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Income Inequality and Poverty Dynamics in Poland and East-Germany before and under Transition

by

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Comparative Research on Household Panel Studies

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Income Inequality and Poverty Dynamics in Poland and East-Germany before and under Transition

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Income Inequality and Poverty Dynamics in Poland and East-Germany Before and Under Transition

One goal of the economic transition in Eastern Europe is a long term increase of the national income. In order to realize this aim, it is necessary to give people free access to economic opportunities, which are complimentary to the political freedom and the chance for everybody to participate in the democratic political process.
It seems to be obvious that the restructuring of the Eastern Europe economies will increase the inequality of earnings and income. Many people believe that this is a necessary incentive to stimulate profit-oriented market behavior. The inequality should not, however, increase too much, because a moderate inequality is an aim by itself. On the other hand, there is a broad consensus that poverty should be avoided. What has actually happened to income inequality and poverty under transition is still the question to be discussed.

The first aim of this paper is to give insights into the extent and the structure of income inequality and poverty in two very different 'socialist societies': Poland (up to 1989) and the German Democratic Republic (up to 1990).

The second aim is to have a first glance at the development of inequality and poverty in the transition process of both societies. For this purpose we provide a cross-sectional as well as a longitudinal analysis. The difficult question of absolute growth of income is in fact not investigated. Instead, we compare changes in relative income position of households in each country discussed.

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We start (Section 1) with some theoretical and methodological remarks concerning the comparative analysis of incomes. Section 2 depicts the exploited data bases. Section 3 presents cross-sectional results on income distribution and poverty rates. Section 4 gives some first impressions of poverty dynamics in a longitudinal perspective.

1 Theoretical and methodological problems of the analysis of incomes under transition

Comparing income levels and the distribution of income between countries with many differences in political, economic and social security systems, and in the level of economic development is fraught with difficulties. These problems arise when making either cross-sectional or inter temporal comparison of household incomes for the economies under transition.

The main problem is the question of how suitable monetary income is for measuring standards of living. Some of the major economic differences between the systems to keep in mind in this case are:

- differences in the price system, in the availability of goods and the time necessary to purchase them;
- differences in the availability and security of jobs as well as social security provided by employers;
- differences in type and quantity of goods and services which are provided by the government for free or below cost, as well as differences in eligibility to receive these goods;
- differences in type and quantity of social security that one becomes eligible to through contributions.

It is hardly possible to take these differences into account through the empirical analysis. Take as an example the existence of groups enjoying various privileges in the former communist countries. These groups consisted of members of the "nomenklatura" but also of army or police officers, and workers of some industries (such as mining industry in Poland). They had access--mostly through administrative rationing or informal connections--to goods and services that were generally not available to the public. Privileges of this type quickly disappear along with the transformation process, but this system difference cannot be further specified based on the available data sets.

We may suppose, instead, that the above mentined privileges had an effect of promoting inequality, because they were most likely to prevail in the higher income ranges. This would mean that many of the differences in the distributions of income between formerly socialist countries and market economies are smaller at the upper end of the distribution than they appeared to be.[1]

All these shortcomings seem to be in particular important for the analysis of the overall income distribution. They are of minor influence on the poverty rate, especially if we assume that subsidies and social benefits affected low income households uniformly, and that the position of privileged groups (the 'socialist elite') had no impact on the life of the 'ordinary population'.

These problem features can hardly be analyzed monetarily. Therefore, they lead to a large degree of scepticism when we compare real income and the level of well-being before and after the system transformation. In order to minimize these difficulties as far as possible, the comparisons which follow are based on relative positions, relative to the average in the former socialist countries.

As we continue with our analyses, we ask the reader to keep these restrictions and qualifications in mind. They give limits, in a sense, to our empirical findings.

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1 One could also take as an example the 'second economy' incomes in communist countries, and discuss their influence on the overall income distributions under system transformation. The result of such an analysis would possibly be very similar to the one presented above (see Bednarski 1992 and Wisniewski 1989 for further comments on the Polish case).

2 Databases and Methods

2.1 Data

We use longitudinal data from the end of the eighties and beginning of the nineties for both countries which are compared in this paper. Both panels cover the first years of the big transition, going back to pre-transition periods.

For East Germany, the Socio-economic Panel Study (GSOEP) is used, which is a carefully designed longitudinal study, funded by the National Science Foundation of Germany (cf. Wagner et al. 1993). The following results are based on data from 1990 to 1992.

The Polish Household Panel is an artificial longitudinal data set, based on the 'Household Budget Surveys', which have been conducted by the Polish Central Statistical Office for many years (cf. Górecki and Peczkowki 1992). The Household Budget Surveys are sampled by means of a partial rotation method on a quarterly basis (cf. Kordos 1982). A 'master sample' is selected for four years. In each quarter of a year different households are surveyed, but those households are observed in the same quarter for four consecutive years. Thus, it becomes possible to create an artificial but truly longitudinal data base with four points of measurement. At present, a first panel has been constructed for the years 1987 to 1990.[2]

The size of the 'master sample' totals almost 30.000 households; this is approximately 0.3 % of all households in Poland. The panel data set used in the following analyses contains 3707 households. They are stratified by the sampling procedure in four socio-economic groups according to the household's main source of income. These groups are: workers, farmers[3], mixed households (households

2 The construction of the artificial panel was not carriedd out by the Central Statistical Office of Poland, but by a group led by Prof. Brunon Górecki at the Department of Economics of Warsaw University (cf. Górecki and Peczkowski 1992, Topinska and Górecki 1993). In fact, the panel construction has not yet been fully completed. Thus, the panel still contains limited information.

3 It should be kept in mind that almost all farms in Poland remained private. They were collectivized for a short period in the first half of the fifties only.

receiving income from farm and employment), and pensioners.

