

## A PORTRAIT OF CHILD POVERTY IN GERMANY

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This paper offers a descriptive portrait of income poverty among children in Germany between the early 1980s and 2004, with a focus on developments since unification in 1991. Data from the German Socio-Economic Panel are used to estimate poverty rates, rates of entry to and exit from poverty, and the duration of time spent in and out of poverty. The analysis focuses upon comparisons between East and West Germany, by family structure, and citizenship status. Child poverty rates have drifted upward since 1991, and have been increasing more than the rates for the overall population since the mid-1990s. In part these changes are due to increasing poverty among children from households headed by non-citizens but also by children living in two-adult households. Children in single-parent households are by all measures at considerable risk of living in poverty. There are also differences in child poverty between East and West Germany.

### 1. INTRODUCTION

Despite half a century of considerable economic growth and large increases in *per capita* income, child poverty is still prevalent in the world's most advanced countries. According to Corak (2006), the proportion of children living in households with less than one-half of median income in the OECD countries ranges from less than 3 to more than 25 percent, and in the majority of countries is above one-in-ten. At the same time many observers fear that growing up in poverty undermines the well-being and opportunities of children, possibly leading to learning difficulties, lower levels of schooling, higher probabilities of delinquent behavior and unemployment, and ultimately to a self-enforcing spiral of poverty across generations.

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In Germany more than a million children depend on social transfer benefit payments (BMA, 2001), yet little is known about child poverty and its dynamics. While there is a growing literature dealing with poverty among the German population at large, as evidenced in the overview by Hauser and Becker (2003), only a few studies specifically address children. Burkhauser *et al.* (1990), Schluter (2001), Jenkins *et al.* (2003), and Jenkins and Schluter (2003) are notable exceptions. The major findings from this research suggest that child poverty was on a downward trend in West Germany during the 1980s, but then started to rise in the early 1990s. The findings also suggest that East German children, those in single-parent households, and children of so-called guest workers (*Gastarbeiter*) face higher poverty rates. Those in households receiving means-tested assistance do relatively well in avoiding the risk of poverty. Very few children spend long periods of time in low income, though this is less so for children in the higher risk groups, and the major events associated with starting a spell of poverty are related to family and labor market changes. Marital separation or the job loss of the household head are the most likely events leading to a spell of low income. Escaping poverty is more complicated. It is certainly associated with the formation of dual parent households and job finding, but not exclusively as many poor children live with two working parents.

The objective of this paper is to supplement and update existing research by offering a portrait of child poverty in Germany and its dynamics during the 1980s through to 2004, with a focus on the last dozen years. The 1990s are a particularly important period to review because the onset of the decade was marked by political unification and major economic changes, and also by a commitment to give priority to the rights and the welfare of children as reflected in the government's support of the Convention on the Rights of the Child. To this end, we use the German Socio-Economic Panel to estimate poverty rates, entry and exit rates, as well as the duration of poverty spells and time spent out of poverty. The analysis focuses upon comparisons between East and West Germany, comparisons by family structure, and comparisons by citizenship status. In addition, we compare results for Germany with changes in child poverty in Britain, Canada and the United States.

We find that, according to one of the measures put forward, slightly more than one-in-eight children in Germany live in poverty. In 2004 the rate of child poverty was 13.3 percent, implying that 1.7 million children lived in low income. Child poverty rates are slightly higher in the East, with 16.2 percent of children in low income, compared with 12.8 percent in West Germany. This said our analysis also suggests that these levels are sensitive to the particular definition of the poverty line employed. But regardless of which of several alternatives are used, the situation has deteriorated. Child poverty has drifted upward in Germany since the late 1980s and early 1990s. Furthermore, children now face a significantly higher risk of low income than the average member of the population, a reversal of their relative standing at the onset of the 1990s. Changes in child poverty rates in Germany are very different when compared with Britain, Canada and the United States.

Further, by all accounts German children in single-parent households face the most challenging circumstances. Their poverty rates are much higher than other

groups, reflecting higher probabilities of starting a poverty spell, lower probabilities of leaving, and greater risk of falling back in should they be lucky enough to leave. Indeed, a large fraction of all children who have escaped low income hover just above the poverty line, with 50 percent destined to fall back in within three years.

Finally, our results suggest that government budgets play an important role in reducing market generated rates of child low income, and clearly embody a preference for children. However, it is unlikely that changes during the 1990s strengthened this role, and there remains considerable need to understand the impact of the system on the particular groups in most need.

## 2. EMPIRICAL FRAMEWORK

Our analysis is based on the German Socio-Economic Panel (GSOEP), a representative longitudinal survey of private households in Germany. This survey collects information on all members of sampled households including those living in the old and new German states, foreigners who have entered the country in the 1960s and early 1970s, and recent immigrants. The information collected includes household socio-economic composition, occupational biographies, employment, income and earnings, as well as health and life satisfaction indicators. In the analysis we use information from all the GSOEP samples (except the “High Income Sample”), account for clustering of observations at the household level, and use sample weights.

The income data in our analysis refers to the period from 1983 to 2004 for West Germans and non-citizens, and from 1991 to 2004 for East Germans. Household income is measured in year 2000 Euros and defined to include: (1) labor income, including income from self-employment; (2) asset income; (3) income from private and public transfers; and (4) pension income. From these we subtract tax payments and social security contributions. In essence this refers to the total money income available to the household after taxes and social transfers. While income is measured at the household level, our primary unit of analysis is the individual. We assume that net household income is distributed equally among all household members irrespective of their age—including the children who are defined to be those individuals younger than 18 years of age—after accounting for economies of scale using the square root of the number of household members as the equivalence scale.<sup>1</sup>

An important methodological issue concerns the definition of a poverty line. First, it should be made explicit that we focus on what might more strictly be called “low income,” putting the emphasis on monetary aspects of poverty. It may well be that other non-monetary characteristics of the household are relevant to the definition of poverty as stressed by, among others, Sen (1999). This choice emphasizes that the objective of our research is to offer the broadest possible picture in a way that relates most directly to the income transfer policies of governments, and in a way that might facilitate comparisons across groups within the country and internationally. Incorporating non-monetary measures is certainly important, but

<sup>1</sup>Corak (2006) provides a discussion on the appropriateness of this and the following assumptions.

it would relate the policy focus to a whole host of options beyond simply income transfers. In any case, since the appropriate measures may be very different in different regions this would complicate the ability to make comparisons across time and space. We use the terms “poverty” and “low income” interchangeably in the remainder of the text.

Second, following standard practice for high-income countries we focus on what is often termed “relative” poverty by defining the threshold between the poor and non-poor to be a given fraction of the “typical” individual income level, which for the most part we take to be 50 percent of the prevailing median equivalent income. We also calculate and examine poverty rates based upon a fixed median equivalent income which, by not changing through time, comes closer to an “absolute” poverty line. In fact, since median incomes have been fairly constant in Germany over this period, fixing the comparison on the typical income prevailing in the early 1990s leads to results quite similar to those based upon a median income that changes from year to year.

Figure A1 in Appendix 1 makes clear that the poverty line based on 50 percent of the prevailing median equivalent income does not change much during the period under analysis, reflecting the fact that Germany has not experienced notable growth in median equivalent incomes. In 1991 the poverty line based upon the median income for the entire country was 8271 Euros, while in 2004 it was 8599 Euros. The use of a moving threshold, reflecting a relative notion of poverty, or a fixed threshold, reflecting an absolute notion of poverty, is likely not to make much difference to the current analysis. This said, it is not self-evident just what fraction of prevailing income is the appropriate cut-off, and we examine the robustness of choosing 50 percent by examining a host of alternative proportions.

However, it is also clear from the information in Figure A1 that the level of median incomes does differ considerably across geographic regions. Since median (net) equivalent income in East Germany is somewhat lower than in the West, the poverty line in the eastern part of Germany is below that of West Germany. The overall poverty line for the entire country lies between the region-specific poverty lines since it is calculated as a weighted average.

This raises a more subtle and equally important definitional concern: just which median income is considered to mark the prevailing norms in society? This is a concern in all international studies, but is raised more starkly by the fact that East Germany was the first society to experience the transition from a command to a market economy, and that this transition was also marked by political unification. Should the income level considered typical be measured as the median income of the country as a whole? Or should it be the median income of the East and West separately, each region having its specific poverty line? These questions are important not only for the conduct of our analysis but more generally for the analysis of poverty in regions like that of the European Union, where the very notion and breadth of markets and communities continue to change.

