

Report No. 20645-HU

Hungary Long-Term Poverty, Social Protection, and the Labor Market

(In Two Volumes) Volume II: Technical Papers

April 2001

Poverty Reduction and Economic Management (ECSPE)
Europe and Central Asia Region



Document of the World Bank

Currency equivalents

(as of 16 April 2001)

Currency unit	=	Hungarian forint
1 forint	=	\$0.003
\$1	=	262 forint

Weights and measures

Metric system

Fiscal year

January 1 – December 31

Abbreviations and acronyms

CSO	Central Statistical Office (Hungary)
HHP	Hungarian Household Panel (survey)
ILO	International Labour Organization
NGO	nongovernmental organization
TÁRKI	Social Research Centre Hungary)

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DATA AND METHODOLOGY

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Final version: April 2001

DATA AND METHODOLOGY

There are several basic choices that must be made to use any survey to estimate poverty. One must choose the kind of data (income, expenditures/consumption), the equivalence (per capita or per equivalent adult), the poverty line and poverty standard, regional differences, how to handle outliers, and other questions. This annex lays out the reasoning behind the choices made to generate the main analysis. In additional annexes, other data and approaches are studied.

Choice of Data

The baseline information in this report is the nominal income data generated by TARKI from their panel survey, the Hungarian Household Panel (HHP). The HHP consists of six rounds or waves from 1992-1997 inclusive. Since the major goal of this study is to assess long-term poverty in Hungary, a panel is required. There are other sources of survey information in Hungary, but the HHP is the only panel. So the choice of data source was immediately constrained to the TARKI HHP. The next issue is income versus consumption.

There are two sources of information about income in the HHP: detailed questions about income from the individual questionnaire which must be aggregated in a complex fashion to equal household income and a general question on household income from the household questionnaire. Detailed algorithms for constructing income are provided by TARKI with the data in SPSS syntax files, and are described in a series of working papers in Hungarian also available upon request. Following TARKI's practice, we select their created income variable, which is the maximum of these two approaches. Additionally, we exclude very few households in some of the rounds of the panel with zero incomes, as these are not plausible.

In general, in many countries, income data are not preferred for poverty analysis. There is the theoretical consideration that consumption data (expenditures plus the value of self-consumption of goods produced by the household--primarily food grown on private plots) is a better indication of household well-being than income, since actual consumption represents the household's choice of how much to consume out of its permanent income. There are also practical considerations, since many household surveys have reported consumption that greatly exceeds reported income due to the preference of respondents to under-state their income, especially to income from informal sources. This is especially the case for many transition economies, particularly from the former Soviet Union (FSU).

Although Hungary has a well-documented and extensive informal sector (CSO 1998), the culture of income-reporting, at least to survey interviewers, seems to be well established and in the HHP, reported household incomes are much higher than household expenditures (Table A1-1). This is partly a reflection of the nature of the HHP survey,

which was not intended to capture household expenditures in detail. The expenditure block is short, leading to inevitable telescoping and minimizing of reported expenditures. In contrast, the income portion of the HHP survey is quite extensive, and includes many questions on informal sector activity.

Table A1-1. Hungary: Panel Household Expenditures and Income, 1992-97
(In current forint)

	Mean Total Household Expenditure	Mean Total Household Income	Mean Expenditure as Percent of Income
<u>1992</u>			
Not Poor	22,071	33,400	66.1
Poor	8,164	22,401	36.4
Total	20,669	32,289	64.0
<u>1993</u>			
Not Poor	26,303	37,237	70.6
Poor	9,800	21,293	46.0
Total	24,617	35,620	69.1
<u>1994</u>			
Not Poor	29,657	42,976	69.0
Poor	11,455	23,883	48.0
Total	28,279	41,554	68.1
<u>1995</u>			
Not Poor	36,576	49,920	73.3
Poor	14,467	28,248	51.2
Total	34,648	48,045	72.1
<u>1996</u>			
Not Poor	46,129	55,781	82.7
Poor	19,183	28,067	68.3
Total	44,081	53,691	82.1
<u>1997</u>			
Not Poor	54,852	67,708	81.0
Poor	21,405	33,237	64.4
Total	52,120	64,849	80.4

(continued)

(continued)

<u>1992-97*</u>			
Never Poor	57,968	71,005	81.6
Poor Once	39,041	53,976	72.3
Poor Twice	32,793	40,028	81.9
Poor 3 Times	30,713	36,405	84.4
Poor 4 or More Times	21,118	26,146	80.8
Total	51,498	63,941	80.5

Source: Calculated from Hungarian Household Panel.

* Note: 1997 total household expenditure and income.

Household variables weighted by household sampling weights.

The differences between reported income and expenditures (Table A1-1) are quite large, suggesting that in the Hungarian context, expenditures may not be the best choice for poverty analysis. Some additional light is thrown on this question by considering an alternative source of data, the household budget surveys conducted by the Hungarian Central Statistical Office (CSO).

Given that the TARKI expenditures are so much less than income, and in recognition of the established use of income data in the large literature on Hungarian poverty analysis as well as the fact that TARKI researchers believe that their income data are the most reliable (Andorka, Ferge, and Toth 1998), it was decided to base this study's analysis on income data. However, the consumption data from the HHP were also analyzed and findings are presented in Annex 2: Consumption-based Poverty. The alternative source of information, the CSO household budget survey, is analyzed in Annex 3. However, the CSO surveys are not panel surveys, but are nationally representative cross-sections and cannot be used for panel analysis.

Equivalence

It has long been recognized that there are economies of scale in consumption, whereby larger families can conserve on some kinds of expenditures. For example, the cost of a marginal family member declines when considered against fixed costs (such as rent) or costs which change little due to additional members (such as the heating bill). Households can reap economies of scale in food consumption by "stretching" a stew to feed one more member at a low cost, or using hand-me-downs among children. For these reasons, it can be expected that larger households might need relatively less income to afford the cost of additional members.

An important question is to identify resources available to each household member taking into account possible effects of economies of scale. It is extremely difficult to answer this question without reliable data on the distribution of individual consumption within the household (information which shows whether one household member such as an

active-age male consumes more food and other goods than other household members such as children). This is sometimes called the “unitary household” problem, and results from the extreme difficulty of collecting (or observing) reliable information about individuals, especially children.¹ It is possible to approximate resources available to individual household members when making certain assumptions about the allocation of resources within the household. There are three approaches that have often been used: the Engels curve method, the Rothbart approach, and using information about subjective perceptions of poverty.

Under all the approaches, we can assume that each member consumes an equal portion of available resources and that there are some economies of size in household consumption (resulting from the presence of public goods). Economies of size in household consumption mean that the marginal increment to total household expenditures of an additional household member declines with each subsequent member.

Besides this effect of size, there are the questions of equivalence among household members. Equivalence in this sense means determining what fraction of the consumption of one household member (usually taken as an adult male for convenience) is covered by the consumption of other members. For example, one could expect that children would consume less food than parents, and that an employed woman would have more expenditures on professional clothing, transportation, and meals consumed outside the home than a retired grandmother also living in the household. In this case, the children and the pensioner would have lower consumption than the adult female in this household, and their consumption could be said to be equivalent to (for example) 50 and 70 percent respectively of the adult female’s consumption. Although this is true in principle, such an enquiry is beyond the bounds of this study as the estimation technique is not resolved in the literature. It is possible, however, to estimate size elasticity.

Equivalent resources per household member can be written as $\frac{Y}{n^\theta}$ where Y are total resources of the household, n is household size and θ is a parameter indicating economies of size. If θ equals 1, then the formula is a simple per capita one. Previous studies used the Engels method to estimate θ (Deaton and Muelbauer 1980), but recently this method has been repudiated by one of its original popularizers (Deaton 1997). Other methods such as Rothbart’s have also been criticized and are not easy to replicate, leaving only the subjective method as a possibility for estimating θ .

To utilize the subjective approach, one must have a subjective poverty line (minimum income) question asked in the survey. The HHP has such a question, asking in the household questionnaire what is the minimum income necessary to live adequately. We performed our analyses on the household-level data (i.e., based on the answers of heads) in two ways, unweighted and using TARKI sampling weights for households.

¹ Even tracking something as seemingly concrete as food intake over a 24-hour period is fraught with difficulties.

In the linear regression analyses the dependent variable was the natural log of adequate monthly household income. Independent variables were the following:

- natural log of monthly actual household income;
- natural log of household size;
- share of children under 18;
- share of pensioner age persons;
- dummy for Budapest;
- dummy for rural residence (reference category: other urban).

Thetas were computed as
$$\theta = \frac{B_1}{1 - B_2}$$

where θ is the coefficient of elasticity,
B1 is the unstandardized regression coefficient of log household size.
B2 is the unstandardized regression coefficient of log household income.

Table A1-2.

	Unweighted Theta	Weighted Theta	Total N	N used in analysis	Adj R2
1997	0.61	0.58	1819	1608	0.554
1996	0.69	0.67	1857	1674	0.624
1995	0.68	0.69	1902	1713	0.636
1994	0.63	0.63	1961	1755	0.623
1993	0.60	0.59	1993	1832	0.525
1992	0.60	0.63	2050	1868	0.625
Average	0.64	0.63	NA	NA	NA

At this point, we needed to choose which θ would be used for our equivalent household size. Due to some uncertainty about the use of the sampling weights, we opted for the unweighted theta estimates. Although this uncertainty was subsequently resolved, we were not able to go back to changing the estimates without redoing virtually all of the statistical analysis for the main report. Technically, it probably would have been better to opt for the weighted thetas, since our subsequent analysis did use sampling weights, but in practice, there is little difference between the two sets of numbers (not more than 0.03 difference) that we did not redo all the computations.

Larger differences in θ would have an effect on our results. Since there is no established way to calculate theta, a sensitivity analysis was undertaken to consider values for θ varying from 0.1 to 1.0 (per capita). Values of theta below 0.5 are unrealistic, suggesting unreasonably extreme economies of scale, but are offered for illustration (Table A1-3). The column labeled Subjective is based on $\theta=0.61$ (following on from Table A1-2). Data for how poverty rates would differ with different household composition is also included in Table A1-3.

For almost all values of theta, the poverty rate for households with children is higher or much higher than that of households with elderly members, and poverty rate households with both kinds of dependents are above those for households without dependents for values of theta at 0.6 and above. This suggests that for reasonable ranges of economies of scale, poverty is more of a factor for households with children than with elderly members.

Table A1-3.
Hungary: Sensitivity Analysis for Theta

	Theta =										Per Capita
	0.1	0.2	0.3	0.4	0.5	0.6	Subjective 0.7	0.8	0.9	1.0	
Poverty Rate (percent)											
1997	2.6	3.7	4.7	6.2	10.5	14.0	14.7	19.9	25.9	34.2	45.5
1997 Poverty Rate by Household Type (percent)											
No children, no elderly	4.4	5.6	6.6	6.6	7.2	7.9	8.5	9.3	11.3	18.2	23.1
Children, no elderly	2.0	3.8	5.2	8.1	15.4	20.4	21.5	31.0	38.9	50.1	64.2
Elderly, no children	3.4	3.4	3.6	4.2	5.0	6.0	6.5	7.4	10.3	15.0	22.6
Both elderly and children	0.6	0.6	1.2	1.9	6.4	13.6	13.6	16.3	27.3	33.1	50.4

Source: Bank staff calculations, HHP.

