

CHILD POVERTY DYNAMICS IN SEVEN NATIONS

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Abstract

This paper compares child poverty dynamics in seven nations, the USA, Britain, Germany, Ireland, Spain, Hungary and Russia. The results are derived from household panel surveys conducted in each of the countries. As well as utilising standard relative poverty definitions the paper also examines flows in and out of the bottom fifth of the distribution of the household income of children.

Across these countries, the analysis shows significant (but not total) uniformity in patterns of income and poverty mobility. The key exception is Russia, where the economic transition has led to a much higher degree of mobility. Whilst the insecurity associated with this turmoil is undesirable, it does suggest that *if* families are able to smooth consumption then cross-sectional measures of poverty may overstate the degree of consumption hardship. Interestingly, the US, which has the highest level of relative poverty among the rich nations, has a mobility rate which, if anything, is less than that of the other nations.

Contents

1.	INTRODUCTION AND OVERVIEW	1
2.	THE DATA AND THE PATTERNS AT A POINT IN TIME	3
	<i>The data sets and measures of 'income'</i>	<i>3</i>
	<i>Cross-section differences in income distribution</i>	<i>5</i>
3.	INCOME MOBILITY AND THE DYNAMICS OF DISADVANTAGE.....	8
	<i>Changing places on the ladder</i>	<i>8</i>
	<i>Low income persistence</i>	<i>10</i>
	<i>Middle class entry to low income – falling down the ladder</i>	<i>12</i>
4.	POVERTY TRANSITIONS.....	13
	<i>Poverty rates and flows.....</i>	<i>13</i>
	<i>Poverty persistence.....</i>	<i>17</i>
5.	A CLOSER LOOK AT DYNAMICS	18
	<i>'Near poverty' and movements around the line.....</i>	<i>19</i>
	<i>Children in lone parent households.....</i>	<i>21</i>
6.	SUMMARY AND CONCLUSIONS.....	23
7.	REFERENCES	25

1. Introduction and Overview

If one in ten children is currently poor, it could mean that every tenth child is poor all the time or, at the other extreme, it could mean that every child experiences poverty from time to time. The book of which this chapter is part sheds light on where the reality lies between these extremes. For a range of industrialised countries it documents how much movement into and out of poverty by children there actually is. It is therefore a book about poverty among children and about the dynamic aspects of that poverty – how individual children move into and out of being poor.

The focus on the poverty of children as opposed to any other group in the population needs little justification. Children represent a country's future, an obvious reason for societal concern with child well-being. There are the innate feelings of protection towards the young and assumptions of their blamelessness for the situation in which they find themselves. Children are unable to take full responsibility for their circumstances, and are dependent on others to look after and raise them.

As in most of the poverty literature, we measure poverty using data on household income (and expenditure). In doing so we acknowledge that, ideally, we might wish to focus on the consumption of children specifically, rather than the economic resources of their household. Nonetheless, we believe that the level of economic resources available to households does influence the living standards of children. Under plausible models of intra-household allocation, lower household incomes will tend to imply lower levels of child consumption – through both the goods and services directly consumed by children and via public goods within the household. Household location and housing quality are key examples of the latter. Lower income may produce a variety of other effects that impact on children, such as greater tension in the family.

An understanding of poverty flows, in particular, is important for several reasons. For a given level of cross-sectional poverty, lower rates of entry and exit mean a more unequal burden of poverty experiences and more children experiencing longer durations of poverty. Information on poverty dynamics could thus alter views on the relative effectiveness of poverty prevention strategies in different countries.

More generally, policy interest in poverty alleviation is turning more to a consideration of the factors associated with flows into and out of poverty. If turnover in child poverty is low then policy can concentrate on the relatively static group of poor families that experience long periods of low living standards. If turnover is high then the target is continually changing and the challenge for policy is a different one.¹

Whilst much is known about cross-national variations in poverty rates (and child poverty in particular),² there is very little information available on the way in which countries

¹ See Ellwood (1998), Walker with Ashworth (1994) and Leisering and Walker (1998).

² E.g Cornia and Danziger, (1997) and Vleminckx and Smeeding, (2000)

vary in the extent of flows into and out of poverty. The key exception to this is the pioneering study by Duncan et al. (1993). This study examines poverty dynamics among families with children in eight nations (Canada, the Lorraine region of France, West Germany, Ireland, Luxembourg, The Netherlands, Sweden, and the US). Our analysis has the advantage of directly examining *children's* poverty dynamics, whereas Duncan and his co-authors studied *families* with children: different samples can provide different results. Duncan et al's data refer mostly to the mid-1980s; ours to the beginning of the 1990s. And we show the sensitivity of results to the choice of income measure – for most of our countries we have more than one income definition available, while Duncan et al's work was restricted to a single measure per country.

The studies are complementary because although the range of countries covered overlaps (the US, Germany and Ireland), we also include two transition countries from Eastern Europe and one Southern European country, rather than exclusively Northern European and North American ones.³ Duncan et al. concluded that 'despite the very different macroeconomic conditions, demographic structures and degree of income inequality, favourable income changes among families with children were widespread and strikingly similar across the eight countries in our study' (1993, p. 215). (Of course, unfavourable income changes may also be common.) One of our aims is to investigate whether their conclusion about the cross-national similarity of income changes holds true for the countries and time periods covered by our analysis.

The data sets, the sub-samples we analyse, and the income variables we use are all described in Section 2. One of the fundamental problems in making cross-national comparisons of movements into and out of poverty by children (or any other group) is that the numbers of transitions observed depend in part on the amount of poverty there is in the first place (as we shall explain). And yet child poverty rates differ substantially across different countries. In other words, there is a standardisation issue: how to identify the cross-national variations in poverty dynamics separately from the cross-national variations in poverty rates. One way in which we handle this problem is by looking at movements into and out of the *poorest fifth* of all children in each country – in this case each country has the same child poverty rate (equal to 20 percent). This solution is not entirely satisfactory because such a poverty line is not a commonly used cut-off level: poverty status is most often summarised in terms of a threshold equal to some fixed real income value or a fraction of average (median or mean) income. Therefore we also use some of these latter definitions (described below) when looking at movements into and out of poverty, recognising that interpretation is affected by the standardisation issues which we discuss.

Although our primary interest is in movements to and from poverty, we also provide supplementary information about movements to and from other income groups throughout the

³ The panel surveys we use are the same in the case of the US and West Germany (although our use of 1990s data means that we are able to provide results for both unified Germany and West Germany alone). The survey differs in the case of Ireland. The Irish data used by Duncan et al. were drawn from a follow-up survey of low-income families and could therefore be used to look at poverty exits but not entries.

whole income range (and not only the poorest one), i.e. *income mobility* as well as *poverty dynamics*. We are interested not only in how many children fall into, or leave, poverty from one year to the next, but also where in the income distribution they have come from and where they end up. To what extent are exits from poverty dominated by children with incomes just below the chosen poverty line and entries to poverty disproportionately by those with incomes just above the poverty line? This information is all the more valuable because exactly where the poverty line should be drawn is not clear-cut.

We look at income origins and income destinations using two types of definition. The first categorises children according to whether they are in the poorest fifth of all children, or the second poorest fifth, third poorest fifth, fourth poorest fifth, or the richest fifth (i.e. by quintile groups). (A further breakdown divides children into decile groups, i.e. into tenths.) The advantage of this definition, noted above, is that it is directly comparable across countries. The second definition classifies children into four groups according to their income level relative to cut-off points equal to 40 percent, 50 percent, and 60 percent of median national income. The upper and lower cut-offs straddle the income level we take as the poverty line.

In Section 3 we document cross-national differences in income mobility for children and also show how these differences relate to differences in income inequality at a point in time. Are the more unequal countries those where mobility is greatest or least? We examine how many children remain in the poorest fifth of the income distribution from one year to the next, and look at the vulnerability of children in the middle of the income distribution to falling to the bottom.

The next two sections look at children's exit rates from and entry rates to poverty using a poverty line equal to half median income. Section 4 shows how cross-national differences in movements in and out of poverty relate to the differences in poverty rates that are observed at a point in time. Section 5 looks at two aspects in greater detail. First, by focusing on the 'near poor', we examine the extent to which poverty entry and exit involves small or large income changes. Second, we provide information about how children's movements in and out of poverty differ by household type and how these profiles differ across the countries that we study. We focus on the distinction between children who live in lone-parent households and other children, a distinction that has received a lot of attention in analyses of poverty rates at a point in time. The final section provides a summary of what has been learned.

2. The data and the patterns at a point in time

The data sets and measures of 'income'

The data we use are derived from household panel surveys for seven countries: Britain, Germany (both West Germany and the united Germany), Hungary, Ireland, Russia, Spain and the US. The unit of analysis throughout is the child, defined as a person aged less than 18 years in each of the years compared. We wish to compare income changes between one year, call it t , and an earlier year, $t-s$, and so the samples we use are the children who are

present in each survey in both year $t-s$ and year t . For all the countries we are able to compare dynamics over a one year interval (i.e. between years $t-1$ and t). For four of the countries (Britain, Germany, Hungary, and the US) we are able also to examine dynamics over four years ($t-4$ and t) and for two countries (Germany and the US) over nine years as well ($t-9$ and t). The current year (t) was chosen to be the latest year available in each survey, and is a year in the early- to mid-1990s in all cases. Each child is attributed the income, adjusted for household needs, of the household to which he or she belongs in the relevant year. The equivalence scale used in the adjustment for household needs is the square root of household size.

A summary description of each data set is provided in Table 1. The main features on which we compare them are: the type of longitudinal survey, the period to which incomes refer, the definition(s) of income available, and two statistics summarising sample size. Further details about each of the surveys are provided in the country-specific chapters in Bradbury, Jenkins and Micklewright (forthcoming) (hereafter referred to as BJM).

The most obvious contrast between the surveys is in the income measures that are available. One difference concerns whether household income is recorded before the deduction of income taxes and employee social insurance contributions (gross income) or after their deduction (net income). The implications for measures of poverty dynamics of choosing different definitions are not obvious a priori. Certainly inequality of net income will be smaller than gross income inequality at any one time, but it is not obvious whether the tax system also dampens income mobility. Another difference concerns the reference period for which household incomes have been measured, whether a full year (annual income) or the period – usually the month – just prior to the annual interview (current income).

These differences have clear implications for differences in poverty dynamics. First, within year income fluctuations mean that cross-sectional estimates of poverty will generally be lower using current income data (though some evidence suggests that the difference may not be very large). Whether the current or annual income measure is a better measure of cross-sectional poverty will depend upon the extent of consumption smoothing possible. Second, whilst annual incomes may smooth over some short poverty spells, current income data will miss entirely those transitory poverty spells that occur between interviews. This can lead to length bias in the measurement of poverty spells. Finally, annual and current income measures can give different estimates of poverty entry and exit rates – though there are biases in both directions (see Chapter 2 of BJM for more discussion).