The nature of the data dictate that our analysis for the pre-1991 period is based solely on West Germany, using the median income there as the basis for calculating the poverty line. But afterwards more choices are available, with the appropriate calculation reflecting the nature of comparisons that the typical German would make in assessing his or her standard of living. It can quite

reasonably be argued that West Germans might well continue to use West German income levels as their reference standard in spite of the enlargement of the country. A country-wide median income that incorporates lower East German incomes will be lower than a strictly West German median income, and hence also imply lower poverty rates in the West. But West Germans may not consider themselves to be relatively better off because the median income in East Germany is lower than in the West. It can also be quite reasonably argued that East Germans, both before and after unification, gauged their relative well-being by a comparison to the Western standards, rather than just relative to those prevailing in the East. This is a specific and starker illustration of a concern that will have increasing salience in the enlarged EU. We are sensitive to this issue and begin our analysis by offering alternative poverty rates based upon different poverty lines.

### 3. A FIRST LOOK AT CHILD POVERTY RATES

The evolution of child poverty, as measured by the proportion of children with individual equivalized net income below 50 percent of median income, is shown in Figure 1 for various measures of median income. The first point to note follows from considering just the information on West Germany. This is the longest consistent data series available to us, and suggests that child poverty was indeed on the decline during the 1980s, reaching a low of 4.8 percent in 1989, but

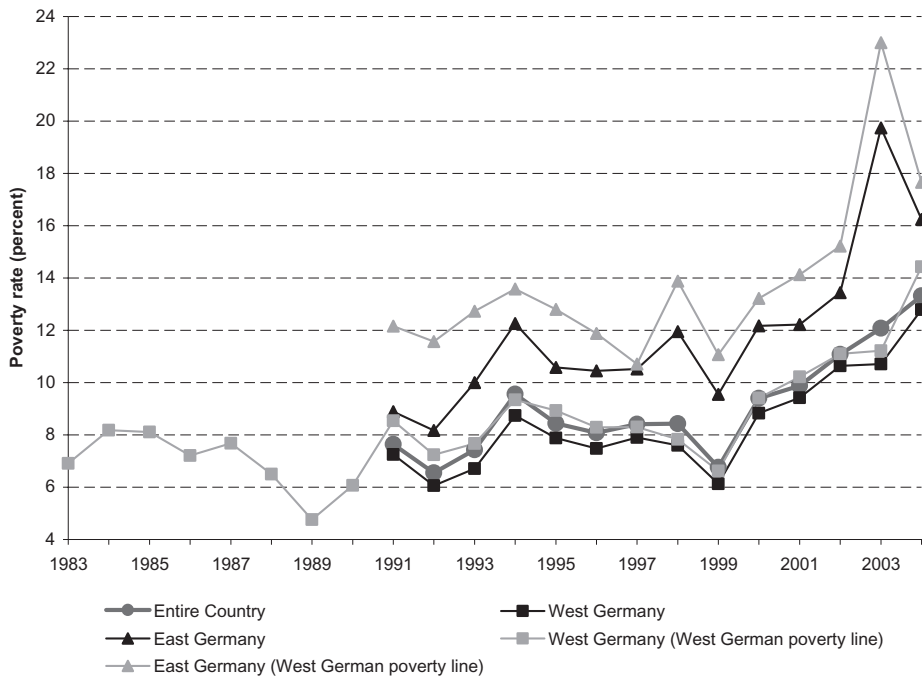


Figure 1. Child Poverty Rates by Region and for Different Poverty Lines

that the upward drift since that time noted by Schluter (2001) has not been reversed during the later half of the 1990s. Indeed, the fraction of children in poverty based on a West German poverty line in 2004 stood at 14.4 percent, an all time high. This pattern continues to hold when the country as a whole is examined. Child poverty rates were below 8 percent in the early 1990s, but clearly above 10 percent since 2002. In 2004, 13.3 percent of German children, or 1.7 million, lived in poverty according to the poverty line for the entire country.

In addition, the information in this figure illustrates that these rates differ somewhat between the two regions of the country, being more than three percentage points higher in East Germany in 2004 (16.2 percent versus 12.8 percent). Formal statistical tests provided in Table A1 of Appendix 1, however, show that these differences are insignificant in most of the years. Figure 1 also illustrates that the poverty rates are sensitive to which median income is used to peg the comparison. When the country-wide median income is used, child poverty rates are slightly lower in West Germany than the overall country rate or what they would be if West German median incomes were used. Similarly they are notably higher in East Germany, and are higher still if the West German median income is used as a yardstick for relative standards of living. These patterns reflect the differences in median incomes in the two parts of the country noted in Figure A1.

In spite of these differences in levels it is in all cases appropriate to conclude that child poverty in Germany is, at the very least, not lower in the early years of the new millennium than it was a decade earlier at the time the Convention on the Rights of the Child came into force. Indeed, statistical tests show that child poverty is significantly higher during the period 2000 to 2004 than before.<sup>2</sup> However, not only has the child poverty rate increased in Germany during the last decade or so, it is also increased more than the rate for the overall population. As mentioned, in 2004 the risk that a German child was living in low income is over one-in-eight. For the population of adults not living in households with children it is lower at 9.1 percent (the difference, as illustrated in Table A1, being statistically significant at the 1 percent level of confidence). Figure 2 illustrates that this is a notable change from early in the decade. Between 1991 and 1993 the child poverty and the overall poverty rate were very similar, and not significantly different from the rate for adults living in childless households. Since 1994 and especially since the year 2000 the opposite has been the case, with children facing the highest risk of poverty. Given that the overall poverty rate includes children, and given that by construction all adults in households with poor children will themselves also be considered to be poor, the more appropriate comparison group might be those adults in households without children. However, the patterns in Figure 2 suggest this distinction does not make much difference as after 1993 this series closely follows the overall poverty rate. In sum, children in Germany face a high and increasing risk of low income, and they will increasingly be likely to face a risk higher than other members of society if existing trends continue.

Child poverty rates also differ significantly by citizenship status. In fact, Figure 3 makes clear that the upward drift in child poverty rates during the 1990s

<sup>2</sup>Child poverty rates are on average higher by 3 percentage points during the period 2000 to 2004 than during 1991 to 1999. This difference is statistically significant at the 1% level (t-value 3.9).

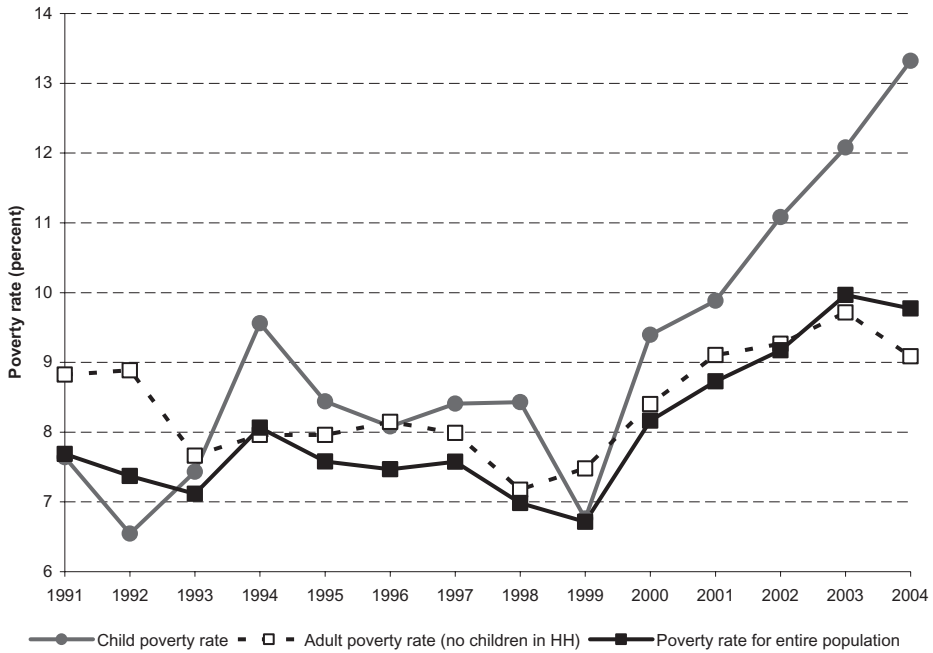


Figure 2. Child Poverty Rates Relative to the Overall Population and Adult Households Without Children

is due to the situation of children in households whose head is not a citizen. The information depicted in this figure is exclusively for West Germany using the poverty line based upon 50 percent of the country-wide median income. During the 1990s there is no obvious trend in the poverty rate of West German children living in households headed by citizens: the rate stood at 7.6 percent in 1991, and ended up at 6.7 percent in 2000. But for children living in households headed by non-citizens the probability of poverty almost tripled, from about 5.7 percent at the beginning of the period to 15.4 percent at the end. An important change then occurs. While poverty remains almost constant after the year 2000 for children in foreign households, it starts rising for those in households headed by German citizens, up to a level of 12.4 percent.

