold (in terms of their household income, adjusted to take differences in household size and composition into account). Only Greece, Portugal, Italy and the UK had higher figures, while Spain had the same rate. These countries were all well above the EU average of about 15 per cent. Belgium, France and Germany were about that average, Austria and Luxembourg were on 12-13 per cent, and the Netherlands was on 11 per cent. Denmark had the lowest rates, at 10 per cent. (Data for Finland and Sweden were not then available.)

If we look now at 2001, then Ireland's relative income poverty rate has risen to 21 per cent while the countries which had higher rates in 1995 have seen declines, leaving Ireland with the highest rate in the (then) EU-15.

**Table 3.1: Percentage of Persons Below 60 Per Cent of Median Equivalised Income, Modified OECD Scale, 1995, 1997, 1999 and 2001**

	Percentage of Persons Below 60 Per Cent of Median Income			
	1995	1997	1999	2001
Sweden	..	8	8	9
Denmark	10	10	10	10
Finland	..	8	11	11
Germany	15	12	11	11
Netherlands	11	10	11	11
Austria	13	13	12	12
Luxembourg	12	11	13	12
Belgium	16	14	13	13
France	15	15	15	15
UK	20	18	19	17
Spain	19	20	19	19
Italy	20	19	18	19
Greece	22	21	21	20
Portugal	23	22	21	20
<b>Ireland</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>21</b>
EU average	15	14	13	13

Source: *Joint Report on Social Inclusion* (2004), Statistical Annex Table 1. Countries ranked by 2001 relative income poverty rate. EU average on the basis of population size.

It is worth pointing out that there have been some questions raised about the reliability of the figures from the ECHP for certain countries. The figures for Belgium, for example, have been criticised by Belgian researchers.<sup>3</sup> The British figures for 1997 are presented with a “health warning” that they are not strictly comparable with the 1995 and 1996 data and are being revised. Sweden did not participate in the ECHP, so the figures for that country are drawn from national sources, as are those for Denmark in preference to ones from the ECHP. More broadly, the ECHP as a panel survey tries to follow individuals from one year to the next, and suffers from attrition as it does so. This means that it may be less likely to adequately represent the population of the country in question as time goes on than in the initial years of the survey, despite efforts to

<sup>3</sup> Validation of income poverty figures from the ECHP for France, the Netherlands and the UK in Eurostat (2000a) shows reasonably close correspondence with national figures, but Van Hoorebeeck *et al.* (2000) show that in national studies estimates of poverty in Belgium are generally lower than the ECHP. Eurostat (2000b) suggests the extent of under-reporting of income is higher in several of the southern countries and for this reason cautions against comparisons of average income across countries from the ECHP. Poverty levels assessed *vis-à-vis* “absolute” thresholds in purchasing power terms could be particularly seriously affected by such variation, as Smeeding *et al.* (2000) point out, but the numbers and types of household falling below relative income could also be affected.



weight the responses to correct for such biases. The extent of attrition varies across countries, and for this and other reasons the reliability of the figures may also vary somewhat.

For these reasons the broad grouping of countries in terms of percentages below the 60 per cent of median threshold should probably be given more weight than the precise ranking. This clearly shows Ireland to be among a group of six countries with relative income poverty rates well above the EU average, and much higher than those in the best-performing countries. It is on this basis that Ireland's position compared with other countries is most often assessed, and a key aim of the present study is to explore the factors underlying that ranking.

While numbers below the 60 per cent threshold receive most attention, including in the agreed EU social inclusion indicators, alternative relative income thresholds can be adopted and may not show the same picture. To see what difference this makes, Table 3.2 shows the numbers falling below the alternative thresholds of 40 per cent, 50 per cent and 70 per cent of the median, again based on data from the ECHP and published by Eurostat.

**Table 3.2: Percentage of Persons Below 40 Per Cent, 50 Per Cent and 70 Per Cent of Median Equivalised Income, Modified OECD Scale, 2001**

	Percentage of Persons Below:			
	40 Per Cent of Median	50 Per Cent of Median	60 Per Cent of Median	70 Per Cent of Median
Sweden	2	5	9	17
Denmark	2	4	10	19
Finland	2	6	11	20
Germany	3	6	11	19
Netherlands	4	6	11	19
Austria	3	6	12	19
Luxembourg	3	6	12	21
Belgium	2	6	13	21
France	4	9	15	23
UK	5	11	17	26
Spain	7	13	19	27
Italy	8	13	19	27
Greece	8	14	20	28
Portugal	6	13	20	28
<b>IRELAND</b>	<b>5</b>	<b>15</b>	<b>21</b>	<b>29</b>
EU average	5	9	15	23

Source: *Joint Report on Social Inclusion* (2004), Statistical Annex Table 1.

Countries ranked by 50 per cent median relative income poverty rate.

The lowest threshold, of 40 per cent of the median, is very low indeed and would not customarily be employed in an Irish context. The Irish figure of 5 per cent below this threshold in 2001 is the same as the EU average, while Italy, Spain, Greece and Portugal have higher figures.

Unlike the 40 per cent threshold, a threshold set at 50 per cent of median income is commonly used as a core poverty/low income indicator in a number of EU countries. We see from Table 3.2 that with this threshold, at 15 per cent Ireland has the highest relative income poverty rate in the EU. This is also true for the percentage falling below the highest relative income threshold, of 70 per cent of the median. (Like the 40 per cent of median threshold, in other member states this would generally be seen as useful for sensitivity analysis rather than as a core threshold.)

It is worth noting that figures for 1995 for these alternative thresholds show rather a different picture: with the lower thresholds Ireland had a below-average relative income poverty rate at that stage. However, the increase over the period in the numbers falling below these thresholds was such that Ireland's ranking deteriorated markedly. This arose as average income grew exceptionally rapidly in Ireland, faster than social welfare transfers – a phenomenon analysed in depth in previous studies, notably Whelan *et al.* (2003).

It is worth putting these figures for the EU members in a broader comparative context. While it is difficult to obtain as high a degree of comparability given the absence of a common data source, the Luxembourg Income Study (LIS) database contains data for a broader range of developed countries and seeks to maximise comparability in terms of definitions etc. Table 3.3 presents figures derived from that source for the percentage falling below 50 per cent of median income in various OECD countries in the early/mid 1990s.<sup>4</sup> We see that among the accession countries the Czech Republic had very few people below half median income, while Hungary and Poland had about 10-12 per cent in that position, similar to the EU average. Broadening the comparison to North America, we see that Canada also had 11 per cent below that threshold. The USA, however, had about 20 per cent below that relative income threshold, among the highest of the countries covered.

The key finding in terms of Ireland's comparative position is thus that the numbers falling below relative income thresholds are indeed considerably above the EU average when a relative income threshold set at 60 per cent of the median – roughly the same as half the mean income – is used. It is critical to elucidate why this is the case to inform the development of an appropriate strategy and policies, particularly since this measure has been adopted as a key indicator at EU level. Ireland's ranking is, however, considerably better when lower relative thresholds are employed, and the factors underlying that element of the picture also merit investigation.

<sup>4</sup> Note that the way incomes are adjusted for household size and composition differs from the figures presented in Tables 3.1 and 3.2 based on the ECHP and those in Table 3.3 based on the Luxembourg Income study database; within Table 3.3 there are also differences between the Czech Republic, Hungary and Poland and the other countries in that respect.

**Table 3.3: Relative Income Poverty in Industrialised Countries in the Luxembourg Income Study, Early-Mid 1990s**

<b>Country (Date)</b>	<b>Per Cent of Persons Below 50 Per Cent of Median Equivalised Income</b>
Czech Republic (1992)	1.3
Sweden (1992)	2.9
Finland (1991)	3.2
Luxembourg (1994)	4.4
Austria (1992)	4.8
Denmark (1992)	4.9
Belgium (1992)	5.7
Netherlands (1991)	6.5
Germany (1994)	8.5
France (1994)	9.4
Hungary (1994)	9.9
Spain (1990)	10.3
Canada (1994)	11.4
Poland (1992)	11.6
<b>IRELAND (1987)</b>	<b>12.2</b>
UK (1995)	15.1
Italy (1995)	15.6
USA (1994)	20.7

*Source:* Bradbury and Jantti (1999), Table 3.6 p. 33, calculated from LIS.

# 4. IDENTIFYING KEY STRUCTURAL FACTORS

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## 4.1 Introduction

In this chapter we begin by considering a selection of international studies seeking to explain cross-country differences in relative income poverty rates. Drawing on the findings and methods of such studies, we then identify some key factors for detailed investigation in later chapters.

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## 4.2 International Studies

In a review of poverty in advanced countries, Jannti and Danziger (2000) note the complexity of the processes determining household income. Relevant factors include choices regarding education and training, marriage and household formation, labour supply decisions and fertility choices. These choices are influenced by a range of public policies – taxes, transfers, policies on health and on education for example. Jannti and Danziger point out that *No empirical economic analysis of income poverty can incorporate all of these behaviors... Any analysis takes many of the behavioral factors as given, either for analytical tractability or because of data limitations. For many questions, however, analysis of only some aspects of policy will suffice.*

There is, therefore, no single approach to “decomposing” differences in relative income poverty across countries and attributing parts of the difference to different factors. Here we review briefly some of the most distinctive contributions to this literature, in order to identify some of the key factors and methods to be used in our investigation of the gap between relative income poverty in Ireland and countries with some of the lowest poverty rates in the EU.

Biewen and Jenkins (2002) point out that when a low poverty rate is observed in a particular country, this may arise

- (a) because relatively few individuals in this country have characteristics usually associated with poverty (e.g., unemployment, illness or lone parenthood) or
- (b) because, although there are many individuals with characteristics linked to a high risk of poverty, the risk in that country, given those characteristics, is itself low relative to the risk in other countries.

Building on this perspective, they developed a framework for studying the relationship between poverty and personal characteristics, which allows a decomposition of differences in

poverty rates across countries.<sup>5</sup> Applying this method to the USA, Great Britain and Germany they find that most of the poverty difference between the US and Britain, and between the US and Germany was accounted for by higher US risks of poverty for any given set of personal characteristics. This was partly offset by a more favourable distribution of household characteristics in the US, principally a higher employment rate.

Bourguignon *et al.* (2002) developed a micro-econometric method to account for differences across distributions of household income. This allows decomposition of inequality or poverty measures into shares due to differences in the structure of labour market returns, differences in occupational structure, and differences in the underlying distribution of assets (endowment effects). An application of the method to a comparison between Brazil and the USA finds that most of the higher inequality in Brazil is due to “underlying inequalities in the distribution of two key endowments: access to education and to sources of non-labour income, mainly pensions”.<sup>6</sup>

Caminada and Goudswaard (2001) analyse the contribution of changes in the distribution of primary incomes, changes in transfers and changes in taxes to the increase in inequality in disposable income in the Netherlands.<sup>7</sup> The implicit assumption is that the incidence of taxes and employee social insurance contributions is on employee earnings, while employer contributions and indirect taxes fall to firms to pay.<sup>8</sup> Given this assumption, they find that transfers account for about 40 per cent of the increase in inequality, with increased inequality of primary income accounting for 35 per cent and taxes 25 per cent over the period 1981 to 1987.

Gardiner (1997) summarises in a useful diagram (Figure 4.1) many of the factors involved in moving from individual earnings to disposable income per adult equivalent at household level. The boxes labelled Y1 to Y10 represent income sources, while structural or compositional factors are identified in boxes C1 to C4. For example, both hourly earnings (Y1) and hours of work (C1) help to

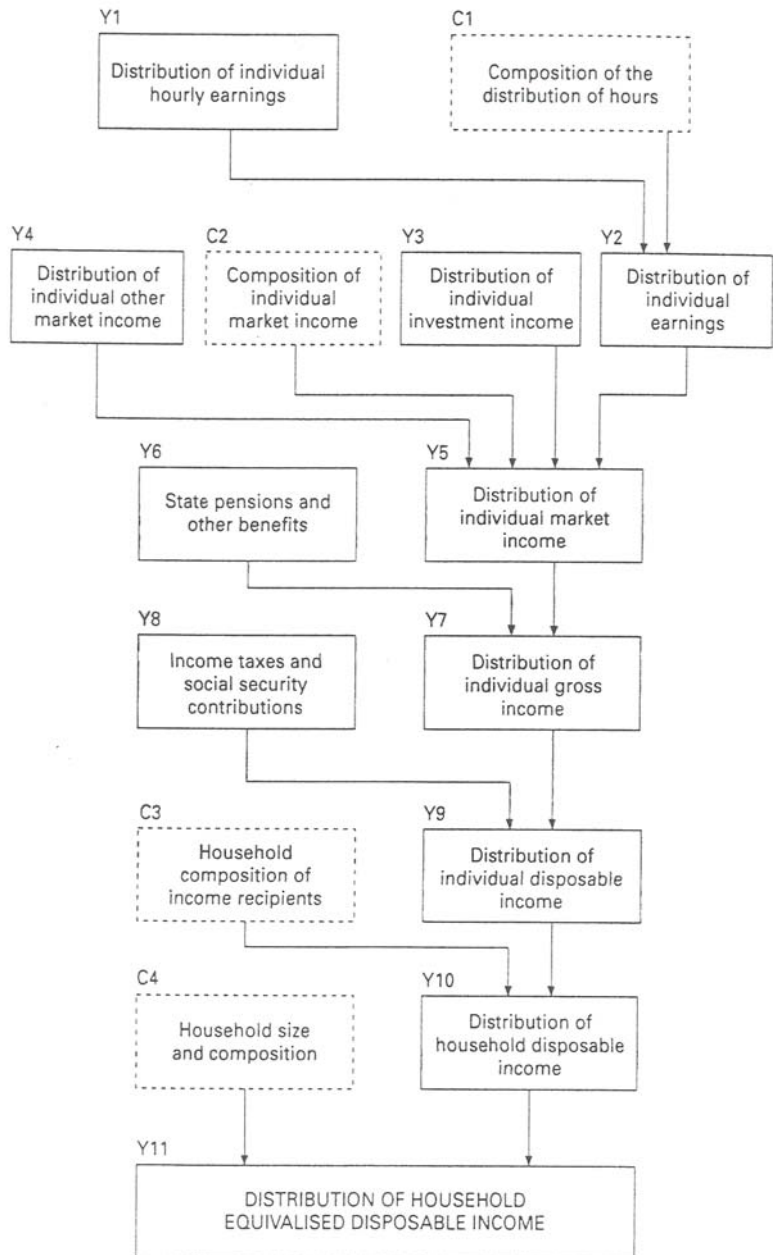
<sup>5</sup> The set of characteristics includes elements relating to demographics, labour market participation and educational qualifications.

