

POVERTY IN POLAND, 1978-88

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This paper considers the issue of poverty in Poland in the decade 1978-88, during which the Polish economy experienced a severe slump (1979-81), and started a modest recovery (1983-88). The estimated poverty rate increased from less than 10 percent of the population in the late 1970s to about 18-20 percent ten years later. The increase was almost entirely due to pauperization of the urban (workers and pensioners) households. As real wages decreased, the percentage of the poor workers' households increased from 6 to almost 20 percent. The total number of pensioners, a social group with the highest poverty incidence, went up due to demographic trends and government policy of early retirement in response to market reforms undertaken in 1982-83. In addition, poverty incidence among pensioners increased to 25 percent. Overall, out of the total estimated number of 7 million poor, about 3.1 million are the new poor, i.e. people who before the crisis lived above the poverty level, and have since fallen below it. Such a deterioration in living standards, to a large extent limited to urban areas, probably had a significant impact on the ever growing disenchantment with the Communist regime which eventually resulted in its overthrow.

1. INTRODUCTION

This paper considers the issue of poverty in Poland in the period 1978-88. The first year of the period represents a benchmark year. It is the year when Polish GDP peaked, and real incomes of the population were higher than at any time since. The decline in GDP continued until 1983. Since then the economy notched modest increases. By the end of the period (1988), GDP per capita was 1.5 percent below its pre-crisis level, while the average standard of living (as reflected in real per capita income of the population) was 20 percent lower. It is important to study how economic stagnation affected the poor. It is generally felt that poverty expanded significantly and the appearance of soup kitchens in the main cities of Poland in 1989 provide tangible evidence of the degree of pauperization. In order to avoid possible misunderstanding we must explicitly state the premises and sources on which our analysis is based.

First, the words "poverty" or "poor" should be understood only in their technical meaning. We classify as "poor" all people whose incomes¹ are less than the social minimum calculated by the Institute of Labor and Social Affairs in

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¹ Incomes are corrected for consumption requirements, so that we classify as poor a household whose income *per consumption unit* is less than some minimum. Classified as poor are obviously all persons in this household.

Poland.² This is a purely conventional definition, since it is generally held that the social minimum is higher than what most people in Poland would regard as uncontested poverty. It is also higher than a pure existential minimum (or some measure based on a minimal calorie intake). Yet the social minimum, as defined by the Institute, allows only for a very minimal satisfaction of human needs.

The social minimum represents that level which at a given time and in a given environment is deemed indispensable for decent living. This is the rationale for treating the minimum as the “poverty line.” The poverty line must consequently be understood as relevant only in a specific context, limited both in space and time: the Poland of the 1980s. Since the line is constant in real terms, it allows us to chart relatively well how the extent and the composition of poverty changed during the ten year period.

The paper is not concerned with economic and sociological characteristics of the poor *per se*. It is also beyond the scope of the paper to study the route by which people fall into poverty, and how different specific subgroups (e.g. single mothers, school drop-outs, unskilled people in the countryside) are affected. This requires much more detailed micro analysis. The approach adopted here is more of a “broad-brush” kind. We use only published sources and:

- (1) estimate the extent of poverty in the period 1978–88;
- (2) study how incidence of poverty in the four main social groups (workers’, mixed, farmers’, and pensioners’ households) has changed and;
- (3) propose some general, relatively simple and intuitive, explanations of the macro-economic factors that influence changes in poverty.

We are concerned only with the “head-count” or poverty incidence measure.³ This is partly determined by the nature of the task (“How many people are (have become) poor?”), and is partly chosen for reasons of simplicity.

The structure of the paper reflects these objectives. Section 2 charts the evolution of poverty. In section 3 we present some “poverty accounting.” This is an attempt to disentangle demographic and migrational effects from purely economic effects.⁴ We shall be concerned with households who have joined the ranks of the poor. These are “the new poor” and to find out who they are, is, for political and social reasons, particularly important. Section 4 presents some econometric evidence on poverty, viewing the percentage of the poor in a social group as determined by two variables: average income of the group and inequality of income distribution within the group.