TABLE 1 near here

For all but two countries (Ireland and the US) we have a measure of current net income. However, the measure for Germany refers to the estimate of the household head; it is not the sum of each income over all persons in the household, as in the other surveys (and as is the case with the German annual income measures). For Britain, the net income measure cannot be calculated for all households, hence reducing sample sizes somewhat. For all three countries (Germany, Hungary and Ireland), an annual net income measure is available. Moreover for Spain and Russia, we have a measure of current household expenditure in

addition to current household income, which makes for an interesting comparison. The availability of the expenditure data is especially useful for Russia given arguments about the greater reliability of information on expenditures relative to incomes in transition economies – though we should not assume that expenditures equate with consumption.

It is obvious that we have no single comparable measure of "income" for all seven nations. But by judicious use of the various different measures, we are able to check the sensitivity of our conclusions about cross-national differences in patterns of income change. This use of multiple measures of living standards represents a further difference between our analysis and that of Duncan and his co-authors discussed earlier.

All the surveys, with the exception of that for Spain, are household panel surveys. In these surveys, information is collected about a sample of individuals (and their households) at approximately one year apart. Persons remain in the panel until the survey is discontinued (unless they die or refuse to participate). For Spain the survey is a quarterly rotating panel in which household members are interviewed each quarter for up to eight consecutive quarters and then are dropped from the survey ("rotated out") to be replaced by new households. We use the Spanish data about income and expenditure collected one year apart in the first and fifth quarters of participation for all households entering the panel over a seven-year period.

The maximum length of time for which we can follow children depends on how many rounds of interviews the panel survey has had (except for Spain where the rotating panel design sets the constraint). For all seven nations, we can examine dynamics over a one year interval. However, our ability to follow children for longer periods is restricted; as already noted, data span a four-year interval for Britain, Germany (both the former West Germany and the re-united Germany), Hungary, and the US, and nine years for West Germany and the US.

The number of households in the analysis is between 1,000 and 2,000 for most countries (see Table 1). Numbers are noticeably smaller for Hungary (as the survey itself is relatively small), and noticeably larger for Spain reflecting the pooling of data for households entering the survey over a number of years. Children form between one fifth and one fourth of all persons present in the two-year samples for every country except Ireland, where the proportion of children is almost one third.

For each data set, sample weights which account for differential non-response and sample attrition have been used.

Cross-section differences in income distribution

To place in perspective our descriptions of the changes over time in the household incomes of children, we first provide some cross-section summaries of the income distributions for the most recent wave of data for each country. We compare children's relative income levels, income inequality, and child poverty rates.

Statistics summarising the income distribution at a point in time in each country are shown in Table 2. How well off are children relative to all persons in each country, summarised in terms of differences in median income? In all seven nations, children are worse off on average than the population as a whole, but the range is large. For example, in Ireland median income for children is almost one fifth lower than the all-persons median, whereas, at the other extreme, in Hungary, the difference is only a matter of about three percent.⁴ For Britain and the US, the median income of children is some 10 percent lower than for all persons. In Germany the corresponding figure is smaller, a deficit of about six or seven percent. This is the differential in Spain and Russia as well, as long as income is the measure of material well being. The use of expenditure provides a very different perspective however. In Russia, the median expenditure for children is some 14 percent lower than the figure for all persons; in Spain however the shortfall with expenditure is smaller than for income; the child median expenditure differential is about minus 2 percent. For other countries where multiple definitions of income are available, there is a reassuring robustness to the picture about differentials.

TABLE 2 near here

Median income levels provide no guide to how incomes vary amongst children. For example, a high average income may disguise very low incomes for some children. It is therefore of interest to look at the degree of income dispersion among children as a whole. This is also an important preliminary step in our investigation of movements into and out of the group that forms the poorest fifth of all children – one needs to see how far the bottom fifth is adrift from the rest. We summarise the dispersion of incomes using the Gini coefficient, an index which ranges between zero (when there is complete equality of incomes) and one (complete inequality). Higher values indicate higher inequality.

Income inequality amongst children varies substantially across these seven nations, the Gini coefficient ranging from under 0.3 in Germany to over 0.4 in Russia and the US.⁵ To put these statistics into perspective, observe that this range – of more than 10 percentage points – is larger than the increase in overall inequality in the US and Britain during the 1980s, typically cited as "large". The Gini coefficients for children's incomes in Britain and Ireland lie about midway between these figures, and those for Hungary and Spain are towards the lower end of the range. This finding is robust to changing the definition of income.

These relative rankings perhaps come as no large surprise once we also observe that there is a close association between income inequality amongst children and income inequality amongst the population as a whole – the Gini coefficient for the distribution across all individuals is given in the adjacent column in Table 2. Cross-national rankings according to the latter typically place, for example, the US at the top, with social democratic European countries near the bottom, and Anglo-Saxon countries in between (BJM, Chapter 3). The two

⁴ By "median income for children" we mean the median of the distribution of children, ranked by the value of equivalised income of their household.

⁵ Again, these results refer to the distribution described in the preceding footnote.

transition countries enter this ranking in different places. Russia heads the table with the USA, the 1990s having seen a huge increase in inequality following the break-up of the Soviet Union. Hungary, where the increase has been more modest, is at around the level in Spain. That said, inequality amongst children appears slightly lower than overall inequality, except in Russia where the opposite is the case. The difference is greatest for Germany, the country with the lowest overall inequality.

We now compare cross-national differences in child poverty rates, where the poverty line used in each case is half the country's median income in the most recent wave of data for all persons in the two-wave sample. This is a 'relative' poverty line, in the sense that it is defined with reference to contemporary income, and so differs in real terms across the countries. Differences in poverty rates according to this way of looking at poverty are thus partly dependent on cross-national differences in inequality.

The countries with the lowest child poverty rates using the half national median poverty line are Germany and Hungary, in the range 7 percent to 10 percent. (The all-Germany rates are slightly higher than the West German rates because poverty is higher in eastern Germany than western Germany.) The child poverty rate is slightly higher in Spain, around 12 percent, and higher still in Ireland and Britain, around 16-17 percent. Reassuringly, the ranking corresponds with other results based on the Luxembourg Income Study (LIS) data (BJM, Chapter 3). In fact the poverty rate estimates themselves are quite similar despite the different equivalence scales and data sources used.

Switching from a measure of net income to one of gross income can have a very large effect on the poverty rate, as the results for Britain show.⁶ According to the gross income measure, the child poverty rate is around 24 percent rather than 17 percent. This is particularly relevant for assessing the US poverty rate, which is some 25 percent on the basis of gross income. If we had had data for net incomes, one might think that the US would show a rather lower poverty rate – perhaps more like the British figure rather than similar to the Russian figure of 23-24 percent. However results based on the LIS data with more comparable income variables suggest that the child poverty rates in Russia and the USA are very similar, about 25 or 26 percent depending upon the equivalence scale.

The last column of Table 2 shows the change in child poverty rate between the first and second year of the two-wave comparisons. Since the observation period is so short, there is, not surprisingly, little change for most countries. The notable exceptions are the two transition economies, Hungary and Russia, for which there were quite large increases in both absolute and proportionate terms. The country chapters in Part II of BMJ discuss these periods in greater detail.

⁶ Moving from a net (after-tax) to a gross income measure would be expected to increase the poverty rate because this will increase the income of the median family significantly (and hence raise the poverty line), whilst having little impact on the income of poor families (who do not pay much tax).

3. Income mobility and the dynamics of disadvantage

We now turn to the dynamics of incomes. How much do children move up and down the income distribution? We are concerned here only with the distribution of children; that is, taking children as a group (and ignoring all other persons), by how much do they change places with each other on the income ladder (assigning to each child the total income in their household adjusted by the household's size)? We have a particular focus on movements to and from *low income*, defined as the poorest fifth of the distribution. Our discussion at the start of the chapter emphasised the practical advantage that this approach implies: there is the same size pool of children in low income in each country at any time, which aids the making of comparisons across countries.

Changing places on the ladder

For each year and country sample we rank the children in ascending order of their household (equivalent) incomes and then partition them into ten equal sized groups (so-called decile groups). For each country, each decile group contains one tenth of all children, and we therefore have a comparable definition of income thresholds across all the countries.

To examine income mobility for a country, we calculate the number of children who change decile group of the income distribution between year $t-s$ and year t , and express it as a proportion of the total number of children in the relevant sample (e.g. the two-wave sample if we are considering mobility over a one year period). The larger this proportion, the greater the degree of income mobility. The results are given in Table 3.

There is a remarkable similarity across the majority of the seven countries in the extent of children's income mobility over one year. For Britain, Germany, Hungary and Spain, the proportion of children moving into a different tenth of the current net income distribution is between 61 and 66 percent. Shifting to an annual income measure suggests that Britain, Germany, Ireland, and the US have similar mobility, but that mobility is rather higher in Hungary. The annual income measure yields slightly lower mobility than the current income one in the cases of Germany and Britain, as one would expect, but not for Hungary. Spain's position in the mobility ranking is dependent on whether income or expenditure distributions are used; surprisingly, mobility is much higher in the latter case – the reverse of what one would anticipate from the argument that there is less longitudinal variability in consumption than in income.

TABLE 3 near here

The results for income and expenditure for Russia, however, have the expected relationship: income mobility is higher, although not by much. But the most notable finding for Russia, true with either measure, is that this country is a marked outlier in terms of mobility, with a substantially higher fraction of children changing decile group compared to the other countries: over 80 percent. Arguably there is greater measurement error in the Russian data than in the other surveys and this is reflected in the mobility measure (more children move decile groups simply because it is more likely here than in other countries that

the error with which their household income or expenditure is measured changes over the 12 months). However, the Russian survey appears to be a high quality source. A more likely explanation for the result is simply that greater mobility is associated with the turbulence of change in this transition economy (see Klugman and Kolev, Chapter 11 in BMJ).

