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EUROMOD and the Development of EU Social Policy[1]

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The purpose of this paper is to set EUROMOD – the EU-wide tax and benefit model - in the context of the development of EU social policy. It explores the relation between the rapidly evolving EU social inclusion process and investment in European social science infrastructure. In so doing, I look mainly to the future, but I would like to begin in Sections 1 and 2 with the historical background. It is only in this way that we can place in context the achievements of EU social policy and understand the need for further development. I then describe in Section 3 the main elements of the EU Social Inclusion process and the National Action Plans of Member States. A key role is played by the social indicators agreed at Laeken in 2001, which are the subject of Section 4. Looking to the future, the monitoring of performance by means of social indicators may lead to the setting of targets (Section 5). All of this relates to process and analysis, but substantive progress requires policy innovation and policy learning. In Section 6, I begin with the assessment of policy at the national level, arguing that there is a role for EUROMOD in analysing the policies of individual Member States on a consistent basis across the EU. The role is clearly crucial at the EU level (Section 7). The potential for policy assessment is demonstrated in Section 8 in the context of a "new intergenerational pact", and in terms of working back from possible targets in Section 9. The main lessons for policy analysis are summarised in Section 10.

1. Investment in Social Science

The pilot EUROMOD project began in 1996, but this had its origins in an earlier Human Capital and Mobility project on comparative social policy and taxation. This first project, which ran from 1993 to 1996, brought together teams from Belgium, France, Ireland, Italy, and the UK. These teams in turn formed the nucleus of the EUROMOD project. The experience of working together demonstrated the potential of microeconomic data for the comparative analysis of public policy. From this was born the idea of a tax benefit simulation model covering the European Union. The design was ambitious from the outset. Complete coverage of all Member States was seen as crucial. To the original teams were added therefore researchers from the other ten countries that then constituted EU15.

The research team, co-ordinated by Holly Sutherland, constructed the EUROMOD model (Immervoll et al, 2000). EUROMOD makes use of micro-data on individual households for each of the Member States. The data have been brought together in a consistent format at the European level and used to make calculations of the impact on household incomes of changes in policy parameters, such as income tax, social security contributions, indirect taxes, social security benefits, housing benefits, and other policy variables. The underlying behavioural assumptions are highly simplified, assuming no change in labour market or savings behaviour. But even without these behavioural responses the calculations are of considerable complexity, since the different variables interact. Using

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this model it is possible to examine the likely first-round impact of policies already announced, and of the measures that may be necessary to achieve the desired poverty reduction.

The construction of the EUROMOD model depended on the availability of micro data (that is anonymised information on individual households) for all Member States. A very important ingredient in its construction was therefore the European Community Household Panel. The ECHP was a panel survey based on a standardized questionnaire that involves interviewing a representative sample of households in each country, covering a wide range of topics, including income, health, education, housing and employment.[2] The first wave was conducted in 1994 in the then 12 EU Member States. This was a remarkably far-sighted investment. It has played a very important role in the development of social policy analysis in the European Union.

2. The Development of European Social Policy

The scientific projects described above began in the first half of the 1990s, at a time when European social policy was making only slow progress. To many it appeared that the EU was pre-occupied with economics. It was a common market plus a currency union. Market liberalization was the key, coupled with the euro. Critics argued that the social dimension should be developed in parallel, but little was achieved in concrete terms.

All was to change with the Lisbon Summit of March 2000, where Heads of State and Government decided that the Union should adopt the strategic goal for the next decade of becoming `the most competitive and dynamic knowledge-based economy ... with more and better jobs and greater social cohesion'. Social cohesion appeared in the same sentence as "competitive economy". The incorporation of the promotion of social inclusion within the overall strategy of the EU was taken up by successive Presidencies: Portugal, France, Sweden and Belgium. At the Nice Summit in December 2000, it was agreed to advance social policy on the basis of an open method of coordination, modelled on that already adopted for employment in the "Luxembourg process". The process of open co-ordination involves fixing guidelines for the Union, establishing quantitative and qualitative indicators to be applied in each Member State, and periodic monitoring in a process of peer review.