<sup>6</sup> The use of the term “endowment” to cover access to education and entitlements to pensions is somewhat problematic: clearly access to education is not something which is determined at birth, but depends on public policy. The distinction in the analysis might be characterised more precisely as one between “assets” – whether endowed at or as a result of birth or otherwise - and “returns to assets”.

<sup>7</sup> The Theil index (mean log deviation) is used because it allows changes in inequality to be decomposed in this way. (Cowell, 2000).

<sup>8</sup> For a critical survey of efforts to measure budget incidence see Smolensky, Hoyt and Danziger (1987).

**Figure 4.1: Composition of Household Equivalised Disposable Income, Gardiner (1997)**



determine the distribution of individual earnings (Y2). This diagram suggests a number of possible areas for investigation. Here we single out three.

Earnings (Y2) constitute the preponderant component of market income in most industrialised countries, and have, in consequence a major influence on disposable income. We know that there is considerable diversity across countries in the dispersion of individual earnings (Atkinson *et al.*, 1995) and that within countries earnings dispersion can change quite sharply over time. These considerations suggest that it would be of interest to know how such inter-country differences in earnings dispersion may affect relative income poverty comparisons. We investigate this issue further, using EUROMOD, in Section 4.3.

Rates of household income poverty depend in part on the household formation and composition process (Boxes C3 and C4 in the diagram). In general, do individuals tend to marry a person similar to themselves in terms, for example, of educational background and attitude towards employment? If there is a strong tendency towards “assortative mating” (like marrying like), as it is termed, a country may tend to have a greater concentration of employment in “work-rich” households and of unemployment in “work-poor” households. This is not, of course, the only factor influencing the distribution of employment and unemployment across households (see Russell *et al.*, 2004; Walsh, 2003).<sup>9</sup>

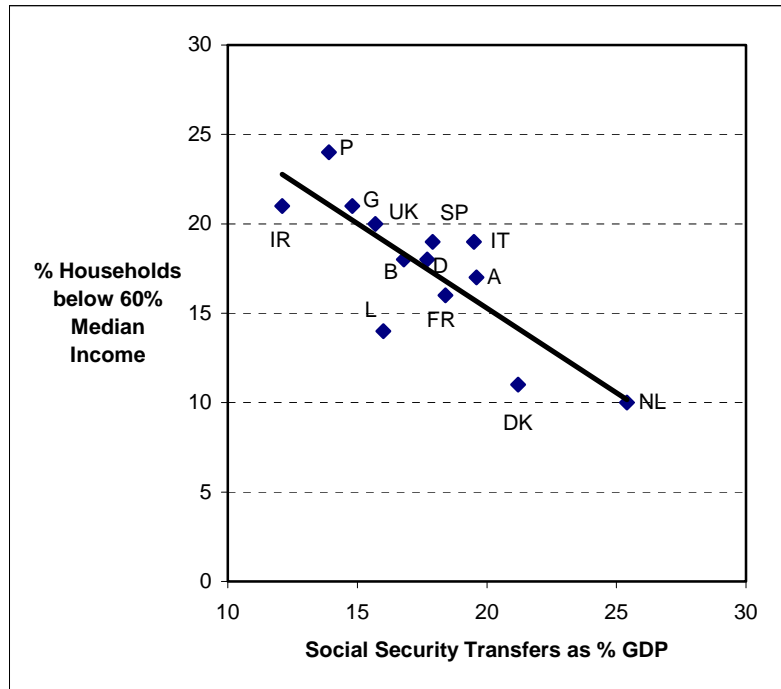
Transfer income (Y6) clearly has a direct role in reducing relative income poverty, but the level and structure of such support varies considerably across countries. It is to this issue that we now turn, drawing on work by Atkinson (2000) to provide an overview of the relationship between social security spending and relative income poverty. In Chapter 6, we undertake a more detailed investigation of differences between Ireland and countries with the lowest relative income poverty rates in the EU.

Atkinson (2000) presents the results of fitting a very simple statistical model to the relationship between the poverty/low income rate in the EU member states in the mid-1990s and two explanatory variables: the proportion of GDP spent on social protection, and the proportion of the working-age population at work. The employment rate is not statistically significant but social protection spending is. This extremely simple model does well in predicting the percentage falling below 60 per cent of median income in a number of countries – such as Belgium, Sweden, Netherlands, and Germany – and correctly predicts that countries like Greece, Portugal, Ireland and Italy have much higher relative poverty rates than those countries.

<sup>9</sup> Tax and benefit systems themselves can influence this process, particularly if means-testing weakens financial work incentives in the case where one spouse is unemployed.

Figure 4.2 illustrates this model.<sup>10</sup> Each country is represented by a single point. The x-coordinate corresponds to the level of social spending, expressed as a percentage of GDP, and the y-coordinate plots the proportion of individuals falling below 60 per cent of median equivalised household income in that country. For most countries GNP and GDP are quite close, but the high incidence of multinational activity in Ireland means that GNP is significantly below GDP. For this reason, in the case of Ireland we use an expenditure to GNP ratio, rather than the ratio to GDP.

**Figure 4.2: Relative Income Poverty Rates and Social Security Spending as Per Cent of GDP, EU Countries, 1994**



Interestingly, this model actually predicts that – given Ireland’s relatively low employment rate and social protection spending – the percentage below the 60 per cent relative income threshold would be somewhat higher than the actual level. This simple model would not purport to provide anything more than a suggestive summary of the overall relationships. None the less, it certainly serves to highlight the salience of social protection, which has to be kept in mind throughout. A replication of Atkinson’s analysis, using data for 1999, finds that the relationship identified in 1994 was considerably weaker by 1999.<sup>11</sup> In part this reflects the fact that the Netherlands, Sweden

<sup>10</sup> The data contain some significant revisions from those used in the Atkinson (2002) paper, but the conclusions drawn in the previous paragraph remain valid.  
<sup>11</sup> The R<sup>2</sup> fell from 0.67 to 0.35, still significant at the 5 per cent level.



and Finland had managed to make substantial reductions in their total social security spending during the 1990s, while maintaining low relative income poverty rates. (In the case of the Netherlands the reduction may be due to changes in the definition of social protection expenditures.) The slope of the regression line is not much changed, indicating that an extra percentage point on the social security spending ratio “purchases” a similar reduction in relative income poverty.

Atkinson’s (2000) analysis goes beyond this cross-country regression to look at the potential for reductions in relative income poverty through a universal benefit. Analysis using the EUROMOD tax-benefit model suggests that employing proportionate increase in social transfers to reduce a country’s poverty rate from the EU-average of 18 per cent to the best-performing average of 12 per cent would necessitate an increase in social transfers of some 2 per cent of GDP.

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### 4.3 Key Factors

#### EARNINGS INEQUALITY

We noted earlier, in discussing Gardiner’s (1997) framework, that earnings constitute the dominant source of income in modern industrialised societies, and that earnings inequality could play a role in explaining differences in relative income poverty. Earlier work (Nolan *et al.*, 2000) on earnings inequality in Ireland has found that it was already quite high in 1987 relative to a range of countries, and rose sharply in subsequent years. This lends further weight to the notion that it may be useful to investigate the potential impact of earnings inequality on intercountry differences in relative income poverty.

One possible analytical approach would be to attempt to “scale” earnings inequality in Ireland down to the level seen in a comparator country (such as, say, Denmark). A number of choices would have to be made in implementing such an approach, but here we adopt a simpler method which avoids the need for such choices but generates some useful findings. Rather than compare two countries directly, we ask in each country, what would happen if earnings were distributed completely equally i.e., if each wage earner received exactly the same total earnings – irrespective of occupation, qualifications, industry, sex, marital status or hours worked. We term this scenario the “equal wage earnings counterfactual”. It would equalise wage earnings as between all those currently earning a wage – income inequalities arising from unemployment or non employment would continue. One could argue that an “equal hourly earnings” counterfactual would be also be of interest, but the “equal wage earnings” counterfactual goes beyond simply eliminating differences in hourly wages to remove hours worked as a source of income inequality. As we shall see, this is of considerable interest.

Equalisation of wages has downstream implications in terms of income tax liabilities and social welfare entitlements. For this reason,

investigation of the impact of this hypothesis requires the use of a tax-benefit model. We have made use of the EUROMOD tax-benefit model, which has been constructed using harmonised income concepts and measures of poverty. (For details of the construction of EUROMOD, see Sutherland, 2001, while up-to-date details of research using the model can be found at <http://www.econ.cam.ac.uk/dae/mu/emod.htm>). For the present analysis we are able to include results for four countries: Portugal, Denmark, the UK and Ireland, but not Germany or the Netherlands.<sup>12</sup> Original data are from the year 1994 for Ireland, Portugal and Denmark, and for the period 1995/6 for the UK. In all cases incomes are uprated to the year 1998 and tax and welfare policies for that year are specified and simulated.

**Table 4.1: Reduction in Relative Income Poverty Associated with “Equal Wage Earnings” Counterfactual: Selected Countries, 1998<sup>a</sup>**

Head Count at 50 Per Cent of Mean Income	Simulated 1998 with Wage Earnings Equalised		Reduction in Percentage Points
	Simulated 1998 <sup>b</sup> Per Cent	Per Cent	
Portugal	23.4	15.9	-7.5
Denmark	6.1	3.7	-2.3
UK	19.0	15.2	-3.8
Ireland	18.9	17.1	-1.8

*Notes:* a. Calculations using EUROMOD, see Immervoll, O’Donoghue and Sutherland (2000). Responsibility for the calculations rests wholly with the authors of this document, not with the EUROMOD team.

- b. The actual policy baseline as well as the alternative scenario must be simulated. Otherwise differences between the alternative scenario and the actual policy baseline which arise from discrepancies between the baseline simulation and the actual policy would be incorrectly deemed attributable to the equalisation of earnings. This approach is standard in such microsimulation analyses.

*Sources:* These results were generated using EUROMOD, a tax-benefit model for Europe. EUROMOD relies on micro-data from the European Community Household Panel (ECHP) User Data Base made available by Eurostat for Denmark and Portugal and the Family Expenditure Survey (FES), made available by the UK Office for National Statistics (ONS) through the Data Archive. Material from the FES is Crown Copyright and is used by permission. Neither the ONS nor the Data Archive bear any responsibility for the analysis or interpretation of the data reported here. An equivalent disclaimer applies to the ECHP data. The work done using EUROMOD forms part of the MICRESA (Micro Analysis of the European Social Agenda) project, financed by the Improving Human Potential programme of the European Commission (SERD-2001-00099).

Table 4.1 shows the rate of income poverty (per cent of individuals below half of mean equivalised income) under a baseline

<sup>12</sup> The results of the EUROMOD analysis are the responsibility of the present authors alone.

simulation and under the “equal wage earnings” counterfactual. For Portugal, there is a sharp reduction in the head count of relative income poverty. For the other three countries the change is smaller – less than 2 percentage points for Ireland, and something under 4 percentage points for the UK.

As the head count is a poverty measure which can be particularly sensitive to small changes for individuals located in the neighbourhood of the income poverty line, measures which take a wider view are needed to complement it. Table 4.2 shows the proportionate reduction in poverty under the head count measure, the “poverty gap” measure which takes into account how far individuals fall below the poverty line, and the “weighted poverty gap” which takes into account the distribution of such income shortfalls. On this basis it is clear that for all three poverty measures, wage equalisation leads to substantial *proportionate* reductions in income poverty in Denmark and the UK as well as Portugal. Ireland is the exception – wage equalisation has a rather limited impact, no matter which measure of relative income poverty is used.