Poverty Line Adopted

Poverty rates are quite sensitive to where the poverty line is drawn. Alternative poverty lines are presented in Annex 4. The main poverty line adopted for the analysis was 50 percent of mean per equivalent adult income, calculated as TARKI total income divided by equivalent household size n^θ . Equivalent household size is the exponentiation of the household size to the power of the unweighted θ for each round specified in the preceding section. Data were selected to be on the household level, then grossed up to the population level by weighting by cross-sectional sampling weights and household size. Cross-sectional poverty rates are presented in Table A1-4 along with Foster-Greer-Thorbecke P1 and P2 measures.²

Based on the household's poverty status in each round, a variable for "long-term" poverty was constructed, which basically counted how many times the household had been poor over the panel period. Households which were poor four times or more were designated as "long-term poor" households. The distributions of households according to this designation were presented in the text Table 1-1.

Regional Differences

Following the practice of TARKI and reflecting the lack of rural deflators, no adjustments to the data were made for possible differing regional or urban-rural prices.

Outliers

Beyond the initial data cleaning by TARKI, income outliers were not adjusted in the analysis.

² These measures are defined in Annex 4.

Table A1-4.
Hungary: Income Poverty Trends and Severity

	Headcount (percent)	P1 Index (percent)	P2 Severity (percent)	Poverty Line (Forint/month per equivalent)	Poverty Gap (Million Forint)	GDP (Billion Forint)	Poverty Gap (percent of GDP)
1992	13.8	3.0	1.2	9155	32958	2942.7	1.1
1993	11.5	2.6	1.0	10038	31319	3548.3	0.9
1994	12.3	2.9	1.2	11364	39547	4364.8	0.9
1995	12.6	2.8	1.0	12262	41200	5614.0	0.7
1996	13.2	3.1	1.2	13481	50149	6893.9	0.7
1997	14.7	3.5	1.4	17749	74546	8541.4	0.9

Notes: Cross-sectional poverty calculated as household level data weighted by household size to gross up to population levels and by cross-sectional sampling weights.

Poverty line used was 50 percent of mean equivalent income with equivalence from subjective poverty approach.

Poverty gap calculated as 10 million population times

12 months per year times the poverty line per person times the P1 Index in percent divided by 100.

LONG-TERM CONSUMPTION-BASED POVERTY

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Final Version: April 2001

LONG-TERM CONSUMPTION-BASED POVERTY

In this section, we look at the profile of long-term poverty based on equivalent household consumption (expenditures plus the value of food produced on a private plot) to corroborate which of the income-based poverty profile results are robust.

In this annex, poverty is defined as households with a "per equivalent" adult expenditure (consumption) below 50 percent of the mean. Equivalence was estimated by using questions on the subjective poverty line (see explanation of equivalence in Annex 1: Data) and the size coefficient (theta) that resulted was between 0.6 and 0.7. The consumption profile of poverty is also sensitive to changes in the equivalence assumption, and reversals of demographic implications are possible.

The data clearly demonstrate the existence of the long-term poor. About 3 percent of the sample was poor in each of the six panel years, and another 10 percent were poor two or three times during the period (Table A2-1). Nearly three-quarters of the population were never poor during the period, and 15 percent were poor once but managed to stay out of poverty the other five years. However, the exit probabilities for households to escape from poverty during the period were high. Overall, there was a 72 percent chance that an individual would never be poor, and more than 50 percent chance that if poor once, further poverty could be avoided.

Table. Hungary: Long-term Poverty and Hazard Function

	Percent of Estimated Population	Hazard Function: Percent Chance Exiting Poverty	Hazard Function: Percent Chance Persisting in Poverty
Times Poor in 1992-97			
Never	72.0	72.0	28.0
Once	14.8	53.0	47.0
Twice	5.1	38.9	61.1
Three times	5.1	63.8	36.3
Four times	1.4	48.3	51.7
Five times	0.8	53.3	46.7
Always poor--six times	0.7	...	

Memorandum Item

Permanently Poor (4 or more times poor) 2.9

Notes: Hazard function for once poor is the probability of being poor only once (14.8) divided by the probability of being poor once or more times (sum of 14.8, 5.1, 5.1, 1.4, 0.8, and 0.7).

Other states constructed similarly. Chance of Persisting in Poverty equals 100 minus exit probability.

Households with the following characteristics comprise the majority of the permanently poor when poverty is measured against household consumption:

- * villages, not Budapest
- * disabled members

- * unemployed members, particularly households with two unemployed members
- * children, especially households with three or more
- * single parent
- * single elderly female
- * primary only education
- * Roma ethnicity

Location: Budapest has the lowest rate of long-term poverty and the highest rate of non-poor status of the four basic location factors: village, town, city, capitol (Table A2-2). Only 0.3 percent of Budapest residents are permanently poor, while 2.9 percent of the population is permanently poor. Budapest accounts for 24 percent of those not poor, while only 18 percent of the population resides in Budapest (Table A2-3). Rural villages had the highest rate of the permanently poor--5 percent versus only 3 percent of the total population, meaning that nearly 70 percent of permanently poor were located in villages.

The risk of permanent poverty varies with the size of the location. Villages have the highest concentration of permanent poor, followed by towns then major cities, and finally by Budapest, with the lowest rates of permanent poverty.

Disability: There is a high rate of the general population which reports receipt of a disability pension--nearly 15 percent of households report that one member receives a disability pension, and an additional 2.3 percent of households report two or more members that are disabled, which sums to 16.1 percent of the population with one or more disabled members (Table 3.4). Overall, 2.9 percent of the population were permanently poor, but nearly 8 percent of households with one disabled member and 9 percent of households with two or more disabled members were permanently poor (Table 3.3). Of the permanently poor, 40 percent lived in households with a disabled member and 7 percent in households with two or more disabled members.

The risk of permanent poverty is clearly associated with the presence of one or more disabled members, while the overall rate of disability pensioners (16 percent of the population) would indicate a high rate of those unable to access labor income of their own.

Unemployed. Household with two or more members reporting receipt of unemployment benefits had the highest rate of permanent poverty of any of the poverty correlates presented in the groupings in Table 3.3, with a rate of 22 percent. This is paralleled by the composition of permanent poverty (Table 3.4), where almost 16 percent of those living in permanently poor households had two or more members unemployed (as opposed to 2 percent of the population of such households). Curiously, the rate of permanent poverty of those households with only one unemployed member was lower than the overall rate, 1.8 percent versus 2.9 percent, but there are so few households of either type that this may not be especially significant (Table 3.3).

Receipt of the unemployment benefit was essentially as pervasive as disability pension receipt, with just under 16 percent of the population living in households with one or more unemployed member, but the share of the permanently poor who lived in households with unemployment benefits was only about 25 percent as opposed to 47 percent who received one or more disability pension. This suggests that unemployment, while linked to permanent poverty, is not as severe a risk as is disability.

Children. Nearly 60 percent of Hungarian households contain at least one child under the age of 18, and 14 percent of the population lives in households with three or more children (Table 3.4). Most households with children, even with three or more children, were not poor over the period 1992-97, following the overall trend. However, some households with children faced a rate of permanent poverty that was higher than the average of 2.9 percent for all households. Interestingly enough, households with two children were less likely to be permanently poor (1.1 percent) than households with either one or three or more children (4.9 and 5.9 percent respectively).

Children also seem to have an ambiguous effect when household composition is considered. Households with children but no elderly have a permanent poverty rate of 4.1 but households with both children and elderly members face a rate of permanent poverty of only 0.4 percent. This suggests that complex households may benefit from the presence of elderly members who can take care of children, freeing the active-age adults to earn labor income. Overall, such complex households are about 10 percent of the population, but only 1 percent of the permanently poor (Table 3.4), while nearly 70 percent of the permanently poor are households with children but no elderly members. Overall, just under half of the population lives in households with children but no elderly members.

Single Parent. Approximately 5 percent of the population lives in single-parent households, but such households comprise 14 percent of the permanently poor (Table 3.4) with an elevated rate of permanent poverty (nearly 8 percent versus 2.9 percent for the population as a whole, Table 3.3). Single-parent households are a correspondingly lower share of the never poor, and the rate of single-parent households which were never poor is somewhat lower (66 percent) than the average rate of 72 percent.

Female-headed households were more likely to be permanently poor (4 percent) than males or the average (3 percent), and comprised 26 percent of the permanently poor but only 18 percent of the total population.

Single Elderly Female. Overall, the elderly face lower poverty rates than do children. Households with one or two elderly members are only 1.3 and 0.8 percent permanently poor, respectively (Table 3.3). Households with elderly members do comprise a larger fraction of the permanently poor than this rate might suggest, with nearly 16 percent of the permanently poor living in households with elderly members (Table 3.4). At the same time, nearly 70 percent of the permanently poor are households with children but no elderly members.

Although the elderly are not at especially elevated risk of permanent poverty, there is a clear gender dimension to elderly poverty. Single elderly males (those aged 60 or above) were not poor more than twice during the period 1992-97, meaning that zero percent of the permanently poor or those poor three times were single elderly males. Most elderly males are not single; they live in other kinds of households which have higher poverty risks, but for the 0.8 percent of the population that are single elderly males, their poverty position is most favorable. This is not the case for single elderly females, however. First, single elderly females are 4 percent of the population, so there are more of them than males owing to superior female life expectancy. Next, single elderly females face a rate of permanent poverty that is equivalent to the 3 percent overall rate. Finally, single elderly females comprise a larger share of the permanently poor--4 percent--while not one of the single elderly males was permanently poor.

Primary-Only Education. In Hungary, as in the rest of the world, higher education provides access to higher education, reducing the risk of poverty and sharply reducing the risk of permanent poverty among those with higher education. This is counterbalanced by the negative effect of low educational attainment. In 1992-97, not a single household with a household head with higher education was poor more than once, and such households comprised only 3 percent of those poor once, while amounting to 13 percent of the population.

Households with heads with primary-only education were quite disadvantaged. Such households were 32 percent of the population, but only 22 percent of those who were never poor, and 82 percent of the permanently poor (Table 3.4). Household heads with primary-only education had a rate of permanent poverty that was nearly 8 percent versus 0 percent for heads with higher education (Table 3.3). Vocational and secondary education heads faced a rate of permanent poverty of about 1 percent.

Roma Ethnicity

Only 3.6 of the population are of Roma ethnicity, but this 4 percent accounts for nearly 40 percent of the permanently poor. The rate of permanent poverty among the Roma is 29.5 percent while only 1.7 percent among the non-Roma (2.8 percent overall). Roma ethnicity is the single strongest consumption poverty correlate.

POVERTY IN HUNGARY IN 1997

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Submitted: July 3, 1999

Final version: April 2001

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1. Introduction

1.1. In the early 1990s, Hungary, along with other Eastern European and Former Soviet Union (FSU) countries, experienced major adverse economic shocks. Falls in exports and closures of loss-making enterprises, accompanied by high inflation, led to a decline in real output of 20 percent between 1989 and 1993.¹ The economy did not show strong signs of recovery until 1997, when GDP grew by 4.6 percent. The decline in economic activity, and the ongoing restructuring of the economy as part of the process of transition to a market economy, has led to a fall in the level of employment of 25 percent compared with pre-transition levels. Further, the Hungarian labor market has become increasingly segmented between those who are able to find and hold work relatively easily, and those who have struggled to maintain a strong connection with the labor market. The rise in the numbers of persons who have left the workforce has led to a decline in fiscal resources (via diminished tax receipts) which hinders the ability of the government to finance the social safety net. Of more concern for future growth is the depreciation of the human capital of those forced to leave the labor market.

