

Recasting Safety Nets: Reforming Social Assistance in Germany, Ireland and the United Kingdom¹

Cathal O'Donoghue and Martin Evans

University of Cambridge and London School of Economics

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Abstract

This paper investigates the simulation of common policy reforms across different countries. Changes to the equivalence scales of social assistance systems in favour of pensions and children in Germany, Ireland and the UK were modelled. Unlike a number of previous studies of this kind such as Atkinson et al. (1988), reforms were modelled in the policy and societal context in which the reforms are set. To do this, three national tax-benefit microsimulation models were used. The analysis highlighted both the different structure of the policy instruments used across the countries, but also the importance of the national environments in which the policy is set. This paper highlights the difficulties associated with carrying out comparative research of this nature using national models which were not designed specifically for this purpose.

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Introduction

What would be the effect of consistent international changes to national social assistance schemes? In this paper we outline a microsimulation experiment which models cross-national change to the position of children and pensioners in means-tested social assistance in Germany, Ireland, and the United Kingdom. Our research explores some of the limitations and potentials of cross-national microsimulation. How can consistent changes be assessed across very different national policy contexts using models based on national data sets and assumptions?

Microsimulation has developed in national contexts where commentators and analysts share an appreciation of the policy environment. Microsimulation involves computerised manipulation of micro-data in order to evaluate changes in incomes due to changes in rules of taxation and/or social transfers. In each national context such simulation has the primary audiences of policy makers and academic specialists in the field. Thus the national audience has, on the whole, an appreciation of the underlying policy context and demographic and economic structures. A move to cross-national simulation requires therefore both technical developments of modelling and data analysis *and* an increase in comparative contextual sophistication. Interpreting cross-national models requires more than knowledge of the data and the rules for each country. By the term context, we mean the environment in which national policies are designed. In other words, each country has a different set of policy assumptions, different demographic and income profiles and these influence both the inputs and outputs of microsimulation models. There are two main themes to our paper

1, *Methodological*. Microsimulation uses survey data to emulate policy implementation and change. In cross-national comparative work we are therefore faced with a huge range of increased methodological problems that spring from

- a) the differences in the survey data in each country,
- b) the differences in national policy systems and assumptions, and
- c) the different national policy contexts, such as levels of economic activity, retirement and child rearing.

2, *Evaluative*. To assess the potential effects of consistent comparative policy changes in three countries and to assess their costs and effects on incomes and their distribution. Also to explain modelled outcomes in relation to the concerns outlined in 1a), b) and c) above.

Readers who are mainly interested in the detail of methodological concerns will find the majority of detailed discussion in the Appendices. In the main body of the paper our argument proceeds as follows. In Section 1 we review the problems of comparative microsimulation, describe the methodology of our microsimulation models for the UK, Ireland and Germany, and outline their policy context. The majority of detail for each of these three areas is contained in appendix A.

Section 2 gives the results of the simulations of changes to the treatment of pensioners and children by social assistance. Section 3 outlines the lessons for future research and the conclusions from this experimental study.

Section 1: The Models and their Contexts

Microsimulation modelling is mostly used to evaluate potential policy change. At the national level it is now increasingly common. The advantages and limitations are now well rehearsed at the national level. For recent surveys of the literature, see Sutherland (1995) and Merz (1991). What problems are presented in moving to comparative cross-national microsimulation modelling?

- Models rely on national data sets with **different definitions and samples**. Data are rarely collected deliberately for modelling and hence national models are constrained by, for instance, differing definitions of income – as annual, monthly or weekly aggregates, calculated before or after tax, including or excluding benefits in kind, and before or after housing costs. Each of these potential differences in definition could have significant effects on results.
- National **policy environments differ greatly**. Microsimulation has been mostly based on cross-sectional analysis of income related policy change – of taxes and income related transfers. Social insurance, which relies on working life and contributions, is more difficult to assess. These differences in policy are not just technical but reflect very different ideological and political commitments.
- Each national system will contain common elements - e.g. income taxation, contributory and non-contributory benefits, and social assistance, but their **rules are very different**, and their claimant populations differ greatly in composition and size. Hence consistent comparison is difficult.

National microsimulation models are therefore constrained when used in international analysis by **both** their data and policy contexts. Can international comparisons overcome the difficulties of consistency, comparability and cross-national policy context in order to evaluate potential policy changes?

Previous research provides a guide to some of the approaches, opportunities and pitfalls. We focus here on microsimulation models that have utilised household data sets.² Previous research can be divided into three types.

- a) comparisons using a single country microsimulation model;
- b) comparisons using different national models, and
- c) integrated modelling.

Type a) compare two national systems using one national model (See table A.1). In other words different national tax-benefit systems are simulated on a base sample from a single country. Atkinson, Bourguignon and Chiappori, (1988) was an early example of this type of analysis. They compared the distributional impact on the French population of replacing the

² Models based on series of hypothetical households rather than raw survey data are more common in the literature.

French income tax and social assistance system with the UK's income tax and social assistance system. More recently, De Lathouwer (1996) simulated elements of the Netherlands tax/transfer system in a Belgian model comparing aspects of unemployment compensation schemes in both countries. Models of this type perform an important role in comparing the impacts of different policy instruments in a single country. A drawback is that policy instruments are designed with a particular national policy or social context in mind and thus care must be taken in interpreting results that ignore such differences in context. Secondly, cross-national investigations cannot be complete because they rely on data from only a single country and thus ignore differing population, economic and distributional structures.

Type b), summarised in Table A.2, use national microsimulation models and national micro data sets for comparison. Callan, O'Donoghue, Sutherland and Wilson's (1997) two-country study used both Irish and the UK national microsimulation models to carry out a common Basic Income reform. However, when the authors attempted to extend the analysis to cover three additional countries, problems of consistency and comparability proved to be insurmountable (Callan and Sutherland (1997)). Modelling basic income proposals to replace the entire transfer and personal taxation systems was not possible because of the limitations of national simulation models. The important lesson is that adapting existing national models is not always possible to meet a common research agenda: some nationally set parameters were made without international comparison in mind. For instance, the Belgian model at the time did not include social insurance contributions. Similarly, the characteristics of national databases frustrated changing the value of some transfers and hence measuring the impact of reforms. Lastly, problems of policy context mean that both data and models carry forward the national socio-economic assumptions, for instance, the definition of a dependent child by age, residence and financial independence.

Type c), integrated models, have been developed by Bourguignon et al (1997). A three country integrated model was constructed for France, Italy and the UK. The model investigated the impact of reforms at a national level using national income distributions. It also produced a three country "European" income distribution and compared the impact of the changes at this level.

Our experimental modelling falls into Type b). We use existing national models but instead of trying to remould the data or models to match the policy design of another country, or impose a new cross-national regime, we simply alter the existing national assumptions in a common and consistent way.