² The social minimum was calculated for the first time in Poland in 1980. The change in methodology in 1983 renders only the data for the period 1983–88 mutually comparable. In order to keep an absolute standard of measurement, we have extended back to 1978 the real value of the social minimum in 1983. Retail price index, corrected for shortages by adding respectively 10 and 15 percentage points to the index in 1980 and 1981, was used for deflation. The social minimum is calculated for workers’ and pensioners’ households. According to the researchers in the Institute and some indirect evidence on price levels, the social minimum for rural (both farmers and mixed) households is 10 to 20 percent below the minimum for workers’ households. We have used the latter (20 percent) correction.

³ Terms “poverty coefficient” and “poverty incidence” are used interchangeably.

⁴ For example, if population growth rates are higher in low income groups, then an increase in population, with everything else the same, increases the percentage of the poor; or transfer of population from “high-poverty” groups or areas to “low-poverty” groups or areas reduces the overall poverty incidence.

2. CHANGES IN POVERTY, 1978-88.

The total percentage of people classified as poor in 1987 and 1988 was almost twice as high as at the onset of the crisis in 1978. As mentioned before, Polish real GDP reached its peak in 1978. Between 1979 and 1982 GDP per capita decreased by 24 percent. The decline was without precedent in post-war Europe. Starting from 1983 relatively slow recovery began with the result that in the last year of the period under study (1988) GDP per capita was only slightly below the 1978 level. Real income of the population as obtained from *Household Surveys* was 20 percent lower than in 1978 (see Figure 1).⁵ It is therefore not surprising to find that whereas the share of the poor in total population was under 10 percent in 1978-79, since 1982 it was about twice as high.

The overall (country-wide) poverty coefficient is the result of two effects: different poverty coefficients for different social groups, and varying shares of social groups in the sample. We can write $\pi_T = \pi_W W + \pi_P P + \pi_F F + \pi_M M$ where T , W , P , F and M indicate respectively total population, workers, pensioners, farmers and mixed households, and π 's corresponding poverty coefficients.