The extended coverage of the GSOEP in the mid-1990s to include a sample of more recent immigrants offers information to suggest that they play an important role in the patterns for foreign children. Children of the older, guest worker generation of immigrants have, at about 10 percent, higher poverty rates than citizens, but at the same time generally have lower poverty rates than all non-citizens. This is depicted by the series beginning in 1995 in Figure 3. Children of more recent immigrants experience the highest poverty rates, almost one-in-six during 1995, and close to 20 percent in most years since 2000.

The sharpest contrasts, however, are found for children living in single-parent households (Figure 4). Four of ten children in single-parent households live in poverty compared to only five-in-one hundred from two-parent households. The

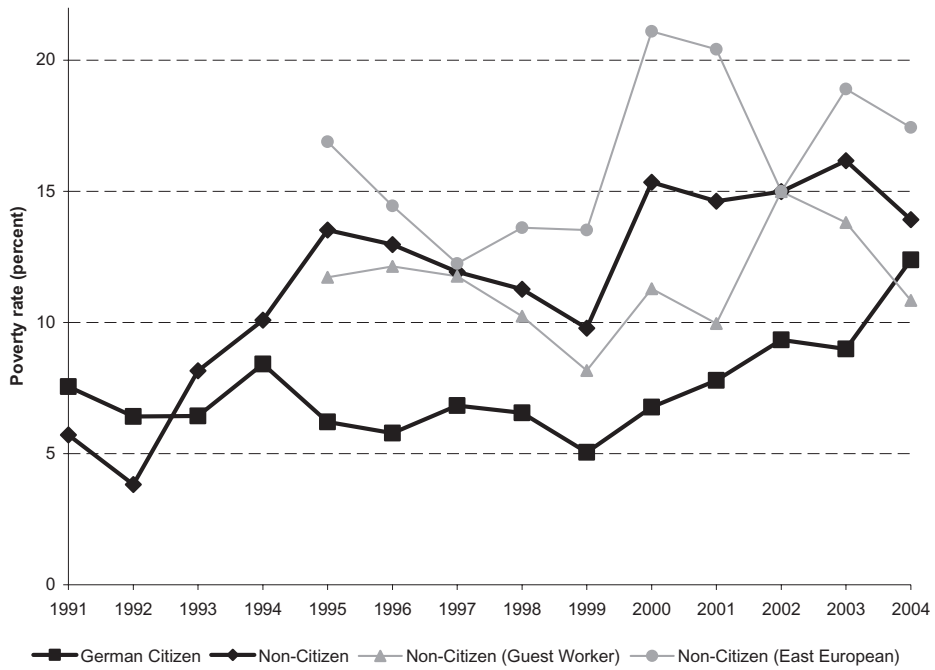


Figure 3. Child Poverty Rates in West Germany by Citizenship Status

Note: The poverty line is defined as 50% of the median country-wide individual equivalized income.

poverty rates of these children, however, did not increase during the 1990s and display no clear trend after 2000. That is, the increase in poverty rates of children in households headed by German citizens is mainly driven by a deterioration of the situation of children living with two adults.

The analysis of child poverty by household type allows us to address a current policy debate in Germany in which children are often perceived as a poverty risk for families. This is not to say that children are “blamed” for poverty. Rather, many observers of the phenomenon fear that the economic situation of many households is so precarious that the birth of a child increases the chances a family will face poverty.<sup>3</sup> As a consequence they call for higher benefits for families with children.

In order to address this issue in at least a descriptive way, we switch the unit of observation from children to households (or rather household heads) and try to answer the question whether a household head (single or cohabiting with a partner) without children would be more likely to be poor if there were children living in the household. Figure 4 presents poverty rates of household heads by family type. The corresponding t-tests are presented in Table A1. As before, the respective poverty line is based on individual equivalized income. The family

<sup>3</sup>For instance the former German president, Johannes Rau, addressed this issue in his annual Christmas speech in 2002. In an opinion poll among young adults on reasons for not (yet) having children, 47 percent reported the fear of financial burden as a major factor (IfD, 2004).



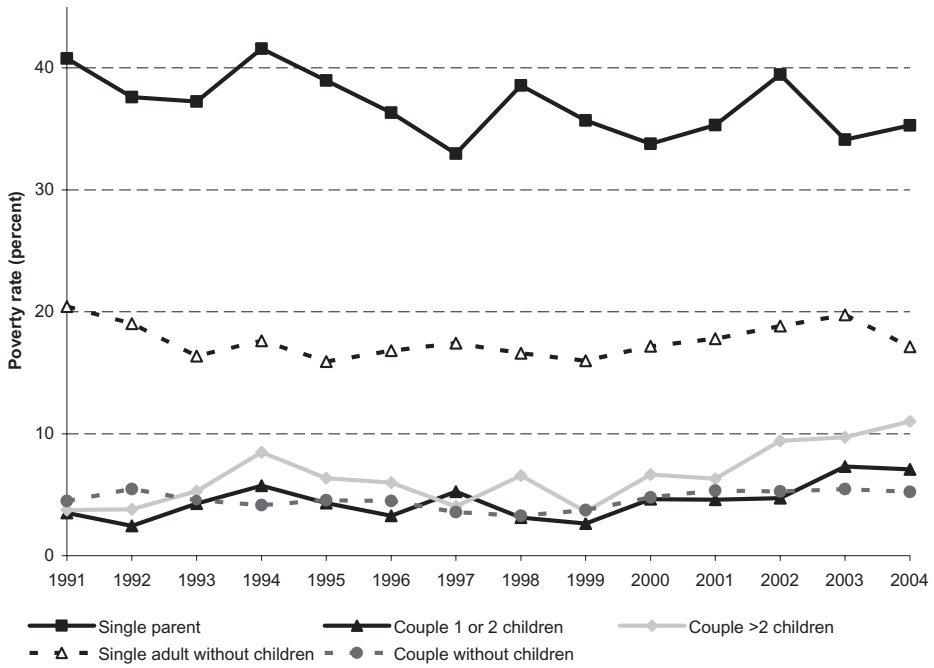


Figure 4. Poverty Rates by Family Type (entire country)

Notes: Poverty rates are defined as the proportion of household heads living in poverty. The poverty line is defined as 50% of the median country-wide individual equivalized income.

type is determined by the characteristics of the household head, whose individual equivalized income is compared to the poverty line. This poverty rate of household heads is equivalent to a household poverty rate given our assumption that all household resources are distributed equally among its members. This assumption implies that if one member of the household is poor, all others must also be poor.

Our results indicate that single adults display a relatively high incidence of poverty. However, single parents exhibit a significantly higher poverty incidence than their counterparts without children. For single adults, the average poverty rate more than doubles from 18 to 37 percent in the presence of children. In contrast, having children does not raise the chances of poverty for households with two adults. The differences in poverty rates between couple households with less than three children and those without children are insignificant. Along the same lines, our results also suggest that couples with more than two children experience poverty rates that are not significantly different than those for couples with fewer or no children. Whether and to what extent this finding is the result of a positive selection mechanism—that is, only relatively well off households have children because they can afford to do so—remains a question for further research. Yet, the findings suggest that having children does not *per se* constitute a poverty risk and therefore a general expansion of childcare benefits independently of household income might not be appropriate to reduce child poverty. Rather, a means-tested

support of families with children or more attention to how the current system treats single-parent households appears to be a more promising approach.