**Table 4.2: Proportionate Reduction in Alternative Measures of Poverty under “Equal Wage Earnings” Counterfactual: Selected Countries, 1998**

	Per Cent Reduction in Poverty Measure If All Wage Earners Received an Identical Wage			
	Portugal	Denmark	UK	Ireland
Head count	-32.0	-38.5	-19.9	-9.3
Poverty gap	-27.3	-37.2	-18.6	-6.3
Weighted poverty gap	-21.4	-26.1	-17.8	-4.4

*Note:* Calculations using EUROMOD, see Immervoll, O’Donoghue and Sutherland (2000). Responsibility for the calculations rests wholly with the authors of this document, not with the EUROMOD team.

What conclusions can we draw from this analysis? First, it seems that differences in earnings inequality between Ireland and, say, Denmark are not likely to play a large role in explaining the difference in relative income poverty between the two countries. Even if Irish earnings inequality were to be eliminated completely (as in the “equal wage earnings” counterfactual) it would have rather limited impact; so reducing Irish earnings inequality to the Danish level would have still less.

Why is it the case that earnings inequality seems to have less impact in Ireland than elsewhere? Here we cannot claim to have a complete explanation, but a part of it may be due to the following. Low-wage households were a rather small proportion of all low income households in Ireland in the mid-1990s. They may have constituted a more significant share of the low income population for both Denmark and Portugal. This being so, a boost to their income could have a greater impact in these latter countries.

When looking at broader measures of inequality rather than relative income poverty, the role played by market incomes in

explaining intercountry differences is somewhat greater. But this is not the focus here, and in explaining differences in relative income poverty between Ireland and such low-poverty countries as Denmark and the Netherlands, it seems that differences in wage inequality and rates of unemployment play a subsidiary role, not a dominant one.

### *Household and Individual Characteristics*

The decomposition of Biewen and Jenkins (2002) stressed the need to identify groups in the population with different risks of poverty. Among the characteristics they used were:

- the age profile of household members (the balance between numbers of elderly, numbers of adults and numbers of children),
- the demographic composition of household. Lone parent households versus two parent family households versus multiple adult households,
- the employment rate within the household.

They found that most of the poverty difference between the US and either Britain or Germany was accounted for by the fact that US poverty rates tended to be higher than British or German rates when comparing individuals from the same categories across countries. The distribution of individuals across the categories played a rather minor role.

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## 4.4 Conclusions

In this chapter we outlined a broad range of factors which could explain intercountry differences in relative income poverty, and reviewed some of the analyses which seek to identify the contribution made by the different factors. In the next chapter we investigate the role of factors such as these by looking at each in turn, and “standardising” on a particular age distribution or unemployment rate. If, intercountry differences are reduced when undertaken on this “standardised” basis, then differences in the factor concerned (e.g. age distribution of the population) help to explain observed differences in income poverty. But if not, we must look to other factors – for explanations. Prominent among these is the role of tax-transfer policy, investigated in Chapter 6.

# 5. ASSESSING THE ROLE OF LABOUR MARKET, DEMOGRAPHIC COMPOSITION AND HOUSEHOLD STRUCTURES BY SIMULATION

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## 5.1 Introduction

In seeking to identify key factors affecting the numbers falling below relative income thresholds in Ireland versus other EU members, various candidates suggest themselves on the basis of what is known about the types of groups at high risk and the characteristics associated with low income. As seen in the previous chapter, such factors as unemployment (or non-employment) and lone parenthood are frequently associated with low income. There is also often a relationship between age and low income, though as we shall see the nature of this relationship is less consistent across countries. Thus we might expect, other things being equal, that a country with high levels of unemployment and lone parenthood would have an above-average percentage on low income.

However, other things are of course not equal: in particular, the impact of unemployment, lone parenthood, age etc. on income and the probability of being on “low” income depend crucially on the extent and nature of social protection in the country in question. It is thus on the social protection system, and the welfare state more broadly, that discussion of cross-country differences in low income and poverty is most often focused. In the next chapter we undertake an in-depth investigation of the role of social security systems in explaining inter-country differences in relative income poverty. In this chapter, however, we focus on differences in macroeconomic and labour market situations, demographic profiles and household structures. Each of these could, potentially, play a significant role in explaining cross-country differences in relative income poverty.

In order to explore this in some depth, we will focus on a sub-set of EU countries, comparing Ireland with the Netherlands, Germany,

Portugal, and the UK. The mix of similarities and differences between these countries – in terms of structures and policies – make them a particularly useful set for this purpose. The UK has a tax and social protection structure very like Ireland’s – often termed the Anglo-Saxon model and quite different to many other European Union countries. Germany and the Netherlands have quite low relative income poverty rates, though not the lowest in the EU, but there are some significant differences in institutions and structures between them. Portugal, on the other hand, has a poorly developed social protection system and particularly high levels of relative income poverty.

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## 5.2 Methods of Analysis

Comparative analysis of the harmonised household survey data for these countries from the European Community Household Panel survey allows us to explore the significance of structural differences in the labour market, demographic profile and household composition for the extent of relative income poverty. The method we employ for this analysis is, in essence, straightforward. We ask, in effect, what the relative income poverty rate in these countries would be if they all had the same unemployment rate, or the same age structure, or the same household structure, and nothing else changed. To derive those results, we simply reweight the actual survey data to shrink or expand the size of the group in question, without changing any of their circumstances or the situation of the rest of the sample – most importantly, their incomes.

To take an example, suppose the unemployment rate in Ireland is 10 per cent but in the Netherlands it is 5 per cent? We want to see how much difference this makes to relative income poverty, so we want to produce a “counterfactual” distribution for Ireland as if unemployment was actually 5 per cent. To do so, we reweight the unemployed in the Irish sample so that there are only half as many – while leaving the profile of those unemployed in terms of income, household size and composition etc. unchanged. We then recompute the relative income poverty threshold, and then look at the numbers falling below that threshold for the counterfactual Irish sample.

Note that this is not the same as a much simpler exercise that could be carried out without recourse to micro-data, focused on the percentage below an *unchanging* relative income threshold. Suppose, for example, that the elderly comprise 20 per cent of the population and 25 per cent of that group fall below 60 per cent of median income, whereas the remaining 80 per cent of the population has only 10 per cent below that threshold. The overall relative income poverty rate would then be  $(20\% \times 0.25) + (80\% \times 0.10) = 13$  per cent. Now imagine a counterfactual situation where the elderly comprise only 10 per cent of the population. We could of course simply recalculate the relative income poverty rate as  $(10\% \times 0.25) + (90\% \times 0.10) = 11.5$  per cent. We cannot, however, safely conclude on that basis

that the alternative demographic profile would be associated, *ceteris paribus*, with a relative income poverty rate 1.5 per cent lower.

Such a calculation does indeed give some indication of the scale of the potential impact of this difference in demographic profile. What it does not take into account is that in actually making comparisons across countries (or over time), the relative income threshold itself will depend *inter alia* on the demographic structure. In this example, if there were only half as many elderly, then median income and thus the relative income threshold, might well be higher – so that the relative income poverty rates for each of the groups based on this higher threshold would be higher. This could serve to offset the impact of reducing the size of the high-risk group, and thus affect one’s overall assessment of the role of such demographic factors in explaining differences across countries. It is therefore important to be able to simulate the alternative demographic or other structures using the micro-data, which allows us to re-compute the poverty threshold – as some of the results presented in the next section amply demonstrate.

We now apply this simulation approach to the sub-set of five countries, focusing in turn on demographic profile, labour market situation, and household composition. In doing so, we take the Netherlands as our benchmark case – the country with the lowest relative income poverty rate of the 5 considered here, and one of the lowest in the EU. In other words, the question posed is “what would the relative income poverty rate be in the other countries if they had the Netherlands’ demographic profile, unemployment rate, or household composition structure”? For simplicity, we focus on the characteristics of the household and the “household reference person” – defined by Eurostat for the purposes of the ECHP as the owner or tenant of the household’s accommodation or, if a couple are jointly responsible, the older of the two. Thus we look at the age profile and labour market situation of the household reference person (rather than all adults in the household) and the number of adults and children in the household, how households vary in these terms across countries, and the role these differences might play in cross-country variation in relative income poverty among households. The household is thus the unit of analysis, and the relative income poverty rates presented in this section refer to households below 60 per cent of median equivalised household income (rather than to persons on the basis of their equivalised household income, as is the case in Tables 3.1-3.3 above).

### 5.3 Simulating the Impact of Demographic Profile

We begin by focusing on the possible role of differences across the countries in age profile. Table 5.1 shows the breakdown of the ECHP samples for Ireland, the Netherlands, Germany, the UK and Portugal in terms of the age range into which the household reference person falls.

We see that there are indeed some differences in age profile on this basis, although they are not very pronounced. In Germany, the UK and Portugal about 18 per cent of sample households are headed by someone aged 65 years or over, compared with 14-15 per cent in Ireland and the Netherlands. Ireland has a particularly high proportion in the 45-54 year age range, and fewer in the youngest age category.

**Table 5.1: Composition of Sample Households by Age of Household Reference Person, Selected Countries, ECHP**

Age Range	Ireland	Netherlands	Germany	UK	Portugal
Per Cent of Sample Households					
Under 35 years	17.4	21.9	19.3	20.3	18.2
35-44 "	27.9	28.0	26.0	24.5	24.0
45-54 "	24.8	22.8	20.0	23.0	23.0
55-64 "	15.4	12.5	17.4	14.4	16.9
65 years and over	14.5	14.8	17.3	17.8	17.9
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

To know whether these differences in age profile could have a significant impact on relative income poverty, the first thing we need to know is whether relative income poverty rates actually vary much across age groups, and if so whether this is in a systematic way across countries. Table 5.2 shows how the percentage falling below the 60 per cent of median income threshold varies across these age categories in each of the countries. Note first that the relative income poverty rates for the overall samples differ from those reported in Table 3.1, although both are derived from the ECHP; this is primarily because the figures in Table 5.1 refer to households, whereas those in Table 3.1 referred to persons. (The ECHP dataset has also been revised since the Joint Report was completed, and we are using the revised set.)



**Table 5.2: Percentage Below Relative Income Threshold by Age of Household Reference Person, Selected Countries, ECHP**

Age Range	Ireland	Netherlands	Germany	UK	Portugal
<b>Percentage Falling Below 60 Per Cent of Median Income</b>					
Under 35 years	19.0	19.8	16.4	21.5	14.5
35-44 “	24.3	11.0	15.8	21.5	22.3
45-54 “	22.3	10.6	8.7	8.7	18.2
55-64 “	10.7	8.0	11.0	8.2	21.4
65 years and over	16.6	8.0	16.5	25.0	34.3
<b>All</b>	<b>19.8</b>	<b>12.2</b>	<b>13.9</b>	<b>17.3</b>	<b>21.9</b>

We then see that the relative income poverty rate for households headed by an elderly person is above average in Germany, and well above average in the UK and Portugal. In Ireland and the Netherlands, on the other hand, this is not the case: households with an elderly head have below-average rates.<sup>13</sup> In the Netherlands it is households headed by someone under 35 years that have the highest proportion below the 60 per cent threshold, whereas in Ireland it is households headed by someone in the 35-54 year age ranges.

While there is not a consistent pattern across countries in the way relative income poverty rates vary across the age range, the fact that there is significant variation does mean that differences in age profile could play a role in the overall extent of relative income poverty. To assess this, we carry out the simulation exercise described earlier, where we reweight the samples for Ireland, Germany, the UK and Portugal so that they have the same age profile – the same proportion of households in each of the age ranges in Table 5.1 – as the Netherlands. We then recompute median income in each sample, derive the 60 per cent income threshold from that new median, and see how many of the households in the reweighted samples fall below that threshold. The results are shown in Table 5.3.

<sup>13</sup> This may appear surprising in the Irish case, since recent studies have shown the elderly to have particularly high relative income poverty rates (Layte *et al.*, 2001, Nolan *et al.*, 2002). However, risks of relative income poverty increased sharply for the elderly in the late 1990s as pensions lagged behind very rapid increases in incomes from work, whereas the data from the ECHP being analysed here relates to incomes in the year 1996. In addition, using the household rather than the person as unit of analysis results in lower relative income poverty rates for the elderly.

**Table 5.3: Actual and Simulated Percentage Below Relative Income Threshold When Age Profile Is Standardised, Selected Countries, ECHP**

	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent of Households below 60 per cent of Median Income</b>					
Actual	19.8	12.2	13.9	17.3	21.9
Simulated	19.8	12.2	13.8	17.4	21.7
<b>Per Cent of Households below 50 per cent of Median Income</b>					
Actual	8.6	7.6	8.0	11.1	15.4
Simulated	8.4	7.6	7.8	11.4	15.3

Comparing simulated with actual results, we see that the number of households falling below the 60 per cent of median threshold are virtually unchanged for Ireland, Germany, the UK and Portugal. (The figures for the Netherlands are of course identical.) For comparative purposes the percentage below the 50 per cent of median income threshold are also shown, and there is again little difference between the actual and simulated relative income poverty rates. In the case of Ireland this is not very surprising, since the age profile – as shown in Table 5.1 – is not in fact very different to that in the Netherlands as imposed in the simulation. For the other countries, though, the age profile is somewhat different but the impact of standardising to the Dutch structure has a mix of effects which tend to balance out in terms of the overall relative income poverty rate.