Due to the common standards of household surveys in Eastern Europe under communist regimes, the Polish household budget survey has some shortcomings. First, the master sample does not contain households with self-employed heads nor households with heads employed in the private non-agricultural sector or in military or police institutions. The excluded groups add up to approximately 12 % of all households in 1990, and thus the sample is representative for less than 90 percent of population.

A second shortcoming is the sampling procedure itself. The sample unit is not a private household but a dwelling. In contrast to the follow-up rules of real panel studies, a household which moves to another address is not followed. But because of the extreme shortage on the Polish housing market, residential moves of entire households are very rare: only less than one percent of all households move per year[4].

Furthermore, the Polish longitudinal data file follows a balanced panel design, not including any households which dropped out after the initial interview (Wave 1). Thus, we are not able to carry out any attrition analysis on our own and we must make the assumption that the drop-outs follow a random process.

2.2 Methods

Income concept. We use a measure of net monthly income for East Germany and net quarterly income for Poland instead of the more common annual household income. In the transition process, annual income makes less sense than "snapshots" by means of monthly data, which provide a deeper insight in the fast- changing economic conditions underlying most household decisions.

4 Residential mobility has been declining since the late seventies (except 1988). In 1991, for instance, only 1.3 per cent of inhabitants changed their place of residence (cf. Raport Komisji Ludnosciowej 1992).

The use of the quarterly income concept for Polish data needs some comment. Since the master sample is on a quarterly basis, there are, in every year, in fact, four independent subsamples of about 1.000 households per quarter. In order to avoid large standard errors, we have pooled the four subsamples and made the income information comparable by calculating the relative income position for each household per quarter and pooling this information per year.

Equivalence scales. In the analysis of income distributions it is a common procedure to weight households by the number of their members. One should keep in mind that household structures with this respect have been very different in the two countries under investigation. In Poland, households of 4 or more persons accounted for over 40 percent of the total, whereas in the former GDR their share was slightly above 21 percent (see table 1). In other words, Polish households have been--on the average--considerably bigger than German ones.

Using equivalence adult income would be the best solution to account for possible differences in living standards resulting from household size and composition. Unfortunately, due to limited information on individuals in the Polish panel, we were not able to calculate equivalence scales reflecting detailed personal characteristics, i.e. age, sex or education of every household member.

From a variety of different scales, we decided to adapt in our research the "LIS-scale"[5] which has two advantages: most of our results are comparable with the bulk of LIS-scale based analyses and we do not need much more information than the household size to calculate the equivalence weight for each household.[6] The LIS equivalence scale gives weights of 1.0 to the head of the household, 0.7 to other adults and 0.5 to children. Due to the fact that we do not know the exact number of children per household, we used a slightly different version: 1.0 for the head, 0.7 for the

5 LIS: Luxembourg Income Study.

6 An alternative equivalence scale based on the German social welfare system needs information on the age of each household member.

second person and 0.5 for all other household members.

Of course, there is a problem in using the same equivalence scale for both countries. We cannot safely assume that the savings for a couple that manages a household together and the differences in age-dependent needs were the same in both countries. If housing and other goods consumed particularly by children are subsidized to a greater degree in one country than in the other, a single set of equivalences will not capture this. But there is not that much one can do to solve this problem without a deeper investigation.

Poverty line definition. Following several international comparisons of poverty, we have defined 50 percent of the average equivalence income as a relative poverty line for each country/region and year in the period under investigation. Additionally, we look at the poverty rates according to 40 and 60 percent of the average equivalence income. The use of those different definitions gives an idea of the sensitivity of the results.

Re-weighting. By the design of the sampling procedure, the Polish master sample is, in principle, a self-weighting random sample. But in 1988, farmers and mixed-type households were oversampled for some technical reasons. We used information from the 1988 census (and forecasts) to reweight the sample for all four points of measurement. The GSOEP is reweighted due to differential attrition (cf. Rendtel 1993).

3. Cross-sectional results

3.1 Pre-transition period

Table 2 provides figures on overall income distribution and poverty rates in Poland and East Germany before the transition process started. Results are depicted for one year, 1990, in the GDR[7] and for two pre-transition years in Poland (the comparison of the results for 1987 and 1988 serves as a sensitivity analysis).

Under communist regimes, incomes were distributed rather uniformly in both countries. It is shown by relatively low, compared to market economies, Gini coefficients.[8] But East Germany differed considerably from Poland both in terms of inequality and poverty rates.

Inequality as well as poverty rates were much higher in Poland than in the GDR. Poverty rates (at the 50 percent level) were about twice as high in Poland, while the population share who was living "at the edge to poverty" (between 50 and 60 percent of the average equivalent income) was about the same size, i.e. 8 percent in each case.[9]

The difference in income inequalities in pre-transition years between Poland and the GDR is also presented by Lorenz curves on Figure 1, clearly depicting existing discrepancies.

Table 3 gives an insight in the underlying determinants for the differences between these two "socialist societies". The figures there stand for the shares of persons in a given socio-economic or demographic group by quintiles of the total population.

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7 By means of retrospective questions on individual income in May 1989, a second point of time is surveyed for the GDR, too. Principally, the aggregation of those individual incomes to household incomes is possible. But those aggregations are meaningful only for households who did not change their structure between May 1989 and the survey date in June 1990. Additionally, only gross income is known as of 1989. Because the income structure in the GDR was quite stable between May 1989 and June 1990, the latter point is a good proxy for the year 1989. Thus, we did not make an attempt to estimate household incomes for 1989.

8 For Poland, Milanovic (1993, pp.16) as well as Atkinson and Micklewright (1992, p. 137) report bigger Gini-coefficients. This is not surprising because they had no access to data on individual households, and used "per capita" instead of "equivalence income".