#### 4. ALTERNATIVE MEASURES OF CHILD POVERTY AND INTERNATIONAL COMPARISONS

The choice of poverty lines is not just a technical issue, but reflects value judgments concerning the appropriate way of distinguishing the poor from the non-poor. We explore three issues to determine the sensitivity of our major findings to the choices we have made to this point.

The first concerns the distinction between a “relative” and an “absolute” poverty line. Figure A2 in Appendix 1 illustrates that the overall level and pattern in poverty among children living in Germany is not very sensitive to this issue. The information in this figure compares the poverty rate based upon 50 percent of the prevailing median income in each year, a relative low income concept, to the poverty rate based upon 50 percent of the median income in 1991, one version of an absolute low income concept.

During the 1990s both poverty lines led to almost identical child poverty rates, though there is a divergence after 2000. Overall this similarity in results implies that the risk of poverty among children is no lower and indeed was higher in 2004 than a decade earlier, even when the comparison is based upon the living standards of the early 1990s.<sup>4</sup> In a growing economy this is the least stringent test by which to assess changes in the status of poor children: even by the standards prevailing in the past the risk of child poverty is no lower in Germany.

Given the use of a relatively low income line, the second issue concerns the choice of the fraction of median income to represent the threshold between those living in poverty and those not. The choice will determine the level of the poverty rate and the absolute number of individuals judged to be living in poverty. There is no clear answer as to what fraction is correct.

Our empirical results will clearly be sensitive to the choice of 50 percent of median income. Figure 5 makes this clear by offering the child poverty rate for the country for a variety of thresholds, ranging from as low as 30 percent of median income to as high as 70 percent. At one extreme the child poverty rate is only 4.5 percent in 2004, while at the other it is 30.4 percent. However, the child poverty rate has risen over the course of the 1990s regardless of which threshold is used. Wherever the line between the poor and non-poor is drawn, the child poverty rate is higher in 2004 than in 1991. This pattern is particularly clear once thresholds of 40 percent or higher are considered. At this threshold and beyond the difference between the two series is more than three percentage points at its lowest and is close to ten percentage points when 60 percent of median income is used as a threshold.

The third issue concerning the sensitivity of our findings has to do with the focus on the so-called “head count” ratio as a measure of poverty. Since the analysis in Figure 5 involves charting out the mass of the distribution in the lower tail of the income distribution, it also offers information on the severity or depth

<sup>4</sup>Even when the focus is on West Germany only and the poverty line fixed at its 1983 level we find that in 2004 children are worse off than two decades earlier.

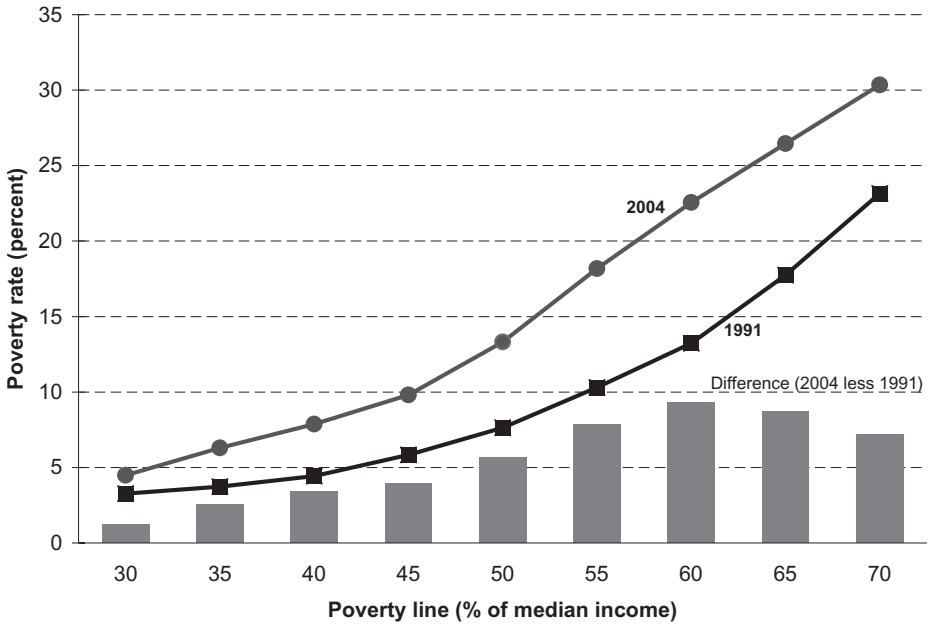


Figure 5. Child Poverty Rates for Varying Percentages of Median Equivalized Income

of poverty, something not evident by looking solely at a single headcount ratio. Given that the curves for the two years depicted in Figure 5 do not cross at any point we can unambiguously conclude that the rate of child poverty has increased for a wide range of possible poverty thresholds, but also for a range of possible poverty indicators (Atkinson, 1987). Our conclusion that the situation has deteriorated for German children does not depend upon our use of the head count ratio as an indicator of poverty.

To gauge whether the changes in child poverty rates are peculiar for Germany or represent a trend observable in other developed countries as well, we use information from Corak (2008) and present poverty rates for Britain, Canada and the United States in Figure 6. These poverty rates are based on data from the BHPS (British Household Panel Survey), SLID (Survey of Labour and Income Dynamics) and PSID (Panel Study of Income Dynamics), and are generated in a similar fashion as the rates for Germany presented earlier in this paper. Firstly, it should be noted that during the period under observation, child poverty rates are (considerably) higher in all three countries than in Germany. In contrast to Germany, however, Canadian and American child poverty rates remained quite constant during the 1990s and at the beginning of the new century. They dropped considerably in Britain. If the focus is shifted from relative poverty using a moving poverty line to an absolute concept by fixing the poverty line at the level of the first year under observation, then results in Corak (2008) show that child poverty rates also went down in Canada, as well as in Britain.

Furthermore, in each of the three Anglophone countries children are worse off than the average individual within the country, which becomes evident by

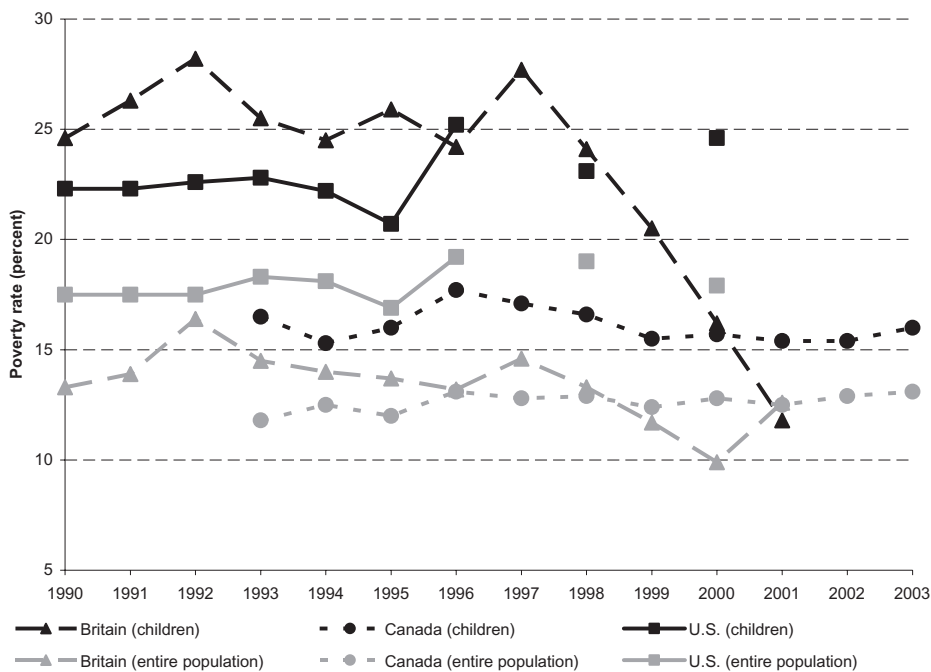


Figure 6. Poverty Rates in Britain, Canada and the United States

Source: Data taken from Corak (2008).

comparing child poverty rates with poverty rates for the entire population (Figure 6). In Canada and the U.S. poverty rates for children and for the entire population evolved in much the same way, while in Britain the situation of children improved much more than for the entire population, to the point that in the year 2001 they were almost the same. Overall this suggests that changes in Germany are quite different than elsewhere.