As a result we now (in 2004) have a Social Inclusion process alongside the European Employment Strategy and the goal of speeding European economic growth. I am particularly concerned here with the Social Inclusion process, but this should form part of an integrated approach to social and economic policy. All too often, at both national and EU levels, economic and social policies are formed separately. In the past, the pursuit of parallel processes meant that potential conflicts were not addressed; nor were potential synergies exploited. Yet it is clear that the choice of policies to achieve economic growth and competitiveness has implications for the goals of social inclusion. And vice versa. Effective social protection can make a considerable contribution to economic performance.

3. The EU Social Inclusion Process and National Action Plans

The tools being used to implement the Social Inclusion process are well known, and are set out schematically in Figure 1. For the Member States, their main participation is via the National Action Plans (NAP)/inclusion. These now form part of the acquis communautaire, and

[2] For the UK and Germany the national panel studies, BHPS and SOEP, formed the basis of the ECHP.

the new Member States submitted Plans in 2004. The Commission co-ordinates the production of the Joint Inclusion Report (European Commission, 2002 and 2003). The first NAPs were heterogeneous, with some countries putting in much more effort than others, but on the whole they were substantial documents, and the total came to some 1,200 pages. They were subjected to peer review, and the EU produced an agreed Joint Report on Social Inclusion. This 226-page report was a joint report of the Council and Commission. As noted in the Executive Summary, "it is the first time that the European Union endorses a policy document on poverty and social exclusion (European Commission, 2002, page 9).

The second round of NAPs was submitted in July 2003. They are again substantial documents. The Italian NAP is 66 pages long, but the statistical annex is a further 83 pages; the NAP for Denmark is 60 pages long; for Greece 48 pages; for Finland 68 pages; for Portugal 116 pages. Germany, whose first plan was a rather slender document, has a NAP 2003-2005 that extends to 109 pages. The NAP follow a format laid down by the Social Protection Committee. Each of them contains an analysis of the national situation. All countries describe the recent evolution of poverty and social exclusion in qualitative terms, and in some cases this is supplemented by quantitative series covering a number of years. The German NAP notes that the poverty rate fell slightly – although the fall from 11.2% in 1998 to 10.9% in 2001 was almost certainly within the confidence interval surrounding the estimates. It also noted that the poverty rate in the new Länder rose from 13.6% to 15.9%. The Dutch NAP noted that, whereas the proportion of people with a minimum income fell from 8.5% in 1995 to 7.7% in 2000, the proportion below 60% median exhibited no clear trend. In the case of Finland, the percentage below the 60% median line was 3 percentage points higher in 2001 than ten years earlier. The NAP reports that the poverty risk had increased since 1995 among the long-term unemployed, single parents, those renting housing, and young adults.

The 2003 Joint Report noted, "with enlargement, the Union will have to face new and comparatively greater challenges in promoting social inclusion". It was therefore "crucial to involve all Acceding Countries in the EU social inclusion process, well before the date of formal enlargement". Before accession, the Commission engaged in a bilateral co-operation process, which led to each new Member State drafting a Joint Inclusion Memorandum (JIM), with the aim of identifying the key social issues and the major policies in place or planned. In July 2004, the ten new Member States submitted their first National Action Plans. They are, like those for the existing member States, substantial documents. The NAP for Estonia, for example, at 57 pages (in English) is one of the shorter; the NAP for Hungary consists of 63 pages plus an appendix of 31 pages. The NAP for Cyprus contains a Statistical Appendix making extensive comparisons with other new member States and with the EU15.

4. Social Indicators

A key element in linking these different parts is the set of social indicators agreed by Heads of State and Government at the Laeken European Council in December 2001. These indicators were the result of work by the Sub-Group on Social Indicators established by the Social Protection Committee (European Commission, 2001; see also Atkinson et al, 2002). The indicators encompass financial poverty, income inequality, regional variation in employment rates, long-term unemployment, joblessness, low educational qualifications, low life expectancy and poor health. In each case there are breakdowns, showing for example poverty among men and women, or breakdowns by age groups. The social indicators are used to measure progress

towards achieving the objectives of the Social Inclusion process. They show for instance how far the overall poverty rate in the EU has been reduced.

The Joint Reports contain values of these indicators in the Statistical Annexes. The data are drawn from the Labour Force Survey for the employment-related indicators and the European Community Household Panel (ECHP), referred to above, for the income-related indicators, health and other indicators. The ECHP is to be replaced by the EU Statistics on Income and Living Conditions (EU-SILC), which will become the EU reference source for income and social exclusion statistics.