The longer the interval between the years in which we classify children into income groups, the greater the degree of mobility which we would expect to see. This is confirmed by our surveys when we extend the interval from one year to four years or to nine. For example the proportion changing decile group in the US is about two-thirds over a four year period, compared with 57 percent after one year.⁷ Although similarities in mobility across countries remain the main impression, some differences seem to be appearing as the observation window is extended.⁸

More specifically Hungary is confirmed as having greater child income mobility after four years than Britain, Germany or the US (though the difference with Britain is not statistically significant). Among these latter three countries, mobility over five years in terms of annual income seems remarkably similar; there is no sign of the higher mobility in the US that is often supposed to occur. After nine years, there appear some differences between German and American mobility – as long as one uses the annual income measures: 72 percent change decile group in Germany compared to 78 percent in the US. The large difference between the German current and annual net income statistics, 72 percent versus 77 percent, reminds us that choice of definitions can influence the results substantially. For both the German and US data, it is clear that although the proportion of children moving decile group rises as the interval is extended, the figure levels out relatively quickly.⁹

Given the way we chose to define the income groups for children (in terms of their rank in the income distribution), values of our mobility measure are not affected by differences in income levels or the degree of inequality per se. Nonetheless, in practice there may well be a systematic relationship between mobility and inequality. A given change in household income is less likely to move a child across the boundaries of a decile group in a country where income is more unequally distributed – where the rungs on the income ladder

⁷ Note that the assessment of mobility over four years or over nine takes no account of what happens in the interim. For example, the one third of American children who are in the same decile group in year $t-4$ and t are not necessarily in the same group in each intervening year. (An analogous comment applies to the intervening months for the two-wave results for "current income".)

⁸ It is worth remembering that the samples of children we use are below the age of 18 in each year. Hence the calculations of mobility over a nine year period are restricted to children aged 0-8 in year $t-9$, while those over a one year period refer to children aged 0-16 in the first year. Differences in results at the observation window extends therefore may in part reflect a changing age composition of the samples.

⁹ We have also calculated results similar to Table 3, but defining movers as people who move more than one decile group away from their original position. Measured in this way, mobility is much lower, implying that many moves in Table 3 are by children moving only a short distance in the distribution. But the differences across countries are very similar to those found in Table 3. Russia remains an outlier over one year, and Hungary continues to have higher mobility over four years.

are further apart – than it is in a country with less inequality where the deciles are closer together. In this situation an inverse relationship between income mobility and income inequality will be observed, provided the frequency and size of changes in incomes are similar in each country.¹⁰ If, on the other hand, we observe a similar degree of mobility in countries that have notably different degrees of inequality, then this must imply that the changes that occur to income are larger and/or more frequent in the country where incomes are more dispersed.

Figure 1 shows how inequality among children and their mobility in the income distribution (over one year) are related in practice for our seven countries. There is no obvious relationship between them. The diagram puts the comment above about mobility in the US relative to that in other countries in perspective. The US has a much more unequal income distribution for children than has Germany, but the probability of children changing places in the ranking from one year to the next is similar in the two countries. On the argument above, this means that incomes *do* change more often, or by larger amounts, in the US. But because incomes are more spread out in their country, American children are nevertheless no more likely to change places with each other than elsewhere.

Continuing in this vein, one thing the diagram really does underline is the degree of mobility in Russia. Despite children's incomes in this country being more unequal than in the other six countries, the probability of moving within the distribution is, as noted earlier, notably higher. Although the gaps between the rungs on the ladder are larger than elsewhere, there is a greater probability of moving up or down a rung.

FIGURE 1 near here

Low income persistence

Does the picture change if we focus on mobility at the bottom of the income distribution rather than the overall degree of mobility in the whole distribution? To answer this question, we look at the poorest fifth of children in each year – the bottom quintile group. We calculate the proportion of children who are found in this group *every* year over a specified number of years, and the proportion who are *ever* in the group over the same interval.¹¹ The results are given in Table 4, with a selection of them illustrated in Figure 2.

The top panel of Figure 2 shows for different observation intervals, the percentage of children who were ever in the poorest fifth of the income distribution (defined over children)

¹⁰ This argument can be formalised using a stylised theoretical model of how the income distribution evolves over time. In a simple Galtonian auto-regressive model of log income, the long-run steady-state degree of income mobility is summarised by the ratio of the inequality in income shocks to the total income inequality. If the variance of the income shock is held fixed, an inverse relationship between income mobility and income inequality results.

¹¹ In the case of the five and 10 wave results, we are therefore now considering the 'intervening years' (see footnote 7), in contrast to the calculations of mobility given in Table 3.

during each period. There is a separate line for each country, with the length of each line corresponding to the number of years of data available (e.g. only two years for Russia, but up to ten years for the USA). The bottom panel is constructed similarly, except that the summary is now of the percentage of children who are in the poorest fifth of the income distribution in every year. All the lines start at 20 percent in year 1 (with only one year to consider, the same fifth of children are "always poor" and "ever poor".) It is worth noting that the figures showing persistence over two years contain the same information as the exit rates from low income in the first year; the percentage of children in the poorest fifth of the distribution in the first year who leave by the second year is equal to 100 minus five times the figure for persistence in low income shown in Table 2. For example, if 10 percent of all children are in the bottom fifth for two consecutive years this means that the exit rate from low income is 50 percent.

TABLE 4 and FIGURE 2 near here

How does persistence of children in low income differ cross-nationally? When only two years are considered, the main impression given by Table 4 is one of similarities rather than differences across the seven nations. In this sense the results are similar to those for overall income mobility described in the sub-section above. For Britain, Germany, Hungary, Ireland and the US, between 12 percent and 14 percent of children are in the poorest fifth of the distribution for two consecutive years, and slightly less in Spain. (This implies that between 20 and 30 percent of those in low income in the first year manage to escape.) Russia is again the outlier, with much less persistence in low income than the other countries. (More than half of children in the poorest fifth escape over 12 months.)

As the length of the observation window is extended for the relevant subset of countries, the degree of low income persistence falls, as expected. But a significant number of children are found in the bottom fifth of the distribution for year after year, and differences across countries become more obvious. Taking a five year window, the proportion varies from five percent of all children on the basis of current net income in Britain to nine percent on the basis of annual gross income in the US: about 1 in 20 and 1 in 10 respectively. Persistence in low income is therefore higher in the US than elsewhere. It is half as high again as in Britain, for example, when the same income concept is used.¹²

The comparison with Hungary and Germany is hampered by the differences in income definitions; on the current net basis these two countries are found at six and seven percent respectively, just ahead of Britain. Over ten years, six percent of American children are found with low annual income in every year and five percent of West German children (gross and net income respectively). Hence 1 in 20 children in both countries spend ten consecutive years in low income.¹³

¹² The difference is statistically significant at the 1 percent level.

¹³ As with the analysis of overall mobility, it should be borne in mind that the ten-year results refer only to those children aged 0-8 in the first year.

The proportion of children ever touched by low income – the right hand side of Table 4 and the top panel of Figure 2 – rises as the observation window lengthens. Over two years the numbers are similar across countries, between 25 and 27 percent on the basis of income, except in Russia where the greater mobility pushes the figure up to 31 percent. Over five years one sees again that differences emerge. Hungary heads the rankings with 43 percent of children found in the bottom fifth of the distribution in at least one year during the period on the basis of annual net income. This is ten percent points more than in the US, where the lowest proportion of children to ever be touched by low income in five years is found, one third. Britain comes in the range below Hungary and ahead of Germany. Over ten years, more than two fifths of children are found in low income at least once in both the US and West Germany, with the higher of the two figures being for the German children – 44 percent (on an annual basis) compared to 41 percent.

Middle class entry to low income – falling down the ladder

The incidence of low-income persistence among children is clearly of interest because of the repeated hardship this entails (with potential adverse consequences following childhood too). But one might also argue that the extent to which this influences the formation of policy depends on the perceived vulnerability of the ‘middle classes’ to becoming poor. An increase in their vulnerability may strengthen political support for income transfer programmes (or other policy measures) to reduce poverty. These considerations lead us to ask: how likely are middle class children to experience poverty?

Our answer to this question is based on calculations of the percentage of children in the middle fifth of the children’s income distribution in one year who are found in the poorest fifth of the distribution in a later year. This is shown in Table 5. When we look at distributions one year apart, we find similarities across countries. The low-income entry rate for those in the middle class is about 5-6 percent, with two exceptions: Ireland and Russia. The Irish rate appears somewhat higher than this (10 percent), and the Russian one definitely does – between 12 and 17 percent depending on whether an income or expenditure measure is used. The higher Russian figure is in line with everything we have seen earlier concerning the greater mobility in this country. The Irish figure however is a puzzle.

What would we judge to be a high – or a low – figure? In most countries, about 1 in 20 middle class children fall down the ladder into low income the following year. Is this figure high enough for the middle class as a whole to feel a threat of a significant fall in income? This question is difficult to answer. It is not the actual figure itself that is critical; it is the perception that the fall *could* occur which will affect decisions.¹⁴

TABLE 5 near here

¹⁴ The number of houses that burn down each year is small but the great majority of house owners take out fire insurance.

With a five year gap between distributions, the entry rate to low income by middle class children increases, and cross-national differences become more apparent. The higher levels are to be expected – over a longer period of time there is a greater probability that children from the middle classes will see their incomes change. Rates, for example, appear higher for Britain than for the USA (13 to 17 percent depending on income definition compared to 9 percent). Whether the vulnerability of Hungarian and (West) German children is nearer the endpoints of this range depends strongly on the choice of income measure: the rates based on current net income are markedly lower than the measures based on annual net income.

4. Poverty transitions

What fraction of children live in households that have incomes that are well below the average, how likely are they to enter this state, what are their chances of leaving, and how long do they stay there? In the previous section we defined disadvantage as being income in the bottom fifth of the income distribution. In this section we return to a conventional measure of relative poverty. That is, children are classified as poor in a particular year if the income of their household (adjusted for household size) is below half the median household income of all people in their country in that year.

Poverty rates and flows

We noted at the start of this chapter that, in general, we expect rates of entry to and exit from poverty (and hence the lengths of poverty spells) to be related to the poverty rate itself, this providing a motivation for a focus on the poorest fifth of children in each case so as standardise across country. In this section we use a definition of disadvantage that results in a poverty rate which *does* vary markedly across our seven countries. We therefore need to justify our earlier statement. This done, we then go on to describe how the pattern of poverty flows varies across the different countries.

The relationship between entries and exits and the poverty rate is easiest to see in the situation where the poverty rate does not change over time and where there is *no* statistical association at all between incomes this year and next year (in the sense that being poor this year conveys no information about whether one is more or less likely to be poor next year). In this case, the entry rate to poverty is equal to the poverty rate, and the exit rate to one minus the poverty rate. For example, if the proportion of children currently poor is 15 percent, then 85 percent of this group will exit poverty between this year and the next, 15 percent will stay poor, and 15 percent of children who were not poor in the first year will enter poverty in the second year. If the poverty rate is 20 percent, then 80 percent of children poor in one year will escape poverty between the years and 20 percent of those not previously poor will enter poverty. In other words, higher poverty rates mean higher chances of entry and lower chances of exit.