### 5. POVERTY DYNAMICS

Income poverty rates are often supplemented with other measures of long term well-being such as housing conditions, health status, or the consumption of a particular set of necessities like clothing or food. This is done because annual income may not be a completely appropriate measure of well-being, and in part is motivated by a theoretical orientation viewing well-being in more subtle ways associated with the capabilities of individuals rather than simply with their purchasing power (Sen, 1999). In part it also reflects a more pragmatic view recognizing that annual measures of income are imperfect indicators of the economic circumstances of individuals, being subject to a good deal of year-to-year variation associated with temporary income fluctuations, and only roughly indicating the full access that households have to economic resources.

Our approach to this issue is to rely on the longitudinal nature of data available to us, which tracks the same set of households in West Germany since

TABLE 1  
AVERAGE DURATION OF LOW INCOME AND PROPORTIONS STILL IN POVERTY BY SPELL DURATION,  
1991–2004

	Entire Country	West Germany	East Germany	West Germany			West Germany (1983–2004) <sup>1</sup>
				Citizen	Non- Citizen	Single Parent	
Average spell duration	1.43	1.40	1.54	(years) 1.44	1.30	1.60	1.47
Standard error	0.048	0.056	0.085	0.070	0.078	0.081	0.044
Years since poverty spell started	Proportion remaining in poverty (%)						
1	42.2	40.6	47.0	41.3	39.9	53.2	40.7
2	23.3	22.0	27.2	21.6	22.9	33.0	21.4
3	13.5	11.9	18.6	11.6	12.6	18.3	12.8
4	7.0	6.0	10.3	5.0	7.8	10.1	7.6
5	4.8	4.3	6.5	4.3	4.4	4.0	4.0
6	4.0	3.7	5.2	3.2	4.4	3.0	3.0
Tests of Statistical Significance in Differences							
				West and East		Citizens and Non-Citizens	
Average spell duration (t-statistic)				1.33		-1.37	
Survivor function (chi <sup>2</sup> -statistic) <sup>2</sup>				<b>5.60</b>		0.03	

*Notes:* The calculations of the survivor function are based upon Kaplan-Meier estimates for the years 1991–2004. The poverty threshold is 50% of the country-wide median income.

<sup>1</sup>Based on West German poverty line for the period 1983–2004.

<sup>2</sup>Equality of survivor functions analyzed using log-rank test. Test statistic in *italics* indicates marginal significance (10% level), and printed in **bold** indicates statistical significance at the 5% level.

1984, and for East Germany since 1992. In this way we can gauge the extent to which income poverty is a transitory phenomenon or a long-lasting one. We can also give more precision to the differences and trends observed in child poverty rates, and begin in a descriptive way to offer explanations. This shifts the focus of analysis to the chances of beginning a spell of low income, the chances of escaping from it, and ultimately to the length of time spent in poverty. Experiencing a short bout of poverty once during a childhood may be a very different event with very different consequences than spending a considerable fraction of a childhood, either through many repeated spells or through a few very long spells, in low income. This is a central theme of the essays in Bradbury *et al.* (2001).

The average duration of a spell of poverty is one indicator of the severity of low income and, as illustrated in Table 1, is about 1.4 years for the entire country.<sup>5</sup> This does not vary markedly across the sub-populations that are the focus of our analysis. The average duration of low income is slightly longer among children in

<sup>5</sup>In Appendix 2 we offer evidence to suggest that we might actually underestimate the duration of poverty spells, reflecting selective attrition from our sample. While there are no differences between citizen and non-citizen households and between East and West Germany, being poor in a given year significantly increases the probability of dropping out of the sample in the next year.

the East than in the West and does not significantly differ between citizens and non-citizens. It is also somewhat longer among those living in single-parent households than for children overall.

While statistics of this sort are important in beginning to gauge the severity of low income and to understanding the reasons for differences in the annual poverty rates, there is a sense in which they conceal as much as they reveal. First, a single statistic like an average cannot paint a full picture of low income if many spells are very short and others very long. In fact, the information in Table 1 suggests that there is a good deal of variation in outcomes.

The lower panel of the table indicates that while many children spend less than a year in poverty, a substantial proportion experience spells of very long lengths. The majority of children who begin a spell of low income escape poverty within a year. For the country as a whole almost 60 percent of low income spells end within 12 months. About four-in-ten poverty spells last at least a year, but one-in-seven are as long as three years. About 5 percent of child poverty spells are at least five years in length.

These measures may also not paint a full portrait of the experiences of children because they refer to the time spent in a single bout of low income. Some children may repeatedly experience bouts of low income so that while the length of any one particular spell may be short the total time in low income could be quite long.

Information on the probabilities of beginning as well as ending a spell of poverty is necessary to examine these issues, and to offer explanations for the trends and differences in poverty rates over time. Table 2 present these annual entry and exit rates. (A set of t-tests for the significance of differences between groups of children is provided in Table A2 in Appendix 1.) Both rates vary significantly from year to year, reflecting cyclical and structural changes in the economy as well as statistical uncertainty associated with the calculations. But the averages over the period tell a story that sheds light on the trends and differences in poverty rates noted in Section 3. In Table 2 the entry rate refers to the percent of children who begin a new spell of low income per year, while the exit rate is the fraction of those currently in a spell who leave that spell within a year.

These figures suggest that the upward trend in child poverty in West Germany since the mid-1980s has to do both with a higher risk of falling into low income and lower chances of leaving. Between 1984 and 1991 the chances that a child in West Germany fell into low income were on average just over 3 percent (3.42 percent), but since 1992 they have been on average around 4 percent (4.03 percent). At the same time the odds that a spell of poverty ends fell from 51 to about 45 percent. Child poverty has gone up because both its probability and duration have increased.

Exit rates do not differ very much between East and West. However, entry rates do vary, suggesting that the major reason for higher poverty rates in the East has to do with higher risks of falling into poverty. On average between 1992 and 2004 the probability that a child fell into low income is a full percentage point higher in the East than in the West (4.8 versus 3.8 percent). This reflects much higher entry rates in the early part of the decade, particularly before 1996, and in the last two years under observation, whereas the differences in between were insignificant.

TABLE 2  
ENTRY AND EXIT RATES

	Entire Country	West Germany	East Germany	West Germany		Single Parent	West Germany <sup>1</sup>
				Citizen	Non-Citizen		
				<b>Entry rates</b>			
Average (1984–1991)	3.99	3.81	4.85	3.45	5.02	21.06	3.42
Average (1992–2004)	2.58	2.08	4.20	1.91	2.51	19.21	4.03
1992	3.69	3.40	4.70	3.18	4.43	19.92	2.96
1993	4.99	4.88	5.37	4.72	4.99	26.21	3.75
1994	3.17	3.04	6.06	2.63	4.61	21.46	4.77
1995	4.41	3.22	3.00	3.00	4.05	18.09	3.94
1996	3.99	4.76	2.89	5.04	3.68	26.27	3.40
1997	3.11	4.31	2.65	3.45	7.47	22.38	4.51
1998	3.31	3.03	3.46	2.62	4.48	16.77	3.15
1999	3.11	3.12	4.21	3.00	3.51	23.08	3.36
2000	4.35	4.15	5.40	3.45	6.47	23.42	4.50
2001	4.57	4.54	4.77	4.29	5.36	21.10	4.54
2002	5.63	4.81	10.27	3.60	8.95	16.71	4.77
2003	4.41	4.14	6.08	3.90	4.70	19.23	4.26
2004							
				<b>Exit rates</b>			
Average (1984–1991)	45.0	46.1	42.4	47.2	46.3	35.6	50.5
Average (1992–2004)	50.1	47.8	57.1	41.5	89.3	35.0	44.9
1992	43.7	50.0	32.4	45.8	62.5	38.3	49.3
1993	41.0	41.8	39.0	43.4	33.5	27.7	50.7
1994	48.9	46.8	54.6	50.4	43.6	26.1	44.1
1995	50.1	50.1	49.2	62.0	28.9	41.2	46.1
1996	54.9	59.8	43.1	64.6	52.4	52.8	49.1
1997	41.5	43.9	35.7	47.0	34.4	33.8	57.0
1998	45.2	45.2	45.3	45.6	44.6	33.3	45.1
1999	49.8	51.4	45.6	44.8	62.5	36.7	43.8
2000	43.4	40.3	53.7	42.6	37.2	39.6	51.6
2001	32.6	34.6	23.8	38.2	38.2	23.1	38.0
2002	43.2	46.1	30.6	51.1	36.5	40.9	35.8
2003	40.9	40.8	41.3	42.1	38.3	35.0	43.3
2004							29.5

Notes: Entry rates (proportion of children not in poverty beginning a spell per year) and exit rates (proportion of children in poverty leaving a spell per year) based on poverty threshold of 50% of the country-wide median income.