One general feature of these indicators is that they are concerned with outcomes, and not with the methods by which the outcome is achieved. We are not looking here at indicators of, for example, replacement rates. This reflects the fact that policies to achieve social inclusion are the responsibility of Member States, under the subsidiarity principle. The objectives of policy have been agreed, but Member States are free to choose the methods by which these objectives are realised. One country may achieve low poverty rates by active labour market policy; another may place more reliance on social transfers. Spending alone is not a guide to policy effort. In one country transfers may be provided by the state; in another transfers may be private. In one country, training may be associated with apprenticeships; in another it may be part of the school system. The aim is to measure social outcomes, not the means by which they are achieved.

5. From Indicators to Targets

Many have argued that the objective of greater social cohesion can be made concrete only by setting targets for the reduction of poverty and social exclusion similar to those that have evolved in the macroeconomic and employment fields as part of the Maastricht process and the Employment Strategy. While the adoption of an initial common set of social inclusion indicators represents a major achievement, if the process is to be meaningful and credible, targets are essential. The need to do so has already been recognized at the highest political level, with the Barcelona European Council in spring 2002 stating, "The European Council stresses the importance of the fight against poverty and social exclusion. Member States are invited to set targets, in their National Action Plans, for significantly reducing the number of people at risk of poverty and social exclusion by 2010." The Common Outline for the 2003/2005 NAPs/inclusion explained that such targets are important for several reasons. National targets are 'a significant political statement of purpose'; they provide 'a goal against which to measure progress' (European Commission, 2003, Appendix I). The targets should also promote awareness of social inclusion policies and provide a focus for policy-makers.

The setting of targets would be a major departure. Only a minority of countries had outcome targets in their first NAPs, and these were not all systematically linked to one or several indicators to be used for monitoring progress towards achieving them. Ireland's plan did present such a target, already at the core of its National Anti-Poverty Strategy, in terms of a measure of 'consistent poverty' relating to both falling below a relative income threshold and experiencing deprivation in terms of a small set of non-monetary indicators. Sweden set out a target for reducing welfare dependency (as well as increasing employment). The UK has adopted a number of specific targets relating to the activities of different government departments, as well as a commitment to eradicate child poverty. Similarly, the Netherlands has set targets for reducing early school leaving, illiteracy and 'unhealthy life years'.

If countries initially focus their target setting on social outcomes that are seen as particularly important to their own situation, then different countries may have different

targets, and these may or may not be directly linked to the common EU indicators. The logic of agreeing common indicators in the first place is that Member States should be working towards a situation where targets are framed in terms of those commonly agreed indicators, or are at least systematically linked to some of these. This would facilitate mutual learning and exchange of good practices between Member States, which is a key rationale of the open method of co-ordination.

6. Assessment of Policy at the National Level

Even if targets have yet to be accepted, the progress in procedural terms has been impressive, but progress in substantive terms leaves much to be desired. As it was put in the 2003 Joint Report on Social Protection and Social Inclusion, "the fight against poverty and social exclusion remains a major challenge for the European Union and its Member States. The numbers affected by poverty and social exclusion across the Union are very significant" (European Commission, 2003a, page 4). There must be very considerable doubt as to the extent of improvement in social conditions that can be achieved by 2010, particularly in the light of the economic conjuncture.

How can substantive progress be made? To understand this further, we need to build a stronger link between the policies described in the NAPs of individual Member States and their contribution to progress as measured by the social indicators. At present there tends to be a disjuncture, where one part of the Plan deals with policies and a second part, often in an appendix, presents the social indicators. The indicators are not really embedded in the policy process. More specifically, we need to ask: will announced policies lead to significant improvement in social indicators? The UK for example has developed an extensive system of credits, for families, for workers and for pensioners. What will be the impact of this change in policy on indicators such as *risk of poverty rate/ the number of working poor/ the proportion living in jobless households?* Reading the NAPs, one is struck with the large number of policies that are directed at very specific groups, such as lone parent families. Such measures are obviously very significant for the group concerned, and in terms of domestic policy. But is the cumulation of the effects of such measures large enough to have a significant impact?