9 Again Milanovic (1993, pp.6) as well as Atkinson and Micklewright (1992, pp. 229) report higher poverty rates. This is due to a very different approach of defining poverty by a "basket of social minimums".

In Poland, the rural sector--the one the most influenced at that time by market rules--increased income inequality very much. Mixed-type households with two major sources of income were in the best position (only 11.0% in the lowest income quintile). It could have been the result of the second job-taking by farmers, which in general was rare in East Germany. Four percent of people between age 16 and 65 held a second job only (cf. Wagner et al. 1991, table 1106).

Incomes of pensioners were the most equally distributed in both countries. Pensioners were also a group the most affected by poverty - whichever the country under consideration.

The difference in the structure of household size between Poland and East Germany also had an impact on income distribution and poverty. One-person households were clearly disadvantaged in both societies; in Poland, they were mostly headed by pensioners living alone. Persons in households with children were in similar positions.

3.2 Changes under transition

Table 4 provides results for the time after transition started in Poland and East Germany. For both countries there are two points of time observed.

Inequality and poverty rates increased in East Germany as well as in Poland (see also Figure 2).[10] This is not surprising because one aim of the transition is to introduce market forces in both countries. But the pathways are very different: while there are remarkable changes in the results for Poland, the figures for East Germany did not change very much.

A first glance at the difference in inequality which is estimated by the Gini-Coefficient reveals an only slightly higher degree of inequality for East Germany.

10 In Poland, the poverty rate reached a higher level than in most Western Europe countries (cf. Duncan et al. 1992). But this rate is still lower than for the USA and Canada (and than the rate for foreigners in West Germany).

But this difference is statistically significant, and significant in a substantial sense, too, when one takes into account the extreme stability of Gini-Coefficients for Western economies across time (in cross-section analysis).

In East Germany, the development is mainly caused by open unemployment which is a result of the fast transition of the whole economic framework (mainly the introduction of common currency). But the unemployment insurance does a good job in East Germany. It is finaced heavily by transfers from West Germany, and not by a pay-as-you-go scheme within East Germany alone. The result is that in East Germany income inequality has not increased very much, although the official unemployment rate is about 15 percent (in 1992). Additionaly 10 percent of the labor force is on pre-retirement schemes or on job-creation programs (cf. Mueller et al. 1993).

A second reason is that in the old firms who belong still to the Treuhand-Trust as well as in privatized firms the distribution of earnings has changed very slowly (cf. Bird et al. 1993). Only newly founded firms which employ no more than 4 percent of all workers in spring 1992 pay earnings which are distributed like earnings in firms within West Germany.

The Polish case looks different. In Poland, transition to the market economy started in fact in 1989.[11] At the beginning of this year, still under the communist government, some steps were undertaken in order to reform the economic system: abolishing many subsidies, allowing for the growth of the private sector (wholesale sector, the foreign currency exchange) and other measures. So-called "marketization" of the food sector in August (mainly price liberalization accompanied by termination of meat rationing) resulted in a jump in the inflation rate. In the last quarter of 1989, the first non-communist government simply followed the steps undertaken before. Growing inequality and poverty could have been the result of the already pronounced

11 The starting point of the Polish transformation is not that clear. Quite often, January 1, 1990 is pointed out. But growing market forces, affecting household living conditions, were clearly visible already in 1989 (cf. Kochanowicz 1994 and Slay 1993).

market forces.

At the beginning of 1990, the government proposed "shock therapy". One of the main goals was the fight against inflation. As a part of the stabilization program, wages were no longer allowed to keep up with the inflation rate. Pensions, on the other hand, were much better protected. The principle of full employment was abolished, and the official unemployment rate grew from 0.2 per cent in January up to 6.1 percent in December of 1990. The unemployment benefits, although relatively high, could not offset the income loss of those affected.

Overall, however, inequality and poverty increased in Poland in the first year of transition, and were reduced in the second year.[12] In contrast, East Germany experienced a further increase in poverty although transfers are made by West Germany. An unbelieveably high share of 70 percent of "national" income of East Germany is financed by transfers from West Germany (cf. DIW 1993).

The decline of inequality in Poland in 1990 might be due to many reasons. First might be the measures undertaken in order to limit wage increases. This was useful in order to fight against inflation, but it was also an instrument which broke the power of market forces. Secondly, the opportunities of second jobtaking (in enterprises) for farmers shrank dramatically at that time. Thirdly, farmers suddenly lost their easy access to the market. With the growing import of food (due to the stable exchange rate of the zloty), selling domestic products was no longer so easy. The formerly rich farmers became the losers during transition (the share of farmers in the highest income quintile fell from 33 per cent to 24 per cent in 1990; see table 5a and 5b).

12 Findings concerning the inequality change are supported by other authors (cf. Warunki-zycia 1991, p.28), although they are sometimes questioned on the basis of the non-representativeness of household budget surveys. On the other hand, poverty rates are found to be declining in 1989 compared to 1988, and then continuously growing (cf. Warunki-zycia 1991, p.30). But these results are based on a quite different methodology: the money value of 'minimum basket' as the poverty line, and incomes measured in per capita terms.

Table 5a and table 5b contain information on the consequences of transformation for demographic groups, in the first and the second year of the transition period respectively.[13] In both countries the pictures are surprisingly similar.