The German, Irish and the UK Models' Common Characteristics

The microsimulation models discussed in this paper cover both tax and social benefit systems. Models of this kind simulate tax liabilities and benefit entitlements of individuals in a representative sample of the household population. The data sources are typically household surveys, but can be based on administrative sources. Nationally representative micro-datasets are used which contain data on the labour market, income, expenditure and demographic characteristics. These micro-data produce national estimates of the effects, costs and impacts on the income distribution. However, nearly all data are limited to household samples and non-household populations are excluded (Evans 1994). These models are briefly described in Appendix B.

Summary of Differences and Similarities in the Models

There are a number of problems of consistency and comparability that arise from the different types of micro-data used and the models based upon them and are described below.

- Income definitions. All three countries use current income, and this definition fits the modelling of social assistance - transfers paid to relieve immediate needs for income. However, Germany uses annual income, whereas the UK and Ireland use mainly current weekly income. Moving to an average monthly income (one twelfth of annual income) will still tend to smooth out variations in income apparent in cross-sectional data relating to the week or month in which the questions were asked. Thus results will tend to comparatively under-report the number of beneficiaries of social assistance in Germany and over estimate average annual payments. Also, the imputation of asset values differs between data sets. This will affect the modelling of means tests for social assistance. Asset reporting in survey data are often subject to high levels of error and missing values due to the sensitivity of disclosing capital holdings. German asset data are banded, while asset values have to be imputed from investment income streams in the UK and Irish data.
- The data samples. Aside from differences in survey question definitions, the base surveys for the models are taken from different years and from different parts of the economic cycle. In addition for the Irish and the UK analyses, the data set is from a different year to the year of analysis. The Irish model attempts to account for changes to population due to the economic cycle (such as unemployment levels) through the weighting procedure and accounts for inflation by income source. The UK model does not change the population weights, but does account for income inflation. The German model produces results for the year of the sample, 1991
- The models. They have been built for particular purposes and are not necessarily compatible for cross-national modelling. No attempt has been made to structurally alter the models for the purpose of cross-national modelling. Our results are therefore determined by the definitions of outputs produced by the models. There was enough flexibility to use a common analytic framework throughout, however we were limited in the choice of analysis options. For example a common equivalence scale was able to be used, but no variation was possible in this definition. In order to produce results at a household level, some additional programming of the Irish model was required. Some definitions such as national policy definitions of children and pensioners were not possible to synchronise and so remain as defined in each country. These are important elements in the different policy **contexts** that we discuss further below. Modelling tax and benefit systems ignores the relative strengths of the non-cash services and benefits in kind from education, social services and health care systems. The range of policy instruments modelled varies by country as well. For example, SWITCH does not model the effects of all methods of coverage of housing costs by social assistance in Ireland, unlike its German and UK counterparts. Neither Germany nor Ireland simulate local service charges modelled by POLIMOD. Lastly, SWITCH and POLIMOD allow for reduced take-up of social assistance benefits, whereas the German model does not. However for the purposes of this paper, we assume full take-up across all three countries.

National Policy Contexts

It is important to recognise the different policy environments of the three national systems of social assistance before modelling changes to them. Microsimulation is of most use to policy analysts and policy makers if its results can be considered within a wider appreciation of policy systems. Means-tested minimum income schemes play very different roles in the three countries. The UK and Ireland are similar as both countries have given a high priority to means-tested delivery of cash transfers and social assistance has a primary purpose of maintaining a minimum standard of living. Germany is different. Policy is predicated on universal coverage by earnings-related social insurance. Such social insurance cover provides contributory sickness and unemployment benefits and pensions that are designed to maintain living standards rather than protect against poverty.

The UK and Ireland have largely abandoned earnings related contributory cover for the working age population.³ The majority of provision for the unemployed is means-tested assistance, and contributory cover for the sick is mostly flat rate. By contrast, German provision is mostly from earnings-related social insurance. Unemployment benefits last for a maximum of 12 months but are then followed by means-tested unemployment assistance of unlimited duration for those with a contributory record.⁴ Both forms of benefits are earnings-related.

Turning to pensions, Germany relies on earnings-related benefits. There is no minimum pension and hence social assistance provides for those with very low or zero entitlement. The UK has a minimum contributory retirement pension that will be fairly close to a demogrant in its coverage when the system is fully mature because of a comprehensive system of credits for those with gaps in working life. It is not so comprehensive for current pensioners. However, the basic rates of pension are less than social assistance for pensioners. Additional pensions in the UK are mainly drawn from the occupational and private sectors. The state earnings related pension scheme (SERPS) designed to meet the needs of the lower paid and those treated unfavourably by occupational pensions, only began in late 1970s. The maturation of both state and private schemes has led to a decreasing proportion of pensioners relying on social assistance. The Irish social insurance pension system consists of a flat rate payment, with extra amounts for adult and child dependants, those living alone and aged over 80. It is payable to those with sufficient contributions. The total amount depends on the number of contributions paid and is payable at 65 to retirees and all those eligible aged 66 or over. Coverage is lower than that in the other countries; in 1995, less than 40 per cent of over 65's were in receipt of a social insurance pension. A further 26 per cent were in receipt of a means tested pension. Private pension coverage is also relatively low at 45 per cent.

The previous discussion of contributory coverage shows the potential for social assistance coverage from the failings of social insurance: mainly those of disablement and lone parenthood. Such needs may be met through specialised transfers – such as the non-

³ However Ireland does retain a small earnings related portion of Unemployment Benefits. In order to prevent disincentives to work, individuals who previously had very low incomes are entitled to less than the full amount of Unemployment Benefit.

⁴ For a full discussion of the comparative cover of German and UK unemployment benefits see Evans (1996a).

contributory benefits for disablement in the UK (Disability Living Allowance, Attendance Allowance, and Severe Disablement Allowance) and/or through in-kind services. The position of lone parents will depend on the coverage of a range of provisions. Social insurance can cover those with recent experience in the labour market, maintenance from ex-partners can cover income, and family allowances the needs of their children. The availability of pre-school child-care and other benefits in kind is also important. The role of social assistance for lone parents will depend on the extent and coverage of such alternatives. In Germany social assistance, *Sozialhilfe HLU*, performs the majority of coverage for uninsured needs due to disablement – both by providing cash transfers and a range of health and care services. Lone parents in Germany are catered for as workers through existing social insurance but rely on assistance as well as State regulated and enforced maintenance provisions. In Ireland categorical schemes of means-tested benefits for lone parents and disabled persons as well as the non-categorical means-tested Supplementary Welfare Allowance. In the UK, social assistance (Income Support) is the main form of support for lone-parenthood.