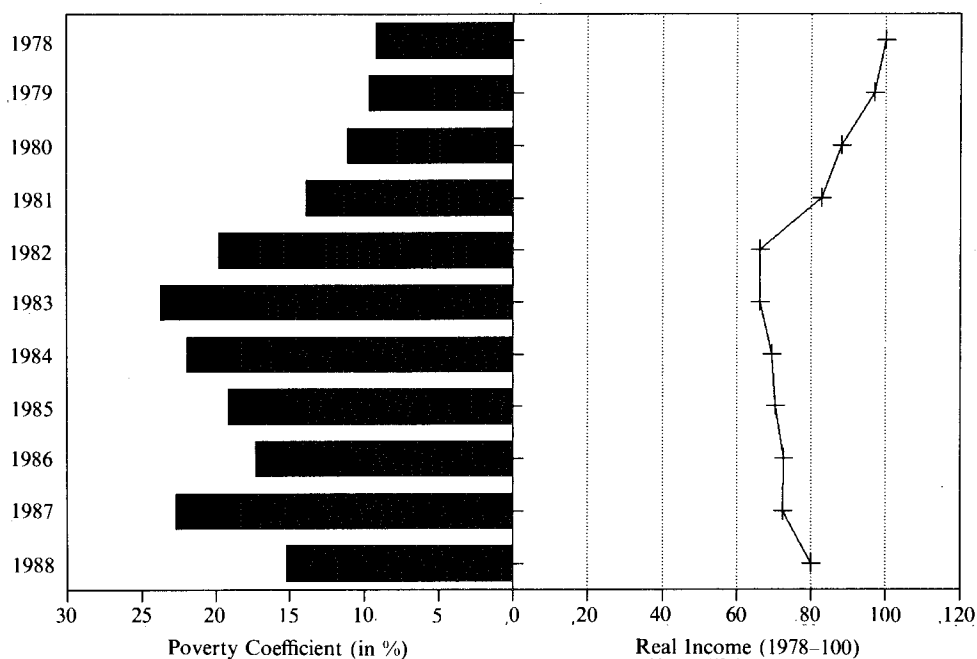


Figure 1. Real per capita Incomes and Poverty Coefficients

⁵ To calculate poverty incidence we are using yearly *Household Surveys (Budżety Gospodarstw Domowych)* conducted by the Central Statistical Office (GUS). *Surveys* cover, depending on the year, between 9,000 and 30,000 households; they include approximately 90 percent of all households (left out are those employed in the non-agricultural private sector, the military and the police). The *Surveys* are widely used both in Poland and abroad, and are considered reliable. All households in the *Surveys* are divided into four social groups: workers, farmers, mixed (worker-farmer households) and pensioners.

TABLE 1
THE STRUCTURE OF THE HOUSEHOLD SURVEY SAMPLE
(In percent of total sample)

	Workers	Mixed	Farmers	Pensioners	Total
1978	61.7	17.1	13.3	7.8	100
1979	61.2	16.1	13.9	8.9	100
1980	60.5	15.8	13.9	9.8	100
1981	60.3	15.5	14.0	10.2	100
1982	61.6	12.7	13.7	11.9	100
1983	61.4	13.8	10.9	14.0	100
1984	61.1	13.2	10.8	14.8	100
1985	60.5	13.0	10.9	15.6	100
1986	55.5	16.9	13.0	14.7	100
1987	52.5	18.4	14.7	14.7	100
1988	52.1	18.4	14.2	15.2	100

TABLE 2
POVERTY COEFFICIENTS, 1978-88
(Share of the poor in total group's population)

	Workers	Mixed	Farmers	Pensioners	Total
1978	6.4	9.5	14.9	20.8	9.2
1979	6.1	12.8	16.7	17.1	9.7
1980	7.8	10.6	17.2	23.7	11.1
1981	11.4	11.4	16.4	29.2	13.9
1982	17.3	15.8	20.9	35.7	19.8
1983	19.1	13.4	29.7	49.0	23.7
1984	19.0	12.9	25.1	39.3	21.9
1985	17.3	11.3	19.5	32.4	19.1
1986	17.0	9.4	19.2	25.4	17.3
1987	25.2	12.6	21.4	27.6	22.7
1988	14.8	8.0	14.4	25.9	15.2

Note: Coefficients are calculated in terms of total group's population (individuals in a group; not households).

The data are presented in Tables 1 and 2. Consider first the structure of the *Survey* sample. If we compare only the end-years of the period (1987-88 vs. 1978-79) we can see that the structure of population as between urban (workers and pensioners) and rural (farmers and mixed) households is practically unchanged. Rural population accounts for slightly over 30 percent of the sample, about 2-3 percentage points more than in the beginning of the period. The composition of the rural population is also broadly unchanged as both the share of farmers' and mixed households went up by about 1 percentage point. The situation among urban households is different. The importance of workers' households decreased from more than 60 percent of total sample to about 52 percent; conversely, the share of pensioners increased from 8-9 percent to 15 percent.⁶

⁶ Comparison between the end and the beginning of the period always refers to years 1987-88 and 1978-79. The average of two years is taken to even out yearly fluctuations.

TABLE 3
FACTORS EXPLAINING THE CHANGE IN POVERTY
1987-88 versus 1978-79

Contributions ^a	Workers	Mixed	Farmers	Pensioners	Total
1978-79	3.87	1.85	2.15	1.58	9.45
1987-88	10.42	1.90	2.58	4.01	18.91
Change	+6.55	+0.05	+0.43	+2.42	+9.46
Relative contribution(%) ^b	69.3	0.5	4.6	25.6	100
Poverty effect ^c	+8.41	-0.14	+0.28	+0.65	+9.21
Population eff. ^d	-0.59	+0.20	+0.14	+1.25	+1.01
Interaction term	-1.27	-0.02	+0.02	+0.52	-0.75
Total	+6.55	+0.05	+0.43	+2.42	+9.46

^a The product of the group's share in total population and its poverty coefficient.