These relationships become somewhat more complicated when poverty in one year *is* associated with poverty in the next year, but the general point still holds. In countries with higher poverty rates we should expect to see the rate at which children enter poverty to be higher and the rate at which they leave poverty to be lower than in countries with lower poverty rates. Indeed, in one sense this is very obvious. To turn the argument the other way around, if the rate at which children enter poverty is higher than elsewhere and the rate at which they leave poverty is lower, then the overall proportion found to be poor at any one time is bound to be higher.

To go further with our investigation of the issue and to then inspect our data, it is useful to consider four different measures of poverty flows: the number of children that enter poverty as a proportion of all children (both poor and not poor), the number that exit poverty as a proportion of all children, poverty entries as a proportion of those children not poor (the *entry rate*), and poverty exits as a proportion of the poor children (the *exit rate*).

When the child poverty rate, and the child population, are constant over time, the number of children entering poverty is equal to the number leaving poverty and so the first two rates are equal. In this case, both rates provide the poverty *turnover rate* (something that is not strictly defined if poverty is changing over time). That is, the extent to which children in a given country are likely to move between being poor and not-poor. When the poverty rate is constant, it is also the case that the numerators of the *entry* and *exit rates* are identical. In this so-called 'steady-state' situation, the difference between entry and exit rates is due solely to their different-sized denominators – the groups of children against which the transitions are assessed.

In general, turnover as a fraction of the total child population will normally be *higher* in countries with higher poverty rates. This is because a high poverty rate usually means that the poverty line will be placed in a section of the income distribution containing more children, and so for a given amount of income movement more children will move across the line (in both directions).¹⁵

The poverty exit rate is the average probability that a poor child will leave poverty. It therefore depends upon both the number of exits from poverty as well as on the size of the poor population from which those exits must come. For a given number of exits, a higher poverty rate will mean a *lower* exit rate since the size of the poor population is larger.

The association between the exit rate and the poverty rate is thus governed by two opposing relationships. On the one hand, more poverty means more turnover. On the other hand, more poverty means a lower likelihood that this turnover will apply to a given poor child. In general, the latter (the denominator) effect can be expected to dominate – with *higher* poverty rates being associated with *lower* exit rates.

¹⁵ This assumes that the concentration of children at points along the income range is increasing as income rises, which is usually the case at levels of income around the poverty line. (It also depends on how we define a 'given amount of income movement'. In the simple Galtonian model of mobility described in footnote 10 this result will apply if we define mobility in terms of the correlation between incomes in one period and the next.)

Similar reasoning can be applied to poverty entry rates. In this case the turnover and denominator effects in fact work in the same direction. Since the denominator of the entry rate is the number of children who are not poor, a higher poverty rate will be associated with higher entry rates.

How do poverty, entry and exit rates vary across our eight nations? The different measures of poverty flows for the children in each country are shown in Figures 3a and 3b. The horizontal axis in both figures shows the child poverty rate in each country. (These are the rates in year $t-1$ rather than year t as in Table 4.2.) Different symbols are used to denote the different income definitions. The vertical axis in each figure shows the movements in or out of poverty between two years. In Figure 3a it is the number of children who exit poverty as a percentage of all children (both poor and not poor) that is displayed, while in Figure 3b it is the number of children entering poverty, again as a percentage of all children. In most countries poverty rates were relatively stable and so Figures 3a and 3b are very similar (Russia and Hungary are the key exceptions).

FIGURES 3a and 3b near here

The straight lines drawn within these two figures show 'contours' of the entry and exit rates respectively – that is, lines along which the values of the entry and exit rates are the same. The lines in Figure 3a coming out from the origin (the point where the two axes meet) represent three different rates of exit – 25, 50 and 100 percent – defined as the number of children leaving poverty divided by the number poor in the first year. Each of these contour lines shows the combinations of the poverty rate (horizontal axis) and the number of children exiting poverty as a percentage of all children (vertical axis) that imply the same exit rate. Similarly, the lines in Figure 3b drawn from the 100 percent point on the poverty rate axis (well off to the right of the edge of the diagram) show three different rates of poverty entry – 5, 10 and 15 percent – defined as the number of children entering poverty divided by the number not poor in the first year. Each of these lines shows the combinations of the poverty rate (horizontal axis) and the number of children entering poverty as a percentage of all children (vertical axis) that imply the same entry rate. (The actual entry and exit rates are given below in Table 7.)

In both Russia and Hungary, child poverty increased significantly during the survey period (the situation was far from being one of 'steady state') and this is evident in the higher level of flows into rather than out of poverty. In other words, these countries come much higher up on the vertical axis in Figure 3b than they do on the same axis in Figure 3a. Between 1994 and 1995, the Russian child poverty rate increased by 5 percentage points (see Table 2). Figures 3a and 3b show that this increase in the stock arose from 13 to 15 per cent (depending upon the income definition) of all Russian children entering poverty, together with (a different) 8-10 per cent leaving poverty. (The previous section showed Russia as also standing out for having a particularly high level of mobility.) Hungarian poverty increased by almost as much, but from a much lower base.

Across the other countries and income definitions, the exit rates are either roughly constant – the symbols for several countries in Figure 3a are just below the 50 percent line

coming out from the origin, implying that nearly half of poor children leave poverty each year – or they decline as the poverty rate increases, with the annual gross figures for Britain and the USA being the most obvious cases (here the symbols are well out to the right, near the 25 percent exit rate line).

As discussed earlier, the switch from gross to net income measures does make quite a difference to the poverty rate in Britain. However, in terms of the number of children entering or leaving poverty as a percent of all children (the values on the vertical axes) the definitional change again makes little difference. But since this mobility is coming from a smaller number of poor children when we measure poverty using net income, the exit rate in this case is higher: we see that the symbol for current net income for Britain lies closer to the 50 percent exit rate line while that for annual gross income lies closer to the 25 percent line. Comparing the British and US annual gross income results, while both countries have a similar level of poverty, Britain has a slightly higher exit rate (though this difference is not quite statistically significant).

In general, the length of the income measurement period does not seem to have much impact. For the two countries where we have both annual and current net income (Germany and Hungary) both poverty levels and flows do not seem to vary much with the income measurement period. The current gross income results for Britain are not shown in Figure 3 but are very similar to the annual gross results.

The income definition for which we have information for the greatest number of countries is that of current net income. Using this measure, the proportion of all children who leave poverty between the two years varies from under 2 per cent for Hungary to over 9 per cent for Russia. The spread of entry into poverty is even greater, ranging from over 14 per cent of all children for Russia to fewer than 4 per cent for Germany. Almost one in five (18 percent) of those Russian children who were not poor in 1995 were below the poverty line in 1996.

Leaving the transition economies of Russia and Hungary to one side, the differences between the countries found in the movements in and out of poverty are less, but still considerable. In Germany, about 4 per cent of all children entered and 4 per cent left poverty between the two years, while in Britain 6 per cent left and 7 per cent entered. The child poverty rate in Britain was around double that of Germany so in terms of the probability that a poor child will leave poverty over the subsequent year (the exit rate), the ranking is reversed – it is Britain that has the lower exit rate (which can be seen in Figure 3a by comparing where the symbols lie with respect to the lines coming out of the origin). In 1995, about 8 per cent of German children were below the half median poverty line. Twelve months later, half of these children had incomes above the poverty line. In Britain, on the other hand, even though more children left poverty as a percentage of *all* children, only 38 per cent of the children poor in 1995 were above the poverty line 12 months later.

For the most part, both poverty levels and flows in Spain lie between that of Germany and Britain, while the situation in Ireland is similar to that of Britain (the net income symbols for the two countries are close to each other in both Figures 3a and 3b). In Spain, the pattern

of poverty entries and exits does vary somewhat according to the income measure used. While poverty measured according to expenditure increased slightly, when measured using current income it fell by 2 percentage points between 1991 and 1992 (see Table 2). This can be seen in the higher number of Spanish children leaving poverty according to this definition (Figure 3a) and the lower number entering (Figure 3b).

Poverty persistence

When discussing earlier the persistence in low income (the bottom fifth of the distribution) over two years, we noted that the exit rate from low income in the first year and the proportion of all children who are in low income in both years contain the same information. An analogous situation is true of persistence in poverty.¹⁶ And, as with Table 4, we can extend this concept of persistence over a longer interval by looking at the percentage of children who are poor five years out of five, or ten years out of ten. The patterns for persistence in poverty need not of course mimic the earlier ones for low income. Indeed, the cross-country picture will reflect in part the differences in poverty rates and hence, on the argument above, exit rates.

This is confirmed by the results shown in Table 6. For example poverty persistence appears to be relatively high in Britain and the USA, but these are the countries with the highest cross-sectional poverty rates (the ‘in 1 wave’ figures are the cross-sectional poverty rate in the latest wave of data). And Germany has relatively low persistence but also has a low cross-sectional poverty rate.

TABLE 6 near here

In one sense the table may be interpreted optimistically for it shows that as the window of observation is extended, the number of children who are persistently poor falls quite sharply. The proportion poor in every one of five years is about one half (or smaller) of the proportion poor two years out of two for those countries where we have data.

On the other hand, the sheer numbers of children in persistent poverty over the longer periods are alarming in some countries: roughly speaking 1 in 10 children are found poor for five consecutive years on the basis of annual gross income in both Britain and the US. These countries had virtually identical one-year poverty rates on this income measure (25 percent), which means that the problem of comparing flows when poverty rates differ substantially does not arise. Persistence of poverty over five years was actually somewhat higher in the US

¹⁶ The proportion of all children who spend two out of two years poor is given by one minus the exit rate multiplied by the reciprocal of the poverty rate in the first wave. It can also be read off Figure 3a since the number of children who are poor two out of two years is equal to the number poor in year $t-1$ minus the number who leave poverty the next year. Hence, lines drawn parallel to the 100 percent line in Figure 3a represent contours (lines where the value is unchanged) of the two-out-of-two rate, with values read off from the intersection of these lines with the x-axis.

– 13 per cent of all American children were poor in every year compared to 9 percent of British children.¹⁷

A much more positive picture is found in those countries with lower cross-section poverty rates. In both West Germany and Hungary only around 2 per cent of children were poor for the full five years.

The right hand side of Table 6 reinforces the pessimistic view of the situation: the proportion of all children who are 'touched' by poverty at some time increases sharply as one considers a longer interval of time. For example, the proportion of children in West Germany experiencing poverty at least once over five years is more than twice the proportion of children poor at a point in time. The percentage touched by poverty at least once over ten years is three times larger than the cross-section rate. In those countries with five years of data, the number experiencing poverty is never less than 1 in 7 on any definition of income and is as much as 40 percent or more in Britain. Over 10 years, even in Germany the figure rises to 1 in 5 and it is double this in the US.