<sup>1</sup>Based on West German poverty line.

TABLE 3  
PROPORTION OF CHILDREN REMAINING OUT OF POVERTY BY YEARS SINCE LAST SPELL ENDED

Years Since Poverty Spell Ended	Entire Country	West Germany	East Germany	West Germany			West Germany (1983–2004) <sup>1</sup>
				Citizen	Non- Citizen	Single Parent	
1	75.4	76.0	74.1	71.6	83.0	71.0	76.4
2	55.0	56.3	51.9	56.4	56.1	44.1	64.1
3	41.9	41.7	42.7	35.2	53.0	22.1	55.9
4	39.2	40.5	34.2	35.2	49.9	22.1	51.6
5	34.0	36.6	24.4	33.0	43.2	8.8	47.6
6	32.8	35.1	24.4	30.8	43.2	8.8	45.9
Test on Significance of Differences Between							
				West and East		Citizens and Non-Citizens	
Survivor function (chi <sup>2</sup> -statistic) <sup>2</sup>				0.54		1.33	

*Notes:* The calculations of the survivor function are based upon Kaplan-Meier estimates for the years 1991–2004. The poverty threshold is 50% of the country-wide median income.

<sup>1</sup>Based on West German poverty line for the period 1983–2004.

<sup>2</sup>Equality of survivor functions analyzed using log-rank test. Test statistic in *italics* indicates marginal significance (10% level), and printed in **bold** indicates statistical significance at the 5% level.

The differences in poverty rates between citizen and non-citizen children have to do with a higher risk of experiencing poverty, and not with the chances of leaving poverty. The risk of starting a spell of low income is 5.0 percent for children in households headed by non-citizens, but only 3.5 percent for those in households headed by citizens. The most striking differences in Table 2 have to do with the circumstances of children in single-parent households, who experience an over 20 percent chance of starting a spell of low income and only a one-third chance (35.6 percent) that it will end within a year. This entry rate is more than five times higher than for the country as a whole, while the exit rate is about one-fourth lower.

Further results suggest that a large fraction of children who leave low income might be more accurately considered as hovering just above the poverty line. To investigate the extent to which children climb out of poverty only to fall back in within a short time period, we examine the duration of time spent out of poverty after a previous spell. In other words, we estimate the chance of staying out of poverty a specific number of years for those children who have left poverty at least once during the sample period. This provides an estimate of the risk of falling into poverty conditional on ever having left it.

The results as reported in Table 3 suggest that poor children are susceptible to repeated spells of poverty. About 60 percent of those who left low income status have returned within four years. The chances of falling back in are somewhat higher in the East than in the West of Germany. This is especially apparent after four years. Only 34 percent of children in East Germany have not fallen back into poverty after four years, and only about 24 percent stay out for five years.

There are also significant differences between citizen and non-citizen households: 83 percent of children in non-citizen households who have ever left poverty



stay out for at least one year compared to 71 percent of those in citizen households. This is the only respect in which children from non-citizen households appear to face better circumstances than their counterparts: there seems to be less likelihood of experiencing repeated spells of low income if a child whose household head is a non-citizen manages to escape poverty. Finally, once again children in single-parent families have the most tenuous time, with more than half falling back into poverty after only two years since their last spell ended.

## 6. FAMILY INCOME, TAXES AND BENEFITS

With these facts in mind it is natural to ask what role government policy plays in determining both the level and direction of changes in child poverty rates. A full assessment of this issue is beyond the scope of our research, but given our objective of offering a descriptive portrait of developments we examine poverty rates pre- and post-government taxes and transfers.

The German tax-transfer scheme plays a large role in altering market outcomes for children. Poverty rates before taxes and transfers are much higher than after. This is evident from Figure 7, which contrasts the child poverty rates in the country as a whole for 1991 and 2004 using market incomes and using incomes after taxes and transfers have been taken into account. The difference between poverty rates based on pre- and post-government income is large, but decreasing in

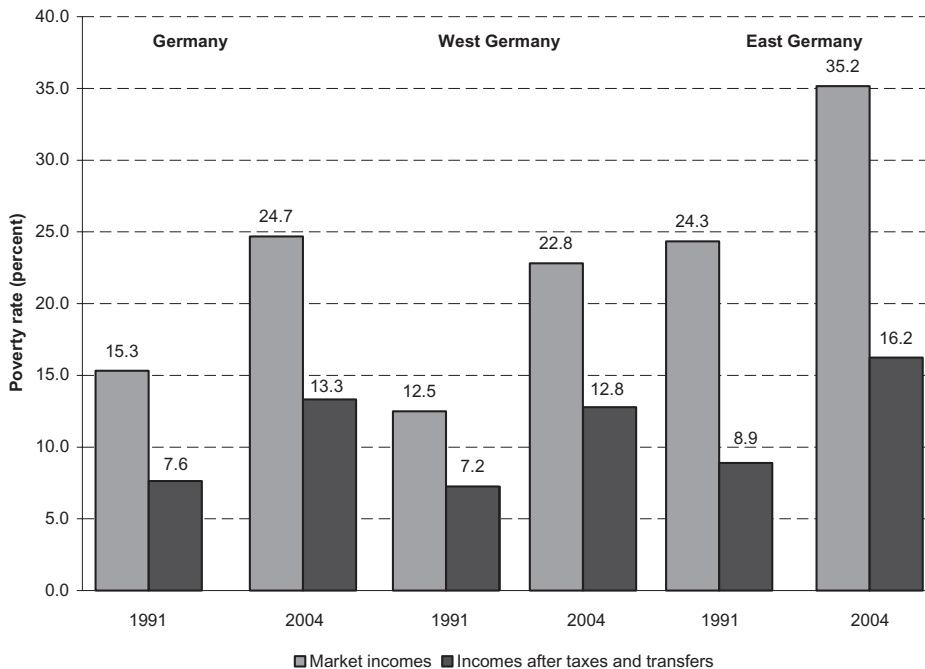


Figure 7. Child Poverty Rates Before and After Taxes and Transfers

percentage terms over the 1990s. In 1991 the difference between pre- and post-government poverty rates was about 50 percent ( $= [(15.3 - 7.6)/15.3] \times 100$ ), but in 2004 somewhat lower at 46 percent.

Using the data in Corak (2008), we find that the tax/transfer system has much more impact in Germany than in the three Anglophone countries analyzed there. The difference between pre- and post-government child poverty rates was around 1 percent in the United States and 22 percent in Britain, both measured in 1990, and 36 percent in Canada in 1993. At the end of the period under observation hardly anything changed in the U.S. (1 percent in 2000) and Canada (34 percent in 2003), while the impact went up considerably in Britain (52 percent in 2001).

Within Germany the impact of the tax/transfer system is more pronounced in the eastern part, with the poverty rate based upon market incomes falling 63 percent in 1991 and 54 percent in 2004, than in West Germany, though at around 43 percent is still substantial. While this is neither a perfect nor a complete way of assessing government policy, it is a first step for any more detailed analyses attempting to account for the behavioral impact of government programs. It is also consistent with the analysis of reasons for changes in child poverty rates offered by Chen and Corak (2008).

On this basis alone government transfers in Germany play an important role in lowering child poverty in East Germany, and in narrowing the gap between the two regions. The extent of the impact seems to have fallen over the course of the decade. In this regard it is important to appreciate the nature of the most important constituents of the German tax and benefit system related to family income. A much more detailed overview than we are able to offer is provided in Rosenschon (2001). In the German tax and benefit system childcare benefits and tax allowances provide the most important support for parents with children. In addition, parents are eligible for maternity and parental leave, child raising benefits, free coverage of children in the public healthcare system and of parents during parental leave. Furthermore, they receive higher unemployment and social assistance compared to families without children. Finally, there are several other partly non-pecuniary benefits: the consideration of child raising periods for the calculation of pension entitlements or lower fees for children in, for example, public transport and museums.