This comes about due to two distinct factors. For Germany and the UK, we can see from Table 5.1 that the impact of standardisation to the Dutch age distribution is to reduce the proportion of elderly, and Table 5.2 shows that to be a high-poverty group in both those countries. However, the impact is to increase the proportion of households headed by someone under 45 years, which turns out to be another high-poverty group, while reducing the proportion in the 55-64 year age range which is a low-risk group. In these two countries the age-group-specific relative income poverty rates are essentially unchanged by the simulation, with the median in the simulated distribution being very close to the actual one.

For Portugal, the story is a little more complicated. The impact of standardising to the Dutch structure is again to reduce the proportion of elderly, again a high-poverty group. This is balanced by an increase in the proportion headed by someone aged 35-44 years, a group with a much lower risk. This in itself would reduce the overall poverty rate – although only by about half a percentage point. The simulated distribution in this case has a higher median income, though, precisely because it has reduced the size of a low-income group and increased the size of a higher-income one. This means that for some of the age groups – notably those aged under 45 or 65

years or over – the proportion falling below the income threshold actually rises. This works to offset the impact one would have seen with an unchanged income threshold, leaving the overall poverty rate only very slightly down.

These results demonstrate the complexity of the relationship between the composition of the population and the relative income poverty rate, a pattern which will be repeated when we turn to characteristics other than the age profile. They show that the fact that one country has a higher proportion of its population in a particular high poverty risk group than another does not necessarily produce or explain a gap between their overall poverty rates. What it can still do, however, is help to explain why the profile of those below a relative income threshold differs between the countries. Thus Table 5.4 shows the composition, in terms of age of the reference person, of the households below the 60 per cent of median threshold in the actual and simulated samples we have just been discussing. We see that standardising to the Dutch age profile, although leaving the overall relative income poverty rate unchanged, does reduce the importance of the elderly among those below the threshold in Germany, the UK and Portugal. This gives an indication of the role of differences in the age profile – as opposed to cross-country differences in age-specific income poverty rates – in producing differences in the age profile of the group below the threshold. Since composition as well as the overall size of the group below the threshold clearly matters in designing a policy response this is relevant, but in terms of the focus of the present study on the variation in the overall relative income poverty rate across countries it is of secondary importance.

**Table 5.4: Composition of Actual and Simulated Households Below Relative Income Threshold by Age of Household Reference Person, Selected Countries, ECHP**

Age Range	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent of the Households Below 60 Per Cent Median Threshold: Actual</b>					
Under 35 years	16.8	35.7	22.9	25.3	12.1
35-44 “	34.5	25.8	29.9	30.5	24.5
45-54 “	28.2	20.3	12.7	11.6	19.1
55-64 “	8.3	8.1	13.8	6.9	16.5
65 years and over	12.2	10.0	20.6	25.7	27.9
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Per Cent of the Households Below 60 Per Cent Median Threshold: Simulated</b>					
Under 35 years	20.9	35.7	25.7	26.9	14.8
35-44 “	34.3	25.8	32.3	34.5	29.6
45-54 “	25.7	20.3	14.5	11.4	19.1
55-64 “	6.7	8.1	10.0	5.9	12.3
65 years and over	12.4	10.0	17.6	21.2	24.1
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## 5.4 Simulating the Role of Labour Force Status

We now turn to the role of differences across the countries in labour force status, where we want to take into account not only differences in the level of unemployment but also inactivity. Table 5.5 shows the breakdown of the ECHP samples for Ireland, the Netherlands, Germany, the UK and Portugal in terms of the labour force status of the household reference person at the time of the survey.

**Table 5.5: Composition of Sample Households by Labour Force Status of Household Reference Person, Selected Countries, ECHP**

Labour Force Status	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent of Sample Households</b>					
Employee	40.6	61.7	58.2	47.1	46.1
Self-employed	18.3	5.8	6.0	15.7	21.0
Unemployed	13.7	5.6	4.9	4.9	4.4
Inactive	27.4	26.9	30.8	32.4	28.5
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

The table shows that there are considerable differences in the composition of the samples in terms of labour force status. Taking employees and the self-employed together, the percentage of household “heads” in work is 67-68 per cent in the Netherlands and Portugal, 63-64 per cent in Germany and the UK, and 59 per cent in Ireland. Within this, however, the proportion in self-employment ranges from only 6 per cent in the Netherlands and Germany up to 16-18 per cent in Ireland and the UK and 21 per cent in Portugal. Among those not at work, the percentage inactive is in the range 27-32 per cent across the five countries, but the percentage unemployed is much higher in Ireland than in the other four countries. (This Irish figure clearly pre-dates the period when unemployment fell dramatically; the results of simulating a much lower level of unemployment and its impact on the relative income poverty rate are still of considerable interest.)

We now look at how relative income poverty rates vary across these groups, in Table 5.6. We see that the relative income poverty rate for households headed by an employee is much lower than for other groups in each country, in the 6-8 per cent range except for Portugal where it is 11 per cent. The proportion of households headed by a self-employed person below the threshold is consistently a good deal higher, at about 15 per cent in Germany, Ireland and the UK but as high as 26 per cent in the Netherlands and 32 per cent in Portugal. This means that in the Netherlands the relative income poverty rate for such households is considerably higher than for those where the household reference person is inactive – i.e. retired, not working due to illness or disability, or working full-time in the home. In Portugal these two groups have

the same relative income poverty rate, whereas in Germany, Ireland and the UK the inactive have a much higher proportion below the threshold than the self-employed. Households where the reference person is unemployed rather than inactive have a much higher relative income poverty rate than others in Germany, the Netherlands, Ireland and the UK, though in Portugal their poverty rate is below average.

**Table 5.6: Percentage Below Relative Income Threshold by Labour Force Status of Household Reference Person, Selected Countries, ECHP**

Labour Force Status	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent Falling Below 60 Per Cent of Median Income</b>					
Employee	5.5	6.4	7.7	6.3	10.9
Self-employed	15.6	25.8	15.4	16.9	32.4
Unemployed	53.7	39.9	42.6	60.6	17.2
Inactive	26.4	16.2	20.3	27.0	32.9
<b>All</b>	<b>19.8</b>	<b>12.2</b>	<b>13.9</b>	<b>17.3</b>	<b>21.9</b>

To assess the role that differences in composition in terms of labour force status could play in the variation in relative income poverty rates across the countries, we again carry out the simulation exercise. This now reweights the samples for Ireland, Germany, the UK and Portugal so that they have the same proportion of households as the Netherlands in each of the labour force status categories in Table 5.5. The overall percentages falling below the 60 per cent and 50 per cent relative income thresholds in the simulated samples are compared with those in the actual samples in Table 5.7. Comparing simulated with actual results, the number of households falling below the 60 per cent of median threshold are virtually unchanged for Ireland, slightly down for Germany, down a little more for the UK, and almost 1 percentage point lower for Portugal. When we look at the 50 per cent of median threshold, on the other hand, the impact is to increase the numbers below the threshold in the case of Ireland, while reducing the relative income poverty rate in Portugal by almost 2 percentage points.

**Table 5.7: Actual and Simulated Percentage Below Relative Income Threshold When Labour Force Status is Standardised, Selected Countries, ECHP**

	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent of Households Below 60 Per Cent of Median Income</b>					
Actual	19.8	12.2	13.9	17.3	21.9
Simulated	19.9	12.2	13.7	17.7	21.0
<b>Per Cent of Households Below 50 Per Cent of Median Income</b>					
Actual	8.6	7.6	8.0	11.1	15.4
Simulated	10.2	7.6	7.6	11.3	13.6

The impact of the standardisation to the Dutch labour force structure in the Irish case is to significantly reduce the proportion of households headed by an unemployed person, the group with by far the highest poverty risk, as well as the proportion self-employed, and to increase by fully 20 percentage points the proportion headed by an employee, the group with by far the lowest poverty risk. Why then does this not reduce the overall relative income poverty rate at the 60 per cent threshold, and actually increase it with the lower, 50 per cent threshold? Is this not entirely counter-intuitive and implausible?

The answer is once again to be found in the fact that median income, on which the poverty threshold is based, is also affected. Suppose we simply changed the size of the groups (in terms of labour force status) to the Dutch structure and apply Ireland's group-specific relative income poverty rates as shown in Table 5.6. The result would indeed be a very substantial fall in the overall numbers below the 60 per cent threshold – from 20 per cent to below 15 per cent. However, substantially increasing the proportion in employment raises median income significantly. The result is that the group-specific income poverty rates do not remain unchanged: instead, they rise to well above those in the actual sample, as shown in Table 5.8. The proportion of households headed by an employee falling below the threshold rises from about 6 per cent to almost 9 per cent, and since this is now by far the biggest group their increasing poverty risk has a substantial impact on the overall poverty rate.

**Table 5.8: Percentage Below Relative Income Threshold by Labour Force Status of Household Reference Person, Actual and Simulated Samples, Selected Countries, ECHP**

Labour Force Status	Ireland		Germany		UK		Portugal	
	Per Cent Below 60 Per Cent of Median Income							
	Actual	Simulated	Actual	Simulated	Actual	Simulated	Actual	Simulated
Employee	5.5	8.6	7.7	8.0	6.3	7.8	10.9	12.0
Self-employed	15.6	23.5	15.4	15.4	16.9	17.7	32.4	34.2
Unemployed	53.7	64.7	42.6	43.0	60.6	65.2	17.2	31.6
Inactive	26.4	35.8	20.3	20.4	27.0	30.5	32.9	36.6

These results demonstrate that the relationship between the composition of the population and the relative income poverty rate is indeed a complex one, precisely because the location of the income threshold against which poverty is being assessed itself depends *inter alia* on that composition. Table 5.8 shows the group-specific relative income poverty rates being little affected by the simulation in the case of Germany, which has a labour force composition quite similar to the Netherlands. These rates increase for the UK and Portugal, though a good deal less than in Ireland, and this underlies the minimal change in the overall numbers falling below the 60 per cent relative income threshold in those countries.

In the Irish case, precisely because the simulation entails such a large increase in the proportion of households headed by an employee, the increase in median income is enough to produce quite a marked rise in the percentage of households falling below the 50 per cent of median threshold.

It is important to be clear about the nature of the assumptions implicit in the simulation exercise. In the Irish case, we are shrinking the size of the group headed by an unemployed or self-employed person and increasing the size of the group headed by an employee, but leaving the characteristics of each of those groups – including most importantly the distribution of income within each – unchanged. It could be argued that this is biasing the results because it does not reflect what would actually happen if a significant number of the unemployed were brought into employment. Those moving from unemployment into employment are much less likely to command the median wage than those currently in employment. This means that shrinking the size of the unemployed group might not in fact increase the overall median income by as much as the simulation assumes – because it assumes that they have the same distribution of earnings as the already employed. This means that the group-specific relative income poverty rates might not rise by as much as the simulation suggests, and thus we might see more impact on the overall income poverty rate.

This is worth keeping in mind, but one must also be clear about the nature of the exercise. We are comparing countries with rather different structures in terms of the labour force, demography and household structures, and asking to what extent these differences serve to explain the variation in relative income poverty rates. We do not know what the profile of income among households headed by an employee would be if the size of that group was substantially increased, since that profile would depend on how this was achieved. It could be done by creating low-skilled and low-paid jobs, or by upskilling the workforce and creating high-skilled and highly-paid jobs, or by some combination of the two. Simply thinking about the types of jobs that the currently unemployed might move into is too restrictive an approach: instead, we have to think about what the overall distribution of earnings and income might look like in a situation where the numbers at work were substantially increased. While that depends on how this increase comes about, the assumption implicit in the simulation that the distribution among current employees is simply “scaled up” is not inherently unreasonable.

This may indeed be borne out by recent Irish experience. Over the second half of the 1990s, unemployment declined sharply and the numbers in work expanded even more rapidly. This did not lead to a decline in the numbers falling below relative income poverty thresholds – indeed, there was generally some increase, as seen in recent ESRI studies (Layte *et al.*, 2001, Nolan *et al.*, 2002). A variety of factors were at work in producing this result, most importantly

the fact that social welfare support rates did not keep up with mean or median incomes. However, the point to bring out here is that the increasing size of the “at work” group was not brought about simply by moving unemployed people into low-skilled jobs, but by an expansion in jobs throughout the range. This played its part in the rapid increase in median income, which in turn lead to increasing numbers below relative income thresholds despite shrinkage of the high-risk unemployed group.

Rather similar results were obtained by Feres *et al.* (2002), who examined the impact on relative income poverty of the converse counterfactual, an increase in unemployment, for a number of European countries. This can be seen as indicating that the result is not due to any peculiarities in the Irish situation, but is of more general relevance.

We saw for age composition that the simulations may have a more substantial impact on the profile of those below relative income thresholds than on the overall numbers falling below them, and we now explore this in simulating the Dutch labour force status. Table 5.9 shows the composition, in terms of labour force status of the reference person, of the households below the 60 per cent of median threshold in the actual and simulated samples.