^b Group's contribution to poverty divided by the overall change in the poverty coefficient.

^c Calculated on the assumption that the group's share in total population is the same as in 1978-79, and that only its poverty coefficient has changed.

^d Calculated on the assumption that the group's poverty coefficient is the same as in 1978-79, and that only its share in total population has changed.

The increasing share of pensioners points to the first cause of increased poverty. Since pensioners' households consistently have the highest incidence of poverty, an increase in their share drives the overall poverty coefficient up. In addition, poverty incidence *among* pensioners has increased from less than 20 percent (in the beginning of the period) to 25-26 percent. While in the beginning of the period pensioners contributed about 1.6 points to the overall poverty coefficient (this is the product of the group's poverty coefficient and its share in the sample; see notes to Table 3), this increased to 4 points. Pensioners thus alone account for a 2.4 percentage point increase in the overall poverty coefficient.⁷ This explains a quarter of the overall increase.

The second important cause of increased poverty is related to workers' households. They display two essential characteristics: declining share in total population and rising poverty coefficient. The second feature is not unique to workers: poverty coefficients for all social groups except for mixed households increased. Workers households, however, were the most severely affected. Probability of living in a poor worker household has tripled: the poverty coefficient increased from little over six percent before the crisis to 25 percent in 1987 and 15 percent in 1988. Developments among workers' households thus account for 6.5 percentage point increase in the overall poverty coefficient: they explain more than two-thirds of the total increase. *Combined urban households (workers and pensioners) therefore explain 95 percent of the overall increase in poverty.*

Algebraically, when we take the total differential of π_T we obtain

$$d(\pi_T) = d(\pi_W)W + \pi_W dW + d(\pi_P)P + \pi_P dP + d(\pi_FF) + d(\pi_MM).$$

⁷ The peak in terms of pensioners' contribution was reached in 1983, when extremely high poverty incidence (49 percent) and a high share (14 percent) combined to make pensioners' contribution to total poverty almost 7 percent.

The effects of changes in poverty coefficients and shares of rural households (farmers and mixed) are negligible: combined they account for 0.48 percentage point or 5 percent of total increase in poverty. The two important terms are $d(\pi_w)W$ (8.4 percentage point increase) and $\pi_P dP$ (1.25 percentage points)—increase in poverty among the workers and the rising share of pensioners. The third important term is $d(\pi_P)P$, increase in the poverty coefficient among the pensioners: it adds 0.65 percentage points to the overall poverty rate.

Population changes (including demographic and migrational effects) were not important determinants of the increase in overall poverty. For all social groups combined population effects accounted for only 1 out of 9.5 percentage points poverty increase (Table 3). The only important population effect was the transfer from workers' to pensioners' households, which is in effect a movement from a low-poverty to a high-poverty group. Rising share of pensioners came about not only because of demographic trends but was also due to the government decision to lower the mandatory retirement age by five years in 1983. The decision was motivated by fear of widespread unemployment following the introduction of market-oriented reforms in 1982 and 1983.

The first two conclusions about the changes in poverty are:

(1) The most important direct cause of greater overall poverty in the second half of the 1980s is an increasing poverty among workers households.

(2) The migrational or demographic cause of increased poverty had to do with retirement of a number of workers' households in the early 1980s, who thus experienced a decline in income and joined the ranks of the poor.

These two effects (shown in boxes in Table 3) account for the entire change in poverty. All the other effects cancel out.

Among rural households the crisis did not have such dramatic effects. Poverty among farmers increased by about 2.5 percentage points (from 15.5 to 18 percent). Mixed households represent an exception to generalized increase in poverty. They are the only group whose poverty coefficient was in 1987–88 (slightly) less than before the crisis. From 1982 they display the lowest poverty incidence of all groups. At about the same time their average per capita income begins to equal or to exceed that of workers' households.⁸ This leads to the third conclusion:

(3) The only group that experienced decrease in the incidence of poverty were mixed households.