At that time, the income position of elderly people, i.e. persons in households with heads over 60 or a pensioner, and the position of one-person-households (again mainly elderly people) was improved: in Poland in the second year of transition, in East Germany immediately. In both countries pensioners eventually benefitted from a more advantageous method of setting the pension level, and pensioners could not be affected by unemployment. Moreover, pensions were protected against inflation better than wages.[14]

Families with children were also losers during transition. In Poland, the latter group faced a doubled poverty rate. No specific protection for families with children as given in Poland or in East Germany. This is a major shortcoming of the social policy under transition, because families with dependent children are less flexible when facing new labor market obstacles.

4 Longitudinal results

By means of the German as well as of the Polish data, it is possible to proceed with the analysis of income mobility and poverty dynamics. We calculate very simple transition matrices for both countries under consideration (see tables 6a for Poland 1988-1989, and 6b for East Germany 1990-1991). The results are very similar again.

Overall income mobility was somewhat higher in East Germany than in

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13 We break down the population by demographic variables only because we do not have information on unemployment in the Polish data base.

14 It should be mentioned that the position of Polish pensioners worsened quickly after 1990. Pension protection against inflation was too costly for the state budget, and the government has tightened pension indexing rules.

Poland. For instance, in the GDR, 53 percent of people from the lowest quintile in 1990 remained in the same quintile the next year. In Poland, 60 percent of the lowest quintile in 1988 also did not move from this quintile the next year. The slightly lower mobility observed in Poland seems plausible because the 'shock therapy' (with growing open unemployment) had not yet started at that time. On the other hand, the smaller mobility in Poland had the effect that the high poverty also remained.

Tables 7 and 8, and figure 3 show the poverty dynamics within the period of the transition of both economies. In Poland in 1988-89, it was higher than in East Germany (1990-91) mostly because relatively more people entered poverty: about 7 percent in Poland, compared to 3 percent in East Germany. The percentage of those who were leaving poverty was rather similar in both countries (about 3 percent in each case).

The next year, poverty dynamics in Poland were still higher than in Germany, but this time the main difference concerned exits from poverty: the share of people leaving poverty reached over 6.5 percent of the total in Poland, remaining unchanged, i.e. at the level below 3 percent, in East Germany. In general, the 'Polish' pattern consisted of rather considerable movement into poverty during the first year of the transition, and then similar movement out.

Underlying this pattern was the rather exceptional situation of pensioners in Poland. The relative number of the new-poor was extremely high in 1989 (over 18 percent), but in 1990, as many as 21 percent of Polish pensioners escaped from poverty. On the other hand, the percentage of the poor in all years was also relatively high (over 10 percent). Obviously in 1989, and therefore on the very eve of the transition period, pension protection was much more inadequate in Poland. The obvious change came in 1990 - although not for long, as we now know.

5 Conclusion

On the eve of the transition period, the degree of income inequality and the extent of poverty were very different in Poland and in the German Democratic Republic (GDR). This shows clearly that the economic systems under a communist regime were not the same in these countries.

Poland was, in a sense, much closer to Western societies, with higher inequality and poverty rates. It was, in part, a result of a looser wage control, but also of inequalities among farmers, for Poland (in contrast to the GDR) has for years been largely affected by rural groups. The social protection provided by the state was less developed in Poland than in East Germany, too. The income position of pensioners was particularly low (but even in the GDR, the pensioners were far below the average).

Starting from different points, the overall pictures of the transition process reveal some similarities in both countries, resulting in an increase of inequality and poverty. Inequality is, however, growing faster in Poland than in East Germany. It seems that from the very beginning, Germany more quickly adopted social policy measures to solve problems arising from the economic transformation, such as the unemployment explosion. In East Germany, the shock of a common currency came together with more adequate social policy rules, which at once broke the speed of influence of the market forces.

But the transition of East Germany is a unique economic event within Eastern Europe. It is a "transition with insurance" (cf. Schrettl 1992). This simply means that West Germany pays a large amount of the transition cost of the former GDR, subsidizing old industries, partially financing unemployment benefits, job creation programs, and a good deal of the old age benefits. In 1992, two-thirds of the "national" income of East Germany was transfered from West Germany. All in all, the transition of income inequality and the poverty rates is much smoother in East Germany. The insurance provided by the West has a price, however: most of the privatized firms in East Germany are being bought by Western companies (cf. Sinn and Sinn 1992, pp. 16). Such insurance would also be possible in Poland, but the price seems to be too high. The price would be the loss of economic independence, which no one is ready to accept.

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Annex: Tables

Table 1: Household structure in
East Germany and Poland 1990

	East Germany 1990	Poland 1990
1 Person	25,2	13,3
2 Persons	30,5	27,7
3 Persons	23,1	17,5
4 Persons	17,3	20,5
5 and more Persons	3,9	21,0
Population	100,0	100,0

Table 2: Measures of Inequality and Poverty in Poland and East Germany before transition to market economies

	Poland 1987	Poland 1988	East Germany 1990
Gini-Coefficient	.2303	.2333	.1913
Quintile shares (in %)			
Lowest	10.58	10.52	11.35
Lower Middle	14.83	14.82	15.83
Middle	18.33	18.19	19.45
Upper Middle	22.64	22.57	23.04
Highest	33.62	33.90	30.33
Population	100.00	100.00	100.00
Poverty rates in % of mean equivalence income			
40% -level	2.3	2.2	1.0
50% -level	6.3	6.7	3.7
60% -level	14.0	14.6	11.8

Sources: GSOEP 1990; Polish Household Panel 1987-1988

Table 3: Income distribution and Poverty rates in Poland 1988 and East Germany 1990
according to socio-economic characteristica