1.2. In this report, consumption- and income-based profiles of poverty in Hungary in 1997 are presented. The analysis is based on a sample of 7559 households and 20073 individuals from the 1997 Hungary Household Budget Survey (HBS), which is collected by the Central Statistics Office (CSO).² There are three main aims of the report. First, is a comparison of consumption- and income-based poverty profiles; are the correlates of poverty similar under the different indicators of welfare? Second, the results from the HBS data are compared with the main poverty profile in the Hungarian Poverty Update. This profile is based on the 1992-97 Hungarian Household Panel (HHP), which is collected by the Social Research Informatics Center (TARKI). The final aim is to see if the conclusions from the 1997 HBS data are robust to differing assumptions about the potential presence of economies of scale.

1.3. The overall objective of poverty analysis is to identify which households and individuals are most vulnerable to poverty and to provide input into the design of policy measures that help to reduce poverty and improve living conditions for the poor. The first step of poverty analysis is defining a *measure of living standards* that can be used to rank households from least well-off to most well-off in a consistent fashion. Both household income and consumption are used as measures of household welfare in this paper. The second step in poverty analysis is determining a rule that is used to distinguish the poor from the non-poor; this involves the setting of the *poverty line* against which household welfare is compared. In the present paper, several different relative poverty lines are used. The third step involves using the living standards indicator and poverty line to construct the *poverty profile*, which identifies the salient characteristics of the poor and thus provides information on the causes of poverty.

1.4. The structure of the paper is as follows. In Section 2, there is a discussion of the different measures of living standards used in the analysis, and a brief description of the levels and

¹ This description of the recent macroeconomic changes in Hungary is from Szivos and Toth, 1998.

² The HBS is national, stratified household survey. For details see CSO (1997).

distributions of these measures. The poverty lines used in the analysis are described in Section 3, as well as the index numbers of poverty (describing incidence, depth and severity) which are used to describe the poverty situation in Hungary. In Section 4, the poverty profile (which shows how the poverty rate differs across characteristics of individuals and households) is presented. A regression-based poverty profile is presented in Section 5. Section 6 concludes the paper.

2. Measuring Living Standards: Levels and Distribution

2.1. It is common practice in poverty analysis to use household consumption as the measure of living standards. In Eastern European and FSU countries, consumption is often preferred to money income as a measure of household living standards because there is a tendency for income to be under-reported (this is particularly true of high-income earners) and also because of the importance of the informal economy in these economies. Furthermore, consumption better reflects the ability of a household to rely on savings in times of hardship. However in Hungary, there is a tradition of using household income as the indicator of welfare, and it has been argued by Szivos and Toth (1998) that income better reflects the capacities of households and individuals to participate in the mainstream of society, rather than their consumption behavior. For this reason, both consumption- and income-based poverty profiles are presented in the present report.

2.2. The income and expenditure data were constructed so as to be comparable to data in the *HEIDE (Household Expenditure and Income Data for Transition Economies)* data set described in Braithwaite, Grootaert and Milanovic (1998). Full details of their construction are given in Appendix A. Household income was recorded on an annual basis, but expenditures were recorded on a monthly basis and annualized so as to be comparable to income.³ In accordance with TARKI tradition (and the fact that regional deflators are not available), household income and consumption are not adjusted for regional differences in prices. Further, monthly expenditures were not adjusted for changes in the price level over time.

2.4. The two main measures of living standards used in the present study are annual per capita household consumption and per capita income (total household consumption or income, divided by household size). A problem with using per capita measures of living standards is that they do not reflect the *demographic composition* of the household (in general, there is reason to expect that young children and the elderly may have lower living costs than non-elderly adults) or the potential presence of *economies of size* (the presence of certain types of fixed expenditures, for example heating and rent, may imply that an additional household member does not cost as much as preceding members). However, in this report, sensitivity analysis is used to determine the extent to which *economies of scale*⁴ may influence the profile of poverty. The focus of most of the analysis is on the individual as opposed to the household. In the absence of information on the intra-household allocation of consumption, the same per capita (or equivalent) household

³ While annual expenditures on some types of goods (durables and certain types of clothing) were available in the HBS, the available documentation was not particularly clear on which expenditure items were collected monthly, which annual and which both monthly and annual. To prevent double counting, it was decided to only use monthly expenditure information.

⁴ Following Lanjouw, Milanovic and Paternostro (1998), economies of scale refers to the net effect on welfare of economies of size and equivalence scales (demographic composition).

consumption or income is attributed to each household member. All results presented in this report are weighted so as to be representative of the Hungarian population.

2.5. **Table 2.1** shows the distribution of annual per capita household consumption and income expressed in Forint (HUF). Average per capita household consumption was around 39 percent higher in Budapest compared with rural areas, while the income of the average household in the capital was about 26 percent higher than that of the average rural household. The fact that per capita income is higher than per capita consumption (by about 5 percent) is unusual; it is common in countries with extensive informal sectors to find that income is under-reported and consequently consumption is higher than income. However, this feature is shared by the HHP data (Annex 1 of the Hungarian Poverty Update shows that for 1997, total income was 24 percent higher than total consumption in the HHP).⁵

Table 2.1: Distribution of annual per capita household consumption and income

	<i>Budapest</i>		<i>Other Urban</i>		<i>Rural</i>		<i>Hungary</i>	
	Mean (HUF)	% of total	Mean (HUF)	% of total	Mean (HUF)	% of total	Mean (HUF)	% of total
Consumption								
Lowest quintile	138,114	6.2	117,354	6.3	101,317	5.5	112,592	5.9
2 nd	202,561	10.5	172,880	11.3	151,347	10.5	168,542	10.6
3 rd	257,560	16.0	219,686	16.6	194,697	17.1	216,817	15.9
4 th	332,224	23.0	275,483	22.7	251,372	21.3	276,141	22.8
Highest quintile	613,274	44.3	456,206	43.1	411,799	45.5	474,789	44.7
All	337,020	100.0	269,364	100.0	242,808	100.0	273,443	100.0
Income								
Lowest quintile	136,944	6.0	133,518	6.7	120,262	6.3	128,398	6.3
2 nd	206,768	10.1	193,484	11.6	182,548	11.3	191,767	11.2
3 rd	269,262	18.2	242,532	18.0	232,543	17.9	243,099	17.8
4 th	348,460	23.9	294,671	23.6	285,853	25.7	299,232	24.0
Highest quintile	591,700	41.9	450,314	40.1	408,647	38.7	465,570	40.7
All	334,276	100.0	282,725	100.0	265,666	100.0	286,985	100.0

Source: Author estimates based on HBS, 1997.

Note: Quintiles are defined in terms of persons rather than households.

2.6. For Hungary as a whole, average household consumption in the top 20 percent of the distribution of welfare was 2.4 times higher than average spending in the bottom quintile and accounted for 44.7 percent of total consumption (while the lowest quintile accounted for 5.9 percent of total consumption). Income appears to be slightly more equitably distributed; average income of the top 20 percent of households was 2.2 times higher than average income of households in the bottom quintile and accounted for 40.7 percent of total income (while the

⁵ It should be noted that the HHP was not primarily designed to measure expenditure and consequently the set of expenditure questions is quite limited compared with those related to income (which in particular include questions on informal sector activity). Andorka, Ferge and Toth (1997) show that in 1993 the HHP captured 11 percent more of household incomes than the HBS.

lowest quintile accounted for 6.3 percent of total income).⁶ There do not appear to be large differences across types of settlement in the distribution of income and consumption.

2.7. Another measure of the equality of the distribution of consumption is the Gini coefficient, which is bounded between 0 (inequitable distribution) and 1 (equitable distribution). In 1997, the Gini (calculated over individuals) for per capita consumption was 0.28. The consumption Gini for Budapest is 0.31, which is slightly higher than the Gini of 0.27, which was found for other urban areas and rural areas. The Gini coefficients indicate that in Hungary, income is more equitably distributed than consumption; the overall income Gini is 0.25, for Budapest it is 0.29 and for other urban and rural areas the Gini is 0.24.⁷ Some studies (e.g. World Bank 1996) have suggested that compared with other Eastern European and FSU countries, income and consumption are relatively equitably distributed in Hungary, although Andorka et al. (1998) have questioned some of these findings.

3. Measuring Poverty

3.1. **Choice of the poverty line.** There are two main approaches to constructing a poverty line. An *absolute poverty line* is constructed under the assumption that it is possible to define minimum standard of living based on physiological needs for food, water, clothing and shelter. In contrast, a *relative poverty line* is set so as to reflect a generally acceptable standard of living, which is specific to the country and the time of the study. Relative poverty lines are often set at a particular proportion of mean per capita consumption or income. Hence, they reflect the norms of the particular society being studied, through the decision as to what proportion of mean per capita consumption or income is considered appropriate for setting the poverty line.

3.2. There is no official poverty line in Hungary, although the minimum age pension (138,000 HUF in 1997) is often used as a poverty line. For consistency with other analysis in the Hungarian Poverty Update, a relative concept of poverty is used in the current study. The poverty profile in this report is conducted using several measures of consumption and income, in order to assess the potential impact of economies of scale on the relationship between household characteristics and poverty. The measures are calculated using five different values of θ in the formula for the welfare measure: *household welfare* = *total household consumption (or income)* / (*household size*) ^{θ} . The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ (see **Table B1** for the value of the poverty lines).

3.3. Three of the thetas used in the analysis are arbitrarily set at levels which indicate different 'degrees' of economies of scale: $\theta=1$ (representing zero economies of scale, and the welfare measure is per capita consumption or income); $\theta=0.8$ (representing moderate economies of scale); and $\theta=0.6$ (representing significant economies of scale). The fourth economies of scale

⁶ The finding that income is more equitably distributed than consumption is probably mainly due to the fact that household income was recorded on an annual basis, while consumption is the (annualized) sum of monthly expenditures.

⁷ This result is also probably due to differences in the collection period for income and consumption mentioned earlier; in most countries consumption is found to be more equitably distributed than income.

parameter used for calculating equivalent income and consumption is $\theta = 0.73$, which approximates the OECD equivalence scale (where the first adult in the household has a weight of 1, additional adults 0.7, and children under 14 a weight of 0.5).

3.4. The final economies of scale parameter is estimated from the household data. As discussed in Lanjouw, Milanovic and Paternostro (1998) and Deaton and Zaidi (1999), there is no current, widely-accepted method for estimating θ . However, there has been renewed interest in the subjective approach to setting equivalence scales (see Deaton and Zaidi, 1999 for a description of this approach), which involves using household responses to the question: what amount of income would the household need so that their circumstances could be described as “adequate”. It is postulated that the respondent’s answer (y^*) is related to current household income (y) and household composition in the following way:

$$\ln y^*_i = \alpha + \beta \ln y_i + \gamma \ln n_i + \sum_j \delta_j \eta_{ji} + \text{relative prices}$$

where n_i is household size and η_{ji} is the proportion of household members in demographic group j . The “true” income level (\tilde{y}) associated with an “adequate” welfare level is found by setting

$$\tilde{y} = y^* = y \text{ in the above equation and solving: } \ln \tilde{y} = \frac{\alpha}{1-\beta} + \frac{\beta}{1-\gamma} \ln n, \text{ where the composition}$$

and relative price terms have been omitted. To the extent that \tilde{y} can be interpreted as a measure of needs, then $\theta = \beta/(1 - \gamma)$ can be interpreted as the elasticity of needs to household size, and thus a (negative) measure of economies of size.⁸ The θ calculated using the above model is 0.62, and this estimate of size elasticity is used for calculating equivalent income and consumption.⁹

3.5. **Measures of poverty: incidence, depth and severity.** The incidence of poverty or *headcount index* (P_0) is defined as the percentage of individuals who are poor (i.e. who live in households that have monthly per capita consumption below the poverty line). While the headcount index is the most widely used measure of poverty, it does not give any information on the extent to which the welfare of individuals falls below the poverty line. The depth of poverty is measured by the *poverty gap index* (P_1), which measures the average shortfall of per capita consumption, expressed as a percentage of the poverty line.¹⁰ The poverty gap index is not sensitive to the distribution of welfare among poor households; if a household just below the poverty line were to make a transfer to a much poorer household, there would be no change in P_1 . The Foster-Greer-Thorbecke index (P_2) measures the severity of poverty, and puts greater weight

⁸ It should be emphasized that with this formulation, θ only measures economies of size and does not include the effect of household composition on welfare. The author is not aware of the existence of research which uses the subjective approach to estimate economies of scale (measuring the net effect of economies of size and household composition on welfare). It is an empirical question as to whether the incorporation of household composition would increase or decrease the θ estimated using the subjective approach, however, an estimated θ less than 0.6 would have to be treated with suspicion as it would represent extremely large economies of scale (Deaton and Zaidi, 1999).