**Table 5.9: Composition of Actual and Simulated Households Below Relative Income Threshold by Labour Force Status of Household Reference Person, Selected Countries, ECHP**

Age Range	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent of the Households Below 60 Per Cent Median Threshold: Actual</b>					
Employee	11.4	33.1	32.7	17.1	23.0
Self-employed	14.5	12.4	6.7	15.3	30.9
Unemployed	37.4	18.4	15.4	17.1	3.4
Inactive	36.7	36.0	45.2	50.4	42.7
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Per Cent of the Households Below 60 Per Cent Median Threshold: Simulated</b>					
Employee	26.7	33.1	36.2	27.2	35.5
Self-employed	6.9	12.4	6.5	5.8	9.4
Unemployed	18.2	18.4	17.5	20.6	8.3
Inactive	48.3	36.0	39.7	46.4	46.8
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

We see that standardising to the Dutch labour force status structure does significantly alter the profile of those below the threshold in the UK and Portugal, and has an even greater impact for Ireland. In the Irish case, the proportion of those below the threshold headed by an employee goes up from 11 per cent to 27 per cent, with the proportion headed by an unemployed person falling from 37 per cent to 18 per cent. There is also a marked decline in



the proportion headed by a self-employed person (which includes farmers), and a corresponding increase in the proportion headed by someone who is not active in the labour market. This latter result is worth noting because standardising to the Dutch labour force pattern does not actually change the proportion of Irish households headed by someone who is inactive (as Table 5.6 shows). Instead, it is once again the increase in the relative income poverty risk for this group, which was particularly marked (Table 5.8), which is increasing their importance among those below the threshold.

## 5.5 Simulating the Role of Household Composition

We now focus on the role of differences across the countries in household composition type. Here, we will be particularly interested in differences across countries in the importance of single-parent households, in the proportion of adults living alone, and in family size. Do such differences contribute substantially to the variation across these countries in relative income poverty rates? Table 5.10 shows the breakdown of the ECHP samples for Ireland, the Netherlands, Germany, the UK and Portugal in terms of the household composition distinguishing seven household types.

**Table 5.10: Composition of Sample Households by Household Composition Type, Selected Countries, ECHP**

Household Type	Ireland	Netherlands	Germany	UK	Portugal
	<b>Per Cent of Sample Households</b>				
Single	7.0	14.3	15.5	11.0	4.6
Couple	13.7	29.5	27.2	25.5	15.5
Couple 1 child	7.9	9.0	12.4	8.9	13.9
Couple 2 children	14.2	18.7	14.9	14.1	17.6
Couple 3 + children	17.4	10.8	6.5	9.8	5.8
Single parent	3.1	3.1	3.0	3.8	2.4
Other	36.7	14.6	20.4	26.8	40.1
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

The table shows Ireland and Portugal to be distinctive in having a relatively small proportion of all households being single adult or two-adult only households – whereas those proportions are much higher in the Netherlands and Germany in particular. Ireland is also distinctive in having by far the highest proportion of households comprising a couple and three or more children. All of the countries have quite high proportions in what we have categorised as “other”, which comprises households with a single person or couple and at least one other adult – a rather heterogeneous group. The proportion of households consisting of a single adult with dependent children (under age 18) is in fact quite low in all the countries and varies rather little.

We now look at how relative income poverty rates vary across these groups, in Table 5.11. We see that the relative income poverty rate for single-adult households is above the average in each country, and so is the rate for couples with three or more children – particularly in the UK and Portugal. The rate for single-parent households is even higher except in Portugal, where it is nonetheless well above average.

**Table 5.11: Percentage Below Relative Income Threshold by Household Composition Type, Selected Countries, ECHP**

Household Type	Ireland	Netherlands	Germany	UK	Portugal
Single	36.3	18.8	20.7	24.9	47.2
Couple	8.0	6.2	8.5	11.2	27.9
Couple 1 child	11.0	9.5	8.4	11.1	15.9
Couple,2 children	16.0	9.2	9.2	14.6	15.9
Couple 3 + children	33.0	17.5	31.4	41.7	40.5
Single parent	51.9	45.0	52.0	46.1	32.7
Other	15.3	12.3	11.5	9.9	18.2
<b>All</b>	<b>19.8</b>	<b>12.2</b>	<b>13.9</b>	<b>17.3</b>	<b>21.9</b>

We now carry out the simulation exercise once again, this time reweighting the samples for Ireland, Germany, the UK and Portugal so that they have the same proportion of households as the Netherlands in each of the household type in Table 5.11. The overall percentages falling below the 60 per cent and 50 per cent relative income thresholds in the simulated samples are compared with those in the actual samples in Table 5.12. The number of households falling below the 60 per cent of median threshold now rise as a results of the standardisation by 2 percentage points for both Ireland and Portugal, and by less than 1 percentage point for the UK, with little change for Germany. Looking at the 50 per cent of median threshold, the percentage below the threshold again increases markedly in the case of Ireland, less so for Portugal, and hardly at all for the UK.

**Table 5.12: Actual and Simulated Percentage Below Relative Income Threshold When Household Composition Type is Standardised, Selected Countries, ECHP**

	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent of Households Below 60 Per Cent of Median Income</b>					
Actual	19.8	12.2	13.9	17.3	21.9
Simulated	21.9	12.2	13.7	18.0	23.8
<b>Per cent of Households Below 50 Per Cent of Median Income</b>					
Actual	8.6	7.6	8.0	11.1	15.4
Simulated	10.4	7.6	8.0	11.3	16.5

Standardising to the Dutch household type structure has the effect, in the Irish case, of increasing very substantially the proportion of single-adult and two-adult only households, while reducing the proportion consisting of couples with 3 or more children and in the “other” category. This entails increasing the size of a group with an above-average risk of falling below the 60 per cent threshold – namely single adult households – but also one with a very low risk – namely two-adult only households. Correspondingly, it has the effect of reducing the size of a high-risk group – couples with 3 or more children – but also a low-risk one – the “other” category.

This means that impact on median income again becomes crucial. We see from Table 5.13 that for Ireland the risk of falling below the 60 per cent threshold is substantially higher for certain groups in the simulated than the actual sample. This is particularly the case for single adult households and for couples with 3 or more children and “other”. This increase in group-specific risk – reflecting an increase in median income – is once again the crucial ingredient in the overall rise in numbers falling below the threshold. Such an increase is not seen for the other countries – in the UK there is no change in those rates, and in Germany they actually fall slightly. So it is the particular impact of standardising to the Dutch household type structure in the Irish case in increasing the overall median that produces the marked increase in risk for certain groups.

**Table 5.13: Percentage Below Relative Income Threshold by Household Composition Type, Actual and Simulated Samples, Selected Countries, ECHP**

Household Type	Ireland		Germany		UK		Portugal	
	Actual	Simulated	Actual	Simulated	Actual	Simulated	Actual	Simulated
	Per Cent Below 60 Per Cent of Median Income							
Single	36.3	44.6	20.7	19.2	24.9	24.9	47.2	42.7
Couple	8.0	9.1	8.5	8.0	11.2	11.2	27.9	23.7
Couple 1 child	11.0	12.8	8.4	7.8	11.1	11.1	15.9	12.3
Couple 2 children	16.0	18.5	9.2	8.4	14.6	14.6	15.9	13.0
Couple 3 + children	33.0	37.1	31.4	31.0	41.7	41.7	40.5	38.1
Single parent	51.9	57.7	52.0	51.2	46.1	46.1	32.7	27.0
Other	15.3	16.4	11.5	9.4	9.9	9.9	18.2	15.6

Finally, we look at the impact of the simulation on the profile of those below relative income thresholds. Table 5.14 shows the breakdown in terms of household composition type of the households below the 60 per cent of median threshold in the actual and simulated samples. We see that standardising to the Dutch household composition structure has a marked effect on the profile of those below the threshold in the Irish case. Households comprising a single adult or couple constitute 41 per cent of those

below the threshold in the simulated sample, compared with only 16 per cent in the actual one. Households in the “other” category – various types of multi-adult household – by contrast comprise 28 per cent of those below the threshold in the actual sample compared with only 11 per cent in the simulated one. There are also substantial effects on composition for Portugal, and less pronounced but still significant ones for the UK.

**Table 5.14: Composition of Actual and Simulated Households Below Relative Income Threshold by Household Composition Type, Selected Countries, ECHP**

Household Type	Ireland	Netherlands	Germany	UK	Portugal
<b>Per Cent of the Households Below 60 Per Cent Median Threshold: Actual</b>					
Single	12.9	22.1	23.0	15.9	9.6
Couple	5.6	15.0	16.6	16.7	19.7
Couple 1 child	4.4	7.0	7.6	5.7	10.0
Couple 2 children	11.5	14.0	10.0	12.0	12.9
Couple 3 + children	29.3	15.5	14.7	23.9	10.8
Single parent	8.2	11.8	11.3	10.3	3.7
Other	28.2	14.6	16.8	15.5	33.3
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Per Cent of the Households Below 60 Per Cent Median Threshold: Simulated</b>					
Single	29.2	22.1	20.0	19.7	25.0
Couple	12.2	15.0	17.1	18.4	29.3
Couple 1 child	5.3	7.0	5.1	5.6	4.8
Couple 2 children	15.8	14.0	11.5	15.2	10.3
Couple 3 + children	18.4	15.5	24.6	25.1	17.4
Single parent	8.3	11.8	11.8	8.0	3.6
Other	10.8	14.6	9.9	8.0	9.6
<b>All</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

## 5.6 Conclusions

An overall conclusion from the three simulation exercises is that differences in age profiles, patterns of labour force participation, and household composition across the countries we have examined do not in themselves appear to play the major role in explaining the substantial variation observed in relative income poverty rates. Thus for Ireland, with 20 per cent of households below 60 per cent of median equivalised income compared with only 12 per cent in the Netherlands, simulating the impact of imposing the Dutch age, labour force or household composition structures did not close that gap – indeed it sometimes widened it. This reflects, among other things, a fundamental and often under-appreciated feature of relative income thresholds themselves: in effect, reducing the proportion in high-poverty-risk groups does not necessarily reduce the overall poverty rate with such thresholds, because the standard against

which poverty is being assessed is also affected. The simulations thus displayed a much stronger influence of imposing the Dutch structures on the composition of the group found below relative income thresholds than on the size of that group. This is still very important for understanding the factors producing poverty and designing strategic responses, but it does not explain very much of the persistent gap that is observed between relative income poverty rates in the countries concerned.

This result need not necessarily hold if the set of countries studied were expanded or changed, but it is worth noting that it is entirely consistent with the results from a similar exercise carried out with data from the Luxembourg Income study. Rainwater and Smeeding (1997) employ a similar simulation method based on reweighting the survey samples, covering the Netherlands, Belgium, Denmark, France, Germany, the UK, Australia and the USA. In brief, they conclude that social protection and the way household income is built up or “packaged” have far stronger effects on poverty (and income inequality) than demographic factors such as age or household composition. Focusing on the Netherlands, they conclude that:

*It is the Dutch income package, not its demography, which produces low rates of poverty.*

This provides some reinforcement for the results we have presented here, and like them points us towards social protection as a key factor in cross-country differences in relative income poverty rates. In the next chapter we go on to examine the role of social protection, including an analysis of the impact of differences in social protection structures and levels of support via tax-benefit models.

# 6. SOCIAL PROTECTION SYSTEMS AND RELATIVE INCOME POVERTY

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## 6.1 Introduction

In this chapter we undertake an in-depth examination of the role of social protection. We begin (Section 6.2) by looking at overall levels of social protection spending in Ireland compared with other EU member states and how this has been evolving. For this purpose we draw on data produced and harmonised by Eurostat, calculated in accordance with the revised methodology for the European System of Integrated Social Protection Statistics, or ESSPROS. Section 6.3 undertakes a more detailed comparison between Ireland's expenditure on social welfare and that of selected EU countries, particularly those with the lowest poverty rates. In Section 6.4 the central question is “what might be the impact on relative income poverty if Irish social welfare rates were similar, relative to average incomes, to those in Denmark, and taxes were correspondingly higher?” We use the *SWITCH* tax-benefit model to explore the first-round or “cash” impact on relative income poverty<sup>14</sup>

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## 6.2 Social Protection Expenditure: Ireland in an EU Context

Table 6.1 shows the level of social protection expenditure as a percentage of GDP in each of the 15 “old” member states of the EU and how it evolved over the 1990s. At the beginning of the 1990s Ireland was spending about 18 per cent of GDP on social protection, while the EU-15 average was 26 per cent. The proportion of GDP going on social protection in Ireland was thus 72 per cent of the EU average, and Portugal was the lowest-spending country at 15 per cent of GDP.

By 2001, the average figure for the 15 member states was just under 28 per cent of GDP, and 11 out of the 15 countries were spending in the 25-31 per cent range. Spain, Luxembourg and Portugal were spending between 20 per cent and 24 per cent, but Ireland was by far the lowest at 15 per cent of GDP.

<sup>14</sup> i.e., before any allowance is made for behavioural changes in response to changed financial incentives.