Poland 1988

	Type of household				Age of Head of Household		one-person households	other house-holds with-out children	other house-holds with children	Population
	Workers	Farmers	Mixed	Pensioners	< 60 years	>= 60 years				
Persons within Quintiles										
lowest (20)	14.7	22.1	11.0	48.1	16.7	43.4	48.9	16.7	22.3	20
40	22.2	14.2	13.6	23.8	19.7	23.2	15.9	15.6	27.5	20
60	22.7	12.6	19.2	16.7	20.6	15.9	11.6	18.9	22.6	20
80	22.4	18.2	23.9	8.2	21.6	8.8	11.1	22.4	17.2	20
highest (100)	18.0	32.9	32.3	3.3	21.6	8.7	12.5	26.4	10.4	20
Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Poverty rates of mean equivalence income										
below 40%	0.7	4.1	1.0	7.6	1.8	5.3	4.6	2.4	1.6	2.2
below 50%	4.0	9.3	2.2	19.7	5.4	15.8	19.1	6.2	6.2	6.7
below 60%	10.2	19.0	5.2	38.6	11.9	34.2	38.3	12.4	15.9	14.6

East Germany 1990

	Type of household		Age of Head of Household		one-person households	other house-holds with-out children	other house-holds with children	Population
	non-pensioners	pensioners	< 60 years	>= 60 years				
Persons within Quintiles								
lowest (20)	14.4	52.8	14.8	46.1	57.5	10.7	19.8	20
40	19.1	27.4	19.1	26.2	10.3	17.4	24.6	20
60	20.2	11.4	20.0	13.0	6.5	15.5	23.7	20
80	23.1	3.7	23.2	6.3	15.6	21.2	20.3	20
highest (100)	23.3	4.7	22.9	8.4	10.1	35.2	11.6	20
Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Poverty rates								
below 40%	0.9	1.5	0.9	1.3	1.9	0.7	1.0	1
below 50%	2.8	8.5	2.9	7.3	11.2	1.1	4.0	3.7
below 60%	7.7	34.7	7.9	30.0	42.5	4.9	10.5	11.8
of mean equivalence income								

Sources: GSOEP 1990; Polish Household Panel 1988

Table 4: Measures of Inequality and Poverty in Poland and East Germany after transition to market economies has started

	Poland		East Germany	
	1989	1990	1991	1992
Gini-Coefficient	.2607	.2422	.2022	.2029
Quintile shares (in %)				
Lowest	9.26	9.98	11.29	11.13
Lower Middle	14.15	14.51	15.82	15.84
Middle	18.16	18.35	18.64	18.87
Upper Middle	23.07	23.15	22.44	22.60
Highest	35.36	34.01	31.81	31.56
Population	100.00	100.00	100.00	100.00
Poverty rates in % of mean equivalence income				
40% -level	5.1	2.8	2.3	2.3
50% -level	10.6	9.0	4.2	6.1
60% -level	19.8	17.4	11.2	10.4

Table 5a: Income distribution and Poverty rates in Poland 1989 and East Germany 1991 according to socio-economic characteristica (1 year after transition started)

Poland 1989

	Workers	Farmers	Mixed	Pensioners	Age of Head of Household < 60 years	>= 60 years	one-person households	other households without children	other households with children
Quintile shares (in %)									
Lowest	13.1	22.9	8.8	55.7	15.5	49.6	48.3	18.5	19.4
Lower Middle	21.2	14.4	14.8	26.0	19.3	24.8	21.9	16.7	25.0
Middle	24.0	11.9	20.1	11.2	21.2	11.5	7.3	16.8	26.1
Upper Middle	23.6	18.4	23.3	4.4	22.1	6.5	10.4	21.6	18.6
Highest	18.6	32.5	33.0	2.7	21.9	7.6	12.1	26.4	10.9
Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Poverty rates									
below 40%	1.8	9.8	1.4	17.8	3.6	15.3	10.8	5.6	3.7
below 50%	5.3	14.2	3.8	34.6	7.8	29.2	30.3	10.3	8.8
below 60%	12.9	22.7	8.8	55.3	15.4	49.0	47.9	18.2	19.3
of mean equivalence income									

East Germany 1991

	non-pensioners	pensioners	Age of Head of Household < 60 years	>= 60 years	one-person households	other households without children	other households with children	Population
Quintile shares (in %)								
Lowest	18.9	24.3	19.0	24.5	35.3	11.1	23.4	20
Lower Middle	18.2	26.8	18.6	26.1	28.8	13.8	22.6	20
Middle	18.0	31.0	18.6	29.7	15.3	22.3	20.4	20
Upper Middle	21.2	14.4	20.8	15.2	11.1	24.3	18.3	20
Highest	23.7	3.5	23.0	4.5	9.5	28.5	15.3	20
Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Poverty rates								
below 40%	2.5	1.1	2.6	0.7	0.7	1.5	3.1	2,3
below 50%	4.3	3.1	4.5	2.7	2.8	3.3	5.1	4,2
below 60%	10.8	12.6	11.0	12.0	16.5	6.4	13.6	11,2
of mean equivalence income								

Sources: GSOEP 1991; Polish Household Panel 1989

Table 5b: Income distribution and Poverty rates in Poland 1990 and East Germany 1992 according to socio-economic characteristica (2 years after transition started)

Poland 1990

	Workers	Farmers	Mixed	Pensioners	Age of Head of Household < 60 years	>= 60 years	one-person households	other households without children	other households with children	Population
Quintile shares (in %)										
Lowest	17.9	21.1	9.0	37.0	18.0	32.4	36.5	15.1	25.9	20
Lower Middle	19.3	19.2	13.2	29.4	18.3	30.1	26.8	17.1	23.7	20
Middle	20.9	19.6	18.6	18.5	20.2	18.3	15.2	18.9	22.1	20
Upper Middle	21.5	15.6	27.9	10.7	21.7	10.3	9.7	22.9	16.6	20
Highest	20.4	24.5	31.3	4.4	21.8	8.8	11.8	26.0	11.7	20
Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Poverty rates										
below 40%	2.0	5.9	0.7	5.5	2.5	4.6	3.1	2.6	3.2	2,8
below 50%	8.0	12.7	3.7	15.1	8.4	12.5	11.5	6.8	12.4	9,0
below 60%	15.4	19.8	7.6	31.8	15.6	28.0	32.0	13.0	22.6	17,4
of mean equivalence income										