The comparison of the annual gross income figures over five years for Britain and the US show Britain to be the country where more children are in poverty for at least one year. This is the corollary of the larger fraction of US children who are poor in all years over a five-year period shown in the left-hand side of the table. While it is not logically necessary that the two patterns be linked, if mobility is generally less in the US we would expect to find fewer children experiencing poverty. Given some fixed level of poverty in each year, the concentration of poverty among a smaller group does mean that the remaining children will be less likely to experience poverty.

For all countries, the figures in the right hand side of Table 6 are a reminder of the much larger numbers of children that are likely to have been helped by benefits targeted at families with low income if one takes a longer time-frame than one year.

5. A closer look at dynamics

In this section we examine two aspects of child poverty dynamics in greater detail for our seven countries. First, we focus on the 'near' poor – those children just above the poverty line – and examine the extent to which movements into and out of poverty involve this group. Second, we provide information about how entry and exit rates differ between children in lone-parent households and those households where both parents are present.

¹⁷ The difference is significantly different at the 1 percent level. Indeed, the average poverty rate across the five years was slightly *lower* for the US (23.9 vs 25.3 percent) reinforcing the conclusion that the difference is due to the different mobility patterns in the two countries.

'Near poverty' and movements around the line

We are interested in the extent to which movements into or out of poverty involve small or large changes in income. If the majority of income changes over the poverty line are small, then the exits and entries we have been counting are less likely to involve the discrete changes in living standards which the zero/one measure of poverty ('out' or 'in') suggests. Viewed another way, if a large number of entries and exits involve those just above the line then many children may be thought of as 'hovering' near poverty. An exit from poverty, for example, may well not represent a real escape from low living standards.

Table 7 shows the share of entries and exits to and from poverty over a one year period that involve those children that come just above the poverty line – the 'near poor'. These are the figures in the second column under each of the 'entry' and 'exit' headings. We use the same poverty line of half national median income used earlier in this section, and define 'near poverty' as incomes between 50 and 60 percent of the median. To provide the context, the table shows the entry and exit rates by children to and from poverty, which are given in brackets in the first column in each case. The countries are sorted within each income definition by descending order of the child poverty rate, an ordering that in fact corresponds quite well to that given by the entry rate (as our reasoning at the beginning of the last section would lead one to expect). (The child poverty rates are those for all children in the data in both sampled years and are the same as those displayed on the horizontal axes in Figures 3a and 3b; the reader may also like to compare the entry and exit rates in Table 7 with the 'contour' lines in that diagram.)

TABLE 7 near here

There is no particular reason to expect the share of entries that come from children in near-poverty to correspond to the share of all exits to the same income range. This is true even when a country is in a situation of 'steady state' described earlier, in which its child poverty rate does not change over time (where the number of entries and exits are equal). It may be that small increases in income, for example those that come from annual wage increments, are more common than small reductions, with falls in income, when they happen, being more likely to be large (although it is easy to think of many examples when rises in income could be large too, for example when a parent gets a job or a lone parent re-partners). In this case, the profile of income changes over time may be a series of small rises punctuated by occasional sharp falls. If this were the general pattern of income change we would typically observe a larger share of exits from poverty going to near-poverty – as families moved from just below to just over the poverty threshold – than the share of entries coming from the same income range, reflecting the larger income falls that those entering poverty were experiencing.

Looking first at the results for current net income, we see that if anything with this income definition the opposite pattern is found. In all but one case, Russia, the share of entries from near-poverty is *higher* than the share of exits that go to near-poverty. In three cases, Britain, Hungary and Germany, the entry share is a lot higher. In Hungary it is over 20 percentage points higher. Child poverty rose sharply between the two years in question in this

country (see the final column of Table 2) and it may be that this is the explanation, the rise in poverty being driven by a fall in income among households with children that were hovering near the poverty line. But the figures for Russia, where poverty among children rose even more over the 12 months concerned, show that no such general 'rule' applies.

On the current net income measure, about a third (or rather more) of all exits are to near-poverty in most cases, but with a notably larger share than this found in Britain (44 percent) and a lower share (20 percent) in Russia, where we have emphasised that recorded income mobility is greater than elsewhere. A notable minority of children who leave poverty are therefore not seeing their family incomes improve by a great deal, but viewed another way the majority of exits in all countries *do* involve increases in income that take previously poor children a significant distance (in percentage terms) away from the poverty line.

Staying with the current net income measure, the same sort of statement that has just been made does not apply to entries to poverty. In the case of the three countries mentioned above, Britain, Hungary and Germany, a *minority* of entries are coming from above 60 percent of median income. In these countries the majority of entries come from the near-poor children. (It is notable however that the figures for Germany as a whole and West Germany are rather different.) Russia, with its greater mobility, is the real exception – here only 1 in 10 entries are from among the near-poor children.

Turning to other income measures, the pattern of results changes somewhat, emphasising the danger in telling a general story based on a particular measure. In the case of current expenditure, the shares of entries from and exits to near-poverty in Spain are lower than for current net income, reflecting the (surprising) greater mobility of children on the basis of expenditure that we noted earlier in Section 3. The annual net income figures show only one country, Germany, to have higher share of entries from near-poverty than exits to this state, so the general pattern seen with the current net income figures is not repeated. The larger share in the case of exits is particularly notable for Ireland – only a third of entries are from near-poor children but nearly a half of exits by children are to near-poverty. In the case of Hungary, the switch from current to annual net income leads to the share of entries from near-poverty falling, from 57 percent to 44 percent, and, in contrast to the situation with net income, in no country does the majority of entries with annual net income from among the near-poor children.

The figures for annual gross income for Britain show notably lower shares for the entries from and exits to near-poverty than for current net income, especially for entries. The share of entries by British children from near-poverty on the basis of annual gross income is only half that found for current income – 29 percent compared to 57 percent. The figure for the USA for exits is similar to that for Britain, with both showing somewhat more (Britain) or less (USA) than 30 percent of exits going to near-poverty. These two countries' annual income figures clearly show that the majority of both entries and exits do not involve near-poor children.

Finally, we look at the share of all entries that involve movement not only from near-poverty but that also go to an income range just below the poverty line, namely 40-50 percent

of median income. Similarly, in the case of exits we measure the share of children that both go to near-poverty and also start from the 40-50 percent of the median range. The percentage shares in each case are given in the third column under the 'entry' and 'exit' headings. These are the movements over the poverty line that involve smaller income changes than others, although it should be noted that they include moves that are both very small, for example from 51 to 49 percent of the median and those that are considerably larger, for example from 60 to 40 percent. While the former implies a very small change in living standards (and might be due to merely a change in the error with which income is measured from one wave of a panel survey to the next) the latter will be associated with a more appreciable fall.

These figures show great diversity, but the patterns naturally reflect those for all entries from and exits to near poverty. Whereas only 4 percent of all entries to poverty in Russia on the basis of current net income involved a movement from 50-60 percent of the median to 40-50 percent, the figure was as high as 48 percent in Hungary. And for exits, only 9 percent of the total in West Germany on the basis of annual net income involved movement from 'just below' the line to near poverty above the line, whereas this was the case in 45 percent of all exits in Ireland. A general result coming out of the table is that the great majority of entries and exits by children on most income definitions do *not* involve movement either way between 'near poverty' and being 'just below' the poverty line.

These last results in Table 9 can be seen as strengthening our confidence in much of what we are measuring. Most movements across the poverty line are the result of income changes that are not insignificant. But the other results in the table tell us that a significant minority of movements into and out of poverty in most countries do involve incomes that are not a great deal higher than the poverty line. This is a reminder that children experiencing poverty at some time in their childhood may often be close to being poor at other times.

Children in lone parent households

We now turn to explore the movements in and out of poverty by children in lone parent households. It is well known from cross-section studies (see BJM, Chapter 3) that children in lone parent households suffer higher poverty rates than other children. What does this higher poverty risk imply about these children's entry and exit rates?

In Table 8, we show a number of indicators comparing the poverty status of children in lone parent households with that of all children, taking, as before, a poverty line of half the national median income (adjusted for household size). It should be noted that our identification of "lone parent" households is quite restrictive. Children are defined as being in a "lone parent" household if (i) their household contains one, and only one, adult, and (ii) this is true in both the most recent survey wave and in the previous year.

This definition means that households with children, a lone parent, and, for example, other adult relatives will not enter our definition; nor does our definition require the lone adult to be a parent. The restriction to children in lone parent households in *both* surveyed years means that we cannot describe the movements into and out of poverty associated with demographic changes such as divorce or separation and remarriage. Our definition means that

we can only look at the movements that children in lone-parent households make into and out of poverty once they are already in such households.

TABLE 8 near here

The prevalence of lone parenthood varies widely across industrialised countries, including the seven which are the focus in this chapter. In Spain and Ireland only 2 to 3 per cent of children are in lone parent households, while over one-fifth are in such households in the US. Britain also has a high lone parenthood rate, while the remaining countries have between 6 and 8 per cent of children in lone parent households.

In all countries, except for Hungary (where there are only 36 lone parent households in our sample), the poverty rate for children in lone parent families is higher than for other children, so that their share of poverty (given in the second column in the table) is greater than their population share. In Spain, about a quarter to a third of lone parent children are poor, in Russia and Germany about a third, and in Ireland, Britain and the US the figure is around a half to two thirds. Lone parent children comprise over half of all poor children in the US, around 40 per cent in the UK, and a third in Germany. In Russia, Spain and Hungary, lone parent children make up a small proportion of poor children.

From our discussion in Section 4, we expect that higher poverty rates for children in lone-parent households will mean a greater number of such children moving in and out of poverty than of children as a whole. This is indeed the case here, where the number of children leaving poverty as a proportion of the population is always higher for children in lone parent households than for all children. Excluding Hungary and Ireland where sample sizes are small, the table shows that about 8 to 14 per cent of the population of all lone parent children leave poverty each year. Similar proportion enter poverty (not shown in the table). This is higher than the flow rate for all children, which is generally between 4 and 9 per cent.

However, these exits from poverty need to be assessed in the context of the larger proportion of lone parent children who are poor. For any given poor child, the probability of leaving poverty over the following year is almost always lower if they living in a lone parent household. This can be seen in the proportion of all exits from poverty which are made by lone parent children (the third column in Table 8), which, except in Hungary and in Spain (on the basis of expenditure), is lower than the share of all poor children who are in lone parent households (given in the second column).