**Table 6.1: Expenditure on Social Protection as Per Cent of GDP, EU Member States, 1990-1999**

	Social Protection as Per Cent of GDP			
	1990	1996	1999	2001
Belgium	26.4	28.7	28.2	27.4
Denmark	28.7	31.4	29.4	27.5
Germany	25.4	30.0	29.6	29.8
Greece	22.9	22.9	25.5	27.2
Spain	19.9	21.8	20.0	20.1
France	27.9	31.0	30.3	30.0
<b>Ireland</b>	<b>18.4</b>	<b>17.8</b>	<b>14.7</b>	<b>14.6</b>
Italy	24.7	24.8	25.3	25.6
Luxembourg	22.1	24.0	21.9	21.2
Netherlands	32.5	30.1	28.1	27.6
Austria	26.7	29.6	28.6	28.4
Portugal	15.2	21.3	22.9	23.9
Finland	25.1	31.6	26.7	25.8
Sweden	33.1	34.5	32.9	31.3
UK	23.0	28.3	26.9	27.2
EU-15 average	25.5	28.5	27.6	27.5

*Source:* Abramovici (2002a, 2004).

This means that part of the explanation for Ireland's position as an outlier in terms of social protection spending is to be found in the way social protection spending evolved in the 1990s. This in essence reflects the very rapid growth in GDP, well above EU average growth rates, in the second half of the decade, and the impact of falling unemployment in reducing the demand for social protection. However, it is worth emphasising that even taking that into account, if we took the position before the economic boom as more typical Ireland would still be spending well below the EU average in terms of proportion of GDP.

This brings us to the issue of whether GDP is the most appropriate point of comparison in this context. The gap between GDP and GNP is particularly wide in Ireland, because of our exceptional reliance on foreign direct investment and the consequent scale of profit repatriations abroad. GNP in 2001 was only about 84 per cent of GDP – a gap which itself had widened over the course of the 1990s. However, taking social protection expenditure as a percentage of GNP rather than GDP would bring the Irish figure of 14.6 per cent for 2001 shown in Table 6.1 up to only 17 per cent. This would still be lower than any other EU member state.

It is worth looking at the composition of social protection spending in this context as well as its level. Table 6.2 shows that Ireland is again exceptional in those terms, with a much lower share of total social protection spending going on old age and survivor's payments than any other member state. Only one-quarter of social protection spending in Ireland goes on old age and survivors payments, compared to an EU average of 46 per cent; the next-

lowest country is Finland at 37 per cent. This is associated with the fact that only 11 per cent of the Irish population were aged 65 years or over, the lowest proportion of elderly in the EU and comparing with an EU average of 16 per cent.

**Table 6.2: Expenditure on Social Protection by Type, EU Member States, 2001**

	Old Age/ Survivors	Sickness/ Health Care	Disability	Family/ Children	Unemploy- ment	Housing/ Other
Per Cent of Total Social Spending						
Belgium	43.7	25.0	9.0	8.9	11.7	1.6
Denmark	38.0	20.3	12.5	13.3	10.0	6.0
Germany	42.4	28.8	7.7	10.4	8.2	2.5
Greece	51.3	25.8	5.0	6.9	6.0	5.1
Spain	45.3	30.0	7.6	2.6	12.9	1.7
France	43.7	29.2	6.0	9.5	7.1	4.4
<b>IRELAND</b>	<b>24.8</b>	<b>43.4</b>	<b>5.2</b>	<b>12.5</b>	<b>8.3</b>	<b>5.8</b>
Italy	62.3	26.1	5.7	4.0	1.6	0.3
Luxembourg	39.4	25.4	14.2	16.8	2.5	1.6
Netherlands	41.8	30.4	11.6	4.4	5.0	6.8
Austria	49.5	24.7	8.1	10.6	5.0	2.1
Portugal	45.8	31.3	12.3	5.6	3.6	1.3
Finland	36.6	24.5	13.7	12.1	9.8	3.3
Sweden	39.1	29.2	12.4	9.6	5.6	4.3
UK	46.5	28.1	9.4	6.8	2.9	6.3
EU-15 average	46.0	28.2	8.0	8.0	6.2	3.6

*Source:* Abramovici (2004).

This means that less than 4 per cent of GDP was being spent on social protection for old age and survivors in Ireland, compared with an EU-15 average of about 13 per cent of GDP. Thus, the gap between Ireland and the EU average, in terms of spending on this group as a percentage of GDP, is a good deal wider than differences in the size of the group (crudely estimated on the basis of age alone) would imply. The average level of social protection spending per capita for the group must also be playing a significant role. This is accentuated by the fact that old age pensions actually comprise a relatively small proportion of this total in Ireland. Whereas about three-quarters of the “old age and survivors pensions” aggregate is made up of old age pensions on average across the EU members, in Ireland this figure is only 46 per cent. The structure of pension systems and the extent of reliance on the state versus occupational pensions in different countries clearly plays an important role, as argued for example in Lawlor and McCarthy (2003) and de Buitléir and McArdle (2003). However, the level of payment via social protection pensions to the elderly in Ireland is clearly low on a per capita basis. The trend over time is also instructive here. The percentage of GDP going on social protection pensions fell from 5.6 per cent to 3.8 per cent over the 1990s in Ireland, when the EU average rose marginally from 12 per cent to 12.7 per cent.



This analysis of aggregate spending levels could usefully be pursued in greater depth. It also serves, however, as a backdrop to the direct examination of the role of social protection in the variation in relative income poverty rates across EU countries. In particular, we are interested in the salience of social protection in the pattern presented earlier whereby Ireland has a relatively high proportion falling below thresholds set at 60 per cent or 50 per cent of median equivalised income. The best way to investigate this relationship is via the use of tax-benefit models based on micro-data, and this will be the focus of the remainder of the study.

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### 6.3 Comparing Welfare Systems and Payment Rates: Ireland, Denmark and the Netherlands

Thus far our inter-country comparisons have been at a highly aggregated level, such as comparisons of social security expenditure as a proportion of GNP. Inter-country differences at this level can arise from differences in demographic composition, differences in the population coverage of particular benefits in each country, and differences in benefit payment rates relative to average incomes in each country. In this section we move to more direct comparisons of welfare payment rates relative to average incomes. In particular we compare Irish welfare payment rates with those prevailing in Denmark and the Netherlands, countries with poverty rates among the lowest in the EU. These comparisons are greatly facilitated by country reports generated in the construction of EUROMOD, a tax-benefit model for Europe (Sutherland, 2002; Hansen, 2002; de Vos, 2002). The common year for policy comparisons in this version of EUROMOD was 1998, so it is to this year that policy comparisons and analysis in the remainder of this chapter refer.

The impact of welfare benefits on relative income poverty depends crucially on payment rates relative to the poverty line, which is in turn related to average incomes. For this reason, we consider payment rates in relation to average industrial earnings for each country.<sup>15</sup>

Before setting out detailed comparisons of payment rates for the main types of welfare beneficiary, it is worth considering some elements of the structure of welfare systems and payments which will influence these comparisons. Foremost among these, perhaps, is the distinction between social insurance and social assistance. A comparison might find similar rates of payment across countries for each individual social insurance and social assistance scheme. But if social insurance payments are higher than social assistance in both countries, and one country has a much higher proportion of its population covered by social insurance for contingencies such as illness, old age and unemployment, then average benefits paid in that

<sup>15</sup> Other measures of average income, disposable income per adult equivalent as used to anchor the relative income poverty lines, could also be used. We choose average industrial earnings because it is readily available, easily understood and widely used in international comparisons.

country will be higher. Thus, despite an equality between payment rates for each scheme, the system in one country may have a greater impact on poverty because a higher proportion of its population qualify for a higher rate of payment.

Social security systems also differ in their treatment of couples. The Irish system includes payments in respect of a “qualified adult”, the spouse of a welfare beneficiary. This represents a continuation of the concept of an “adult dependant”. While this is strongly embodied in the Irish system, it is much less evident in Denmark or the Netherlands. There are some provisions (e.g., under the Danish social assistance scheme) for an additional payment in respect of a “stay-at-home” spouse. Typically, however, each adult is entitled to and expected to make an independent claim for a welfare payment based on circumstances such as illness or unemployment. This difference between the systems has potentially very strong implications for the impact of “importing” a Danish or Dutch-style social security policy into the Irish situation, in order to examine the impact on relative income poverty. We will discuss this in more detail in the next section.

A third element of the structure of welfare payment rates is the level and structure of income support relating to children. Countries vary in the extent to which they use universal child benefit, child-related payments with social insurance and/or social assistance benefits, in-work benefits for families with children, and tax-based supports such as child tax credits or earned income tax credit. In comparing Ireland with Denmark and the Netherlands the key elements are universal child benefit and “family allowances” which may be paid with the main social security benefits. In order to deal with differences in the policy mix, we consider rates of payment for universal child benefit and for “child dependant additions” (CDA)<sup>16</sup> in tandem.

Table 6.3 below shows child benefit rates, which are differentiated by age in Denmark and the Netherlands, and combined rates of child benefit/CDA for minimum and maximum rates of CDA payment. All payment rates are expressed as proportions of national average industrial earnings.

A number of features emerge from this analysis. First, as of 1998, Child Benefit rates in Ireland were similar to those payable in respect of young children in the Netherlands. They were somewhat below the rates paid in respect of older children in the Netherlands, and well below rates paid in respect of young children in Denmark. Combined child benefit/CDA rates in Ireland were reasonably close to the corresponding Danish rates, as a proportion of average earnings. Irish child benefit rates have been increased very substantially in recent years, so that by 2003 the ordinary rate of child benefit had reached 5.4 per cent of the average industrial wage

<sup>16</sup> We use the child dependant addition term, familiar in an Irish context, to cover similar systems abroad, such as the Danish system of “family allowances”.

**Table 6.3: Child Income Supports as Percentage of Average Industrial Earnings**

	Netherlands Per Cent	Denmark Per Cent	Ireland Per Cent
Child aged under 2 years		Child Benefit	
	2.3	4.1	2.4
3 to 5 years	2.3	3.7	2.4
6 years	2.7	3.7	2.4
7 to 11 years	2.7	2.9	2.4
12 to 17 years	3.2	2.9	2.4
18 years	0.0	0.0	2.4
		Child Benefit and Maximum CDA	
Child aged under 2 years	2.3	9.1	7.5
3 to 5 years	2.3	8.8	7.5
6 years	2.7	8.8	7.5
7 to 11 years	2.7	7.9	7.5
12 to 17 years	3.2	7.9	7.5
18 years	0.0	5.0	7.5
		Child Benefit and Minimum CDA	
Child aged under 2 years	2.3	5.8	6.8
3 to 5 years	2.3	5.5	6.8
6 years	2.7	5.5	6.8
7 to 11 years	2.7	4.6	6.8
12 to 17 years	3.2	4.6	6.8
18 years	0.0	1.7	6.8

(up from 2.4 per cent in 1998). This compares with a maximum of 3 to 4 per cent in the Dutch and Danish figures for 1998. It can be expected, therefore, that Irish child benefit rates have moved up in relation to rates in other European countries.

Table 6.4 illustrates how payment rates (relative to average earnings) varied across countries for a single adult receiving different social security benefits. The comparison allows for a “maximum” and “minimum” rate of payment. In the Irish context, typically this involves a higher payment for contributory schemes. For Denmark, attaining the maximum payment depends instead on some categorical condition, while social assistance rates are shown separately. Payments might also be means tested but this is not considered here. One way of thinking about these comparisons is that they are for single adults *with no other means*: given the focus on poverty, we are particularly interested in comparing the amounts paid in different countries to welfare beneficiaries with no other means.

**Table 6.4: Payment Rates in Relation to Average Earnings, Various Social Welfare Schemes: Netherlands, Denmark, Ireland, 1998**

Single Adult		Netherlands	Denmark	Ireland
Payment Rate as Per Cent of Average Earnings				
Pensioner	— max	35.7	34.7	27.7
	— min		34.7	24.2
Widowed Pensioner	— max	35.7	34.7	25.4
	— min		34.7	24.2
Widowed Non Pensioner	— max	35.7	41.6	24.8
	— min		31.3	23.6
Unemployed	— max	21.4	52.2	23.6
	— min		42.8	22.9
Ill/disabled	— max	21.4	54.9	24.1
	— min		34.7	22.9
Social assistance		n.a.	31.3	22.9
Social assistance lone parent		n.a.	41.6	23.6

Irish pension rates (including those for widowed pensioners) stood at between 24 and 28 per cent of average earnings in 1998, but Danish and Dutch rates were about one-quarter higher, at 35 per cent of average earnings. For widowed non-pensioners the gap was if anything somewhat greater, with Irish rates at about 24 to 25 per cent of average earnings, while rates in Denmark and the Netherlands were in the region of 30 to 40 per cent.

Irish and Dutch payment rates for the unemployed were in the region of 21 to 24 per cent of average earnings. The Danish social insurance scheme paid much higher rates, with a ceiling at roughly half of average earnings. The cross-country relativities in the case of ill or disabled persons were similar: Irish and Dutch payment rates between 21 and 24 per cent, with Danish rates between 35 and 55 per cent of average earnings.

For social assistance rates too, Danish payment rates were substantially in excess of Irish rates – particularly so in the case of lone parents, for whom the Danish system offered a particularly high level of support.

## 6.4 Specifying a “Danish-style” Welfare Policy in an Irish Context

We have seen that Denmark has had one of the lowest relative poverty rates in the EU over a sustained period, and that the level and structure of its welfare payment rates is substantially different from Ireland’s. What if Ireland’s welfare system were to become more similar to that of Denmark? Could this lead to a reduction in relative income poverty towards the levels seen in Denmark?