Corak *et al.* (2005) show that the tax-transfer system in German plays a central role in the lives of children by illustrating the age incidence of taxes and transfers for the year 2000. The German transfer system favors younger children, particularly in the case of the low income population. Children under the age of 12 receive about one fifth of their economic resources through state transfers. This is as high as 85 percent for low income children under 5, and 75 percent for low income children between 6 and 11 years of age. But these proportions fall off rapidly after the age of 17 years. While this preference is clear overall, our analysis suggests that there is a need for a more detailed understanding of how the tax-transfer system plays out for particular groups, most notably those in the East, those in non-citizen households, and particularly those in single-parent families.

Having said this, governmental transfers are of course neither the only nor the most promising way to alleviate financial distress or end poverty. Instead,

TABLE 4  
OCCURRENCE OF EVENTS TRIGGERING ENTRY INTO AND EXIT FROM POVERTY

Event	Child in Single-Parent Household					Child in Two-Adult Household				
	P(event)	P(event poor in t - 1)	P(event  non-poor in t - 1)	P(exit event, poor in t - 1)	P(entry event, non-poor in t - 1)	P(event)	P(event  poor in t - 1)	P(event  non-poor in t - 1)	P(exit event, poor in t - 1)	P(entry event, non-poor in t - 1)
Become single-parent household						2.4	5.9	2.2	31.5	48.9
Become two-adult household	7.3	8.1	6.8	55.6	18.7					
Additional person(s) in household <sup>1</sup>	2.0	2.8	1.4	31.5	17.0	4.1	5.4	4.1	42.6	2.7
Less persons in household <sup>1</sup>	2.2	1.5	2.7	54.6	26.8	2.1	1.8	2.1	71.0	4.8
More people in full time employment	12.3	12.0	12.5	71.2	6.6	10.4	18.8	10.0	86.0	1.0
Less people in full time employment	7.0	4.0	8.9	30.2	23.5	11.2	6.5	11.4	35.1	13.4
Increase (>20%) in hh labor income <sup>2</sup>	20.7	26.4	17.1	52.9	11.3	14.0	29.9	13.2	66.3	0.9
Decrease (>20%) in hh labor income <sup>2</sup>	13.6	14.1	13.4	34.8	29.6	9.6	14.2	9.3	22.7	9.9
None of these events	44.8	42.0	46.7	26.0	12.0	51.8	27.7	52.9	26.5	0.7

*Notes:* Table provides (conditional) probabilities in % for the occurrence of an event between period  $t - 1$  and  $t$  and the conditional probabilities for exit from/entry into poverty given an event occurred. Estimates based on poverty in the entire country for the years 1991–2004.

<sup>1</sup>Without change in family type.

<sup>2</sup>Without change in number of full-time employees.

the labor market and the family environment are important routes out of poverty. Often, forming a two-adult household is associated with being able to escape poverty; the same holds for taking up full time employment. Thus, entry into poverty (and exit from poverty) is often preceded by demographic or labor market events. Following Jenkins and Schluter (2003), we define several (not entirely mutually exclusive) events and estimate the probability that such an event takes place as well as the probability that a child leaves poverty (enters poverty) conditional on the event taking place. Table 4 presents these probabilities separately for children living in single and two-adult households.

For children in both types of households, an increase in household labor income of more than 20 percent and the take-up of full time employment are the most promising ways for escaping poverty. All of them are associated with exit rates of between 50 percent and more than 80 percent, while the exit rate when none of the events occurs is only 26 percent. Also, both events are relatively likely in comparison with other events. For children in single-parent households,

becoming a two-adult household is also important. This event is associated with a 55 percent chance of exiting poverty and occurs with a probability of 8 percent if the household is poor. In contrast to this, a two-adult household splitting up leads to almost every second child entering poverty. These family dissolutions occur relatively seldom.

## 7. CONCLUSIONS

This paper provides a portrait of child poverty in Germany and its dynamics since the mid-1980s. Our analysis of the German Socio-Economic Panel offers estimates of poverty rates, entry and exit rates, as well as the duration of poverty spells and time out of poverty for the country as a whole as well as for East and West Germany, by citizenship status, and family structure. The major findings suggest that poverty rates among children declined moderately during the 1980s but have increased since the beginning of the 1990s, especially after the year 2000. For the most part child poverty rates in East Germany are somewhat higher than in the western part of the country.

The situation of children has also deteriorated relative to the entire population, and the adult population in households without children. During the 1980s and early 1990s children faced risks of poverty no different and indeed slightly lower than those faced by the average member of the population, but since then their chances of living in poverty have increased considerably. The dramatic changes in German society and economy, involving unification and significant economic adjustments, are associated with a deterioration in the relative situation of children. Comparisons with Britain, Canada and the United States show that the evolution in Germany is very different.

Child poverty is also notably higher among children in households headed by non-citizens, and particularly among children in single-parent families. The upward trend in child poverty rates is linked with the deteriorating situation of children in non-citizen households, particularly more recent arrivals. Since 2000 it is also associated with the deteriorating situation of children in two-adult households in general. Children in single-parent families, however, face the most difficult circumstances of all, having a 21 percent likelihood per year of falling into low income compared to only about 4 percent for the entire population of children. Once in low income they face much longer spells, with only a one-third chance of leaving within a year. The comparable rate for all children is almost one-half. Finally, once out of poverty over half fall back in within two years.

Our analysis of poverty rates by household type indicates that single-adult households with children exhibit significantly higher poverty rates than single adults without children. We also observe that risk of low income is similar for the average couple with children and the average couple without children. Thus, in terms of the current policy discussion in Germany, having children does not *per se* constitute a poverty risk. It may be the case that this finding is the result of a positive selection mechanism, with only those couple households which can afford it having children. An assessment of the interrelationship between fertility and poverty risk is beyond the scope of this paper and requires additional research. We also point out that the German tax-transfer system plays an

important role in reducing the chances of poverty among children. Though there is a clear preference for children embodied in how the tax-transfer system works, it is likely that this has weakened somewhat during the 1990s and may not be fully addressing the needs of high-risk groups. Furthermore, our results suggest that a general expansion of childcare benefits independently of household income might not be appropriate to reduce child poverty. Rather, greater attention to how the current benefit structure responds to the needs of single-parent households and means-tested support for families with children appear to be more promising approaches. Having said this, a descriptive analysis of events associated with entering or leaving poverty suggests that parental labor market participation and processes of family formation are also very important for poverty experienced during childhood.