The differences in exit rates between children in lone parent households and other children are shown directly in Table 9. In most cases the exit rates for lone parent children is well below that of other children. The table also shows the differences in entry rates to poverty. Again, one can see that the lone parent children have a much higher risk of becoming poor. Indeed, the difference in entry rates is even more notable than that for exit rates in some cases. Lone parent children have an entry rate that is six or eight times the rate for other children in Germany (depending on the definition of income that is taken) and, on the basis of current income, twice as high in Spain and five times higher in Britain. In the US, lone parent children have an exit rate that is less than half that of other children but their

entry rate is nearly six times as high. However, comparison of the different British results based on current net and annual gross incomes shows that the results can be sensitive to the income measure taken. In contrast to the results with current net income, the annual gross figures show lone parent children in Britain to suffer the same disadvantage on both entry and exit rates – they are twice as likely as other children to enter and half as likely to exit.

Discussion of lone parent poverty is often framed in terms of the policy required to move lone parents out of poverty. In other words, the focus is on increasing the exit rate. Our results in Table 9 show that addressing the problem is as much, or more, a case of preventing lone parent children from becoming poor in the first place – a case of taking action to reduce the entry rate.

TABLE 9 near here

6. Summary and Conclusions

This chapter has presented many new results on the movements made by children in and out of poverty in a range of industrialised countries. In doing so we have extended in several important respects what was known from the findings of the pioneering cross-national study of low income dynamics of families with children of Duncan et al (1993). We have looked at a different set of countries to Duncan and his colleagues (although with some overlap); we have paid considerable attention to problems of standardising for differences in the number of poor children across country; we have shown the sensitivity of results to different income measures; and we have focused firmly on the child as the unit of analysis rather than the household.

Our results underline that the longitudinal perspective of child poverty adds a great deal to one's view of childhood deprivation. Some of our key findings are as follows:

- Around 60 percent of children who were found in low income (the poorest fifth of all children) in most countries in one year were still there the next year.
- 9 percent of US children were in the poorest fifth in every year of a five year window and around 6-8 percent of children were in the same situation in Britain, Germany, and Hungary.
- Over a 10 year window at least 40 percent of German and US children were found in the poorest fifth at least once.
- 1 in 10 children in the Britain and the US are found in poverty (defined using a half median line) in 5 consecutive years.

- Between 15 and 20 percent of children in Germany and Hungary, and about 40 to 45 percent of children in Britain and the US were found in poverty (below half of median income) at least once over five years.
- There are notably higher rates of entry to poverty as well as rates of exit from poverty by children in lone parent households.

Unlike previous research looking at cross-national variation in point-in-time poverty, one feature of our results is the similarity that we find in some of the patterns of income and poverty mobility among children. Whereas previous research (see BJM, Chapter 3) showed clear differences across countries in the cross-sectional incidence of child poverty, in this chapter we have seen correspondence in some aspects (although certainly not all) of the dynamic picture of deprivation. In this respect our findings echo those in the earlier study of Duncan et al. We find, moreover, that longer-term indicators of poverty follow much the same pattern of variation across countries as do short-term indicators. Admittedly, this may be due to the fact that for several countries we have only been able to examine living standards over two consecutive years. Future research that exploits a larger number of longer panels may find more clear differences between countries.

Perhaps the most interesting example of cross-country similarity, however, does not suffer from a limitation on the length of the observation window. As was emphasised in the previous chapter, the US stands out as a country with both a high average standard of living and a high child poverty rate. In this chapter we have been able to see if the high US poverty rate among children is 'compensated for' by a greater degree of turnover – by a more equally shared experience of being poor. Exploiting the longer panels at our disposal, we have been able to compare the dynamics of poverty in the US over a period of five years with those in three other countries and over ten years with one other. We do not find any evidence that the less regulated US economy is associated with greater mobility by children across the income distribution or by more movements in and out of poverty. Indeed, in some respects mobility in the US appears to be less than in countries such as Britain and Germany.

The most obvious exception to any broad conclusion of uniformity in dynamic patterns of deprivation is that of Russia. The turmoil of economic transition has led to great volatility in both overall income mobility and movement in and out of poverty. Russian children in the mid 1990s were much more likely to move into or out of the group forming the poorest fifth than were children in the other countries that we have studied.

One of the main methodological themes of this chapter has been that of the close relationship between cross-sectional and dynamic aspects of poverty. The example of Russia can be used to show why a clear understanding of this is important for social monitoring and consequent policy intervention. Whilst excessive volatility of incomes is generally not desirable, it remains the case that, for a given level of cross-sectional poverty, more poverty mobility is to be preferred to less.

As the Russian economy (hopefully) stabilises it is likely that the high rates of flow in and out of poverty that we observe will begin to decline to the levels seen in the other

countries in our study. Under these circumstances, the conventional cross-sectional poverty rate will be a misleading indicator of trends in social welfare. If the poverty rate remains constant whilst mobility drops, this must mean that the proportion of all children experiencing long durations of poverty has continued to *increase*. In other words, changes in dynamic patterns can have just as an important an impact upon the distribution of longer-term consumption levels as changes in the point-in-time distribution of income. And if both the static and dynamic patterns of poverty are changing over time, we might derive a quite misleading picture of trends in living standards if we focus on one but not the other. Both for Russia and in other countries where changes are not so dramatic, information on the dynamics of low household income are essential to obtaining an adequate picture of economic disadvantage among children.

7. References

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Table 1 The Surveys

Country	Survey	Most recent income period	“Income” variables	Number of households with children in 2 waves:	Number of children as percentage of all people in two waves
Britain	British Household Panel Survey	1996 (Year to end August)	Annual gross income (pounds per annum, 1996 prices)	1529	21.8
		1996 (Autumn)	Current gross income (pounds per month, 1996 prices)	1529	21.8
		1996 (Autumn)	Current net income (in pounds per week, Jan 1996 prices) ^a	1264	22.1
Germany	German Socio-Economic Panel Survey (Equivalent File)	1995 (Calendar year)	Annual net income	2072 (1232 ^g)	19.9 (18.7 ^g)
		1996 (Spring-Summer)	Current net income ^b	1971 (1163 ^g)	20.7 (18.7 ^g)
Hungary	Hungarian Household Panel Survey	1995-96 (Year to end March)	Annual net income ^c	488	21.9
		1996 (March)	Monthly net income	488	21.9
Ireland	European Community Household Panel Survey (Living in Ireland Survey)	1994 (calendar year)	Annual net household income	1605	32.2
Russia	Russian Longitudinal Monitoring Survey	1995	Monthly net income post transfer post tax in Moscow December 1995 prices	1316	24.6
		1995	Monthly expenditures in Moscow December 1995 prices	1316	24.6
Spain	Encuesta Continua de Presupuestos Familiares	1985 to 1992 ^e	Estimate of current net income	5812	25.8
		1985 to 1992	Current expenditures	5812	25.8
USA	Panel Study of Income Dynamics	1992 (calendar year)	Gross total family income plus the dollar value of food stamps received ^f	1618	24.1

- Notes
- a Only available for ‘complete respondent’ households
 - b Head’s estimate for whole household.
 - c In country chapter, households with zero incomes excluded.
 - d In country chapter, households with zero expenditures on food or negative incomes excluded.
 - e data pooled over the 1985-1992 period.
 - f: Negative and zero incomes recoded to \$1.
 - g Numbers in parentheses are for West Germany only.
- All surveys are household panels with annual interviews, except for Spain’s, which is a quarterly rotating panel.

Table 2 Inequality and Poverty

	Child median ÷ population median	Overall Gini	Child Gini	Child poverty rate (half median poverty line)	Increase in child poverty waves <i>t-1</i> to <i>t</i> (percentage points)
<i>Current Net Income</i>					
Britain	0.89	0.32	0.30	16.8	0.5
Germany	0.95	0.24	0.22	7.7	-0.6
West Germany	0.94	0.25	0.22	6.8	-0.8
Hungary	0.97	0.31	0.29	9.7	3.5
Russia	0.94	0.43	0.45	24.1	5.2
Spain	0.92	0.30	0.30	11.9	-1.9
<i>Current Gross Income</i>					
Britain	0.90	0.36	0.35	23.6	0.7
<i>Current Expenditure</i>					
Russia	0.86	0.42	0.45	22.5	4.6
Spain	0.98	0.33	0.32	11.5	0.9
<i>Annual Net Income</i>					
Germany	0.93	0.27	0.24	9.3	0.6
West Germany	0.94	0.27	0.23	6.9	-0.6
Hungary	0.97	0.30	0.30	8.9	3.3
Ireland	0.82	0.36	0.34	15.6	0.7
<i>Annual Gross Income</i>					
Britain	0.87	0.36	0.36	24.5	0.1
USA	0.89	0.41	0.40	24.7	-0.4

Notes: All incomes are adjusted by the square-root equivalence scale. Child median, Gini and poverty rates are for children in 2 waves; overall median and Gini are for all people. Unless stated, all measures are for the most recent wave.

Table 3 Income mobility

	Percent of children changing decile group of the child income distribution		
	1 year apart (between waves <i>t-1</i> and <i>t</i>)	4 years apart (between waves <i>t-4</i> and <i>t</i>)	9 years apart (between waves <i>t-9</i> and <i>t</i>)
<i>Current Net Income</i>			
Russia	83.3		
Spain	65.9		
Hungary	65.2	79.0	
Britain	62.8	76.1	
Germany	60.8	73.5	
West Germany	59.4	73.7	76.9
<i>Current Gross Income</i>			
Britain	60.2	73.4	
<i>Current Expenditure</i>			
Russia	81.1		
Spain	76.4		
<i>Annual Net Income</i>			
Hungary	69.2	77.4	
Ireland	59.6		
Germany	59.5	69.3	
West Germany	57.1	69.6	72.1
<i>Annual Gross Income</i>			
Britain	58.9	69.7	
USA	57.3	67.5	77.8

Note: Countries are sorted by 2-year mobility.