In order to explore this idea, we must probe a little more closely into what it might mean to have a “Danish-style” social security policy in Ireland. There is no unique answer to this question: judgements must be made on a number of key issues – judgements on which it is possible to disagree. Here we set out a possible example of what such a “Danish-style” social security might look

like in an Irish context, noting the judgements involved, and examine the implications.<sup>17</sup>

One key element in the construction of a “Danish-style” policy in an Irish context is to increase payment rates for corresponding schemes (pensions, unemployment compensation etc.) so that they reach the same proportion of average Irish earnings as Danish payment rates do in Denmark.

Payment rates in relation to average incomes are clearly important. But with differentiated payment rates across the system, actual payment rates can be heavily influenced by the pattern of eligibility across different schemes e.g., social assistance versus social insurance.

A further key difference between Denmark and Ireland is that a greater proportion of the Danish population is covered for key social insurance schemes than in Ireland. As a result, the social assistance payment rates are relevant to a smaller group in Denmark than in Ireland. Differences in social insurance coverage can arise for a number of reasons. If eligibility depends on contributions, then past employment history and contribution record becomes critical. But for some of the biggest social insurance schemes in Denmark, eligibility is linked not to contributions but to *residence*. “The Danish old-age pension scheme is a tax-financed pay-as-you-go scheme which is residence-based i.e., how much you get in pension depends upon the length of the stay in the country, not your former income or contribution record” (Hansen, 2001, p. 9). Social protection schemes for long-term illness and disability operate on a similar basis.

In order to capture this feature of the Danish system we apply the same payment rate to Old Age Contributory and Non-Contributory Pensions. While this will capture most of the impact of the Danish “residence-based” system as against the Irish “contribution-based” system, it does not capture it all. Means-testing provisions under the non-contributory pension will reduce payments in a manner which would not happen with a full implementation of the Danish scheme. Likewise, we simulate the residence-based Danish system for long-term illness and disability by attributing a rate of payment to schemes such as Disability Allowance and Blind Person’s Pension which is equal to the rate for the corresponding insurance-based schemes.

Danish social protection schemes for unemployment and for short-term illness are linked to membership of a social insurance scheme requiring employee contributions. Benefits vary in relation to

<sup>17</sup> Some more sophisticated exercises in “policy swapping” between countries can also be undertaken within the EUROMOD framework. These would take account of issues such as whether or not particular benefits are taxable, and/or whether or not certain benefits are taken into account in means-testing. Such effects are not taken into account here, but are likely to be of “second order” magnitude compared to the main effects examined here.

earnings, but only in a fairly narrow range between a “floor” and a “ceiling”: the ceiling becomes effective at quite a moderate level of earnings (about two-thirds of average earnings, according to Hansen (2002)). While there are differences in how the Irish and Danish systems operate, there is a broad similarity with the insurance/assistance distinction in Irish unemployment compensation.

Table 6.5 summarises the personal rate payment structure under the 1998 Irish system, and under a “Danish-style” system in Ireland as outlined above. (Irish pound rates for 1998 have been converted to euro at the rate of 1 euro = Ir£0.787564). The Danish rates can be grouped into four main categories. These are (from lowest to highest):

- ordinary social assistance,
- old age pensions,
- social assistance for lone parents and
- insurance based benefits for unemployment, illness and disability increases from €89.52 to €116.37 per week, an increase of 30 per cent.

**Table 6.5: Social Protection Payment Rates, Ireland 1998 and Danish-Style System in Ireland**

Scheme	Ireland, 1998 €Per Week	Danish System in Ireland, 1998 €Per Week
<b>Old Age and Survivor's Pensions</b>		
Old Age Contributory Pension	105.39	129.17
Old Age Non-Contributory Pension	92.06	129.17
Widow's Contributory Pension	94.09	154.93
Widow's Non-Contributory Pension	89.52	116.37
<b>Illness and Disability Payments</b>		
Disability Benefit	89.52	194.13
Disablement Benefit	119.61	204.28
Injury Benefit	89.52	204.28
Invalidity Pension	91.68	204.28
Disability Allowance	89.52	204.28
Blind Person's Pension	89.52	204.28
<b>Lone Parent and Family Support</b>		
One Parent Family Payment	89.52	154.93
Deserted Wife's Benefit	94.09	154.93
Deserted Wife's Allowance	89.52	116.37
Maternity Benefit	106.28	159.19
Carer's Allowance	93.33	129.17
<b>Unemployment Payments and Social Assistance</b>		
Unemployment Benefit	89.52	194.13
Unemployment Assistance	89.52	116.37
Supplementary Welfare Allowance	86.85	116.37

Even the lowest social assistance rate in the Danish system is significantly higher, in relation to average earnings, than some of the highest personal rates in the Irish system. As a result, even those rates (Unemployment Assistance, Supplementary Welfare Allowance, Widow's Non-Contributory Pension and Deserted Wife's

Allowance) which are “mapped” onto the Danish social assistance rate see substantial increases on the payment rates in the 1998 Irish system. For example, the Unemployment Assistance rate increases from €89.52 to €116.37 per week, an increase of 30 per cent.

The old age pension rate increases from €92 (non-contributory) or €105 (contributory) to a level of €129, in order to attain the same proportion of average income as the Danish rate. This represents an increase of between 23 per cent and 40 per cent. The gap between the Irish and Danish income support rates for lone parents, as a proportion of average income, is even greater. An increase of over 70 per cent in the Irish rate would be needed (bringing it from €90 to €155) if it were to represent the same proportion of average earnings as in Denmark. For Unemployment Benefit and Disability Benefit the required increase would be 117 per cent, bringing the personal rate of payment from €90 to €195.

The greatest gap, however, is the payment rates for long-term illness and disability, where the Irish payment rates would need to rise by almost 130 per cent in order to reach the same proportion of average income as in Denmark. In 1998 terms, this would mean an increase from about €90 per week to around €205 per week. It should be noted that the Danish payment rate for long-term disability shown in Table 6.6 is the maximum within the system. Lower rates apply if the extent of the disability/reduction in labour market capacity is less severe, and/or the individual is nearing retirement age.

There are, as noted in the previous section, some additional payments in respect of dependant adults in Denmark, but the main emphasis is on independent entitlements and claims of individuals, whether they are single, married or cohabiting. This contrasts with the Irish system in which payments in respect of “qualified adults” (formerly termed “adult dependants”) are an integral and important part of the system. How best can this be taken into account in constructing a “Danish-style” policy to apply in the Irish context? There is no simple mechanical answer to this question. Suppose, for example, that Ireland switched away from payments in respect of qualified adults towards purely individual claims. Some of those previously benefiting from a “qualified adult addition” might take up employment, as the net reward for so doing might increase. But some former “qualifying adults” might now be able to obtain a higher income by making an independent social welfare claim (e.g., based on age, illness or unemployment). Neither of these potential effects can be captured by simply setting qualified adult addition rates to zero, since static tax-benefit models cannot take account of such changes in behaviour.<sup>18</sup>

<sup>18</sup> Setting qualified adult addition rates to zero would, in the context of the *SWITCH*-based analysis undertaken here, lead to corresponding income losses for families containing a qualified adult.

The approach taken here is a pragmatic one, aimed at approximating the net impact on welfare recipients incomes. For Old Age Pensions, where there is a restriction on the total payment to a couple, we treat the “couple rate” less the single rate as the rate for a qualified adult. This ensures that pensioner couples receive the appropriate rate in most circumstances. For all other schemes where “qualified adult additions” may be payable, we use the rather low rate (€36.50 per week) payable in the Danish social assistance system when a spouse has not been in paid employment and intends to remain outside the labour market. Given that typical qualified adult additions in the Irish system ranged from €52 to €67, the net effect is that payment rates in respect of a couple are somewhat higher than before, but the increases are much more moderate than for a single person.

Differences in child dependant additions are somewhat easier to deal with. We have seen earlier that typically Danish child benefit rates were significantly higher than Irish rates, in relation to average income; but that total support in Ireland, from child benefit and child dependant additions, was usually somewhere in between the minimum and maximum levels of support in Denmark, relative to average earnings. The highest child dependant payment rates in Denmark are those in respect of the children of lone parents (including widows). High rates may also be payable if both parents are dependant on a social pension. We have approximated this situation by applying the high rate of child dependant addition (€18.77) to all lone parent schemes, to the old age pension scheme, and to long-term illness payments. For all other schemes (unemployment, short-term illness, social assistance) the lower rate of payment (€6.44) is used.

In moving from the Irish system to a “Danish-style” social security policy, we have also eliminated the Living Alone Allowance (which does not exist in Denmark). Higher individual payments would more than compensate those affected.

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## 6.5 Impact of a “Danish-style” Policy in Ireland

The total gross cost of raising Irish social welfare payments to rates which formed the same proportion of average earnings as the Danish system is estimated at over €2,700 million in 1998 terms. Some of this increased social welfare income is taxable, so the net cost, allowing for tax revenue arising from the increase, is of the order of €2,400 million. A comparison of the two systems which did not take account of this would be unbalanced. For this reason, we look here at a comparison in which the systems are put on a “revenue-neutral” basis i.e., each system must raise the same net revenue to finance other government expenditure.

If the Danish style system were to be financed entirely from within the income tax/transfer system substantial tax increases would be required. Our estimates suggest that an 11 percentage point rise in both standard and top rate taxes (i.e., from 24 to 35 per



cent, and from 46 to 57 per cent) would be required. These are included in our specification of the Danish-style system examined below. Clearly, such substantial changes in tax rates would have significant implications for labour market behaviour (see Callan *et al.* (2003) for estimates of likely behavioural responses to tax/transfer policy changes). We look first, however, at the potential impact on relative income poverty in the absence of any behavioural changes. Table 6.6 below shows the potential impact of this expenditure on relative income poverty, when measured in relation to *mean* income.

**Table 6.6: Incidence of Income Poverty Relative to Mean Income: Simulations for Ireland under Irish Tax/Transfer System (1998) and under Danish Welfare Payment Rates (1998) Financed by Higher Income Tax Rates**

Poverty Line Cut-off as Per Cent of Mean Income	Head Count: Irish Policy	Head Count: Danish Policy	Poverty Gap: Irish Policy	Poverty Gap: Danish Policy	Weighted Poverty Gap: Irish Policy	Weighted Poverty Gap: Danish Policy
40 per cent	4.45	4.09	0.61	0.65	0.16	0.17
50 per cent	17.83	11.64	2.70	2.10	0.64	0.58
60 per cent	30.71	18.97	6.27	4.21	1.80	1.37

*Note:* Relative income poverty lines based on mean household disposable income per adult equivalent: €194.91 under baseline Irish policy, €194.19 under alternative “Danish” policy.

Looking first at the head count measures, we see that a shift to a “Danish-style” social security policy is associated with a reduction of 6 percentage points in the head count of poverty at half of mean income, and a fall of almost 12 percentage points in the head count of poverty at 60 per cent of average income. These are substantial falls, representing declines of more than one-third in the level of poverty on this measure. There is little impact on relative income poverty at 40 per cent of average income under any measure, as many of those below this line are outside of both the tax and benefit systems.

There are also substantial impacts on the poverty gap (which takes account of how far individuals fall below the poverty line income) at the 50 per cent line (a fall of over 20 per cent of its initial level) and the 60 per cent line (a fall of about one-third). The impact on the “weighted poverty gap”, which gives greatest weight to those furthest below the line, is attenuated, because, as we have seen, many of those falling below the lowest poverty line do not gain from welfare increases. Nevertheless, there is a fall of about one-tenth in the level of the weighted poverty gap at 50 per cent of average income, and a fall of about 25 per cent in the weighted poverty gap at 60 per cent of average income.

**Table 6.7: Incidence of Income Poverty Relative to Median Income: Simulations for Ireland under Irish Tax/Transfer System (1998) and Under Danish Welfare Payment Rates (1998) Financed by Higher Income Tax Rates**

Poverty Line Cut-off as Per Cent of Median Income	Head Count: Irish Policy	Head Count: Danish Policy	Poverty Gap: Irish Policy	Poverty Gap: Danish Policy	Weighted Poverty Gap: Irish Policy	Weighted Poverty Gap: Danish Policy
50	5.14	6.93	0.74	1.10	0.19	0.29
60	17.47	12.97	2.53	2.63	0.59	0.76
70	27.69	20.73	5.34	4.59	1.47	1.51

*Note:* Relative income poverty lines based on median household disposable income per adult equivalent: €160.58 under baseline Irish policy, €170.63 under alternative “Danish” policy.

Table 6.7 shows corresponding results for poverty lines based on median income. Again, there are sharp falls in the head count of poverty at the higher two poverty lines (60 per cent and 70 per cent of the median equivalised income). But results for the poverty gap show little change, while there is a slight rise in the weighted poverty gap measure. The key difference between the mean- and median-based results is that mean income is approximately the same under the Irish or “Danish” policy, but median income rises quite sharply under the “Danish-style” policy.