⁹ Two household composition variables were included in the regression: the proportion of the household members under 18 and over 65. Relative prices were proxied by locational dummies.

¹⁰ Note that the average is calculated over *all* individuals (poor and non-poor), with non-poor individuals having a zero shortfall.

on the welfare levels of very poor households as compared with households with per capita consumption near to the poverty line.¹¹

3.6. The incidence of poverty in Hungary (calculated over individuals) was 12.5 percent when per capita consumption is used as the welfare measure and 9.3 for the per capita income measure of living standards (Table 3.1). That the consumption-based poverty rate is higher than the income-based poverty rate is probably a reflection of the fact that consumption is less equally distributed than income (but, as mentioned above, this is due to different reporting periods).¹² With an assumption of moderate economies of scale ($\theta=0.8$), the consumption-based poverty rate falls to 10.1 percent, and with $\theta=0.6$, the poverty rate is 9.2 percent. It is interesting to note the U-shaped relationship between θ and the rate of consumption-based poverty; the poverty rate is lowest with $\theta=0.62$. A similar relationship between θ and poverty is observed with the income measure of living standards.

Table 3.1: Poverty measures by location (percent)

		<i>Consumption</i>				<i>Income</i>			
		Budapest	Other Urban	Rural	Hungary	Budapest	Other Urban	Rural	Hungary
$\theta=1$	P ₀	5.7	10.9	17.7	12.5	7.0	7.8	12.2	9.3
	P ₁	1.2	2.3	4.0	2.7	1.7	1.7	2.6	2.1
	P ₂	0.4	0.8	1.4	0.9	0.7	0.6	0.9	0.8
$\theta=0.8$	P ₀	4.5	8.7	14.4	10.1	6.2	6.7	9.6	7.6
	P ₁	0.9	1.7	3.1	2.1	1.5	1.3	2.0	1.6
	P ₂	0.3	0.6	1.0	0.7	0.7	0.4	0.7	0.6
$\theta=0.73$	P ₀	4.3	8.6	13.6	9.7	5.5	6.0	9.2	7.1
	P ₁	0.9	1.6	2.9	1.9	1.4	1.2	1.8	1.5
	P ₂	0.3	0.5	0.9	0.6	0.6	0.4	0.5	0.5
$\theta=0.62$	P ₀	3.9	8.0	12.9	9.1	5.5	5.8	8.9	6.9
	P ₁	0.8	1.5	2.7	1.8	1.4	1.2	1.6	1.4
	P ₂	0.3	0.5	0.9	0.6	0.6	0.4	0.5	0.5
$\theta=0.6$	P ₀	3.9	8.2	12.8	9.2	5.6	5.9	8.8	6.9
	P ₁	0.8	1.5	2.7	1.8	1.4	1.2	1.6	1.4
	P ₂	0.3	0.5	0.8	0.6	0.6	0.4	0.5	0.5
Population share		18.6	43.4	38.0	100.0				

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

¹¹ The three poverty measures can be calculated using the following formula:

$$P_{\alpha} = \frac{1}{N} \sum_{i=1}^q \left[\frac{(z - y_i)}{z} \right]^{\alpha}$$

where $\alpha = 0, 1, 2$; q = number of poor individuals; N = number of individuals; z = poverty line; y_i = consumption of i 'th individual below the poverty line.

¹² Note however that Andorka et al. (1997) show that using the 1993 HBS data, the income-based poverty rate is lower than the consumption-based poverty rate (5 compared with 9.3 percent).

3.7. With per capita consumption, the rural poverty rate was 17.7 percent, compared with only 5.7 percent of individuals being classed as poor in Budapest and 10.9 percent in other cities. The difference in poverty rates observed between Budapest and rural areas is reduced when income is used as the measure of household welfare. With per capita income, rural-dwellers have a poverty rate around 5 percentage points higher than those living in Budapest (while with per capita consumption this difference is around 12 percentage points). Allowing for economies of scale has no impact on the conclusion that poverty is higher in rural areas compared with Budapest and other cities (this supports the finding from the 1992-97 HHP data).¹³

3.8. **Table 3.1** also shows estimates of the depth and severity of poverty. The poverty gap for Hungary using per capita consumption of 2.7 percent is quite small (a direct comparison with other countries is problematic as the poverty gap varies with the location of the poverty line).¹⁴ The relatively shallow poverty gap for Hungary shows that a considerable number of households are clustered just under the poverty line; this has implications for poverty alleviation policies. Poverty is deeper in rural areas, compared with Budapest and other urban areas.

3.9. The poverty rates presented in **Table 3.2** reflect marked regional differences in poverty. With per capita expenditure as the welfare measure, the Central Region and West-Trans-Danubia have poverty rates below the national average of 12.5 percent, while the rate of poverty in Northern Hungary and the North-Great-Plain region are much higher. While the income and consumption data have not been adjusted for regional price differences (and hence it is not clear that these numbers accurately reflect regional differences in poverty), the numbers reflect patterns in regional development in Hungary.

¹³ The difference in poverty between rural areas and Budapest has become more marked in the last decade as a result of economic restructuring (CSO, 1999).

¹⁴ Note that the poverty gaps presented here are much lower than those reported in recent studies analyzing the HHP data (e.g., Szivos and Toth, 1998); the reason is that in the present report the poverty gap is the average income or consumption shortfall, calculated over all individuals (poor and non-poor), while Szivos and Toth (1998) calculate the poverty gap as the average shortfall calculated only over the poor.

Table 3.2: Poverty measures by region (percent)

	Central region	West- Trans- Danubia	Central- Trans- Danubia	Southern Trans- Danubia	Northern Hungary	North Great Plain	South Great Plain
Consumption							
$\theta=1$	8.7	7.3	10.1	15.2	19.6	17.9	11.7
$\theta=0.8$	6.9	5.0	8.4	13.8	16.1	14.5	8.5
$\theta=0.73$	6.7	4.6	7.7	12.3	16.1	14.3	8.3
$\theta=0.62$	6.0	4.3	6.8	12.0	15.6	13.8	7.5
$\theta=0.6$	6.0	4.4	6.7	12.1	15.3	14.0	7.8
Income							
$\theta=1$	8.6	2.9	6.6	11.5	14.1	12.0	8.5
$\theta=0.8$	7.5	2.4	4.2	9.3	10.7	10.3	7.6
$\theta=0.73$	7.0	2.6	3.6	9.3	9.3	9.0	7.7
$\theta=0.62$	7.1	2.2	3.4	8.8	9.0	8.6	7.5
$\theta=0.6$	7.3	2.2	3.4	8.8	9.0	8.5	7.4
Population share	28.3	9.8	11.0	9.8	12.7	15.1	13.4

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

4. Poverty Profile: Cross-tabulations

4.1. Recent studies for the Hungarian Poverty Update (Szivos and Toth, 1998 and Speder, 1999), have highlighted the role of education, location and labor-market attachment in determining the poverty experience of individuals in Hungary. Household composition (in particular, the number of children) has been found to be an important correlate of poverty, and single, elderly females are also found to have a high risk of poverty. The role of ethnicity (the Roma experience very high poverty rates) is also important, but the HBS data unfortunately do not include information on ethnicity. In this section, data from the 1997 HBS are used to assess how poverty varies with differing characteristics of individuals and households. In **Tables 4.1** and **4.2**, poverty correlates calculated under the alternative welfare measures (consumption and income, and different assumptions regarding economies of scale) are presented.

Table 4.1: Poverty rates using equivalent consumption as welfare measure

	$\theta=1$	$\theta=0.8$	$\theta=0.73$	$\theta=0.62$	$\theta=0.6$	Population shares
Hungary	12.5	10.1	9.7	9.1	9.2	
Household size						
1	2.4	5.2	6.7	11.6	12.9	8.5
2	3.7	4.4	5.1	6.2	6.6	21.9
3	7.3	6.9	6.8	6.8	6.8	23.2
4	14.0	10.6	9.5	8.1	7.9	30.4
5	30.7	21.2	20.2	15.0	14.9	10.9
6	38.5	28.8	25.1	19.9	19.5	3.3
7+	54.1	32.6	30.0	23.2	21.0	1.8
Number of children <18 years						
0	4.5	4.6	5.1	6.5	6.9	46.4
1	11.5	9.2	8.8	7.9	7.9	22.8
2	19.7	15.5	14.1	11.6	11.4	22.7
3+	41.3	28.9	26.2	20.1	19.1	8.1
Number of elderly						
0	14.6	11.4	10.7	9.4	9.3	68.6
1	9.7	9.0	9.8	11.0	11.5	18.0
2+	5.8	5.0	4.8	5.2	5.3	13.5
Household typology I						
No children, no elderly	4.4	3.9	4.3	5.1	5.5	19.9
Children, no elderly	18.8	14.4	13.3	11.1	10.9	48.6
No children, elderly	4.6	5.2	5.8	7.6	8.0	26.5
Children, elderly	26.1	18.5	17.7	13.2	13.2	5.0
Household typology II						
Single parent	13.3	13.0	13.5	13.9	13.9	1.2
Other household with children	19.6	14.8	13.7	11.2	11.0	52.4
Single elderly male	2.1	5.3	5.3	8.2	9.2	1.2
Single elderly female	2.4	5.4	7.4	12.6	13.8	5.3
Other households without children	4.9	4.5	4.8	5.7	6.0	40.0

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

Table 4.1 (cont.): Poverty rates using equivalent consumption as welfare measure

	$\theta=1$	$\theta=0.8$	$\theta=0.73$	$\theta=0.62$	$\theta=0.6$	Population shares
Hungary	12.5	10.1	9.7	9.1	9.2	
Gender of household head						
Male	13.2	10.2	9.7	8.7	8.6	87.9
Female	7.6	8.9	9.5	12.2	12.6	12.2
Age of head						
<30yrs	15.9	12.9	11.9	11.8	12.1	14.0
30-39	19.7	14.7	14.0	11.2	11.0	24.0
40-49	12.7	9.4	8.8	7.7	7.6	29.0
50-59	8.7	7.9	7.8	7.6	7.8	17.2
60-69	1.8	2.8	3.1	4.5	5.0	7.9
>=70	3.8	5.9	6.8	10.7	11.4	7.9
Education of head						
Incomplete primary	20.4	19.4	20.2	22.8	23.2	7.9
Primary	23.2	19.2	18.6	17.4	17.3	22.0
Vocational	10.3	7.6	7.1	6.0	6.0	51.7
Secondary	5.4	5.1	4.8	5.4	5.6	6.5
Higher	1.1	0.3	0.1	0.1	0.4	11.9
LFS of head						
Employed	11.3	8.0	7.3	6.1	6.0	64.2
Unemployed	41.0	35.9	36.4	34.2	34.2	7.0
Not in the labor force	12.2	10.4	9.2	9.2	9.2	2.3
Pensioner	7.9	8.1	8.4	9.6	10.0	26.5
Number of unemployed in household						
0	8.8	7.0	6.7	6.4	6.6	84.6
1	28.1	23.0	22.5	20.3	20.0	13.1
2+	57.5	48.0	47.9	42.8	40.1	2.3
Socio-economic group of household						
Wage	9.3	6.6	5.9	5.0	5.0	62.9
Self employed	10.6	5.6	5.6	5.6	5.6	0.7
Pensioner	8.8	8.7	9.4	11.0	11.2	25.9
Other social assistance	54.2	46.6	44.9	39.1	39.1	7.2
Other income	12.2	8.6	8.6	8.0	8.0	3.3
Access to food plot						
No	12.2	10.3	10.2	9.6	9.6	52.4
Yes	12.8	9.8	9.2	8.5	8.6	47.6