In order to answer this question, one needs to model the implications of the policy for individual households. The capacity to model policy impact exists within Member States; countries have microsimulation models, albeit of varying degrees of development. It would be possible in this context for the Commission to evaluate the NAP by relying on national models. This is in effect the approach adopted by the OECD, where studies such as those of replacement rates are based on the responses of Member State governments. There are however several reasons why a EU-wide model, such as EUROMOD, may be necessary.

The first reason for a EU-wide model is that the open method of coordination is based on peer review and mutual learning. For this purpose a common basis for evaluation seems essential. While the Commission could attempt to specify in great detail the way in which policy should be modelled, if this stops short of full model specification then there will always be the possibility that differences across Member States reflect differences in modelling and not in reality. The experience with the construction of EUROMOD has underlined the enormous scope for variation in assumptions and data handling. We have to recognise that any microsimulation model is a representation, and that there could be a number of different representations corresponding to any set of data. Predictions of the effect of policy changes are conditional on the representation adopted. In some cases these are

explicit. For example we may assume 100% take-up of tax credits. In most cases however the assumptions are implicit and their significance is unclear. For this reason, it seems desirable that peer review should be based on results from the same playing field, a playing field that is not necessarily level but where the results for each Member State are affected by the same bumps. (The location of the bumps may, of course, affect some Member States more than others.)

The second reason is that it is important that the model be accessible. The fourth Objective of the Social Inclusion process is "the mobilisation of all relevant actors". The availability of tax benefit models to the general public is in itself a means to assist wider participation in the policy formation process. A EU-wide model at the disposal of the Commission is a vehicle that would allow them to further this key objective.

The third reason is that a EU-wide model facilitates policy learning. The EU Social Inclusion process has led a number of Member States to look critically at their own policies in those dimensions where they are performing below the EU average. A good example is provided by the study by Callan et al (2004) of "Why is relative income poverty so high in Ireland?" In this study, they consider the implications of introducing a welfare system closer to that of Denmark, a country which has a low relative poverty rate. In the same way, the study by Levy (2001) of Spain compares the child-targeted reforms in that country with the policies of Denmark, France, Germany and the UK.

The final reason is that a EU-wide model is a natural step towards considering the impact on the EU as a whole. We need to be able to add up across Member States.

7. Analysis at the EU Level

At the EU level, EUROMOD can contribute to the analysis of "what works" in terms of policy intervention. First, we need to know what will be the impact on EU-wide *risk of poverty/ number of working poor/ jobless households* of changes in policy by individual Member States?

Policies ⟶ Indicators

The key features of EUROMOD are summarised in Figure 2. EUROMOD simulates a wide variety of policy instruments, including (a) income taxes, local and national, (b) social insurance contributions paid by employees, employers and the self-employed, (c) family benefits, (d) housing benefits, and (e) social assistance and other income-related benefits. There are of course other taxes and benefits that are not modelled, including capital and property taxes, and real estate taxes. In some cases, due to the limitations of the input data, it has not yet been possible to model fully pension and survivor benefits, other contributory benefits, and disability benefits. This means that there are certain classes of policy action that cannot be simulated. Further reasons why we cannot model policy initiatives are that there are attached conditions that cannot be verified in EUROMOD or that the policy is restricted to groups of the population that cannot be identified in EUROMOD. The Greek NAPincl illustrates both problems. This includes measures to subsidise the employment of socially vulnerable groups, such as ex-drug addicts, ex-prisoners, juvenile delinquents, not identified in EUROMOD, and includes a child tax credit conditional on school attendance, not recorded in the data available for the construction of EUROMOD.

But this still leaves a wide range of policy instruments that can be simulated using EUROMOD, as is illustrated in Figure 3 for policies directed at helping families with children. Suppose that the EU were to decide to give priority to children living at risk of poverty. Additional financial help can be provided in a variety of ways, and different Member States will make different choices. Tax allowances for children can be increased, or introduced; they can be accompanied by tax credits for those not subject to income tax. Child benefit, a universal cash benefit, is the most direct form of cash transfer. Child credits, income tested, may appear a more targeted mechanism, although such credits in practice suffer from incomplete take-up. Targeting may also be achieved by concentrating increased benefits on families already in receipt of social insurance or social assistance, although this may reduce the incentive to return to work. EUROMOD brings together these changes in policy parameters with the household characteristics. At the most basic level, this allows estimates to be made of the cost of different proposals. The net effect on the government budget depends on the interaction between different elements: for example, an increase in child benefit may be partly offset by reduced social assistance payments. An integrated tax benefit model is necessary to take account of these feedback effects.