3. SOME POVERTY ACCOUNTING

Table 4 shows the total number of the poor in the period 1978–88. It is obtained by applying calculated poverty coefficients to the estimated rural and urban population.

The total estimated number of people living below the poverty line rose from about 3.5 million before the crisis to 7 million in 1987–88. The increase is entirely

⁸ From the early 1980s both farmers and mixed households' average per capita incomes are higher than workers'. However, higher degree of inequality, particularly among farmers, is responsible for the fact that these higher average incomes are not translated into equivalently lower poverty coefficients.

TABLE 4
TOTAL NUMBER OF THE POOR
(In 000 of people)

	Workers (1)	Mixed (2)	Farmers (3)	Pensioners (4)	Urban (1)+(4)	Rural (2)+(3)	Total
1978	1,154	793	967	472	1,627	1,760	3,386
1979	1,094	1,025	1,151	441	1,536	2,177	3,712
1980	1,396	830	1,188	687	2,083	2,018	4,101
1981	2,055	887	1,147	893	2,948	2,034	4,982
1982	3,108	1,121	1,597	1,244	4,351	2,718	7,069
1983	3,400	1,106	1,931	1,990	5,390	3,037	8,427
1984	3,385	1,050	1,675	1,697	5,082	2,725	7,807
1985	3,072	914	1,322	1,483	4,555	2,236	6,792
1986	3,042	790	1,240	1,204	4,246	2,030	6,277
1987	4,491	1,041	1,401	1,388	5,879	2,441	8,321
1988	2,654	663	921	1,358	4,012	1,584	5,596
1978-79	1,124	909	1,059	466	1,582	1,968	3,549
1987-88	3,572	852	1,161	1,373	4,945	2,012	6,958
Change	+2,448	-57	+102	+907	+3,363	+44	+3,409
Relative contribution to total increase (%)							
Change	71.8	-1.7	3.0	26.6	98.7	1.3	100

Note: The number of the poor in workers' households calculated as follows: percentage share of workers' households in total urban households (from the *Surveys*) times total urban population (from the demographic macro data) times poverty coefficient for workers' households. The same procedure is used for other social groups.

concentrated in urban areas. Almost 2.5 million of the increase is concentrated in workers' households and about 0.9 million among pensioners (Table 4). The average poverty incidence in urban households went up from 7.8 percent to 21.5 percent. The position of rural households did not worsen: total number of the poor in mixed households slightly decreased, while among farmers it increased by only 100,000. The poverty coefficient for the rural population as a whole remained practically constant: 13.3 percent in 1978-97 and 13.7 percent in 1987-88.

The different evolution of poverty among urban and rural households completely altered the picture of poverty. While before the crisis the total number of rural poor exceeded the number of urban poor, ten years later the ratio stood at approximately 2.5-to-1 in favor of the urban poor. The emergence of significant urban poverty has far-reaching consequences for economic policy (e.g. towards whom should the main thrust of welfare policy be directed, will increased unemployment, due to reorganization of the economy, be easily absorbed, etc?), as well as for social stability. A political system can, *ceteris paribus*, cope more easily with rural than with urban poverty. Rural poverty is often "buried" in the countryside, while urban poverty is highly visible. Urban citizens are also politically more active and influential among other reasons because they are closer to the centers of power. It can be also hypothesized that the increase in urban poverty probably had a significant impact on the ever growing disenchantment with the Communist regime which eventually resulted in its overthrow. Poland presently enters the painful process of industrial restructuring and transition to

market system, in which urban population is likely to be the most affected. The two starting conditions—large numbers of urban poor and a very strong trade union movement⁹—render this process more difficult. A particularly important question is how many of the poor are the “new poor,” that is people who before the crisis lived above, and are now below the poverty line. We turn to this question next, by trying to estimate their number.