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

Table 4.2: Poverty rates using equivalent income as welfare measure

	$\theta=1$	$\theta=0.8$	$\theta=0.73$	$\theta=0.62$	$\theta=0.6$
Hungary	9.4	7.6	7.2	6.8	6.8
Household size					
1	1.5	3.0	4.6	7.6	8.6
2	2.4	3.0	3.5	4.2	4.3
3	6.6	6.5	6.4	6.4	6.4
4	9.9	7.6	7.0	5.9	5.9
5	23.3	15.9	13.9	11.7	11.6
6	29.6	18.1	15.2	11.2	11.2
7+	39.1	29.0	24.5	15.7	13.7
Number of children <18 years					
0	2.7	3.0	3.4	4.1	4.3
1	9.7	8.6	8.4	8.3	8.3
2	14.1	11.2	10.1	8.1	8.1
3+	33.5	20.8	17.7	14.3	13.7
Number of elderly					
0	12.6	10.1	9.6	8.7	8.7
1	3.4	2.7	2.9	3.9	4.2
2+	1.3	1.4	0.8	0.9	0.9
Household typology I					
No children, no elderly	4.3	4.9	5.4	5.9	6.1
Children, no elderly	16.0	12.2	11.4	9.9	9.7
No children, elderly	1.5	1.7	1.9	2.7	3.0
Children, elderly	7.5	4.7	2.4	1.8	1.8
Household typology II					
Single parent	9.6	9.6	11.8	14.1	14.1
Other household with children	15.3	11.6	10.5	9.0	8.9
Single elderly male	0.0	0.0	0.0	0.7	0.7
Single elderly female	0.1	0.8	2.0	5.0	6.0
Other households without children	3.2	3.4	3.7	4.1	4.2

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

Table 4.2 (cont.): Poverty rates using equivalent income as welfare measure

	$\theta=1$	$\theta=0.8$	$\theta=0.73$	$\theta=0.62$	$\theta=0.6$
Hungary	9.4	7.6	7.2	6.8	6.8
Gender of household head					
Male	10.1	7.9	7.3	6.6	6.5
Female	4.2	5.3	6.3	8.5	9.0
Age of head					
<30yrs	13.4	11.6	10.8	10.2	10.2
30-39	15.3	11.6	10.5	9.3	9.1
40-49	10.0	7.8	7.6	7.0	6.9
50-59	5.5	5.0	5.2	4.9	5.2
60-69	0.1	0.2	0.5	1.2	1.3
≥ 70	0.0	0.4	0.9	2.2	2.8
Education of head					
Incomplete primary	15.0	14.3	13.5	14.1	14.7
Primary	18.1	14.3	13.9	12.6	12.4
Vocational	7.2	5.6	5.1	4.8	4.8
Secondary	6.3	5.8	5.9	5.9	6.0
Higher	0.8	0.5	0.6	0.6	0.6
LFS of head					
Employed	7.9	5.9	5.4	4.6	4.5
Unemployed	42.4	35.1	34.6	32.6	32.8
Not in the force	16.6	16.3	16.6	16.6	16.7
Pensioner	3.8	3.6	3.5	4.5	4.7
Number of unemployed in household					
0	5.5	4.3	4.1	4.0	4.0
1	25.6	20.7	19.2	18.2	18.0
2+	60.1	51.6	51.7	45.3	45.3
Socio-economic group of household					
Wage	5.7	4.2	4.0	3.4	3.4
Self employed	0.0	0.0	0.0	0.0	0.4
Pensioner	5.1	4.7	4.6	5.4	5.6
Other social assistance	57.7	47.3	44.8	40.7	40.5
Other income	10.9	10.6	9.5	9.3	9.3
Access to food plot					
No	10.4	8.6	8.3	7.9	8.0
Yes	8.3	6.5	6.0	5.5	5.5

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

4.2. **Household size.** Household size is generally found to be a very important correlate of household poverty status and this is also true in Hungary. There is a strong positive correlation between household size and poverty when per capita consumption or income is used as the welfare measure. However, once economies of scale are allowed for, the relationship between household size and poverty becomes less marked. Of particular note is that with $\theta=1$, households consisting of only one person have the lowest poverty rate; however, if moderate or significant economies of scale are assumed, this is no longer the case.

4.3. **Presence of children.** The impact of demographic composition on household welfare will depend on the extent to which different types of household members contribute to household resources and also the extent to which living costs vary between members. The contribution of children and the elderly to household resources will mainly depend on the availability and size of child- and age-related social assistance benefits.¹⁵ It is apparent that the presence and number of children under 18 years is strongly correlated with poverty status, when per capita consumption or income is used as the welfare measure. Using the per capita consumption welfare measure, individuals living in households with no children had a poverty rate of 4.5 percent, while this rate increased monotonically with additional children to 41.3 percent for individuals living in households with 3 or more children (the pattern was similar with per capita income as the welfare measure). The introduction of economies of scale reduces the impact of the number of children on poverty; however, even with strong economies of scale, individuals living in households with 3 or more children still have poverty rates over twice the national average.

4.4. **Presence of elderly persons.** It is apparent that households containing elderly persons do not have a higher risk of poverty. Regardless of the welfare measure used, the poverty rate for persons living in households with no elderly persons was higher than the national average, while the poverty rate for those living with two or more elderly persons was lower than the national average. In other Eastern European and FSU countries, it has also been found that the presence of elderly persons in the household does not significantly increase the risk of poverty. The finding that children have a higher risk of poverty compared with the elderly supports the conclusions of Galasi (1998) who used 1992-96 HHP data.

4.5. **Different household structures.** A study of the relationship between different household structures and poverty gives further evidence to suggest that children contribute more to the dependency burden than do elderly persons in Hungary. With per capita consumption, individuals from households with children but no elderly persons had a poverty rate of 18.8 percent, compared with a poverty rate of 4.6 percent for people living in households with elderly but no children (this differential in poverty rates narrows as θ is decreased). With consumption as the welfare measure, the combination of the presence of children and elderly has the largest impact on poverty; the per capita consumption measure indicating a poverty rate of 26.1 percent for such households. When income is used as the welfare measure, the differences in poverty rates between households with children, but no elderly, and households with no children and elderly, are even more marked (and the differences do not diminish as rapidly with decreases in θ). It is interesting to note that with income, the combination of the presence of children and elderly does not have a large impact on poverty rates (in fact, such households have poverty rates well below the national average). The 1992-97 HHP data also showed this pattern, and the conclusion is that extended families may have a double advantage: pension income, the real value of which has been reasonably maintained, compared with other types of benefits; and elderly family members are able to look after the children while the parents work.

4.6. With zero and moderate economies of scale, single-parent households have lower poverty rates than other households with children (and their poverty rates aren't particularly high

¹⁵ Between 1992 and 1996, the real value of family allowances fell by over 50 percent, compared with a fall in the real value of pensions of only 12.7 percent (Szivos and Toth, 1998).

compared with the national average). There is a clear gender dimension to poverty among the old; regardless of the welfare measure used, elderly males living alone have lower poverty rates than elderly females who live alone. It should be noted that single, elderly females do not have high poverty rates compared with the national average (unless consumption with strong economies of scale is used as the welfare measure).¹⁶

4.7. Gender of household head. With zero and moderate economies of scale, persons living in households headed by males have poverty rates which are higher than for those living in female-headed households (see Appendix A for details on how the household head is identified). When strong economies of scale are assumed, persons living in female-headed households have higher poverty rates (this is because males tend to head larger households).¹⁷ A different picture of the gender dimension of poverty in Hungary emerges when, in addition to gender, the age of the household head is taken into account. From **Table 4.3** it is apparent that individuals living in households headed by young (<30 years) or old (>=70 years) women have higher rates of poverty, regardless of which measure of welfare is used. The proportion of individuals living in households headed by young females is very small (this is in part due to the process used to select the household head). However, the finding of a potential gender-dimension to poverty in Hungary supports the conclusions of poverty studies in other Eastern European and FSU countries. Structural changes in the labor market in Hungary and a fall in the affordability of day care would contribute to households headed by young females having a higher poverty risk.

¹⁶ The profile based on the 1992-97 HHP, which is presented in the main report of this Update, shows that single elderly females have very high rates of permanent poverty, compared with the national average. However, this analysis uses a theta of between 0.6 and 0.7, and hence there is no contradiction with the results from the HBS.

¹⁷ The average household size for male-headed households was 3 persons, while for female-headed households it was 1.4 persons.

Table 4.3: Poverty rates by gender and age of household head (percent)

	<i>Consumption</i>			<i>Income</i>			Population share
	$\theta=1$	$\theta=0.8$	$\theta=0.6$	$\theta=1$	$\theta=0.8$	$\theta=0.6$	
Male							
<30 yrs	15.8	12.5	11.5	13.0	10.8	8.8	12.8
30-39	19.9	14.7	10.8	15.8	12.0	9.4	22.3
40-49	12.9	9.3	7.5	10.3	8.2	7.0	26.8
50-59	9.3	8.3	7.6	5.7	5.0	4.7	15.1
60-69	1.8	2.4	3.4	0.1	0.2	0.3	5.9
>=70	3.7	5.0	7.7	0.0	0.1	0.3	4.9
All	13.2	10.2	8.7	10.1	8.0	6.6	
Female							
<30 yrs	16.6	17.3	18.2	16.7	20.6	25.5	1.2
30-39	16.2	15.5	13.5	7.7	7.5	7.4	1.7
40-49	9.9	9.8	8.9	5.2	6.2	8.3	2.2
50-59	4.3	5.1	8.7	2.6	5.5	9.9	2.1
60-69	1.7	4.0	9.9	0.0	0.4	4.1	1.9
>=70	3.9	7.4	17.2	0.1	0.8	6.7	3.0
All	7.6	8.9	12.6	4.1	5.3	9.0	100.0

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

4.8. **Age of household head.** From Tables 4.1 and 4.2 it is apparent that individuals living in households with heads aged over 50 have a lower incidence of poverty compared with other groups, and the presence of economies of scale does not alter this conclusion. This relationship is particularly apparent when income is the welfare measure.

4.9. **Education of household head.** The return to education is likely to be dependent on the stage of economic transition; the more advanced transition is, the higher the demand for well-educated workers who are able to adapt to newly emerging skill requirements. In Hungary, there appears to be a very strong relationship between education and household welfare. Individuals living in households headed by persons with higher education have very low poverty rates, while those living in households headed by persons with primary education or less have poverty rates above the national average. Unlike findings for some other Eastern European and FSU countries, in Hungary there are 'payoffs' to education (in terms of reduction of poverty rate) for the attainment of all levels of education above primary. This reflects the advanced nature of Hungary's transition to a market economy and the fact that human capital is being valued in the labor market. With consumption as the welfare measure, there are reductions in the poverty rates associated with the head having secondary compared with vocational education, although with income as the welfare measure this is less clear.