Figure 1 **Inequality and Mobility**

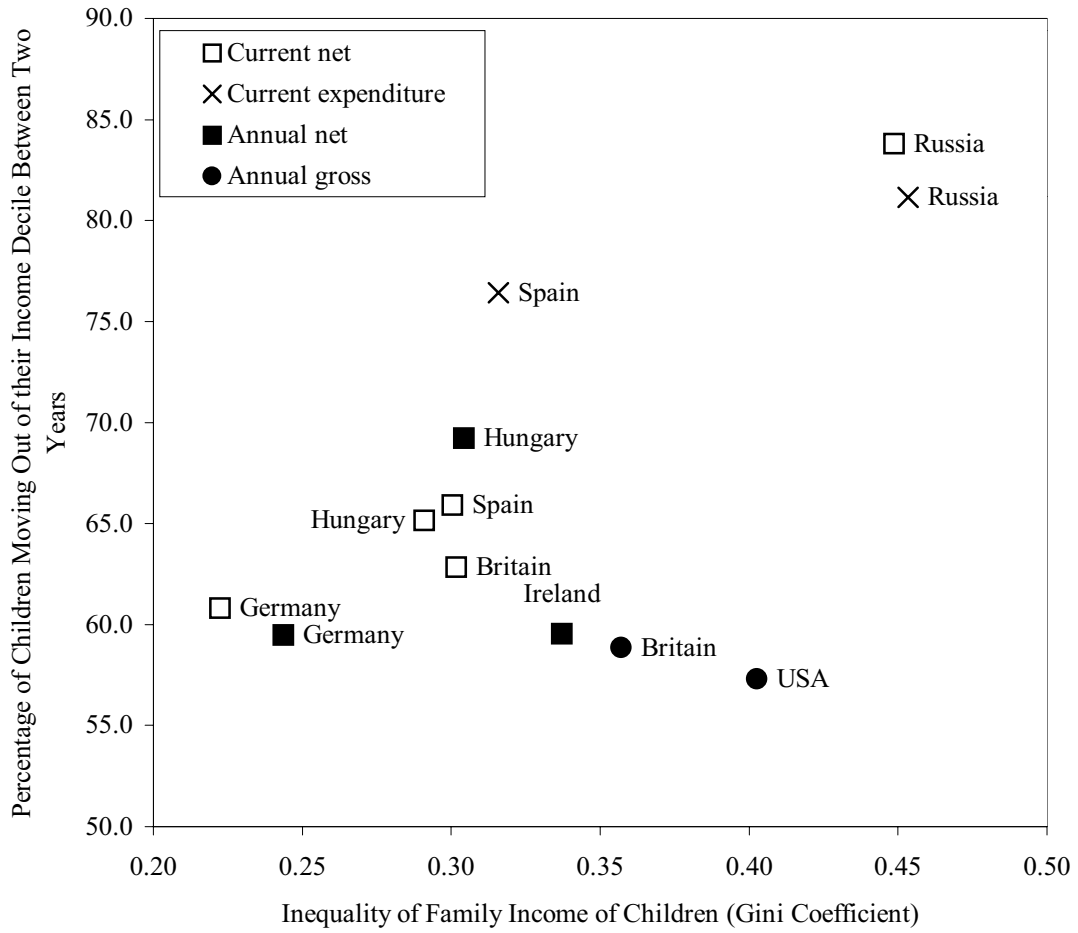


Table 4 Low Income Persistence

	Percentage always in the bottom fifth				Percentage ever in the bottom fifth			
	In 1 wave ^a	2 out of 2 waves	5 out of 5 waves	10 out of 10 waves	In 1 wave	In 2 waves	In 5 waves	In 10 waves
<i>Current Net Income</i>								
Britain	19.7	14.1	4.6		19.7	27.2	41.1	
Germany	20.1	13.4	7.0		20.1	26.5	36.4	
West Germany	20.0	14.1	8.4	3.6	20.0	25.0	34.9	44.8
Hungary	19.8	13.1	5.6		19.8	26.5	42.3	
Russia	20.0	8.5			20.0	31.3		
Spain	20.0	13.3			20.0	26.8		
<i>Current Expenditure</i>								
Russia	20.0	8.7			20.0	30.8		
Spain	20.0	11.4			20.0	28.6		
<i>Annual Net Income</i>								
Germany	19.9	12.9	6.9		19.9	27.0	38.3	
West Germany	20.0	13.5	6.4	4.8	20.0	26.4	37.5	43.7
Hungary	20.0	12.5	6.8		20.0	27.4	42.7	
Ireland	19.5	12.7			19.5	25.3		
<i>Annual Gross Income</i>								
Britain	19.8	13.9	6.4		19.8	27.1	39.0	
USA	20.0	14.2	9.3	6.2	20.0	25.6	32.9	41.3

Note (a) Percentages differ from 20% because of application of longitudinal weights to the cross-section.

Figure 2 Low Income Persistence

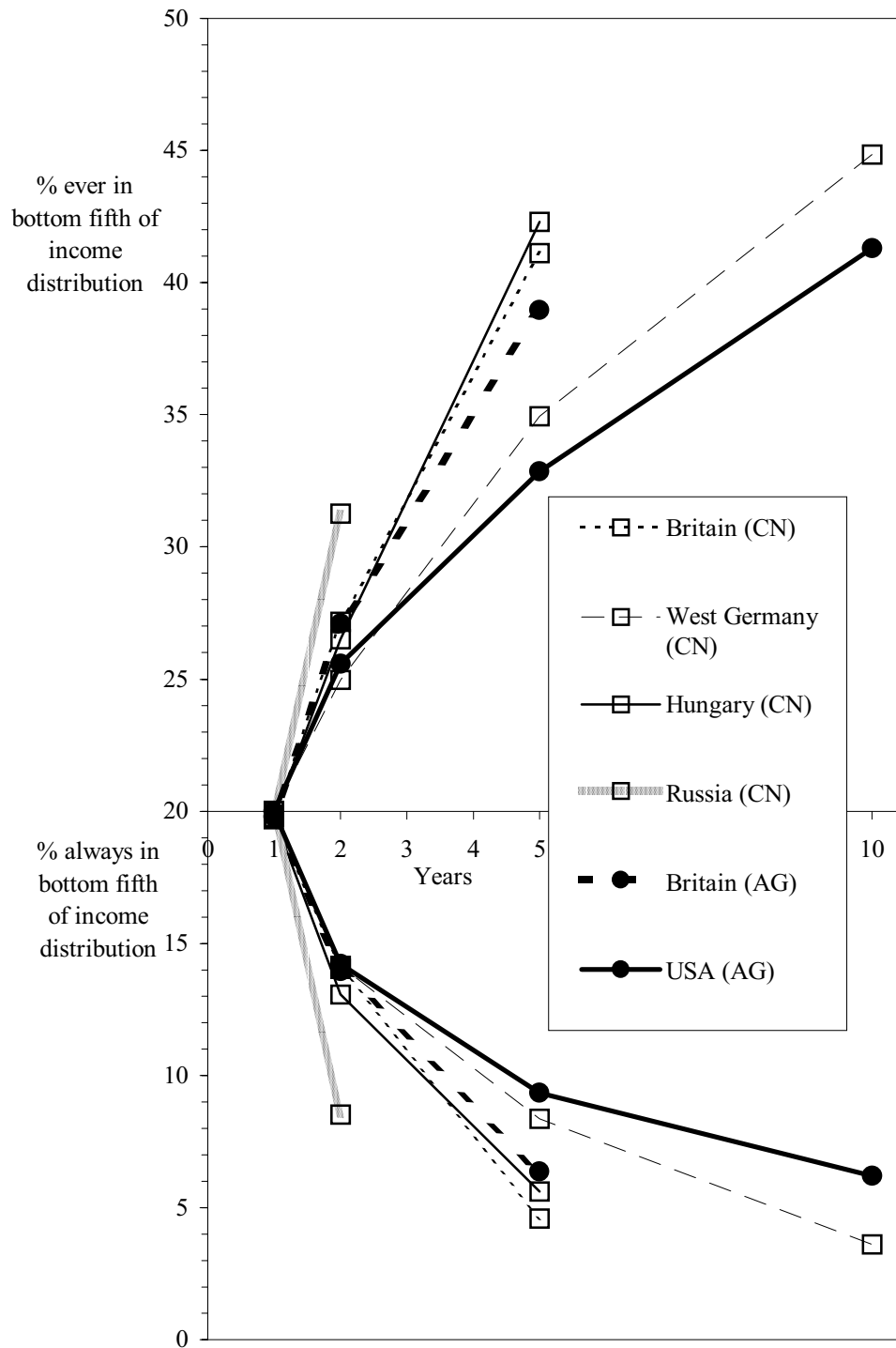


Table 5 Middle class entry to low income: falling down the ladder

	Percentage of children in the middle fifth falling to the bottom fifth	
	In one year (between years t-1 and t)	In four years (between years t-4 and t)
	<i>Current Net Income</i>	
Britain	4.7	13.3
Germany	4.7	9.5
West Germany	8.2	6.9
Hungary	4.9	9.4
Russia	12.8	
Spain	6.3	
	<i>Current Expenditure</i>	
Russia	17.1	
Spain	8.4	
	<i>Annual Net Income</i>	
Germany	5.6	15.3
West Germany	6.1	9.5
Hungary	5.6	14.5
Ireland	10.0	
	<i>Annual Gross Income</i>	
Britain	5.6	16.5
USA	4.4	9.2