In the case of the social indicators, EUROMOD can be used to calculate the implications for household disposable incomes. This allows direct calculation of three of the primary indicators agreed at Laeken: (1) proportion below 60% median, (2) ratio of top quintile share to bottom quintile share, and (4) median poverty gap. It does not allow calculation of poverty persistence (indicator 3), since the model does not contain data on previous income. In order to predict changes in labour market indicators (indicators 5-7) EUROMOD must be linked to a model of labour market behavioural change. This has been done, for example, by Bargain and Orsini (2004), who examine the effect of introducing in-work benefits on labour supply and poverty. Immervoll et al (2004) use labour supply elasticities, together with tax and benefit calculations from EUROMOD, to compare across 14 countries the effects on equity and efficiency of different types of welfare reform. Without a behavioural model, EUROMOD on its own allows the calculation of marginal tax rates and replacement rates, so that it generates information that is very useful in considering the implications for work incentives.

8. A New Intergenerational Pact

The recent report of the High-Level Group on the future of social policy in an enlarged European Union has called for "a new intergenerational pact", looking at a balance across the life cycle. At present, policy tends to concentrate on isolated stages of the life cycle: the "pension problem" or "child poverty". We need however to recognise that everyone is likely to pass through different life cycle stages, and that families consist of several different generations. In policy terms, it may be easier to resolve the inevitable intergenerational conflicts if we look at the problem as a whole. Older workers may, for example, be more willing to accept a scaling back of their retirement pension entitlements if they see the resources being invested in the young. The pension problem is seen in purely negative terms, whereas investment in children conveys a more hopeful message.

In order to analyse the impact of such intergenerational policy, we ideally need a model that treats change over time. EUROMOD is static and cannot model the trade-offs over time. It does however have the merit of covering the population as a whole and of treating households as a unit. It is not concentrated on the circumstances of pensioners or of the

unemployed. It does not consider the position of pensioners in isolation from that of the household in which they are living. It is therefore possible to examine the impact on social performance of a scaling back of replacements rates in retirement, and to compare the consequences of different uses for the savings. Reduced pensions may be seen as an opportunity to reduce the social security contributions of the working population. The distributional impact may be compared with that of using the savings to raise child benefits, as would be indicated by the intergenerational pact.

9. Working Back from the Targets

In sections 7 and 8, we looked at the relationship leading from policies to outcomes as measured by the social indicators. We now reverse the process and ask what changes in policy are necessary to achieve a specified reduction in different social indicators?

Policies ⟵ Indicators

As noted earlier, the Commission has in the past recommended the setting of targets. Two years ago, in its Communication to the Spring European Council in Barcelona, the European Commission proposed that the European Council should set the target of halving the poverty rate from 18% to 9% by 2010 (2002, page 16). Suppose that the Commission had been asked – what measures need to be taken to achieve a halving of the poverty rate?

Here again EUROMOD is useful in that it allows us to work back from the target to the changes necessary. It allows us to see whether indeed the target is feasible. Suppose for example that the EU wished to halve the number of children in the EU living at risk of poverty? To this end, Member States are required to provide a minimum income for children. This could be done under subsidiarity, with each state free to choose the method. Implementation would be left to Member States, who could employ different instruments (child benefit, tax credits, benefits in kind, employer-mandated benefits). The amount of the minimum would take account of the circumstances of each Member State, particularly the lower per capita incomes of the new Member States. It could be defined as a percentage of the Member State median equivalised income for each child (and possibly age-related). Such a policy would have obvious attractions in that investment in children would have a pay-off too in terms of the future labour force.