Table 1

Main Features of Social Assistance in Germany, Ireland and the UK

Benefit Name	Benefit group
Germany	
Sozialhilfe _ HLU	Non categorical scheme
Ireland	
Old Age Non-Contributory Pensions	Over 66's
Pre-retirement allowance	Unemployed or those out of the labour force near retirement age
Widow's Non Contributory Pension	Widows without children
The Disabled Person Maintenance Allowance	Long term disabled.
Lone parent's Allowance	Lone parents
Carer's Allowance	Those caring for elderly or handicapped.
Unemployment Assistance	Unemployed without social insurance or those who have exhausted their entitlement to social insurance. Also paid to farmers and self-employed on low incomes. Two Schemes: one aimed at short term, other at long term unemployed.
Domiciliary Care Allowance	Payable in respect of children with a physical or mental handicap when cared for in their own home.
Supplementary Welfare Allowance (basic payment)	Non categorical scheme. Payable to those without recourse to other means tested benefits.
United Kingdom	
Income Support	Non categorical scheme
Job-seekers Allowance	Unemployed

Table 1 shows the main schemes of social assistance in the three countries, gives their names and describes their client groups.⁵ In Germany and the UK, social assistance is based on non-categorical safety nets, *Sozialhilfe HLU* and Income Support, respectively. Ireland, on the other hand, has a number of categorical social assistance schemes; old age non-contributory pensions for the elderly and the pre retirement allowance for the unemployed or those out of the labour force near retirement age. The widow's non-contributory pension is aimed at childless widows, while the lone parent's allowance covers remaining lone parents. Carer's allowance is paid to those caring for elderly or handicapped. Rent and mortgage supplements are also payable to those who are not in work and not in local authority housing.⁶

Social Assistance Populations

The demand for social assistance reflects the coverage of other social transfers and policy coverage. Assistance has traditionally been a safety net to catch those who fall through. The numbers claiming assistance are thus defined in part by other elements of the fiscal system. Table 2 shows the number of claimants and the total number of people who rely on social assistance (i.e. the total of the claimants, their partners and their children) in each of the three countries. Germany has the lowest proportion of their total population on assistance – under 4 per cent. The UK has a higher proportion of its population in families receiving assistance, just under 17 per cent. Ireland however has 21.6 per cent in receipt of benefit. This reflects the different emphases on social assistance in the three countries. It also reflects the different economic background in the three countries. Ireland in addition to having a greater emphasis on social assistance has higher unemployment rates than the other two. Although, the proportion of people of pension age are lower in the UK and Ireland than Germany, this lower proportion of pensioners is not reflected in table 2 due to the higher proportions in Germany receiving adequate insurance pensions.

Table 2
The Relative Sizes of Social Assistance Populations

000s	Germany(W) (1993)	Ireland (1995)	United Kingdom (1994)
Claimants	1,117	421.7	5,902
Total Population on benefits	2,350	776.1	9,892
% of total pop	3.6%	21.6%	16.9%

Sources: DSS Social Security Statistics, Statistics Branch, Northern Ireland Department of Health and Social Services, Northern Ireland Office, Statistical Information on Social Welfare Services, DSW, Ireland. Statistisches Bundesamt, Wirtschaft und Statistik 10/1996 pp633-647

⁵ We do not refer to in work social assistance benefits such as Family Credit in the UK or Family Income Supplement in Ireland, nor various means tested housing assistance payments as the paper focuses only on social assistance replacement incomes.

⁶ There are other payments to cover exceptional needs for rent payments for those in social housing, but the majority of assistance claimants' social rent is covered by benefit rates. These exceptional rent allowance schemes are not modelled.

Claimant composition

Table 3 outlines the make-up of social assistance claimant populations in Germany, Ireland and the UK. Before we discuss the different composition of claimants we must warn readers that there is no consistent definition of claimant types between each system. For instance, German totals of unemployed are estimated from administrative statistics which showed claimants who stated that the main reason they were claiming was because of no employment, while the UK’s and Ireland’s unemployed claimants are defined by strictly enforced registration at the unemployment benefits office. Another important difference influencing this comparison is the underlying unit of aggregation used in social assistance schemes, individual, family or household, and the treatment of young adults as children. The German system is based on the household and dependent children can be over 16 if they are unemployed. In the UK the unit is the family and children have to remain in full time secondary education to remain in the family unit after they reach the age of 16. In Ireland the unit is the family while children have to be under 15 or else in education.

Table 3
Claimants of Social Assistance (Percentage of Claimants)

%	Germany (1992)	Ireland (1995)	United Kingdom (1994)
Pensioners	11	25	31
Lone Parents	16	10	18
Disabled	4	10	11
Unemployed	34	45	32
Others	35	10	7

How are the two claimant groups that most interest us –pensioners and families with children – represented? Pensioners are more likely to be reliant on social assistance in Ireland and the UK than in Germany. Children are not identifiable consistently in their own right, but will most commonly be in working age households defined as unemployed, lone parents or sick/disabled. The largest group of claimants of social assistance in each country is the unemployed. The differing proportions of lone parent claimants partially reflect the differences in concentration of this group in each of the countries and in the case of Germany partially the reliance of lone parents on other sources of income. The difference in disability claimant proportions may reflect greater insurance provision in Germany and on the greater likelihood of older long-term unemployed to claim disability benefits in Ireland and the UK rather than unemployment benefits.

Expenditure on Social Assistance

Our microsimulation modelling of changes to assistance includes projections about changes in government expenditure. Where systems are extensive, for instance in Ireland and the UK, then a small change in benefits may have a significant effect on spending. In Germany, the opposite holds: any modelling of changes may have a relatively small aggregate effect on spending. Table 4 shows the expenditure of the three countries on social assistance in cash terms and as proportions of all social transfers and as proportions of GDP. Again, we warn readers that these figures are not entirely consistent because each system of social assistance will cover slightly different profiles of needs - for instance the coverage of housing costs

which in some cases are included (social housing tenants Ireland and mortgage payers in the UK).

Table 4 shows those social assistance forms almost 40 per cent of all Irish social security and almost one third of the UK's. In Germany it is around 12 per cent. Concentrating on cash social assistance safety nets to maintain minimum incomes, then these schemes represent over 5 per cent of Irish, 2.6 per cent of UK and only 0.8 per cent of German GDP.

Table 4
Spending on Social Assistance 1990/91

	Germany	Ireland	United Kingdom
All Social Assistance			
% of Social Security	11.8%	39.9%	30.9%
Cash Social Assistance			
% of GDP	0.8%	5.1%	2.6%

Source: Eardley et al (1996), Table 2.3

These brief descriptions of social assistance point to important caveats that must inform the microsimulation modelling that we report in the next section. First, is the huge difference in **context** in which social assistance works. Tax-benefit modelling is best suited to national policy systems where income related transfers and income taxation play a large role. Systems that heavily rely on benefits in kind and on contributory benefits are more limited. The less that incomes change due to changes in fiscal policy the less such changes can be modelled and their costs estimated.

Second, when analysing social transfers the difference in extent of social assistance can lead to a problem of **scale**. Comparing social assistance between countries where it operates as a safety net for a minority that fall through other forms of provision to countries where it is a main form of income maintenance, means that the relative costs of changes to assistance rates will differ greatly.