4.10. **Labor force status of household head.** As expected, there is a strong correlation between labor force status of the household head and poverty.¹⁸ With per capita consumption, the poverty rate of those living in households headed by an employed person (11.2 percent) is slightly lower than the national average, and that of persons living in households headed by unemployed (41.0 percent) is much higher than the national rate. Persons living in pensioner-headed households have poverty rates lower than the national average (although this is not the case when equivalent consumption assuming strong economies of scale is used as the welfare measure). The poverty rate increases markedly as the number of unemployed persons in the household increases.¹⁹

4.11. **Socio-economic status of household.**²⁰ The welfare of a household will be determined by the economic activities of all household members, and not just the head (although it is to be expected that the activity of the head will be the most important). For this reason, it is useful to look at how poverty rates vary by the socio-economic status of the household as a whole. Individuals living in wage-earning or pensioner households have poverty rates lower than the national average, while persons from households whose main income source is 'other' social benefits have exceptionally high poverty rates (with per capita consumption, the headcount is 54.2 percent for individuals living in such households). The finding that pensioner households have low poverty rates reinforces the above conclusion that the elderly are not disadvantaged in Hungary.

4.12. **Access to private plot.** From Tables 4.1 and 4.2, it would appear that Hungarian households are not able to significantly improve their standard of living via consumption of home-grown produce (unless strong economies of scale are assumed). However, when locality is introduced to the analysis (Table 4.4), it becomes clear that home-production of food and other goods is very important in reducing poverty, particularly in rural areas.

¹⁸ CSO (1999) suggests that labor market attachment has become relatively more important in determining poverty status over the past decade because of structural changes in the economy and also trends towards smaller household (via declining fertility rates) have diminished the role of household composition in poverty status.

¹⁹ The fact that the real value of unemployment benefits fell by nearly 60 percent between 1992 and 1996 (Szivos and Toth, 1998) is a contributing factor here.

²⁰ The socio-economic group of a household is determined by what category accounts for largest share of total household income.

Table 4.4: Poverty rates by locality and presence of food plot (percent)

	<i>Consumption</i>			<i>Income</i>			Population share
	$\theta=1$	$\theta=0.8$	$\theta=0.6$	$\theta=1$	$\theta=0.8$	$\theta=0.6$	
No plot							
Budapest	5.7	4.7	4.2	7.1	6.2	5.7	17.6
Other urban	12.5	10.3	9.7	9.1	7.7	6.9	27.3
Rural	27.1	23.7	22.8	22.2	17.9	19.1	7.5
All	12.3	10.3	9.7	10.3	8.6	8.2	
Plot							
Budapest	5.3	0.0	0.0	5.3	5.3	5.3	0.9
Other urban	8.3	6.1	5.7	5.5	4.9	4.1	16.1
Rural	15.5	12.1	10.4	9.8	7.5	6.3	30.5
All	12.8	9.8	8.6	8.2	6.6	5.5	100.0

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

4.13. **Presence of amenities, ownership of durables.** As expected, there are marked differences in ownership of certain durables and presence of amenities between poor and non-poor households (Table 4.5). These differences suggest that durable ownership and presence of amenities may be used as a criterion for establishing eligibility for social assistance.

Table 4.5: Housing characteristics by household poverty status (using per capita consumption)

	<i>Budapest</i>		<i>Other Urban</i>		<i>Rural</i>		<i>Hungary</i>	
	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor	Poor	Non-poor
% of households with amenity								
Running water	97.7	99.4	73.0	95.2	67.0	88.1	71.6	93.7
WC or bathroom	93.8	97.2	66.6	93.5	57.3	84.2	63.6	91.1
Central gas	91.0	89.1	40.4	68.5	20.6	49.8	33.4	66.5
Central heating	10.3	17.6	11.4	23.1	14.2	30.4	12.8	24.4
Telephone	32.9	82.3	23.9	61.7	15.3	50.6	19.9	62.3
% of households owning durable								
Car	7.6	30.8	13.9	36.9	14.0	36.2	13.4	35.3
Television (B/W)	10.7	13.8	28.8	19.2	45.1	32.6	36.4	22.7
Television (color)	64.8	90.1	72.1	91.6	60.2	81.9	64.9	87.9
Refrigerator/freezer	65.5	68.9	83.1	79.5	85.4	92.2	83.0	81.6
Auto washing machine	45.4	59.8	23.4	49.3	11.1	31.5	18.4	45.4
Sewing machine	26.1	40.5	29.3	43.7	23.6	44.0	25.9	43.1
Personal computer	0.0	11.7	3.8	10.3	1.0	5.0	1.9	8.8
VCR	16.8	45.1	33.1	42.2	27.4	37.0	28.7	41.0
Stereo	0.0	25.1	10.1	19.9	3.7	12.7	5.8	18.5
Microwave	12.9	35.7	16.9	34.0	6.8	24.3	11.0	31.0
Motorcycle	0.0	0.8	5.5	9.3	7.1	12.0	5.9	8.4

Source: Author estimates based on HBS, 1997.

Note: The poverty line was set at 50 percent of mean per capita consumption.

5. Poverty Profile: Regression Analysis

5.1. Regression analysis is often used to establish the existence of significant relationships between household welfare and the characteristics of those households. The results of the regressions can be used to establish whether a particular household characteristic is significantly correlated with household welfare and thus can be used to predict household welfare as an input into social-assistance targeting.

5.2. In **Table 5.1**, the results from regressing the log of household equivalent consumption on different household characteristics (using three different θ s) are presented (in **Table 5.2** the income regressions are presented).²¹ The objective is to identify determinants of welfare and poverty which, in the short run, can be used as targeting variables. Hence, it is strictly only valid to include those RHS variables which can be considered exogenous in the short-term. For most of the variables in the regressions, the assumption of exogeneity is not a heroic one. While household welfare determines the education that children receive and hence influences human capital accumulation, it is reasonable to expect that in a one-period model, the education variables are exogenous. Even the labor market variables can be considered fixed in the short-term, since within transition economies such as Hungary, unemployment is high and largely structural, and often the supply of housing is not sufficiently flexible to permit easy migration to areas experiencing growth in employment (Braithwaite et al., 1998).

²¹ The semi-log functional form of the model was chosen for both theoretical reasons and the fact that it passed a test of model specification (for details see Appendix C).

Table 5.1: Consumption regressions

Dependent variable: <i>log[consumption/(household size)]^{1/}</i>	$\theta=1$		$\theta=0.8$		$\theta=0.6$	
	coefficient	p-value	coefficient	p-value	coefficient	p-value
Household composition^{1/}						
number of children <18 years	-0.228	0.000	-0.160	0.000	-0.092	0.000
number of male adults	-0.162	0.000	-0.095	0.000	-0.027	0.009
number of female adults	-0.126	0.000	-0.042	0.000	0.042	0.000
number of elderly persons	-0.190	0.000	-0.107	0.000	-0.024	0.046
Education of household head						
incomplete primary	-0.231	0.000	-0.234	0.000	-0.237	0.000
primary	-0.150	0.000	-0.151	0.000	-0.152	0.000
secondary	0.053	0.005	0.054	0.005	0.055	0.004
higher education	0.287	0.000	0.286	0.000	0.286	0.000
Age of household head						
(age of household head) $\times 10^2$	0.012	0.000	0.013	0.000	0.013	0.000
Head is female	-0.066	0.000	-0.102	0.000	-0.138	0.000
Head is unemployed	-0.330	0.000	-0.335	0.000	-0.340	0.000
Head is inactive	-0.016	0.647	-0.014	0.686	-0.012	0.728
Head is pensioner	-0.137	0.000	-0.139	0.000	-0.141	0.000
Number of unemployed in household ^{2/}	-0.150	0.000	-0.155	0.000	-0.160	0.000
Region						
Central region	0.007	0.727	0.012	0.565	0.016	0.423
West Trans-Danubia	-0.024	0.232	-0.025	0.212	-0.026	0.195
Central Trans-Danubia	0.015	0.440	0.017	0.372	0.019	0.312
Southern Trans-Danubia	-0.030	0.122	-0.030	0.128	-0.029	0.135
Northern Hungary	-0.045	0.012	-0.044	0.015	-0.042	0.019
North Great Plain	-0.057	0.001	-0.056	0.001	-0.055	0.002
Household situated in Budapest	0.071	0.000	0.068	0.001	0.065	0.001
Household situated in rural area	-0.063	0.000	-0.066	0.000	-0.068	0.000
Household has access to food plot	0.105	0.000	0.107	0.000	0.109	0.000
Constant	12.563	0.000	12.545	0.000	12.527	0.000
N	7559		7559		7559	
R ²	.353		.274		.255	
Percentage of non-poor households with correctly predicted poverty status ^{3/}	98.0		98.7		99.5	
Percentage of poor households with correctly predicted poverty status ^{3/}	27.6		18.5		13.1	

Source: Author estimates based on HBS, 1997.

Notes: Omitted categories are: household lives in other urban area in South Great Plain region and head has vocational education. P-values less than 0.05 (0.01) indicate that the coefficient is significant at the 5% (1%) level. ^{1/} A test of equality of the coefficients of the household composition variables was rejected and hence they are included separately, rather than including household size. ^{2/} If household head is unemployed, then this is the number of additional unemployed household members. ^{3/} A household is predicted poor if predicted consumption (calculated using the estimated coefficients) is less than the poverty line.

Table 5.2: Income regressions

<i>Dependent variable:</i> <i>log[income/(household size)^{6/}]</i>	$\theta=1$		$\theta=0.8$		$\theta=0.6$	
	coefficient	p-value	coefficient	p-value	coefficient	p-value
Household composition ^{1/}						
number of children <18 years	-0.218	0.000	-0.150	0.000	-0.082	0.000
number of male adults	-0.096	0.000	-0.029	0.003	0.038	0.000
number of female adults	-0.079	0.000	0.005	0.614	0.088	0.000
number of elderly persons	-0.113	0.000	-0.030	0.007	0.054	0.000
Education of household head						
incomplete primary	-0.171	0.000	-0.174	0.000	-0.177	0.000
primary	-0.105	0.000	-0.106	0.000	-0.107	0.000
secondary	0.063	0.000	0.064	0.000	0.065	0.000
higher education	0.308	0.000	0.307	0.000	0.307	0.000
Age of household head	0.006	0.000	0.007	0.000	0.007	0.000
(age of household head) $\times 10^2$	0.000	0.317	0.000	0.106	0.000	0.026
Head is female	-0.080	0.000	-0.116	0.000	-0.152	0.000
Head is unemployed	-0.427	0.000	-0.432	0.000	-0.437	0.000
Head is inactive	-0.247	0.000	-0.245	0.000	-0.243	0.000
Head is pensioner	-0.180	0.000	-0.182	0.000	-0.184	0.000
Number of unemployed in household ^{2/}	-0.221	0.000	-0.226	0.000	-0.231	0.000
Region						
Central region	0.011	0.569	0.015	0.417	0.020	0.293
West Trans-Danubia	0.026	0.161	0.025	0.176	0.024	0.193
Central Trans-Danubia	0.057	0.001	0.059	0.001	0.062	0.000
Southern Trans-Danubia	0.024	0.194	0.024	0.183	0.025	0.173
Northern Hungary	0.026	0.116	0.028	0.097	0.029	0.081
North Great Plain	-0.014	0.386	-0.013	0.425	-0.012	0.468
Household situated in Budapest	0.031	0.094	0.029	0.123	0.026	0.161
Household situated in rural area	-0.012	0.266	-0.015	0.185	-0.017	0.125
Household has access to food plot	0.096	0.000	0.098	0.000	0.100	0.000
Constant	12.602	0.000	12.585	0.000	12.567	0.000
<i>N</i>	7559		7559		7559	
<i>R</i> ²	.359		.288		.289	
Percentage of non-poor households with correctly predicted poverty status ^{3/}	98.4		98.9		99.3	
Percentage of poor households with correctly predicted poverty status ^{3/}	31.0		22.8		19.9	

Source: Author estimates based on HBS, 1997.