Using EUROMOD, it would be possible to monitor the extent to which the Member State policies would achieve the desired reduction in risk of poverty. We can calculate the impact of different levels of the minimum on the poverty rate among children. Sutherland (2001) has shown how EUROMOD can be used to explore the relationship between child poverty and the scale of cash benefits and tax allowances in four EU Member States. Extending this to the whole EU, it would be possible to plot the EU-wide poverty rate as a function of the level of the child minimum, as shown schematically in Figure 4. The graph should be distinguished from the – commonly used – diagram linking poverty rates to the overall level of social protection spending expressed as a percentage of GDP. While the latter diagrams are interesting, they do not give any indication of the policy linkage. One cannot deduce that a 1% rise in social protection spending will lead to a x% fall in poverty. In contrast, Figure 4 is policy-relevant. It would give a first-round measure of the policy change necessary to achieve a specified reduction in the risk of child poverty.

Behind the aggregate picture lies the detail of tax and benefits systems. The fine structure of policy can be very important in determining its impact. EUROMOD allows users to experiment with changes in the institutional details of transfers and taxes, seeking the most effective combination to achieve the targets in particular country settings. Of particular interest is the "swapping" of benefit and tax systems, so that we can see the impact in country A of applying the system of country B, as is illustrated in the case of the UK and Netherlands by Immervoll et al (2001). Again this can be extended to the EU as a whole, using the consistent framework provided by EUROMOD.

10. Conclusions

The aim of this paper has been to demonstrate how the investment in social science research infrastructure, and in EUROMOD in particular, can be employed to aid the EU Social Inclusion process. This is especially important given the need to translate policy initiatives into effective progress in reducing social exclusion. What EUROMOD offers is a first-round analysis of the impact of policy changes on the indicators of risk of poverty and income inequality. It provides such essential elements of the policy debate as estimates of the net cost of different proposals. It is a unique tool in that it provides results for individual Member States within a consistent framework and provides results for the EU as a whole.

The investment is already paying off in providing the basis for EU social policy development. Looking to the future, further investment is clearly necessary. EUROMOD was ambitious in seeking to cover the EU as a whole, and if this ambition is to be maintained, then the model has to be extended to EU25 and beyond. The new Member States are fully participating in the Social Inclusion process, and it is to be hoped that resources can be found to maintain momentum.

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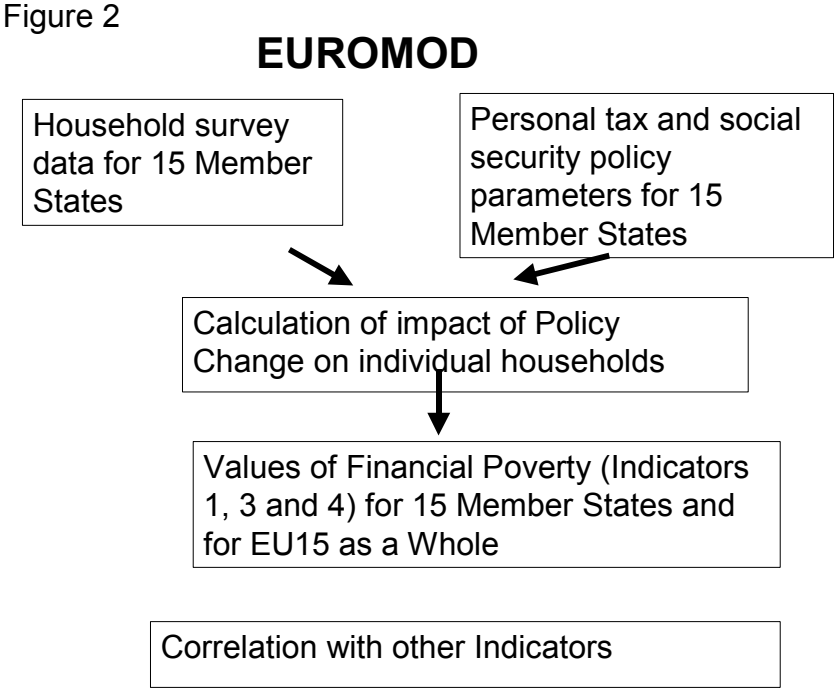
Figure 1

Figure 2



Household characteristics

Gross income by source

Employment status

Housing

Number of children

- Income tax

- social insurance contributions

+ child benefit

+ child credits

+ child elements in social insurance and social assistance

+ adult elements

Policy parameters

Outcome measure

Net income and poverty status

Figure 3

EU Risk of poverty rate for children %

Figure 4