Third, is the problem of **claimant composition**. This is both the outcome of different profiles of demand (whether pensioners, lone parents, unemployed etc. have different risks of reliance on assistance) and the different definitions used to categorise and identify the claimant profile by each system.

Part 2: Models and Results

Our Assumptions

In this section we outline the assumptions of the simulations and discuss the results of two main themes of cross-national microsimulation: improvements in the relative assistance rates of **children** and **pensioners**. We describe the relevant detail of social assistance in the three countries in Appendix C. We have already pointed out that the definition of “children” and “pensioners” is different in each scheme, and our intention is not to analyse a convergent set

of consistent definitions, but to examine the effects of similar policies on the different populations and their national definitions.

We start from a point where a 100 per cent of claimants take-up their entitlement. Because each system has very different levels of recorded take up and because each national model is based on different types of data, there is no robust way of setting consistent levels of take-up across the three models. We therefore use a modelled 100 per cent take up and suggest changes in this assumption be pursued in future research.

Our results are the changes to disposable household incomes. The household level is chosen because it is the only consistent level for calculating incomes across all three countries, and to overcome the different principles used by national systems to aggregate individuals together for benefits. The income measure we use is a net disposable income, after taxes and transfers, but before housing costs. We take account of household size by using the OECD equivalence scale⁷. With this measure of income we are able to consistently rank incomes, and we do so into decile groups for our base-line results which then form the basis of distributional analysis of the subsequent modelling.

We now turn to the simulations themselves. We took two potential changes in assistance policy

- A change in the relative treatment of **pensioner** claimants of social assistance compared to their non-pensioner counterparts
- A change in the relative treatment of **children** in families claiming social assistance to their adult counterparts.

Both of these groups are potential priorities for concerns with living standards that are not compromised by other concerns about economic activity. Both pensioners and children are not expected by society to work and hence the work disincentive effects of such changes do not make such retargeting politically contentious in their own right. Of course, children do not live on their own, and hence their needs are part of the family benefit calculation and will effect their parents' incomes and incentives.

We model an increase of 10 per cent in rates toward our “target” claimants. Our modelling does not take into account any change in taxation to fund changes because we base our results on an assumption of revenue neutrality. Our results are thus those which would occur at no-cost if pensioners and children were offered 10 per cent increases but other claimants on assistance had their benefit rates lowered to meet this increased spending.

However, one practical disadvantage of this modelling exercise is in the treatment of children independently to their families. Children's benefit rates are less than adults and the overall effect on family incomes of a 10 per cent rise for children funded by decreases in benefits for non children is most likely to decrease overall family income (except in some large families). Thus, the potential practical effect of these simulations is to attempt to refocus assessment within the family towards children. How this would be done while at the same time reducing

⁷ This has a value of 1 for the first adult, 0.7 for each subsequent adult, and 0.5 for each child (defined as aged under 14).

family income is difficult to argue in practice. However, while our model design may seem illogical we are aware that recent changes to the treatment of Income Support children of Lone Parents in the UK would face precisely this dilemma.

All of our simulations are kept as simple as possible: we try to avoid second-order effects on taxation. These simulations are thus not based on any real attempt to better the position of assistance claimants as a whole but is more focused on re-prioritising their needs and costs.

Case 1: Pensioners

Treatment of Pensioners by Social Assistance

We have already mentioned that each policy system and each social assistance scheme defines claimants differently. This is true of pensioners. In Germany, *Sozialhilfe HLU* rates for pensioners are set for all aged 65 and over. In Ireland non-contributory pensions (means tested social assistance pensions) begin at age 66.⁸ In the UK, higher rates for pensioners for Income Support start at the age of 60 and then rise again for those aged 75 and above and again for those aged 80 and above. The differences between national social assistance schemes are not limited to these definitions of age-based rates. Ireland and Germany also operate individual discretion to increase assistance to meet special or particular needs, whereas the UK has tried to incorporate such additional needs into its categorisation of elderly claimants into more generous treatment as age (determined by age-bands) increases.

Table 5

Ireland- Age related Means tested payments in 1994
(as a % of payment to single unemployed person aged 35)

Benefit	Assumed Equivalence Scale	
	Under 66	Over 66
<i>Single</i>		
Short Term Unemployment Assistance	100	
Long Term Unemployment Assistance, Supplementary Welfare Allowance, Disabled Persons Maintenance Allowance, Single Woman's Allowance, Unmarried Mother's Allowance, Deserted Wives Allowance (66-), Widow's Non-Contributory Pension(66-)	104	
Domiciliary Care Allowance	161	
Old Age Non Contributory Pension		104
<i>Married</i>		
Short Term Unemployment Assistance	162	
Long Term Unemployment Assistance, Supplementary Welfare Allowance, Disabled Persons Maintenance Allowance	166	
Old Age Non Contributory Pension		166

Note Social Welfare Recipients over age 80 and individuals over 66 living alone receive extra amounts worth about 7.5 per cent of the single unemployed rate.

⁸ Slightly higher payments are made to those living alone and to those who are aged over 80.

Germany has the most simple of benefit rates. The basic rate of individual benefit is paid at 120 per cent for someone aged 65 or over. Ireland’s categorical system is far more complex and Table 5 shows the different rates for Irish assistance pensioners and others. The UK now has a very rigid definition of categorical help within IS which is given in Table 6.

Table 6
United Kingdom:- Age related Means tested payments in 1997
 (as a % of payment to single unemployed person aged 35)

Age Group	18-24	25-59	60-74	75-79	80+
<i>Single</i>					
Assumed Equivalence scale	(79)	100	140	144	154
<i>Married</i>					
Assumed Equivalence scale	119	157	217	223	236

If we compare the three assistance schemes in their relative treatment of pensioners as against other adult claimants then, from the basic rates of benefit, the UK is most “generous” starting at 140 per cent of the single adult rate for pensioners aged 60 and above. Pensioner status starts at an older age and is less generous in Ireland and Germany (although readers must remember that additional discretionary help is available to supplement this in these countries).

The Relative position of pensioners

However the treatment of pensioners by assistance schemes is not the only matter which will effect their position in the income distribution during modelling of changes. If the vast majority of pensioners are rich in one country and the vast majority is poor in another, then that will significantly effect the results. Table 7a shows the proportion of individual pensioners (as defined by social assistance scheme) in each ranked household income decile for each country

Table 7a shows that that each country does not have the same proportion of their population as pensioners defined by social assistance rules. Germany and the UK have, around one fifth of their population so defined (21 per cent and 19 per cent respectively) while Ireland has only 9 per cent. This is a result of both underlying differences in age structures and different policy definitions – eg Ireland has a “younger” population in general and defines it’s pensioners for social assistance at 66 years old and above.

Table 7b shows that pensioners are disproportionately in the bottom half of the income distribution in all three countries. While Germany and the UK show a similar spread of pensioners below the median income line (5th decile), Ireland has far fewer of its pensioners in its bottom two deciles.