Notes: See notes to Table 5.1.

5.3. While the explanatory power of the models as indicated by the R^2 statistics are quite low, many of the coefficients are significant. The following conclusions from the welfare regressions can be made.²² The human capital of a household is embodied in its members and hence their numbers (by age and sex) are included in the regression.²³ The number of persons in all

²² The comparisons to findings for other Eastern Europe and FSU countries are from Braithwaite et al. (1998).

²³ These variables also reflect the consumption needs of the household and thus capture the ability of a household to cope with a changing economic environment.

demographic groups is negatively correlated with welfare when per capita welfare measures are used. However, with increasing economies of scale, the size of this negative impact is decreased. Using income and $\theta=0.6$ as the welfare measure, only the presence of children is associated with a fall in welfare. The implication is that even with the presence of economies of scale, households do not succeed in maintaining their welfare levels when the number of children increases.

5.4. The human capital of the household is also proxied by the education of the household head (which arguably has a greater impact on welfare than the education of other household members). There appear to be strong returns to education in Hungary; a household head having higher education is associated with per capita household consumption (income) being 28.7 (30.8) percent higher than that of the reference category (a household where the head has vocational education). Regardless of the welfare measure used, there are strong welfare gains associated with household heads having secondary or vocational training over primary or lower education (and the completion of primary education also leads to significant welfare improvements).

5.5. The work experience of the household head is proxied by age. For both income and consumption (and all values of θ), the coefficients on household age and age-squared indicate that household welfare rises with the age of the household head. Previous findings for the Eastern European countries indicated an inverted U-life-cycle pattern.

5.6. The link with the labor market is captured by the inclusion of dummy variables representing whether the household head is unemployed or inactive, and also the number of unemployed household members. As has been found in other Eastern Europe countries and the FSU, a strong distributional impact of unemployment is in evidence in Hungary: over and above other household attributes, when consumption (income) is used as the welfare measure, the household head being unemployed reduces household welfare by approximately 33 (43) percent. The presence of an unemployed household member reduces household welfare by approximately 15 percent when consumption is used as the welfare measure and 22 percent for income. The head being inactive does not have an impact on consumption-based welfare, but it reduces the income-based welfare measures by approximately 24 percent. In contrast to the findings in Section 4, the household head being a pensioner appears to reduce household welfare, once all other characteristics are controlled for. With the consumption-based (income-based) welfare measure, the presence of a pensioner household head is associated with a fall in welfare of 14 (18) percent.

5.7. Ownership of land is a key determinant of cash income and consumption of food, especially in rural areas. In most transition countries, ownership of land is not yet fully subject to household choice and hence it can be considered exogenous in the short term. In Hungary, the presence of a food plot is associated with an increase in welfare of approximately 10 percent.

5.8. Household welfare and poverty are also affected by the economic environment, which affects both income-earning opportunities and the level of social and economic infrastructure. Hence, the ability of a household to adjust to economic transition will be influenced by its location. The impact of location on household welfare is modeled by the inclusion of regional and locality dummy variables in the consumption regressions. Significant coefficients on these variables indicate that welfare differences across locations are not fully explained by the

distribution of demographic and economic characteristics of households (i.e. there is a location-specific effect on welfare). In Hungary, households living in rural areas have welfare levels lower than those living in other urban areas, while those living in Budapest have welfare which is higher compared with comparable households living in other urban areas. With consumption as the welfare measure, households residing in Northern Hungary and the North Great Plain region have lower welfare, compared with similar households residing in the South Great Plain region.

5.9. Finally, a dummy representing the presence of a female household head was included in the regressions to test for the existence of a gender dimension to poverty in Hungary. With the per capita welfare measures, female-headed households have 6-8 percent lower welfare levels, which is consistent with the findings for other Eastern Europe and FSU countries. With increased economies of scale, the impact of female headship on household welfare becomes more pronounced.

5.10. Despite the relatively low explanatory power of the regressions, they are reasonably accurate at predicting household poverty status. Using per capita household consumption as the welfare measure, 98 percent of non-poor households were predicted as non poor (using the estimated coefficients) but only 27.6 percent of poor households had their poverty status correctly predicted using the consumption regression.

6. Conclusions

6.1. In this report, which comprises Annex 3 of the Hungary Poverty Update, income and consumption data from the 1997 Household Budget Survey (HBS) have been used to construct a profile of poverty in Hungary. The poverty profile in the main report of the Update is based on 1992-97 data from the Hungarian Household Panel (HHP). As there are major differences in the structure of the HBS and HHP (in particular with regard to the range of questions about income and expenditure, and also the reporting period), it is therefore useful to compare the poverty profiles from the HBS and HHP to see if the conclusions about the nature of poverty in Hungary are robust to differing data sources.

6.2. The poverty profiles based on the two data sources are quite consistent. Poverty is higher and deeper in rural areas, compared with Budapest and other urban areas. The risk of poverty increases with the number of children in the household, while the elderly do not have high rates of poverty. There is a gender dimension to poverty, with elderly women living alone having higher poverty rates than elderly men living alone, and individuals living in households headed by young (less than 30 years) or elderly women also having high poverty risk. As expected, education and labor market attachment are very important in helping a household avoid poverty.

6.3. Another aim of the report was to compare the poverty profiles based on equivalent income and consumption. While many of the conclusions about the nature of poverty do not vary with whether household income or consumption is used as the welfare measure, this is not always the case. For example, with the consumption-based measure of household welfare, extended families (households with both children and elderly present) have very high rates of poverty, while the income-based poverty profile suggests that such households have poverty rates

below the national average. Finally, the extent to which the profile of poverty changes with differing assumptions regarding the presence of economies of scale was investigated.

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Appendix A: Data construction

This Appendix contains details on variables constructed for analysis of the 1997 Hungarian Household Budget Survey (HBS). These variables were constructed so as to be comparable to the data in the *HEIDE (Household Expenditure and Income Data for Transition Economies)* data set described in Braithwaite et al. (1998).

Definitions of aggregate variables

Total expenditures (TOTHHX) = Food (FOODX) + Housing (HOUSEX) + Education and culture (EDUCULX) + Health (HEALTHX) + Transport and communication (TRANSX) + Clothing (CLOTHX) + Private transfer given (PRITGX) + Other expenditures (OTHERX) + Home-consumption expenditure (SELFCNX)

Total disposable income (TOTHHY) = Wage (WAGEY) + Self-employment income (SELFEMY) + Home-consumption (SELFCNY) + Cash social transfers (SOCTRY) + Imputed rent (IMRENTY) + Private transfer received (PRITRY) + Other income (OTHERY) – Taxes (TAXESY)

Cash social transfers (SOCTRY) = Total pensions (TOTPENY) + Family benefits (FAMILY) + Social assistance (SOCASSY) + Unemployment benefits (UNEMPY) + Other social transfers and stipends (OTHSOCY)

Expenditure variables

- **Food (FOODX)**
Note: Includes cash and received free of charge (i.e. matching in-kind income which has been included in OTHERY).
- **Housing (HOUSEX) =**
rent (RENTX): includes tax for houses and common charge of dwelling +
other (OTHOUSX): utilities; fuel goods; housing repairs
Note: Rent (RENTX) is actual rent payment (there has been no imputation for those households with missing rent expenditures or owner-occupied houses).
- **Education and culture (EDUCULX):** equipment (and repairs) for sport, leisure and culture; sport, leisure and culture activities; newspapers, books and stationery; educational services and materials.
- **Health (HEALTHX):** medical goods (medicine and other)
- **Transport and communication (TRANSX):** purchase of vehicles; operation of personal transport equipment; transport services; post, telephone & telegraph
- **Clothing (CLOTHX):** includes repair of clothing
- **Private transfers given (PRITGX) = cash (PRITGCX) + in-kind (PRITGIX)**
- **Other expenditures (OTHERX):** alcohol & tobacco; household furnishings; purchase of household durables & utensils; goods & services for routine household maintenance; personal and health services; insurance premiums; accommodation services (holidays); miscellaneous fees and services
Note: Does not include taxes. Includes goods and services received free of charge (i.e. matching in-kind income).
- **Value of home-consumption expenditure (HOMCX) =**
food (HOMCFX): food items self-produced or collected +
non-food (HOMCNFX): non-food items self-produced or collected

Income variables

- **Wage (WAGEY):** gross wages from all jobs. Includes: business trip allowance, vacation benefits; cash gift from employer; tips.

- **Self-employment income (SELFEMY):** net revenues from crop, livestock and other agriculture production
Note: Only agricultural self-employment income is included here. Non-agricultural self-employment income has been included in WAGEY (the English translation of the HBS documentation was not clear enough for it to be separated out with confidence)
- **Value of home-consumption income (HOMCY):** same as HOMCX
- **Pension (TOTPENY):** old-age pension
- **Family benefits (FAMILYY):** child care aid and support; family allowance; orphans' benefit; child alimony; education support; maternity aid
- **Social assistance (SOCASSY):** "regular aid"
- **Unemployment benefit (UNEMPY)**
- **Other social transfers and stipends (OTHSOCY):** stipends/scholarships
- **Private transfers received (PRITRY):** cash gifts from family&friends
- **Other income (OTHERY):** "attendance fee"; annuities and insurance payouts; income from abroad (salary, social and other); interest and dividends; income from sale of properties; in-kind food and non-food support
- **Taxes (TAXESY) =**
social security (SSTAXY) +
direct personal taxes (PITAXY)

Asset variables

- **Durables ownership**
Car (CARDA); TV (b/w) (TVBDA); TV(color) (TVCLDA); Refrigerator &/or freezer (REFIGDA);
Auto washing machine (WASHDA); Sewing machine (SEWDA)
Personal computer (PCDA); VCR (VCRDA); Stereo (STEREDA); Microwave (MICRODA)
Motorcycle (MOTORDA); Durable index (DURABLA)
Note: The number of each type of durable owned by the household is recorded. The variable DURABLA is an index for number of types of durable good owned by the household.
- **Ownership of productive assets (PRODUCA):** if self-employment income > 0
- **Tenancy status (TENANCA):** (1) Owner-occupied (privately and semi-privately owned); (2) Rented cannot distinguish whether rented from private or public sector; (3) Other
- **Household amenities**
Amenity index (AMENITA); Running water (RUNWTAA); WC or bathroom (WCBATAA);
Central gas (GASAA); Central heating (CTHTAA); Telephone (TELEPAA)
Note: AMENITA is an index for number of types of amenities present in the household.
- **Land ownership (LANDA):** total area of cultivated land in fathoms

Descriptive variables - household

- **Locality (LOCAL):** (1) Budapest; (2) other urban; (3) rural
- **Region (REGION):** (1) Central region; (2) West Trans-Danubia; (3) Central Trans-Danubia; (4) Southern Trans-Danubia; (5) Northern Hungary; (6) North Great Plain; (7) South Great Plain
- **Socio-economic group (SEG):** (1) wage earner: wage income greatest share of household income; (2) self-employed: self-employment income greatest share of household income; (3) pensioner: pension income greatest share of household income; (4) other social benefit recipient: other social benefits income greatest share of household income; (5) other income: other income (i.e. that which is not included in categories 1-4) greatest share of household income
- **Household size (HHSIZE)**

Descriptive variables - individual

- **Gender (GENDER):** 1 = male; 2 = female.
- **Age (AGE)**
- **Labor force status (LFS):** (1) employed (working age and main source of income is from work); (2) unemployed (working age and main source of income is unemployment benefits or else no income and looking for work); (3) inactive; (4) pensioner
- **Education (EDUCAT):** (1) incomplete primary; (2) complete primary; (3) vocational; (4) secondary; (5) higher
- **Household headship (HHEAD):** Headship was determined as follows: the oldest male aged 18-59; if there were no males aged 18-59, then the oldest female aged 18-54; if there were no females aged 18-54, then the youngest male aged 60 or over; if there were no males aged 18 and over, then the youngest female aged 55 and over; if there were no females aged 18 and over, then the oldest person.