Figure 3a Poverty Exits

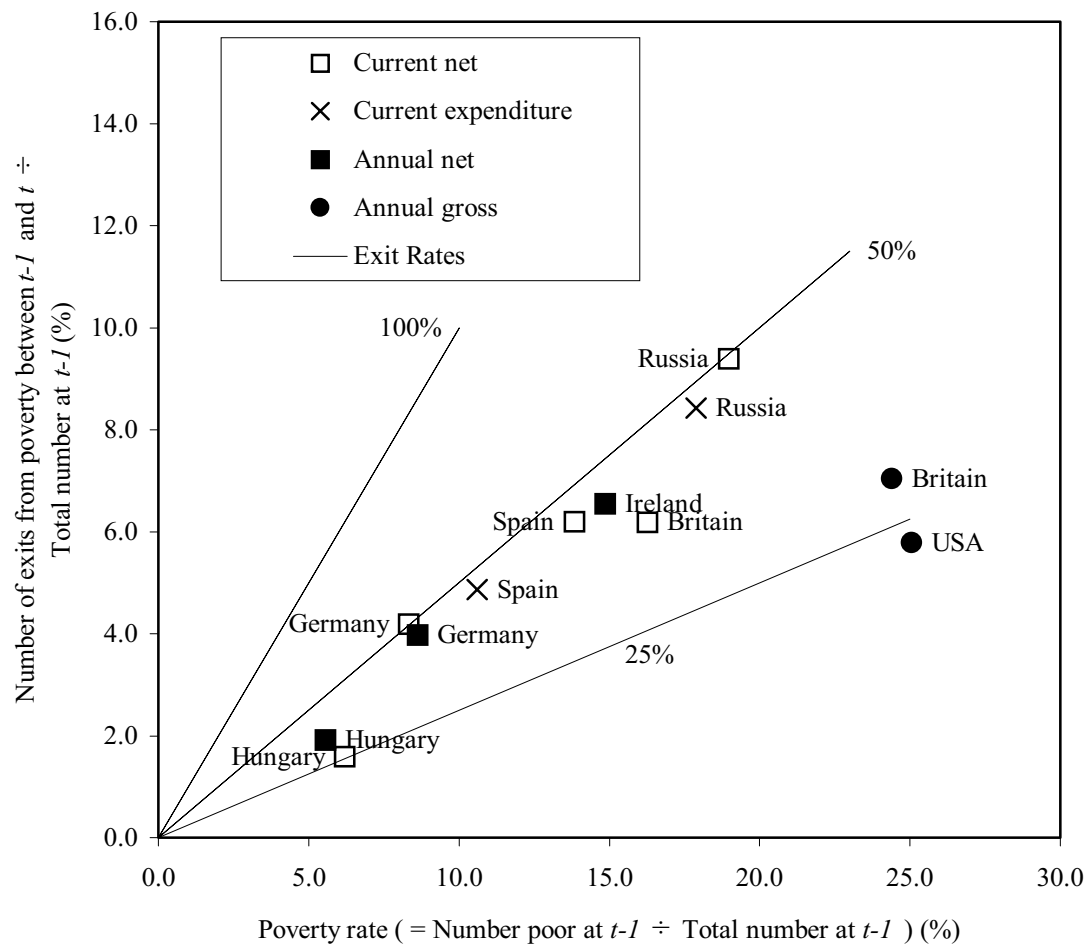


Figure 3b Poverty Entries

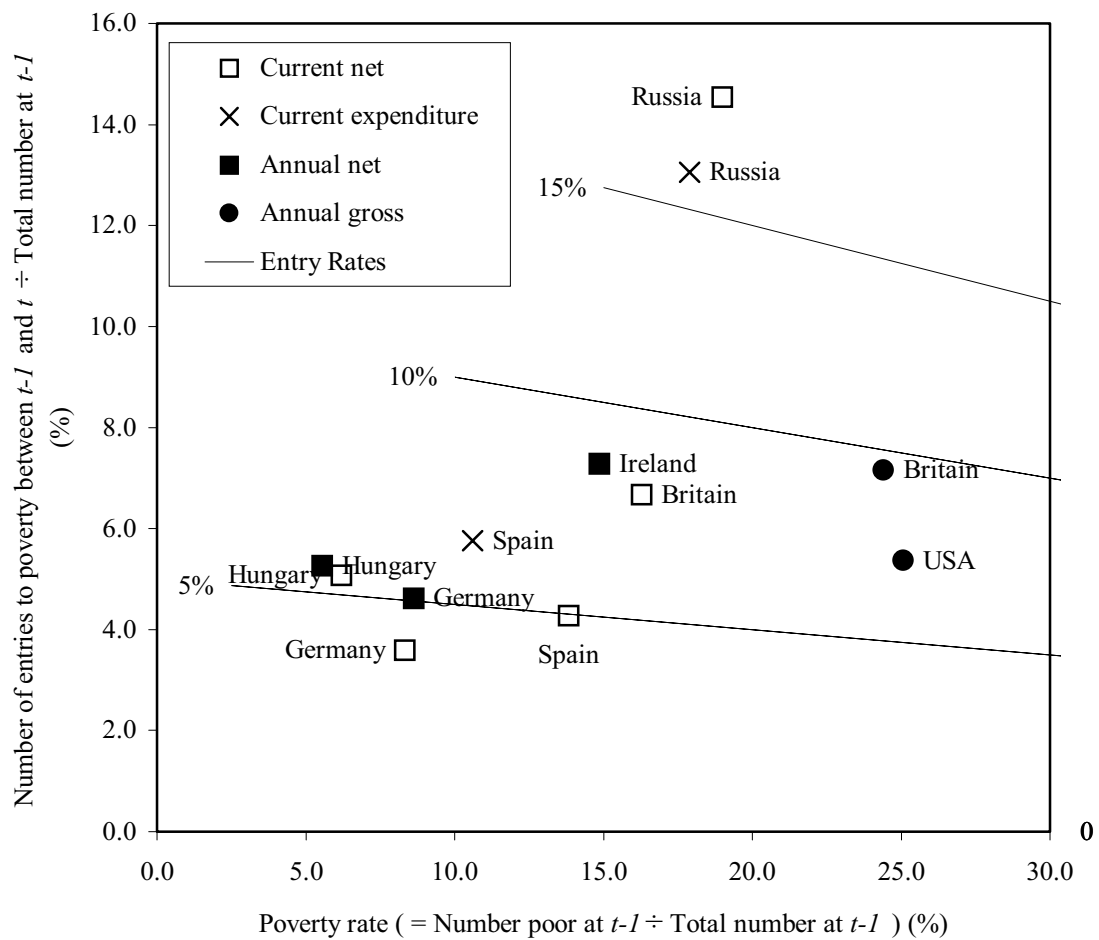


Table 6 Poverty persistence

	Children with household income <i>always</i> below half median (%)				Children with household income <i>ever</i> below half median (%)			
	In 1 wave	2 out of 2 waves	5 out of 5 waves	10 out of 10 waves	In 1 wave	In 2 waves	In 5 waves	In 10 waves
<i>Current Net Income</i>								
Britain	16.8	10.1	3.3		16.8	22.9	39.3	
Germany	7.7	4.1	1.5		7.7	11.9	15.6	
West Germany	6.8	4.3	1.7	2.2	6.8	10.0	14.5	21.3
Hungary	9.7	4.6	2.1		9.7	11.2	19.5	
Russia	24.1	9.6			24.1	33.5		
Spain	11.9	7.6			11.9	18.1		
<i>Current Expenditure</i>								
Russia	22.5	9.5			22.5	31.0		
Spain	11.5	5.7			11.5	16.4		
<i>Annual Net Income</i>								
Germany	9.3	4.7	0.7		9.3	13.2	17.9	
West Germany	6.9	4.1	2.0	0.4	6.9	10.4	16.3	21.5
Hungary	8.9	3.6	2.2		8.9	10.8	17.5	
Ireland	15.6	8.3			15.6	21.3		
<i>Annual Gross Income</i>								
Britain	24.5	17.4	9.3		24.5	31.5	43.0	
USA	24.7	19.3	13.0	6.8	24.7	30.4	37.6	44.7

Table 7 Entry from and Exit to Near Poverty and Moves around the Line

	Children entering poverty			Children exiting poverty		
	Entry rate	Share of entries coming from near poverty: (%)	Share of entries coming from near poverty and going to 'just below' the line (%)	Exit rate	Share of exits going to near poverty	Share of exits going to near poverty and coming from 'just below' the line (%)
	<i>Current Net Income</i>					
Russia	(17.9)	10.4	3.5	(49.5)	19.9	6.7
Britain	(8.0)	57.2	40.3	(38.0)	43.9	20.7
Spain	(5.0)	38.1	22.4	(44.8)	36.9	17.1
Hungary	(5.3)	56.6	48.4	(25.1)	33.8	23.0
Germany	(3.9)	53.7	36.2	(51.8)	37.3	30.7
West Germany	(2.7)	39.1	26.1	(43.2)	29.5	27.2
	<i>Current Expenditure</i>					
Russia	(15.9)	17.5	6.6	(47.1)	21.8	11.3
Spain	(6.4)	29.7	19.6	(45.9)	30.8	19.2
	<i>Annual Net Income</i>					
Ireland	(7.6)	33.2	25.9	(42.9)	47.3	44.8
Germany	(5.1)	41.7	13.1	(46.0)	29.5	12.6
Hungary	(5.6)	44.1	35.9	(34.6)	47.3	21.9
West Germany	(3.1)	21.3	7.5	(46.2)	37.0	8.9
	<i>Annual Gross Income</i>					
USA	(7.2)	38.9	16.9	(23.1)	28.9	18.9
Britain	(9.4)	29.1	15.6	(28.8)	33.2	14.8

'Near poverty' is defined as income in the range 50-60 percent of the median; 'just below the line' is defined as income in the range 40-50 percent of the median. Countries are sorted within each income definition by descending order of the child poverty rate.

Table 8 Poverty and Exits from Poverty for Children in Lone Parent Households

	Children in Lone Parent Households as a Share of:			Poverty Rates		Exits / Population	
	All children (%)	Poor children (%)	All poverty exits (%)	Lone parent children (%)	All children (%)	Lone parent children (%)	All children (%)
<i>Current Net Income</i>							
Britain	15.0	41.2	33.5	44.7	16.3	13.8	6.2
Russia	6.4	11.7	7.8	35.0	19.0	11.5	9.4
Germany	7.7	31.2	19.5	33.6	8.3	10.6	4.2
Spain	2.2	5.6	5.0	35.7	13.8	14.2	6.2
Hungary	7.0	6.5	17.1	5.8	6.2	3.9	1.6
<i>Current Expenditure</i>							
Russia	6.4	10.7	9.3	30.0	17.9	12.3	8.4
Spain	2.2	4.9	6.2	23.8	10.6	13.7	4.9
<i>Annual Net Income</i>							
Ireland	2.9	12.6	3.1	65.2	14.9	7.0	6.5
Germany	7.7	31.5	19.7	35.1	8.6	10.1	4.0
Hungary	7.0	11.6	16.2	9.3	5.6	4.5	1.9
<i>Annual Gross Income</i>							
Britain	12.7	37.6	23.8	72.2	24.4	13.2	7.0
USA	22.3	56.9	35.9	63.9	25.1	9.3	5.8

Table 9 Exit and Entry Rates: Children in Lone Parent Households and Other Children

	Exit Rate			Entry Rate		
	Lone parent children (%)	Other children (%)	ratio	Lone parent children (%)	Other children (%)	ratio
<i>Current Net Income</i>						
Britain	30.9	42.9	0.7	24.2	4.5	5.4
Russia	32.8	51.7	0.6	22.7	17.5	1.3
Germany	31.5	58.7	0.5	16.0	2.8	5.7
Spain	39.7	45.1	0.9	10.8	4.8	2.2
Hungary	67.3	22.7	3.0	4.0	5.5	0.7
<i>Current Expenditure</i>						
Russia	41.0	47.9	0.9	23.3	15.3	1.5
Spain	57.8	45.2	1.3	10.1	6.4	1.6
<i>Annual Net Income</i>						
Ireland	10.7	48.8	0.2	16.9	8.3	2.0
Germany	28.8	54.0	0.5	26.1	3.1	8.4
Hungary	48.2	32.8	1.5	11.4	5.1	2.2
<i>Annual Gross Income</i>						
Britain	18.3	35.2	0.5	15.6	8.2	1.9
USA	14.5	34.3	0.4	17.2	3.0	5.8