East Germany 1992

	non-pensioners	pensioners	Age of Head of Household < 60 years	>= 60 years	one-person households	other households without children	other households with children	Population
Quintile shares (in %)								
Lowest	20.8	17.6	21.2	15.4	23.1	11.2	25.7	20
Lower Middle	17.4	28.5	17.9	29.2	23.6	17.7	20.9	20
Middle	18.2	26.4	18.6	26.1	18.9	19.3	20.7	20
Upper Middle	20.0	20.4	19.9	20.9	21.5	20.7	19.4	20
Highest	23.6	7.1	22.4	8.4	12.9	31.1	13.3	20
Population	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100
Poverty rates								
below 40%	2.5	1.7	2.5	1.2	1.4	1.1	3.3	2,3
below 50%	6.5	4.8	8.7	3.2	6.0	2.8	8.4	6,1
below 60%	10.9	8.9	11.1	7.6	11.6	5.5	13.7	10,4
of mean equivalence income								

Sources: GSOEP 1992; Polish Household Panel 1990

Table 6a: Income Distribution in Poland in the transition process

Transition matrix for quintile shares

		1989					
		lowest (20)	40	60	80	highest (100)	Population
	lowest(20)	60	25	9	4	2	20
	40	22	36	27	11	4	20
1988	60	10	22	34	26	8	20
	80	5	11	23	37	24	20
	highest(100)	2	5	6	22	65	20
	Population	20	20	20	20	20	100

Table 6b: Income Distribution in East Germany in the transition process

Transition matrix for quintile shares

		1991					
		lowest (20)	40	60	80	highest (100)	Population
	lowest(20)	53	29	13	3	2	20
	40	21	32	32	11	4	20
1990	60	15	18	26	26	15	20
	80	8	15	24	32	21	20
	highest(100)	5	4	9	27	55	20
	Population	20	20	20	20	20	100

Table ~~6~~ 7: Poverty Dynamics in Poland and East Germany in the transition process (after 1 year)

Poland 1988-1989

	Population	Age of Head <60 years	>=60 years	workers	farmers	mixed	pensioners	one-person household	other house holds with-out children	other house-holds with children
both years in poverty	3.7	2.8	10.0	2.0	2.9	1.2	13.3	12.3	3.6	3.1
out of poverty	3.0	2.6	5.8	1.9	6.4	1.0	6.4	6.8	2.6	3.2
in to poverty	6.8	5.1	18.6	3.8	11.3	3.2	18.4	19.9	6.9	5.4
both years not in poverty	86.5	89.5	65.6	92.3	79.4	94.6	61.9	61.0	86.9	88.3

East Germany 1990-1991

	Population	Age of Head <60 years	>=60 years	non-pensioners	pensioners	one-person household	other house holds with-out children	other house-holds with children
both years in poverty	0.9	1.0	0.6	0.9	0.7	0.6	0.6	1.1
out of poverty	2.6	1.8	6.1	1.8	7.1	9.9	0.4	2.7
in to poverty	3.2	3.6	1.4	3.4	2.2	3.8	2.0	4.0
both years not in poverty	93.3	93.6	91.9	93.9	90.0	85.7	97.0	92.2

Table 8: Poverty Dynamics in Poland and East Germany in the transition process (after transition into the new regime)