Table 7a
The Position of Pensioners in National Income Distributions^{1,2}

% of population	Germany		Ireland		United Kingdom	
	Pensioner	Non-Pensioner	Pensioner	Non-Pensioner	Pensioner	Non-Pensioner
All	18.5	81.5	9.1	90.9	20.6	79.4
As a % of each decile group						
	Germany		Ireland		United Kingdom	
Bottom	15.9	84.1	0.9	99.1	5.0	95.0
2nd	28.2	71.8	3.1	96.9	50.3	49.7
3rd	27.7	72.3	24.4	75.6	44.1	55.9
4th	26.1	73.9	19.8	80.2	26.3	73.7
5th	21.1	78.9	13.2	86.8	20.3	79.7
6th	18.3	81.7	7.9	92.1	17.9	82.1
7th	15.8	84.2	7.6	92.4	13.6	86.4
8th	9.7	90.3	9.8	90.2	12.9	87.1
9th	11.5	88.5	6.1	93.9	12.4	87.6
Top	7.4	92.6	3.8	96.2	13.9	86.1

Notes.

1 These percentages are of grossed up samples from national household survey data and only include persons living in private households.

2. National definitions of pensioners are used.

3 Income defined as disposable income per adult equivalent.

Table 7b
The Distribution of Pensioners Across the Income Distribution

	Germany	Ireland	United Kingdom
Bottom	9.7	1.4	2.8
2 nd	14.9	3.0	18.2
3 rd	14.9	21.1	19.3
4 th	15.5	19.6	14.1
5 th	11.7	15.3	11.2
6 th	11.0	10.4	9.8
7 th	8.9	8.9	7.1
8 th	4.9	10.8	6.3
9 th	5.5	6.4	5.5
Top	3.2	3.2	5.6
Total	100	100	100

Note: rows may not sum exactly to 100 due to rounding

Estimates of 10 per cent increase in Pensioner Assistance

We now turn to the first of our estimations: What would be the effect of increasing the social assistance rates for pensioners by 10 per cent? We show the results of a 10 per cent increase in pensioners’ assistance rates funded by a reduction in the assistance to non-pensioners by 10 per cent. Table 8 shows that in Germany and Ireland other claimants would lose 5 to 6 per cent of their benefits, while in the UK they would decrease by 14 per cent. Why does this reform increase costs in the UK and reduce costs in the other countries? Firstly the UK equivalence scale is more favourable to pensioners than other groups relative to the other countries. and secondly because the definition of “pensioner” in the UK means tested benefits system starts at age 60, compared to 65 and 66 in Germany and Ireland respectively. The reform however costs most in Germany due to the low proportion of pensioners receiving means tested benefits here.

Table 8
Changes to assistance rates for a revenue neutral increase of 10 per cent to pensioners

% change	Germany	Ireland	United Kingdom
Pensioners	+10	+10	+10
Non-Pensioners	-5	-6	-14

Table 9 shows the resulting distribution of changed expenditure. First, we must point out that achieving an exact revenue neutrality is difficult because rates of benefit are changed to the nearest 10th of a percentage. Table 9 shows how changes in expenditure are shared very differently across the income distribution in each country. Germany’s assistance population is entirely in the bottom two decile groups, whereas in the UK and Ireland they are spread more throughout the income distribution. This as a result of the different benefit units used by the social assistance systems and the relative importance of social assistance across the countries. For instance in Germany, where social assistance is based on household circumstances, elderly members of wealthy households will not get social assistance. However in Ireland and the UK as the means test is based on family circumstances (i.e. on a single person or couple), elderly individuals living in wealthy households can and do receive social assistance. Furthermore as pointed out above social assistance is relatively less important in Germany and thus a reform like this will produce a smaller effect than the other two countries. In all three countries there is a saving in the bottom decile, which confirms that there are more non-pensioners than pensioners in the poorest decile as shown in Tables 7a and 7b. This is as expected as social assistance rates are higher for pensioners as a result of greater needs.⁹

⁹ For example they cannot work to increase their income

Table 9

Distribution of change in expenditure as a result of revenue neutral pensioner reform (in million national currency units)

Decile group	Germany DM million	Ireland Ir£ million	United Kingdom £ million
bottom	-33.2	-19.5	-273.0
2	+30.2	-10.1	51.5
3	0	6.8	66.2
4	0	8.8	109.2
5	0	2.0	37.4
6	0	0.5	11.1
7	0	1.9	13.2
8	0	2.9	2.3
9	0	1.0	-6.4
top	0	1.2	-2.1
Total	-3	-4.5	7

Table 10

Distribution of Gainers and Losers as a result of revenue neutral pensioner reform

	Germany		Ireland		United Kingdom	
Total	1.6 million		0.38 million		4 million	
Households affected	6.4		36.9		17.3	
of all	6.4		36.9		17.3	
Distribution of Losing and Gaining Households	4.0		14.6		10.03	
of all	2.3	4.0	14.6	22.3	10.03	7.3
Decile	Gain	Lose	Gain	Lose	Gain	Lose
1	80.8	88.5	2.8	30.9	12.2	42.8
2	19.2	11.5	5.2	23.9	21.9	16.4
3	0	0	25.5	9.2	20.4	12.5
4	0	0	24.9	11.4	21.5	7.9
5	0	0	11.9	8.7	10.2	6.7
6	0	0	8.4	6.6	5.7	4.7
7	0	0	7.1	4.4	3.9	2.4
8	0	0	7.2	2.2	2.8	2.8
9	0	0	4.2	1.8	0.6	2.0
10	0	0	2.9	0.9	0.8	1.8
Total	100	100	100	100	100.0	100.0

Table 10 shows the distribution of losers and gainers and provides a clearer picture of the overall distribution of results. First, the number of households affected by the changes is determined in part by the scale of social assistance. In the UK such changes affect about 17 per cent of all households, whereas in Germany only around 6 per cent are affected. In Ireland by contrast 37 per cent of households are affected by the reform. This difference in scale is however, accompanied by marked differences in the split between losers and gainers. In Germany, the minority of claimants are pensioners (see Table 3 above) and hence of the 6 per

cent of the households affected, 4 per cent lose and 2 per cent gain. In the UK, pensioners form one third of the assistance population and are treated already more generously, hence there are more gainers than losers. In Ireland because of the smaller number of elderly, there are less gainer households than losers, but the gainers gain more than the losers lose.

The most marked difference is in the spread of the effects of the changes. In Germany all losers and gainers are confined to the bottom two deciles because that is where the assistance population is in the household income distribution. Whereas in the UK, the effects and pattern of losers and gainers is mostly spread across the bottom half of the income distribution, with small effects above this level due to poor pensioners living in non-assistance claiming richer households. More lose than gain in the bottom decile, because pensioners are more generously by benefits (see Table 6) and this decile of the UK income distribution is not heavily populated by pensioners (see Table 7). There is a similar pattern in Ireland for the distribution of losing households. The gainers however are more concentrated in the middle of the distribution, with 70 per cent of gainers being concentrated between the third and sixth deciles.