APPENDIX 1

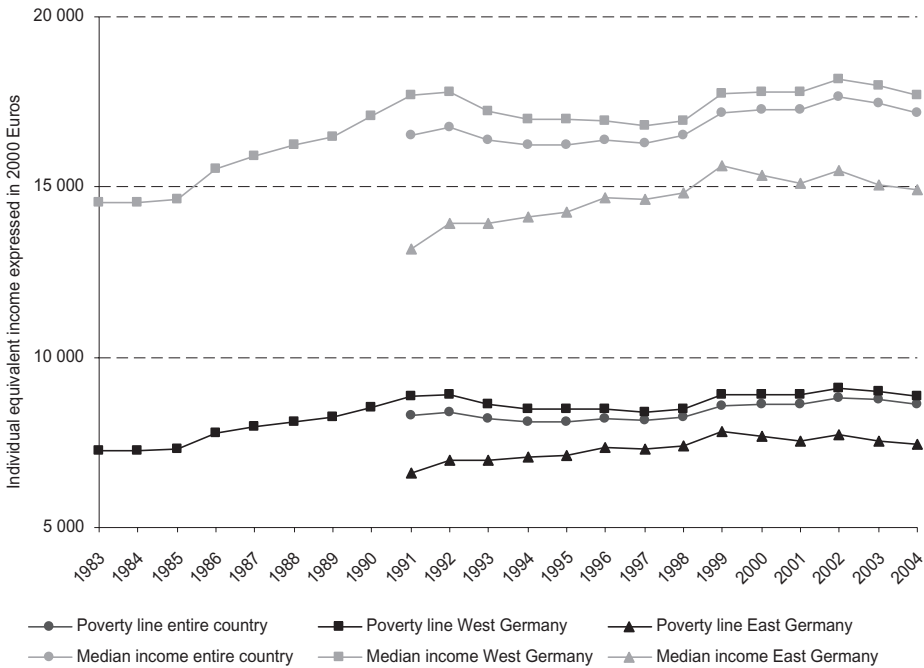


Figure A1. Individual Equivalent Median Income and Poverty Lines

TABLE A1  
T-TESTS ON SIGNIFICANCE OF DIFFERENCES IN POVERTY RATES

Year	Child Poverty vs. West	Child Poverty vs. East	Child Poverty vs. Non-Citizen vs. Citizen	Poverty Adults (no children) vs. Children	Poverty Single Parent with Children vs. Single Adult No Children		Poverty Couple with 1 or 2 Children vs. Couple No Children	Poverty Couple with >2 Children vs. Couple No Children	Poverty Couple with 1 or 2 Children vs. Couple with >2 Children
					Children vs. Adult	No Children			
1991	0.83		-0.63	-0.93	<b>-3.76</b>	1.08	0.59	0.17	
1992	1.11		-1.24	-1.77	<b>-3.34</b>	<b>3.74</b>	1.20	1.09	
1993	1.78		0.62	-0.21	<b>-3.80</b>	0.26	-0.46	0.58	
1994	1.66		0.61	1.33	<b>-4.49</b>	-1.34	<b>-2.02</b>	1.17	
1995	1.20		<b>2.82</b>	0.47	<b>-4.55</b>	0.26	-0.90	1.01	
1996	1.24		<b>2.57</b>	-0.06	<b>-3.96</b>	1.24	-0.81	1.53	
1997	0.95		1.48	0.35	<b>-3.06</b>	-1.43	-0.22	-0.53	
1998	1.54		1.55	1.15	<b>-4.67</b>	0.20	-1.39	1.45	
1999	1.63		1.60	-0.72	<b>-4.15</b>	1.42	0.07	0.62	
2000	1.67		<b>2.87</b>	1.02	<b>-4.98</b>	0.17	-1.11	1.13	
2001	1.27		<b>2.27</b>	0.75	<b>-5.11</b>	0.88	-0.56	0.95	
2002	1.15		1.76	1.63	<b>-5.87</b>	0.57	-1.66	1.82	
2003	<b>3.01</b>		<b>2.12</b>	<b>2.00</b>	<b>-4.19</b>	-1.50	-1.53	0.83	
2004	1.20		0.41	<b>2.95</b>	<b>-5.23</b>	-1.42	-1.64	1.07	

Notes: Test statistic in *italics* indicates marginal significance (10% level), and printed in **bold** indicates statistical significance at the 5% level. Estimates account for clustering of observations at the household level. Poverty line for entire country.

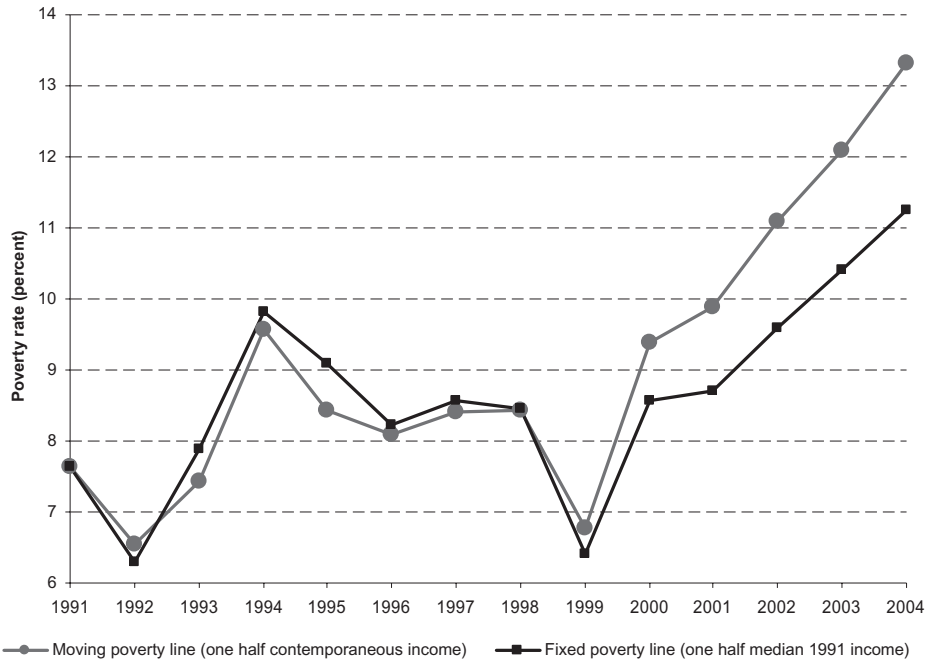


Figure A2. Child Poverty Rates for Relative and Absolute Thresholds

TABLE A2  
T-TESTS ON SIGNIFICANCE OF DIFFERENCES IN ENTRY AND EXIT RATES FROM LOW INCOME STATUS

Year	Entry Rate of Children		Exit Rate of Children	
	East vs. West	Non-Citizen vs. Citizen	East vs. West	Non-Citizen vs. Citizen
1992	<b>2.13</b>	0.61	0.65	1.14
1993	0.87	0.52	-1.52	0.35
1994	0.32	0.15	-0.21	-0.21
1995	1.43	1.28	0.79	-0.13
1996	-0.19	0.72	-0.09	-0.53
1997	-1.43	-0.79	-1.12	-0.19
1998	-1.46	1.53	-0.58	-0.25
1999	0.33	0.92	0.01	-0.02
2000	0.51	0.23	-0.42	0.37
2001	0.75	1.38	1.31	-0.13
2002	0.16	0.57	-1.11	0.18
2003	<b>1.98</b>	<b>1.97</b>	-1.51	-0.28
2004	1.09	0.34	0.05	-0.09

Notes: Test statistic in *italics* indicates marginal significance (10% level), and printed in **bold** indicates statistical significance at the 5% level. Estimates account for clustering of observations at the household level. Poverty line for entire country.

APPENDIX 2

In this appendix we investigate the extent to which our results might be contaminated by selective panel attrition. To this end, we estimate a probit model for the period 1992–2004 in which the probability of dropping out of the sample is

TABLE A3  
ESTIMATION RESULTS FOR PANEL ATTRITION, 1992–2004

Covariate in Probit Model	Marginal Effect	t-value
East German	–0.0090	–1.50
Non-citizen	0.0030	0.42
Poor in year before attrition	0.0440	<b>2.59</b>
Poor non-citizen in year before attrition	0.0121	0.51
Poor East German in year before attrition	–0.0166	–0.94
Year dummy 1992	0.0184	1.00
Year dummy 1993	–0.0086	–0.71
Year dummy 1994	0.0049	0.29
Year dummy 1995	0.0072	0.52
Year dummy 1996	0.0187	1.41
Year dummy 1997	0.0275	<i>1.79</i>
Year dummy 1998	0.0352	<b>2.19</b>
Year dummy 1999	0.0328	<i>1.91</i>
Year dummy 2000	0.0606	<b>4.30</b>
Year dummy 2001	0.0214	<i>1.73</i>
Year dummy 2002	0.0421	<b>2.87</b>
Year dummy 2003	0.0760	<b>5.01</b>

*Notes:* Number of observations is 56,298. Test statistic in *italics* indicates marginal significance (10% level), and printed in **bold** indicates statistical significance at the 5% level. Estimates account for clustering of observations at the household level.

explained by a set of indicator variables. Specifically, the dependent variable takes on the value of 1 if an individual drops out of the sample, in other words is never observed with valid income information after a specific year, and 0 otherwise. The explanatory variables comprise year indicators (1992–2003), an indicator for East Germans and non-citizens as well as an indicator for being poor in the year before a specific sample year. Furthermore, we employ two interaction terms indicating poor non-citizens and poor East Germans in the year before the observation year.

The estimations, which are reported in Table A3, indicate that being poor in the year before the current observation year significantly increases the probability of dropping out, by around 4.4 percent. No statistically significant differences between East and West Germans and between citizen and non-citizen households are found, and there are no significant deviations for poor East Germans and poor non-citizens.

In general, these results suggest that being poor in a specific year increases the probability of panel attrition considerably and that our results might suffer to a certain extent from selective non-response. The extent to which this poses a serious problem depends on the poverty duration of those having left the sample. If these are individuals with an above average poverty duration our results might underestimate poverty incidence as well as poverty dynamics and duration. However, since we do not observe these individuals, this question must remain an unresolved issue.

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