## 6.6 Conclusions

Aggregate measures indicate that social expenditure forms a lower proportion of national income in Ireland than in a number of countries with poverty rates among the lowest in the EU. More detailed comparisons of eligibility conditions for social insurance schemes and payment rates for social insurance and social assistance schemes suggest that for many welfare schemes, Irish payment rates are lower, relative to average earnings, than in Denmark and, to a lesser extent, the Netherlands. In order to investigate the role which such policy differences play in explaining differences in relative income poverty we constructed a “Danish-style” policy which had the following key features. First, payment rates for schemes were set so that they represented the same proportion of Irish earnings as the 1998 Danish scheme rates in proportion to average Danish earnings. Second, eligibility for contributory old age and illness/disability schemes was widened to reflect the fact that in Denmark eligibility depended not on contributions but on the proportion of the labour market career spent as a resident in Denmark. Results from this analysis indicated that differences in social security policy could account for a substantial proportion of the difference in poverty rates between Ireland and Denmark. This does not mean, however, that there is a simple transition from the Irish welfare system to a Danish-style one, requiring only changes in welfare payment rates and eligibility conditions. Each system is embedded in a wider social setting, and a successful transition to a Danish-style system, if that were the goal, could depend also on accompanying changes in terms

of conditions attaching to benefit receipt and active labour market policy, *inter alia*.

# 7. CONCLUSIONS

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## 7.1 Issues

Ireland is among a group of countries with relative income poverty rates that have been at the upper end of the EU-15 range over many years. At the same time, a number of other countries have maintained relative income poverty rates towards the bottom of the EU range. What explains these persistent differences in poverty rates across countries? Identifying the main explanatory factors is of interest in itself, but can also bring wider benefits in suggesting ways in which anti-poverty policies can be improved. Indeed, this links with the broader approach to social policy co-ordination under the Lisbon agenda. Some of the work done here can be characterised as comparing policy in countries with high relative income poverty with “best practice” from countries with the lowest relative income poverty in the EU.

The Second Joint Report on Social Inclusion (2004) presents relative income poverty rates from the mid-1990s to 2001, drawing on the European Community Household Panel (ECHP). These figures suggest that in the mid-1990s Ireland was among a group of countries – also including Spain, Portugal, Greece and the UK – where the proportion of persons with incomes below 60 per cent of median equivalised income was substantially above average. By 2001, Ireland had the highest percentage in the EU-15 below that threshold, 8 percentage points higher than the average for the (then) EU. Countries with low relative income poverty rates, on the other hand, included the Netherlands, Finland and Denmark.

What accounts for the differences in relative income poverty rates between Ireland and these countries? The factors involved are many and complex. One might expect that relative poverty would be higher in countries where groups with a high risk of poverty form a higher proportion of the population. For example, if elderly persons tended to have a high risk of poverty in all countries, then countries with a greater proportion of this high-risk group could be expected to have a higher overall risk of poverty. Other groups often found to be at high risk of relative income poverty include children, lone parents and persons with a disability or suffering from ill-health. Countries with a high incidence of such groups may also be likely to have a higher overall risk of poverty. On the other hand, whether or not particular groups have a high risk of relative income poverty depends in part on the extent of income support provided through the social security or welfare system. Thus, what constitutes a high risk group may vary from country to country depending on levels of income support and conditions for its receipt.

There is no commonly agreed or fully unified method of “decomposing” cross-country differences in relative income poverty rates. Different approaches are taken in a number of recent papers. Biewen and Jenkins (2002) found that the higher rate of relative income poverty in the US compared with Britain or Germany is mostly accounted for by higher risks of poverty for those with given personal or family characteristics, rather than due to differences in the distribution of the population over groups with different poverty risks. The approach of Bourguignon *et al.* (2002) is perhaps the most unified to date, and deals well with some of the main determinants of differences in poverty and income distribution (rates of return to education, the distribution of educational qualifications, fertility, labour market participation and structure). However, the redistributive impact of tax and benefits is specifically excluded from their analysis.

To identify the impact of specific differences in tax and welfare systems on relative income poverty, a fully-fledged tax benefit model capable of modelling policies under two national systems is required. Here this has been provided by the *SWITCH* tax-benefit model for Ireland, with information on the Danish system drawn from the *EUROMOD* tax-benefit model for Europe (Sutherland, 2001).

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## 7.2 Findings

**D**oes Ireland’s high relative income poverty rate arise from a greater concentration of individuals in high risk categories, compared with EU countries with the lowest poverty rates? Or do the differences in risks of relative income poverty persist across countries when comparing individuals within the same groups (e.g., families with many children, the elderly)? This issue was examined by “standardising” the distribution of individuals across categories to match that of the Netherlands, a country with a low relative income poverty rate. The findings were quite clear cut: differences in the age profile, pattern of labour force participation and household composition do not in themselves appear to play the major role in explaining inter-country gaps in poverty risk. Simulating the imposition of the Dutch age profile, labour market participation or age composition on the Irish data does not reduce the substantial gap between Irish and Dutch relative income poverty rates (20 per cent and 12 per cent respectively, at 60 per cent of median income). Analyses of differences between other countries have come to broadly similar conclusions (Biewen and Jenkins (2002) in their analysis of the USA, Britain and Germany and Rainwater and Smeeding (1997) in an analysis of 8 advanced countries).

The results concerning labour market structure are of particular interest. The standardisation procedure here involved a marked reduction in the rate of unemployment in the Irish sample (since we took as point of departure the data for 1994, when unemployment was much higher), from just over 13 per cent to less than 6 per cent; and a shift in the composition of labour market participation, from

self-employment and unemployment towards employment. The net result, however, was that the relative income poverty rate was little changed, and might even increase.

At first sight this result may seem quite puzzling. The answer lies in the fact that median income, on which the poverty threshold is based, is also affected. If, instead, we considered a low-income cut-off which was fixed at the initial relative income poverty line then the relative income poverty rate would fall from 20 per cent to 15 per cent. But the substantial rise in employment in this simulation also raises average incomes, so that relative income poverty lines also rise, and the proportion of individuals falling below those cut-offs is roughly constant at the 60 per cent median income line. For those persons making the transition from unemployment to employment, and those dependent on their earnings, the transition involves an increase in income which is often sufficient to raise them above the relative income poverty threshold. This is the direct effect on income poverty. But for others who are just above the initial poverty threshold, and who may be unemployed, out of the labour force, or part of the “working poor”, the rise in average income means that their unchanged incomes now fall below the new, higher relative income poverty threshold. What our analysis shows is that this indirect effect can be a strong one, and can dominate. Similar results are obtained by Feres *et al.* (2002).

It should be noted that the “reweighting” technique used here involves scaling the employee and unemployed populations as a whole. Thus, when unemployment is reduced and employment increased, it is as if the unemployed are put into jobs which have the same average wage (and wage distribution) as total current employment. In reality unemployed individuals are likely to have lower levels of skill and education and therefore command a lower wage in the labour market. Analysis in Callan *et al.* (1997) suggests that two-thirds of the current average wage may be a more realistic figure, based on the age and educational qualifications of the unemployed. This means that the rise in average income would in practice, be on a smaller scale than that implied by the assumption of equal average wage levels in the current analysis. In these circumstances, the rise in employment would have less impact on average income, and could therefore have a greater impact on relative income poverty. However, labour market developments in the real world may – as in recent Irish experience – involve a fall in unemployment and a rise in employment which are better approximated by the “balanced expansion and contraction” implicit in the reweighting technique.

Recent Irish experience shows that such results are not simply a theoretical possibility but do happen in the real world. Sharp declines in unemployment and increases in employment in the late 1990s did not reduce the numbers below relative income poverty cut-offs. Indeed, recent ESRI studies (Whelan *et al.*, 2003) point to some

increases in numbers below relative income poverty thresholds over the period when unemployment fell dramatically.

The impact of these developments on Exchequer finances is outside the scope of the analysis undertaken here, but should be borne in mind. Falling unemployment reduces welfare expenditure, and rising employment boosts income tax revenue and social insurance contributions. This leaves government with scope for other actions (welfare increases, tax cuts) which could themselves have a significant impact on relative income poverty.

To what extent can inter-country differences in relative income poverty rates be attributed to differences in tax/transfer systems? Aggregate measures indicate that social expenditure forms a lower proportion of national income than in a number of countries with poverty rates among the lowest in the EU.<sup>19</sup> Aggregate level comparisons of “welfare effort” and relative income poverty rates suggest that there is a relationship. Data for 1999 suggest that an extra percentage point on social security as a proportion of GDP is associated, on average, with a reduction of 0.4 percentage points in the relative income poverty ratio.<sup>20</sup> There is, however, a more direct way to examine the possible impact of differences in tax and welfare structures on inter-country differences in relative income poverty. This involves using a tax-benefit model which can examine the first-round impact of simulating a “foreign country” policy as well as its own domestic policies to arrive at a more precise estimate of how much policy differences contribute to the explanation of differences in poverty rates. In Chapter 6 we used *SWITCH*, the Irish tax benefit model, in conjunction with information on Danish policies generated in the construction of *EUROMOD*, a tax-benefit model for Europe, to undertake such an analysis. The year for which the comparison was undertaken was 1998.

The impact of welfare benefits on relative income poverty depends crucially on how benefit payment rates relate to the poverty line, which is in turn related to average incomes. For this reason, we focus on payment rates in Ireland and in Denmark in relation to national average earnings. When “importing” the Danish policy into the Irish setting, we ensure that the payment rate provides the same proportion of average earnings as in the original Danish setting.

A further key difference is that a greater proportion of the Danish population is covered for key social insurance schemes than in Ireland. If eligibility depended on contributions then past employment history and contribution record would be critical. But for some of the biggest social insurance schemes in Denmark – including pensions – eligibility is linked to *residence*, so that how much is paid in pension depends on the length of stay in the country, not

<sup>19</sup> The adjustments suggested by Lawlor and McCarthy (2003) would not alter this conclusion.

<sup>20</sup> The poverty measure used is the proportion of households below 60 per cent of median income.

on former income or contribution record. In order to capture this difference, we simulate a “Danish-style” system in Ireland under which the payment rates for non-contributory and contributory Old Age Pensions are the same, and scaled to provide the same level of income in relation to average earnings as the Danish pension.

As might be expected, there is a substantial cost associated with moving to Danish-style payment rates and coverage. The net cost (after tax revenue from increased payments) is of the order of €2,400 million per annum. To arrive at a consistent scenario for evaluation of the impact of such a policy, we examine a situation in which the standard and top rates of income tax are raised by 11 percentage points each (i.e., from 24 to 35 per cent, and from 46 to 57 per cent). Clearly, such substantial changes in welfare payments and tax rates could have significant implications for labour market behaviour (see Callan *et al.* (2003) for estimates of likely behavioural responses to tax/transfer policy changes). Nevertheless it is of interest to explore the potential impact of this change to tax and welfare policies on relative income poverty.

Head-count measures of poverty show substantial falls in the poverty rate at 60 per cent and 70 per cent of median income e.g., the poverty rate at 60 per cent of median income falls by 7 percentage points (to just under 21 per cent). Similarly there are sharp falls at 50 per cent and 60 per cent of mean income e.g., from 17.8 per cent to 11.6 per cent at 50 per cent of mean income.<sup>21</sup> Differences in the welfare system could account for about two-thirds of the initial difference in poverty rates (whereby 19 per cent of Irish people were in households below 60 per cent of median equivalised income, compared with 12 per cent of Danes). This takes account of the need to increase taxes, but does not take account of behavioural responses in the labour market.

What are the broader lessons to be drawn from this analysis? Atkinson (2000) has pointed out that:

*Social investment in improving labour market skills and employability, or an ‘active welfare state’, is an important part of anti-poverty policy, but is not a complete substitute for social spending* (Atkinson, 2000)

Thus, for anti-poverty policy to make progress requires enhanced education and employment opportunities and improved income supports. Both elements are necessary – neither is sufficient on its own to ensure success in combating relative income poverty.

The success of countries such as Denmark and the Netherlands in keeping relative poverty at low levels over a sustained period depends crucially on both of these factors: a high employment rate and a comprehensive welfare system ensuring that those without income from employment have an adequate income. Each of these factors is necessary, but neither on its own can be regarded as

<sup>21</sup> There is little or no impact on poverty at the lowest cut-offs (40 per cent of mean or 50 per cent of median income).



sufficient to keep relative poverty at a low level. Since the mid-1980s Ireland has made the transition from a labour market with relatively low participation rates and high unemployment to one with high employment and low unemployment. This represents a major achievement, and one of the two key elements identified above as distinguishing countries with low relative poverty rates such as Denmark and the Netherlands from others. Over this period, however, relative income poverty in Ireland has remained higher than the EU average. Comparison with “best practice”, as identified in the EU countries with low relative income poverty rates, strongly suggests that a move to a low rate of relative income poverty would require a more comprehensive safety net and higher rates of welfare payment.

Such higher spending would of course have to be financed via higher taxation, and the implications for economic incentive, behaviour and growth are critically important to the policy choices made. While progress has been made in trying to measure such behavioural effects at the level of the individual and household (see for example, Callan *et al.*, 2003), much remains to be done before these effects can be comprehensively modelled. At the macroeconomic level, the relationship between taxation and economic growth is of course hotly debated internationally, and Irish experience over the last decade or more has been variously interpreted. The results of this study serve among other things to highlight the importance of greater clarity on these behavioural and macroeconomic relationships, and of the strategic societal choices which Ireland has to make.

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