Case 2: Children

The Treatment of Children by Social Assistance

Children are treated differently in assistance schemes. In Germany, children are defined according to age rather than status as all individual assistance scales are based on set proportions of the single adult scale. In the UK, where assistance works on a family unit model, a child is defined as under 16, or between 16 and 18 and still in full time education. The corresponding definition in Ireland is under 18 and for certain benefits between 18 and 21 if in full-time education. The calculation of children's rates also differs. Ireland do not pay additional amounts for children, but child benefit is paid in addition to assistance. Germany and the UK have age related scale rates for children, and the UK has a supplementary premium for families with children in addition. Table 11 gives the implied equivalence scales used in all three schemes.

Table 11 shows that Germany has the most "generous" underlying relative treatment of children within its social assistance scheme. It pays 50 per cent of adult rates to those under 7 – compared to 34 per cent for the UK treatment of under 11-year-olds and 25 per cent for long term payments in Ireland. However, the UK also weights benefits with the addition of premiums for the existence of children and child benefits in Ireland are not included in the means test as they are in both other countries. Thus for a couple with a single child under 7 an additional 56 per cent of single adult rates would be added to assistance in the UK but only 50 per cent in Germany and still only 35 per cent in Ireland. However, if such a family had an additional child of the same age the additional component would rise to 100 per cent in Germany, only 90 per cent in the UK and 70 per cent in Ireland. Both German and UK schemes recognise the additional costs of lone parenthood by additions to basic rates of benefit. Readers should note that the UK will cease these additional elements for lone parents from April 1998.

Table 11

Child Rates for Assistance and their equivalence to single person rate
% single person rate (aged 35)

Germany		Ireland		United Kingdom	
<i>Child Additions for Social Assistance Payments</i>					
Age		Benefit Type		Age	
Under 7	50%	Short term	22%	Under 11	34%
7 to 15	65%	Long-term	25%	11 to 15	50%
15 to 18	90%			16 to 17	60%
				18	79%
<i>Other Child Related Benefits paid as part of Assistance</i>					
Lone Parent	20%	Child Benefit	10%	Family Premium	22%
				Lone Parent Premium	11%

Tables 12a and 12b show again that each country has different population profiles and that these profiles are spread differently across the income distribution. Using the different policy definitions of children, they represent almost one third of the population in Ireland, almost 21 per cent in the UK and just over 18 per cent in Germany. Of these nearly 70 per cent of German children are located in the bottom half of the income distribution, with about 60 per cent in Ireland and 63 per cent in the UK. However, significantly nearly a quarter of Irish children are members of households in the bottom decile compared to 17 per cent in the other countries.

Table 12a **Position of children in the Income Distributions**

% of population	Germany		Ireland		United Kingdom	
	Children	Adults	Children	Adults	Children	Adults
All	18.4	81.6	32.6	67.4	22.3	77.7
	As a % of each decile group					
Bottom	28.7	71.3	56.5	43.5	43.7	56.3
2nd	22.2	77.8	39.6	60.4	17.7	82.3
3rd	23.8	76.2	28.8	71.2	21.6	78.4
4th	25	75	26.8	73.2	27.7	72.3
5th	19.7	80.3	31.9	68.1	27.4	72.6
6th	19	81	36.3	63.7	22.9	77.1
7th	13.3	86.7	28.4	71.6	18.3	81.7
8th	11.6	88.4	26.3	73.7	14.0	86.0
9th	9.6	90.4	22.9	77.1	11.9	88.1
Top	6	94	13.5	86.5	8.9	91.1

Notes:

- 1 These percentages are of grossed up sample and therefore only include persons living in private households.
2. National definitions of children are used.

Table 12b Distribution of Children across Income Distribution

	Germany	Ireland	UK
Bottom	17.2	24.3	22.6
2nd	12.0	10.7	5.9
3rd	12.9	6.9	8.8
4th	14.9	7.4	13.7
5th	11.0 (total 1-5 68%)	10.3 (total 1-5 60%)	14.0(total 1-5 65%)
6th	11.5	13.3	11.6
7th	7.5	9.2	8.9
8th	5.9	8.0	6.4
9th	4.6	6.7	4.8
Top	2.6	3.2	3.3
Total	100	100	100

Notes: columns may not add up to 100 due to rounding

Estimates of 10 per cent increase in Children’s Social Assistance

Table 13 shows the changes required in adult benefit rates to increase benefit rates of children by 10 per cent in each of the countries. These proportions are all much smaller than for the pensioner simulation because the rates of benefits for children are lower and because of their number in relation to pensioner claimants. In Germany, benefit rates for non-children would fall by 2.3 per cent, In Ireland by 1 per cent and in the UK by 2 per cent to fund a 10 per cent increase for children. Therefore because of the relative size of the adult and child social assistance populations, the increase in children’s assistance rates can be financed by a small decrease spread across the greater adult population.

Table 13

Changes to child means tested benefit rates and adult rates to achieve revenue neutrality

	Germany	Ireland	United Kingdom
Children	+10	+10	+10
Adults	-2.3	-1	-2

Table 14 highlights the distributional impact of such a reform. Like the pensioner simulation, we notice the that changes are targeted in Germany in the lower deciles and in Ireland and the UK the impact is spread throughout the distribution. Noticeably in each country, the bottom decile are net gainers from this reform as a result of the concentration of children in this decile highlighted in tables 12a and 12b. All other deciles are net losers however, highlighting how effective targeting expenditure on children in families on social assistance is in achieving vertical redistribution.

Table 14 shows the distribution of changes in spending as a result of these changes to benefit rates

Table 14

Distribution of change in expenditure as a result of revenue neutral child reform (in million national currency units)

Decile	Germany	Ireland	United Kingdom
1	33.4	10.8	68.8
2	-27.9	-0.6	-5.1
3	0	-1.8	-20.8
4	0	-2.4	-30.6
5	0	-1.1	-14.8
6	0	-0.8	-9.4
7	0	-0.7	-4.9
8	0	-0.5	-2.5
9	0	-0.3	-0.2
10	0	-0.2	-2.3
Total	5.6	2.4	-21.9

Table 15 shows the distribution of gainers and losers. As nearly social assistance households are affected by these changes as in the case of the pensioner reform, the totals are very similar. However because very many households have their incomes slightly reduced, there are very more losers than in the pension reform. The concentration of gainers is also apparent, with all gaining households in Germany two thirds in Ireland and just over half in the UK in the bottom decile. In each country over 80 per cent of gainers are in the bottom three deciles. As in the pensioner analysis, the distribution of losers is spread out over the income distribution, especially in the bottom five deciles.