If we divide all the population, and accordingly all the poor, into two groups, agricultural (rural) and urban, we can write the number of the poor in the agricultural sector in period 1 (PA_1) as equal to their number in period 0 (PA_0) plus increase of the poor in agriculture due to population growth (n_{pa}) plus the new poor in agriculture (NPA) minus transfers of the poor from agriculture to urban areas (t_a):

$$(1) \quad PA_1 = PA_0 + n_{pa} + NPA - t_a.$$

A similar equation for urban households shows that the number of the poor in urban areas in period 1 (PU_1) is equal to their number in the previous period (PU_0) plus the increase of the poor as result of population growth (n_{pu}) plus the new poor in urban areas (NPU) plus people who migrated from the agriculture and are now poor (αT_a), where α = the percentage of transferees who are poor and T_a = total transfers from agriculture to urban areas.

$$(2) \quad PU_1 = PU_0 + n_{pu} + NPU + \alpha T_a.$$

Using averages for the 1978–79 (the beginning of the period, $t = 0$) and 1987–88 ($t = 1$) we can write equations (1) and (2) (all data in thousands):

$$(1a) \quad 2,012 = 1,968 + 160 + NPA - 0.15 T_a = 1,969 + 160 + NPA - 0.15 (1,347)$$

and

$$(2a) \quad 4,945 = 1,582 + 129 + NPU + 0.22 T_a = 1,582 + 129 + NPU + 0.215 (1,347)$$

where 1347 = estimated total transfers from rural areas, and n_{pa} and n_{pu} are calculated assuming that the population growth rate among the poor is the same as the overall rate.¹⁰

We further assume that transfers are not exactly uniform across income groups, but rather biased toward low income agricultural households. Consequently, the share of the poor in agricultural transfers [15 percent; see equation (1a)] somewhat exceeds their share in agricultural population in the beginning of the period (13 percent). The percentage of transferees who are poor in cities

⁹ It should be mentioned that in Poland there is a strong farmers lobby. It draws a non-negligible portion of its strength from the shared feeling that private agriculture was treated inimically by the authorities until the early 1980s. The farmers lobby has been able to commit all recent governments to the parity policy whose aim is to equalize income of farmers with income of workers in the state sector. The lobby seems to be well-represented across the political spectrum: among “Rural Solidarity” and United Peasant Party (formerly allied with Communists) as well as among some technocrats in the government.

¹⁰ Total transfers are estimated as the difference between what the rural population would be at the end of the period (with a population growth rate of 0.79 percent p.a.) and its actual size. Increase in the number of the poor due to population growth is calculated by applying to the overall population growth in rural and urban areas the initial poverty coefficients. In a more detailed study, if population growth is inversely related to income, this calculation could be corrected.

is assumed to be the same as the average level of poverty in urban areas at the end of the period (21.5 percent).

From the two equations we obtain $NPA = 86$ and $NPU = 2,945$. This means that there are only 86,000 new poor in rural areas, and almost 3 million new poor in the urban areas. Total increase in the number of the urban poor (3.36 million; see Table 4) is therefore composed of 3 million new urban poor, 290,000 rural migrants, and 129,000 people who were born in the already poor households.¹¹ *It is significant that more than 3.1 million out of the total number of 7 million of the poor are the new poor, i.e. people who before the crisis lived above the poverty level, and have now fallen below it.*¹²

4. FACTORS BEHIND CHANGES IN POVERTY COEFFICIENTS

One of objectives of a study of poverty is also to link observed changes in incidence of poverty to macroeconomic variables. This is important because regularities of this kind, if established and found sufficiently robust, allow us to make conclusions about the impact of various macroeconomic measures on poverty. To take an extreme example, suppose that we are interested in assessing the impact on poverty of a reduction in real wages. That impact will vary in function of the importance of wages in total income of a social (or income) group, inequality of the wage distribution, participation rates etc. The importance of the impact may thus fluctuate between fairly minimal and substantial. Policy implications of one or another conclusion are quite different. In this section we shall try to relate changes in poverty coefficients of urban and rural population (social groups) to macroeconomic variables.¹³ The most natural candidates are: (1) average real income of a social group, and (2) the group Gini coefficient as an indicator of the pattern of distribution. We can expect that the first variable be negatively, and the second, positively, related to poverty.