Poland 1989-1990

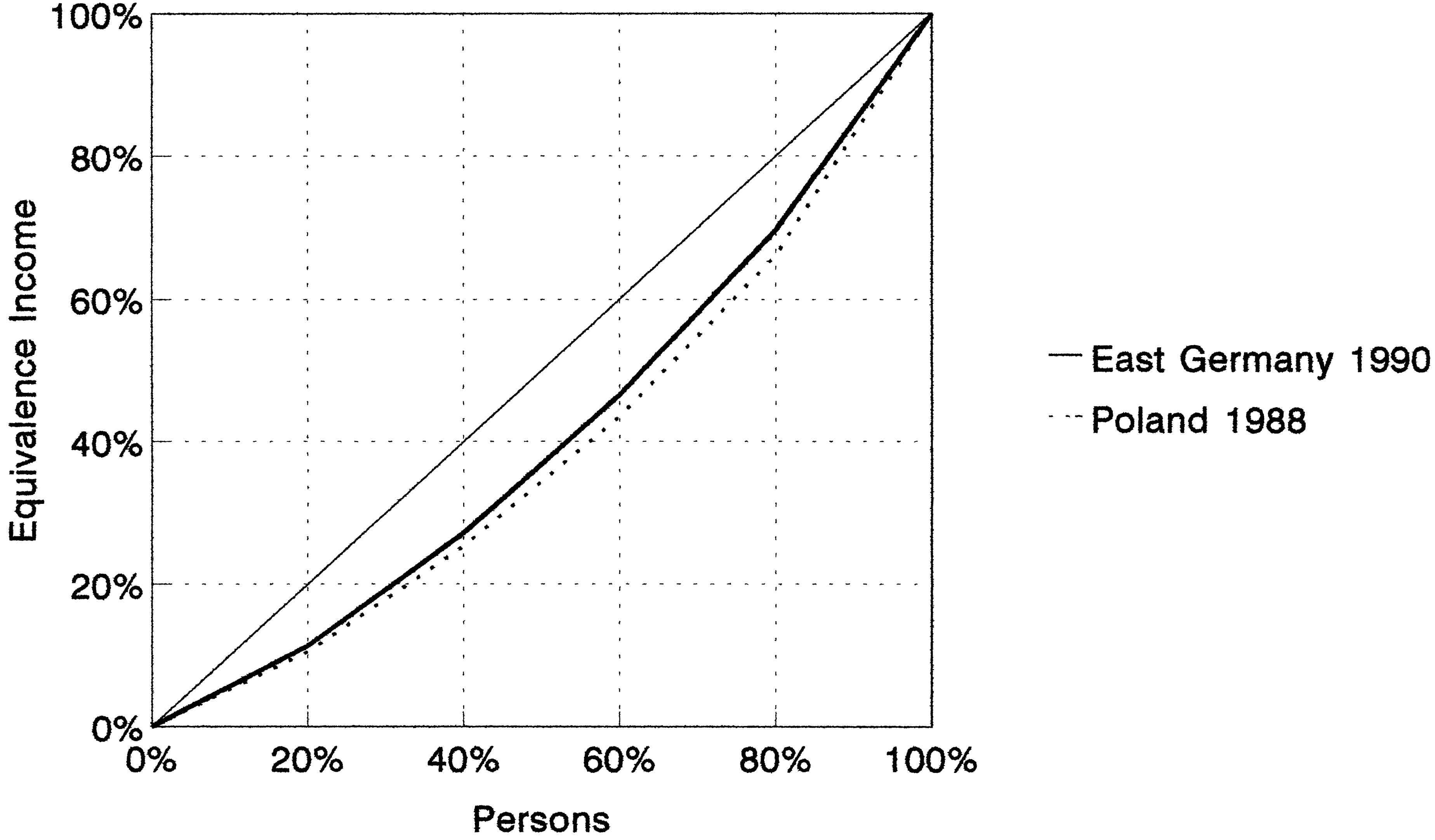
	Population	Age of Head <60 years	>=60 years	Type of Household workers	farmers	mixed	pensioners	one-person household	other house holds with-out children	other house-holds with children
both years in poverty	3.9	3.3	8.3	2.8	4.5	1.3	10.9	7.2	3.3	4.7
out of poverty	6.6	4.5	20.9	2.6	9.8	2.5	23.7	23.1	7.1	4.2
in to poverty	5.1	5.1	5.0	5.6	6.4	3.1	4.3	4.1	3.2	8.1
both years not in poverty	84.4	87.1	65.8	89.0	79.3	93.1	61.1	65.6	86.5	83.0

East Germany 199~~0~~1-199~~1~~2

	Population	Age of Head <60 years	>=60 years	Type of Household non-pensioners	pensioners	one-person household	other house holds with-out children	other house-holds with children
both years in poverty	1.5	1.5	1.6	1.5	1.9	1.0	1.2	1.9
out of poverty	2.5	2.8	1.2	2.8	1.4	1.7	1.8	3.2
in to poverty	4.2	4.5	2.5	4.3	3.1	5.9	1.9	5.2
both years not in poverty	91.8	91.2	94.7	91.4	93.6	91.4	95.1	89.7

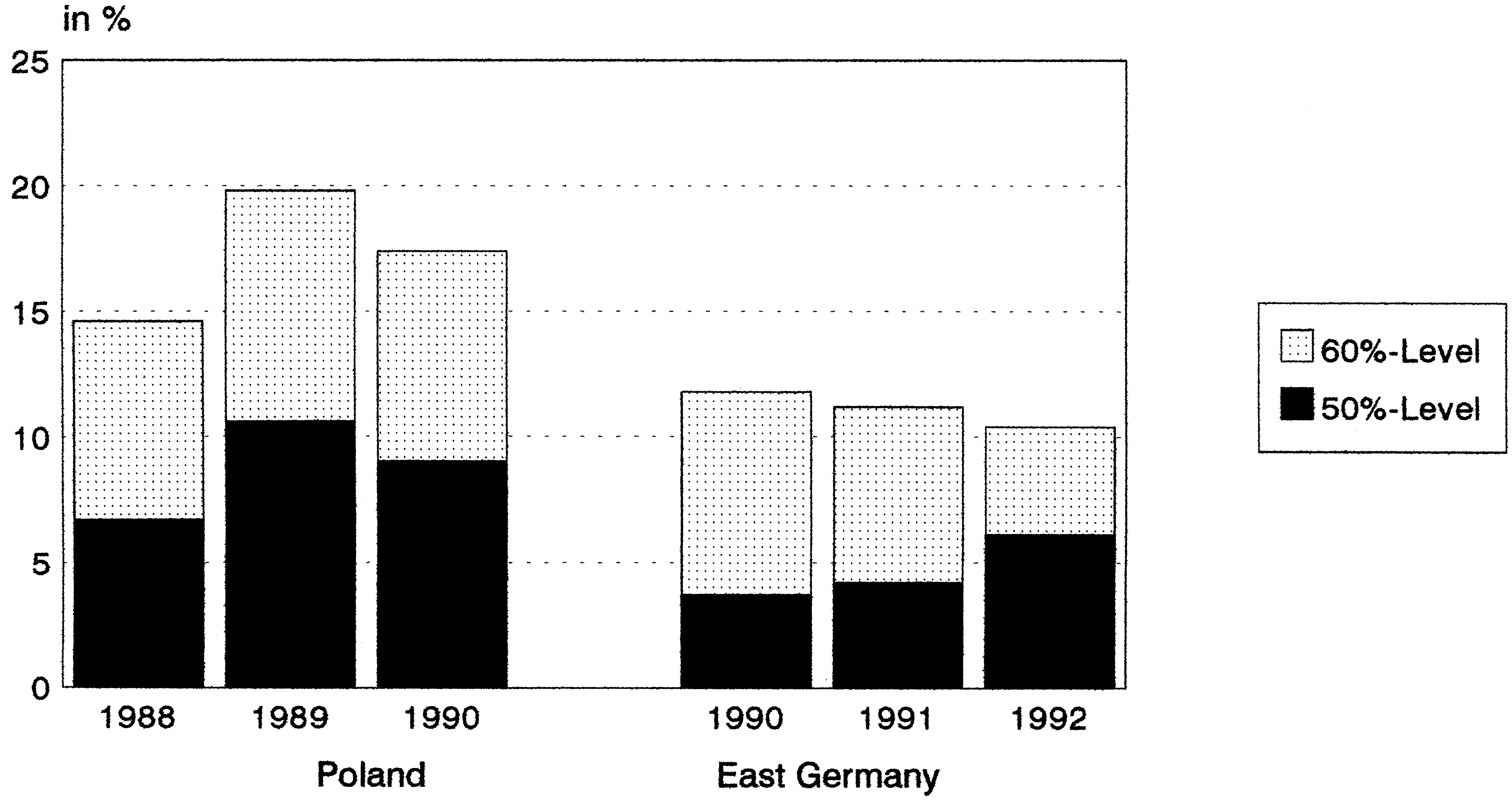
Figure 1: Distribution of Equivalence Income in Poland and East Germany before transition to market economies