Table 15

Distribution of Gainers and Losers of revenue neutral 10 per cent increase in child rates

	Germany		Ireland		United Kingdom	
Total Households affected	1.5million		0.38 million		4.4 million	
Of all	6.0		36.4		19	
Distribution of Losing and Gaining Households						
	<i>Gain</i>	<i>Lose</i>	<i>Gain</i>	<i>Lose</i>	<i>Gain</i>	<i>Lose</i>
Of all	1.8	4.2	10.4	26.0	5.5	13.5
Decile						
1	100	78.2	64.5	2.2	16.5	51.3
2	0	22.8	13.3	18.0	20.3	26.8
3	0	0	6.6	19.5	18.4	14.4
4	0	0	6.2	20.7	18.1	2.0
5	0	0	3.3	12.2	10.3	3.0
6	0	0	3.9	8.6	6.2	0.6
7	0	0	1.4	7.0	4.1	1.2
8	0	0	0.6	5.7	3.1	0.3
9	0	0	0.2	3.6	1.6	0.3
10	0	0	0.0	2.4	1.4	0.0
Total	100	100	100	100	100.0	100.0

Part 3: Conclusions

Our results show the effects on changing the priorities for means-tested social assistance for pensioners and for children. However, our analysis emphasises that these outcomes are not merely the result of technical changes to rules, but are also the outcomes of the size of claimant populations, their composition, and their relationship to the wider population structures and income distribution.

Our experiment has analysed the simulated effects of consistent changes to existing policies in each of the three countries rather than the effects of imposing a cross-national radical change or other larger policy innovation. We do not make any claims that such set percentage changes in benefits are more realistic international propositions, but that they offer an alternative way of approaching cross-national microsimulation. Other research in this mould could seek to obtain “outcome” measures, such as a reduced level of child poverty or pensioner poverty rather than experiment with the benefit rates. We have also not attempted to alter the tax system to pay for any of our changes.

Our approach has, however, linked the modelling and methodological concerns directly to those of the three national policy environments. We consider this important and essential. If microsimulation is to advance in a comparative perspective it must carry policy description with it. The alternative approach is tempting, to turn the reality of populations structures and policy paradigms into exogenous context, but we believe it could be misleading. Without context, the results would be largely meaningless, because the differences in remodelling social assistance in Germany, Ireland and the UK tell us more about the underlying assumptions about social security and social assistance than they do about the hypothetical changes themselves.

The substantial differences between Germany and the other two countries says much more about the role there of social assistance as a last line of safety net income when compared to Ireland and the UK’s mass use of means-tested social assistance.

Our suggestion that context is crucial to cross-national microsimulation does not alter the need for methodological development. Our lessons in this regard are several, primarily relating to the lack of flexibility when using national microsimulation models. Although we have been able to carry out a cross-country analysis, we would not have been able to expand the analysis to using different equivalence scales, income measures or unit of analysis. We were also limited to national definitions such as the definitions for children and pensioners. These limitations would also almost certainly limit our ability to expand the cross-country comparison to more countries as has been found in other studies of this type.¹⁰

References

Atkinson A B, F Bourguignon and P-A Chiappori (1988), ‘What do we learn about tax reform from international comparisons? France and Britain’, *European Economic Review*, 32, p343-352.

¹⁰ For example Callan and Sutherland (1997)

Bourguignon F., C O'Donoghue, J Sastre-Descals, A Spadaro and F Utili, (1997). "Eur3: a Prototype European Tax-Benefit Model", Cambridge: *Microsimulation Unit Discussion Paper* No.9703.

Burkhauser and Wagner, 1990.

Callan T., C. O'Donoghue and C.O'Neill, 1994. Analysis of Basic Income Schemes for Ireland, Dublin : *ESRI Policy Research Series Paper* No. 21.

Callan T, C. O'Donoghue, H. Sutherland and M. Wilson (1997), "Comparative Analysis of Basic Incomes: UK and Ireland", Cambridge: *Microsimulation Unit Discussion Paper* No.97xx.

Callan T and H Sutherland (1997), 'The Impact of Comparable Policies in European Countries: Microsimulation Approaches', *European Economic Review Papers and Proceedings*.

CSO (1991) *Family Spending: A Report on the 1991 Family Expenditure Survey*. London: HMSO.

De Lathouwer L (1996), 'Microsimulation in Comparative Social Policy Analysis: A Case Study of Unemployment Schemes for Belgium and the Netherlands', in A Harding (ed.), *Microsimulation and Public Policy*, Elsevier.

Eardley T et al, (1996) *Social Assistance in OECD Countries: Synthesis Report*, London, HMSO

Evans M (1994) Out for the Count: The incomes of the non-household population and the effect of their exclusion from national income profiles, Welfare State Discussion Paper 111, London, STICERD/LSE.

Evans M (1996). Means-testing the Unemployed in Britain, France and Germany, Welfare State Discussion Paper 117, London, STICERD/London School of Economics

Evans M.,(1998). A Simple German Tax-Benefit Model Using The German Socio-Economic Panel Cambridge: *Microsimulation Unit Discussion Paper*, forthcoming

Merz, J., 1991. "Microsimulation- a survey of principles, developments and applications", *International Journal of Forecasting*, Vol. 7 No. 1.

Redmond G., H. Sutherland and M. Wilson, (1998). *The arithmetic of tax and social security reform: a user's guide to microsimulation methods and analysis*, Cambridge: CUP

Sutherland H., (1995), Static Microsimulation Models in Europe: A Survey, Cambridge: *Microsimulation Unit Discussion Paper*, MU9503.

APPENDIX A

Previous International Microsimulation: approaches and problems

In this appendix, we describe some of the previous comparative studies carried out using microsimulation. We divide these studies into three groups. The first group consists of papers which used one national model to compare different national tax-transfer systems. The second group, which this paper falls into is where different national models are used to compare different policy environments. Therefore policies are compared in their own policy environment. These studies are summarised in table A.1. The final group also summarised in table A.2. consist of models specifically designed to carry out comparative analyses.

There have been two collections of studies of the first type. These include work done by Atkinson, Bourguignon & Chiappori, (1989) who looked at aspects of the UK system using a French dataset and model. In this way they were able to compare the UK and French tax and benefit systems. A similar study was carried out by De Lathouwer (1996) who compared the Belgian and Netherlands' unemployment compensation schemes. A disadvantage of papers such as these is that they compare policies without accounting for the social and economic environments they are designed for. Thus features which are designed for a particular purpose in one country may not necessarily be apparent in another country. In addition studies such as these have tended to focus solely on certain aspects of tax-transfer systems. In doing this they keep other instruments constant. For example when comparing Dutch and Belgian unemployment systems in a Belgian model, only unemployment benefits were modelled. So for example assumptions had to be made about the impact of taxation in the Netherlands. Differences between child payments were also ignored. Other assumptions may need to be made if for example the data are not available to model another country's instrument. This applied in the Bourguignon et al. (1997) analysis where hours of work was unavailable in the French dataset which was needed to simulate UK In-work benefits.