The results are displayed in Table 5.¹⁴ A one percent uniform (across all income groups) reduction in real income of urban and rural households is associated with respectively 1 and 1.6 percent increase in the incidence of poverty (income elasticities of 1 and 1.6). This means that relatively more people are bunched around the poverty line in the case of rural population. The distribution term is statistically significant only in the equation for rural households.¹⁵

¹¹ In rural areas the accounting is as follows: there are 86,000 new poor plus 160,000 born in already poor families = 246,000. Out of these, 202,000 (15 percent times 1,347,000) migrated to cities, which yields a net increase of 44,000.

¹² This figure is composed of: 2.945 million new poor in cities + 86,000 new poor in rural areas + (290–202) thousand new poor due to migration from rural to urban areas = 3.119 million.

¹³ In order to increase the number of observations the data set for urban population is composed of 11 annual observations for workers and 11 annual observations for pensioners' households. The same applies to rural population which is composed of farmers' and mixed households.

¹⁴ For income we are using real wages in the socialized sector or real pensions (annual averages) rather than average real income of workers' (pensioners') households as given in *Household Surveys*. The correlation coefficient between the two is very high: 0.95. The first type of data (average wage or pension) is a macro variable available with less than a month delay; the second is available only with 1.5 to 2 years delay. For policy forecasts it is therefore easier to use average wage or pension.

¹⁵ This is not due to lack of variability of the Ginis for urban households: they were more variable (measured by the coefficient of concentration or by the standard deviation) than the Ginis of rural households.

TABLE 5
THE DETERMINANTS OF POVERTY

Dependent variable: log percentage of the poor					
Period	Constant Term	Income Term	Distrib. Term	\bar{R}^2 (F)	DW (SE)
Urban households					
1978-88	10.607** (0.000)	-1.009** (0.000)	0.127 (0.791)	0.864 (43.21)	1.74 (0.189)
Rural households					
1978-88	8.402** (0.001)	-1.609** (0.000)	2.009** (0.000)	0.833 (53.33)	1.61 (0.136)

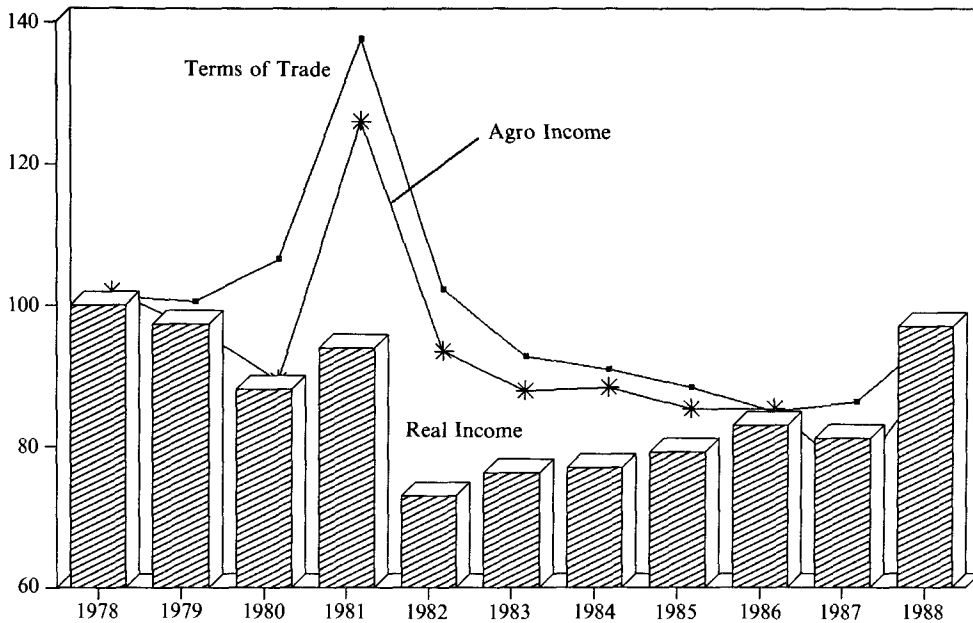
Notes: Equations are of the log form: $\log(\text{POOR}) = B_0 + B_1 \log(\text{income}) + B_2 \log(\text{distribution})$. Autoregression coefficient is statistically significant at less than 1 percent in the first equation; it is not statistically significant in the second. The number of observations is 21 for the first, and 22 for the second equation. Income is in 1978 constant zlotys (wages and pensions for urban households; real per capital household income from *Surveys* for rural households). Distribution term is the Gini coefficient for each social group as calculated from the samples in the *Household Surveys*. Data in brackets below regression coefficients show levels of significance at which the null hypothesis is rejected.