Lorenz Curve



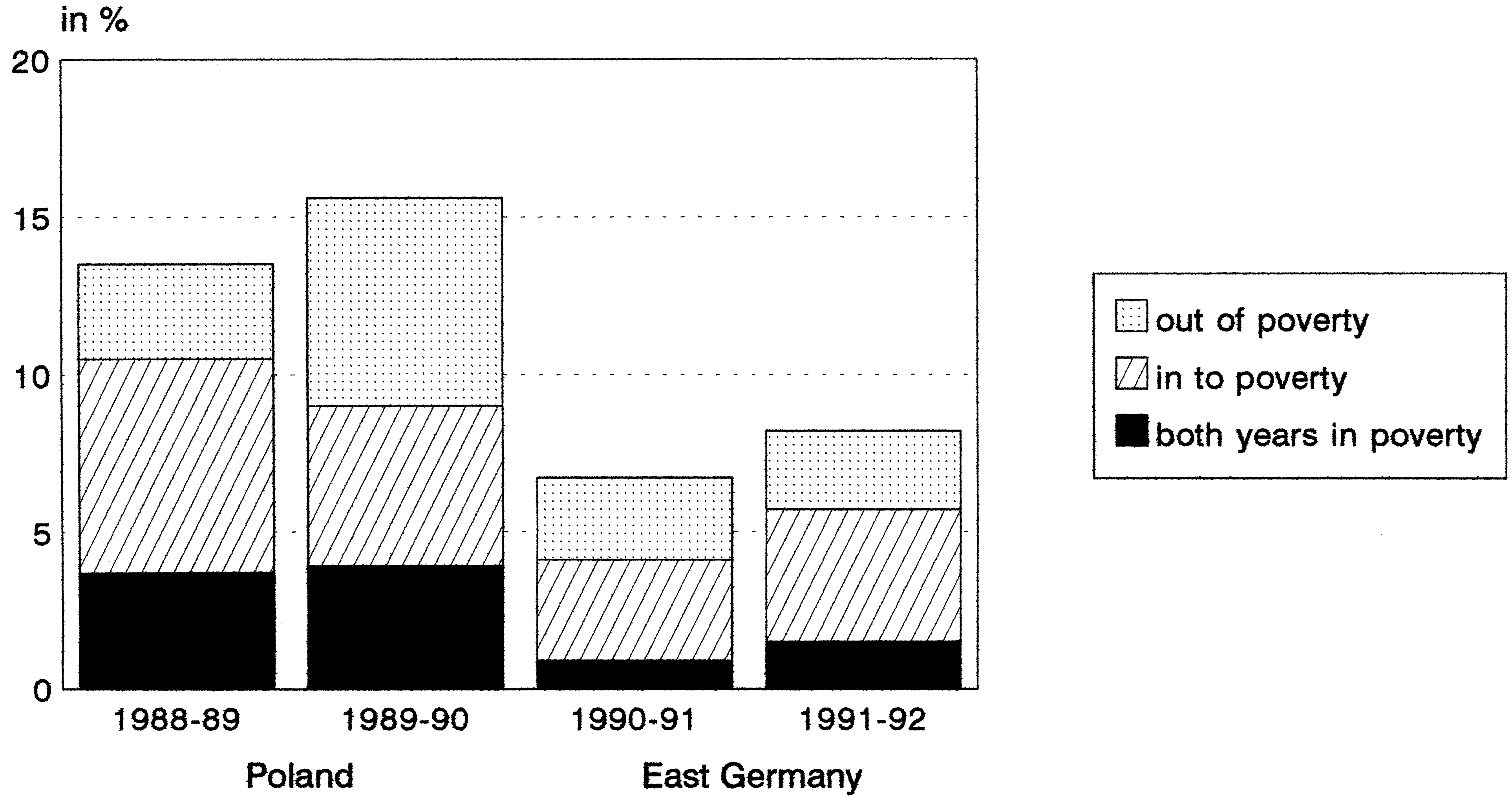
Source: GSOEP 1990; Polish Household Panel 1988.

Figure 2: Poverty Rates in Poland and East Germany under Transition
- All Persons -



Sources: GSOEP; Polish Household Panel.

Figure 3: Poverty Dynamics in Poland and East Germany under Transition
- All Persons -



Sources: GSOEP; Polish Household Panel.

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