Table A.1

Description of other Cross-country Analyses which use multi country tax/transfer system modules and datasets

Paper:	Callan, O'Donoghue, Wilson & Sutherland, 1995	Callan & Sutherland, 1997	Bourguignon, O'Donoghue, Sastre-Descals, Spadaro & Utili, 1997
Description	2 cross-country analysis of BI ¹ reforms	5 cross-country analysis of BI ¹ reforms	3 country integrated model
Countries	UK, Ireland	UK, Ireland, Belgium, France & Italy	UK, Italy and France
Unit of analysis	Family?	Household/ Family	Household
Main Features	Compared impact of reforms using common definitions in two national models.	Highlight difficulties in extending analysis to 5 countries using national models.	Uses integrated model to produce cross-national and supra national analyses.
Definitions	Existing National Definitions	Existing National Definitions	Existing National Definitions
Input Data Problems	(i) Model data from different years and economic cycles. (ii) All instruments not in data ²	(i) Model data from different years and economic cycles. (ii) All instruments not in data ²	(i) Model data from different years and economic cycles. (ii) Different definitions in different surveys, e.g. "Wage"
Intermediate model process problems	Interactions with HB Take up rates vary.	(i) Interactions with HB (ii) When an MTB is contained only in the data, then it cannot change in response to changes in means (iii) Take up rates vary.	Take up rates vary
Output Data Problems	Limited by rigidity of existing national models in terms of: (i) Output table definitions and (ii) Equivalence scales	Limited by rigidity of existing national models in terms of: (i) Output table definitions and (ii) Equivalence scales	(i) Outputs refer to different accounting periods

Note 1. BI= Basic Income; SAB Social Assistance Benefits; HB Housing Benefits

2. This is relevant if instruments are not simulated in the national model

APPENDIX B The Models

Germany

The German model is a microsimulation model of the German tax-benefit system in 1991, designed specifically to look at the social assistance in the Western part of Germany developed by Evans (see Evans, 1998). The data are taken from the 1991 wave of the German Socio-Economic Panel (GSOEP). (see Burkhauser and Wagner, 1990). Income data are mainly at the individual level, but child benefit, social assistance and investment income is collected only at the household level. Data exists for income received in each month of the year, from which annual income is produced. The model simulates income taxes, employee social security taxes, church taxes and social assistance benefits. Local taxation, employer social insurance contributions, child benefit and contributory benefits however are not modelled. Child benefits (*Kindergeld*) and social insurance benefits are taken from the GSOEP. Social assistance is modelled at the household level, while, social security taxes are modelled at the individual level and income taxes are modelled at the tax unit level.

Ireland

The Irish model, SWITCH, described in (Callan, O'Donoghue and O'Neill, 1996) is based on the 1987 Survey of Income Distribution, Poverty and Use of State Services collected by the ESRI. The income used is current income which is usually defined as income earned in the previous week or month. Incomes that are prone to variation however such as self-employment income are recorded on an annual basis. SWITCH simulates personal income taxes and employee social insurance contributions as well as child benefits, social assistance and social insurance benefits. Local taxes were non existent and employer social assistance contributions are not modelled. All weekly social assistance and insurance benefits are modelled except for social assistance to cover housing costs. As there is no information in the survey on social insurance contribution records, simulated entitlement is based on recorded entitlement to contributory benefits in the survey. Simulated taxes on self-employment and farming are scaled down to account for the lower actual tax-base, while the unit of analysis is primarily the family unit or the household. The income unit used is weekly income. Unlike the German model, the year of analysis is not the same as that of the survey data. Whereas the data are taken from 1987, than analysis is carried out using the 1994 system. In order to do this, the 1994 analysis incorporates a reweighting of the underlying sample to changes in demography and employment/unemployment etc.

United Kingdom

POLIMOD, the UK model is based on the Family Expenditure Survey (See CSO 1990). The survey collects detailed information at the individual level on both current weekly incomes and expenditures, as well as other socio-economic labour market and demographic variables. As there are no data on wealth in the survey, estimates are imputed from questions on interest and dividends. Some data are also collected at the household level and at the benefit unit level such as social insurance and means tested benefits. POLIMOD is the most comprehensive of the three microsimulation models (see Redmond, Sutherland and Wilson, 1998) for a description). In addition to modelling income taxes, employee social insurance contributions and social assistance benefits, it models local taxation, indirect taxation and employers social insurance

contributions. Social insurance benefits are not specifically simulated in POLIMOD, relying instead on the recorded information in the FES. The unit of analysis is the family unit, the household or the individual under certain assumptions and the income unit used is weekly income. Incomes from self-employment and investment income are weighted up to match national economic profiles. Like the Irish model, POLIMOD uses a data set different to the year of analysis. Up-rating procedures are used to make the data represent the present.

APPENDIX C THE RULES AND OPERATION OF SOCIAL ASSISTANCE

The rules for claiming assistance are usually complex and require data which is often not available to the modeller. For instance, some social assistance schemes can meet individual needs which arise from expensive locations or special circumstances of the claimant. Germany and Ireland are examples. The UK, however, has no discretion in its calculation or rates of benefit. The whole system has been rigidly defined into set rates for differently defined claimants. Ireland and the UK have a national centralised scheme whereas Germany has federal and constitutional rules which are left to regional and municipal authorities to implement and interpret. These differing structures are also manifested in differing attitudes to benefit rates, where in Ireland and the UK they are set centrally at specified sums, while in Germany are set regionally and hence differ across the country.

Table B.1 shows the rates for assistance for a hypothetical adult aged 35 and for a single pensioner in each country. Benefits are calculated on a weekly basis in Ireland and UK while they are monthly in Germany. Table B.2 shows them in monthly £ sterling purchasing power parity and as a proportion of average earnings.

Table B.1

Single Person and Single Pensioner Assistance Rates - 1992 £ sterling Purchasing Power Parities and per cent of average earnings

	Germany	Ireland	United Kingdom
Single aged 35			
£ PPP	141	221	184
% ave earnings	10.7	18.7	15.2
Pensioner aged 68			
Nominal	170	281	248
% ave earnings	12.9	23.7	20.5

Source: Eardley et al (1996)

Table 6 shows the breakdown of the German *Sozialhilfe HLU* rates by region and then gives the weighted and unweighted average basic rates of benefit. 514 DM per month is the average rate, and the weighted average, allowing for difference claimant populations in each Land is 513DM

Table B.2
Sozialhilfe HLU – regional rates and variation 1993
Western States of Germany only

	DM per month
Baden Württemberg	515
Bayern	497
Berlin-West	519
Bremen	516
Hamburg	517
Hessen	515
Neidersachsen	514
Nordrhein-Westfalen	514
Rheinland-Pfalz	514
Saarland	514
Schleswig-Holstein	519
Average (unweighted)	514
Average (weighted)	513

Source: Statistisches Bundesamt, Sozialleistungen: Fachserie13, Reihe 2 Sozialhilfe, Metzler Poeschel, Wiesbaden