It is important to be able to tell what are the likely effects on poverty of changes in some key macro variables. For urban households this is relatively easy since real wages and real pensions, as shown in previous equations, have an unambiguous and measurable effect on poverty. The situation is different for rural households. Only the use of real per capita income of farmers' and mixed households (obtained from *Surveys*) yields meaningful results. Agricultural terms of trade (TOT) and real revenues of agricultural households (AGROR, compiled by the Central Statistical Office) are only very loosely related to the income data from the *Surveys* (YFARMR) and thus to poverty incidence among farmers, POORF (see Table 6). It means that TOT and AGROR are bad predictors of farmers' income. Unfortunately, the *Survey* data on farmers' income are available only at annual intervals, and cannot be used for short-term policy forecasts.

This presents the following problem. While for workers' and pensioners' households there was no inconsistency between macro (wages and pensions) data and *Survey* data, inconsistency is quite visible in the case of farmers' households. *Survey* data show that incomes of farmers did not decline as much as AGROR or TOT imply. Moreover, after 1982, *Surveys* point to a steady increase in farmers' per capita real incomes, while AGROR and TOT data show stagnation

TABLE 6
CORRELATION COEFFICIENTS, 1978-88

	TOT	AGROR	YFARMR
TOT	—		
AGROR	0.929	—	
YFARMR	0.430	0.525	—
POORF	-0.391	-0.418	-0.806



1978-100

Figure 2. Farmers: Terms of Trade, Real Income from Surveys and Agricultural Income

or mild decline (see Figure 2). If *Survey* data are more reliable, the divergence can be explained by an increase in revenues from non-conventional sources (including the "second economy") which are not captured by macro data. It is also possible that farmers, being (unlike workers) private entrepreneurs, have succeeded in avoiding a decline in their incomes, as suggested by the terms of trade, by displaying greater flexibility in their production decisions.

4. CONCLUSIONS

The economic crisis that started in Poland in 1978 brought about a significant reduction of average incomes of the population (about 20 percent by 1988), and an increase in the percentage of people living below the poverty line (by about 10 percentage points). The composition of the poor also changed: while before the crisis most of them lived in rural areas, majority of the poor (70 percent) are now city-dwellers. The change in composition was due to a severe increase in poverty among socialized sector workers whose real wages declined. Until the end of the period under study (1988) no unemployment appeared. The wage bill was reduced by uniform cut in real wages with the result that the wage as well the overall income distribution remained practically unchanged. Real income of pensioners' households decreased almost as much as that of workers. On the other hand, farmers' and mixed households weathered the crisis much better

than the other two groups. The explanation behind their relatively good performance seems to lie in greater flexibility that these households had when undertaking economic decisions (farmers could change crop composition while mixed households could, in addition, vary their labor inputs between the work in socialized industry and private agriculture) rather than in the better terms of trade between agriculture and industry.