Table A1: Budget shares by per capita consumption quintile (percent)

	Lowest	2nd	3rd	4th	Highest	All
Food	42.3	35.8	34.2	31.2	25.6	32.7
Rent	1.9	2.1	2.2	2.9	2.7	2.4
Other housing	17.3	18.4	18.8	18.5	17.2	18.0
Education	3.0	3.3	3.6	3.5	4.2	3.6
Health	2.0	2.4	3.1	3.1	2.5	2.7
Transport & communication	4.9	7.3	8.2	9.4	11.2	8.6
Clothing	3.8	4.1	4.5	4.7	6.0	4.8
Private gifts given (cash)	0.7	1.3	2.0	2.3	4.4	2.4
Private gifts given (in-kind)	0.1	0.2	0.3	0.4	0.7	0.4
Other expenditures	14.3	13.9	14.6	15.8	18.7	15.8
Home consumption (food)	9.3	10.7	8.3	8.0	6.5	8.3
Home consumption (non food)	0.3	0.4	0.3	0.3	0.4	0.4
	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author estimates based on HBS, 1997.

Table A2: Income shares by per capita income quintile (percent)

	Lowest	2nd	3rd	4th	Highest	All
Wages	39.8	46.7	36.1	35.3	50.3	41.8
Self-employment income	0.6	0.7	0.9	1.1	2.0	1.1
Home consumption	7.3	6.9	6.8	7.9	6.6	7.1
Pension	15.1	29.7	46.4	48.5	33.5	36.4
Family benefits	20.7	8.2	3.8	2.2	0.8	5.8
Social assistance	1.3	0.6	0.3	0.3	0.1	0.4
Unemployment benefits	9.6	3.0	1.7	0.4	0.4	2.4
Other social transfers	0.2	0.1	0.3	0.2	0.2	0.2
Private transfers received	3.5	2.3	2.4	2.5	3.1	2.7
Other income	1.9	1.8	1.4	1.6	3.1	2.0
	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author estimates based on HBS, 1997.

Appendix B: Sensitivity analysis

Table B1 shows the poverty rate calculated using the different poverty lines and welfare measures used in this report. Relatively small shifts in the poverty line results in quite marked changes in the headcount rate. For example, if the poverty line were to be increased by 10 percent when per capita consumption is the welfare measure, then the poverty rate would increase from 12.5 to 17.0 percent, an increase of 36 percent over the poverty rate calculated for the base poverty line.

Table B1: Sensitivity analysis

		Base poverty line	Base - 20%	Base - 10%	Base +10%	Base + 20%
Consumption						
$\theta=1$	Poverty line (HUF)	123,560	98,848	111,204	135,916	148,272
	P_0	12.5	5.6	8.6	17.0	21.9
	% pt. change in P_0		-55.6	-31.4	35.5	75.0
$\theta=0.8$	Poverty line (HUF)	151,576	121,261	136,419	166,734	181,892
	P_0	10.1	4.5	6.7	14.5	19.3
	% pt. change in P_0		-54.9	-33.2	44.1	91.2
$\theta=0.73$	Poverty line (HUF)	163,156	130,525	146,841	179,472	195,787
	P_0	9.7	4.3	6.4	13.9	18.7
	% pt. change in P_0		-55.7	-33.8	43.3	92.8
$\theta=0.62$	Poverty line (HUF)	183,552	146,841	165,196	201,907	220,262
	P_0	9.1	4.0	6.0	13.4	18.4
	% pt. change in P_0		-56.6	-33.6	47.2	102.0
$\theta=0.6$	Poverty line (HUF)	187,575	150,060	168,818	206,333	225,091
	P_0	9.2	3.8	6.1	13.5	18.4
	% pt. change in P_0		-58.1	-33.6	47.1	100.9
Income						
$\theta=1$	Poverty line (HUF)	132,030	105,624	118,827	145,233	158,436
	P_0	9.3	4.5	6.5	13.5	17.4
	% pt. change in P_0		-51.7	-30.5	44.9	86.5
$\theta=0.8$	Poverty line (HUF)	162,462	129,969	146,216	178,708	194,954
	P_0	7.7	3.3	5.2	11.0	14.6
	% pt. change in P_0		-57.2	-31.9	43.3	90.9
$\theta=0.73$	Poverty line (HUF)	175,052	140,042	157,547	192,558	210,063
	P_0	7.1	3.0	5.0	10.3	14.5
	% pt. change in P_0		-57.6	-29.6	44.1	103.3
$\theta=0.62$	Poverty line (HUF)	197,244	157,795	177,519	216,968	236,692
	P_0	6.9	2.7	4.8	10.0	13.9
	% pt. change in P_0		-60.8	-31.1	44.3	101.1
$\theta=0.6$	Poverty line (HUF)	201,624	161,299	181,462	221,787	241,949
	P_0	6.9	2.7	4.7	10.0	14.0
	% pt. change in P_0		-60.9	-32.2	43.8	102.1

Source: Author estimates based on HBS, 1997.

Note: The poverty lines were set at 50 percent of mean equivalent income and consumption, calculated using the different values for θ .

Appendix C: Functional form for regressions: linear versus semi-log

In this paper, regression techniques are used to predict household welfare and to identify the variables that are significantly correlated with welfare. In the regressions, the dependent variable is log per capita consumption or income, while the independent variables are either continuous variables or dummy variables reflecting household characteristics. From a theoretical perspective, it is attractive to use the semi-log functional form: $\ln c = \alpha + \beta x$, where x is a continuous variable. This specification implies that the effects of household characteristics on welfare are proportional rather than linear. Thus education, for example, will increase household welfare in a fixed proportion rather than by a fixed amount, and hence the absolute returns to education are lower for the poor.

While there are therefore theoretical reasons for using the semi-log functional form, it is useful to also econometrically test whether the data fit this functional form. This was done using the STATA ado program `boxcox`, which finds the maximum-likelihood Box-Cox transform. The Box-Cox transform

$$y^{(\lambda)} = \frac{y^{(\lambda)} - 1}{\lambda}$$

represents a family of data transformations. For instance:

$$\begin{aligned} y^{(\lambda)} &= y - 1 && \text{if } \lambda = 1 \\ y^{(\lambda)} &= \ln(y) && \text{if } \lambda = 0 \\ y^{(\lambda)} &= 1 - 1/y && \text{if } \lambda = -1 \end{aligned}$$

The STATA ado program `boxcox` finds the maximum-likelihood value of λ for the model:

$$y_i^{(\lambda)} = \alpha + \beta x_i + \varepsilon_i$$

where ε_i is assumed to be normally distributed and homoscedastic. The λ obtained from `boxcox` is therefore the value that transforms y to being approximately normally distributed.

An estimated λ of one implies that the linear specification of the consumption function is appropriate, while an estimated λ of zero supports the use of the semi-log functional form. The `boxcox` procedure was run for Hungary using per capita expenditure and the independent variables from **Table 5.1** and the estimated λ was -0.197. While the test that $\lambda=0$ was rejected, the fact that the estimated λ was much closer to zero than one, led to the conclusion that the semi-log functional form is appropriate for use in the welfare regressions.

**POVERTY TRENDS AND SOCIAL TRANSFERS THROUGH THE TRANSITION:
HUNGARY 1992-1998**

PÉTER SZIVÓS - ISTVÁN GYÖRGY TÓTH

1998

1. Introduction

The aim of this paper is to serve as a background study for the Poverty Assessment Report undertaken by the World Bank in 1998–1999. It is divided into two sections. First, the macroeconomic context of the evolution of poverty is outlined briefly. The second section contains two separate parts. As a start, poverty and inequality measures were assessed for Hungary in the nineties. Then, an assessment was made of the role of welfare benefits in poverty alleviation. In this part, some counterfactual experiments were made. We measured the impact of social support by assessing what would happen should the individual types of benefits be withdrawn.

1.1. The macroeconomic context of developments of poverty: labor markets and welfare policies

1.1.1. Labor markets

The Hungarian economy has undergone a major shock at the beginning of the nineties. Due to the reorientation of exports to the West, the liquidation of many loss making firms, and institutional restructuring, there was an unexpected output decline. The performance of the Hungarian economy declined by 20 per cent between 1989 and 1993 but after a stagnation/low increase period between 1995-96 it started to increase. The largest decline was in 1991 with 12 per cent; after that the rate of decline slowed down in 1993. The economic recession was accompanied by high inflation, especially at the beginning. Consumer prices increased by 35 percent in 1991 (Table 1.1). 1998 started with high inflation. However, there was a significant drop in inflation rates in 1998-1999.

Table 1.1. Macroeconomic indicators 1991-1998

	1991	1992	1993	1994	1995	1996	1997	1998*
GDP annual change	-11.9	-3.1	-0.6	2.9	1.5	1.3	4.6	5.0
Consumer Price Index	35.0	23.0	22.5	18.8	28.2	23.6	18.3	14.3
Registered unemployment rate, end of year	7.5	12.3	12.1	10.4	10.4	10.5	10.4	9.1
Net real earnings	-5.1	-1.8	-3.9	5.2	-12.2	-5.0	4.9	3.6
General government deficit (p.c. to GDP)	-4.4	-6.5	-5.8	-8.1	-6.7	-3.1	-4.6	-4.6
Of which: primary	-0.6	-0.9	-1.2	-2.5	1.6	4.4	2.9	1.8

*Preliminary

Source: Central Statistical Office, Ministry of Finance.

There were two important trends in the Hungarian labor markets between 1989 and 1996. First, after some fall in the 1980s, there has been a drastic decline in economic activity in the 1990s, accompanied by a harsh selection process in employment opportunities. This drastic decline has accelerated as the transition progressed. By 1995, formal employment dropped by more than a quarter compared to its pre-transition level. Secondly, these tendencies also resulted in the

differentiation of market incomes. Each of these tendencies had their own effects on social policies and also on the shape of income inequalities.

The drop in employment was accompanied by an increase in early retirement, disability pensions and maternity benefits. Between 1990 and 1995, the economically active population fell by more than 1.4 million. Unemployment increased by about 500,000, and the employed population dropped by over 900,000. In addition to transfers, increased enrolment in higher education was also used to reduce the pressure on labor markets instead of proper unemployment and employment promotion policies. Concomitantly with the rise in people living on transfers, the tax base to finance these benefits shrank which caused serious financing problems. In 1995, one hundred employed person supported 163 dependants. Hungary experienced the highest rise in non-employment among the Central and Eastern European countries. Since 1995, the labor market seemed to have stabilized. The stagnation of non-employment rates were parallel to a slight decrease of unemployment rates.

In 1998, the Hungarian labor market is still very segmented. Within this, the most important division lines are between those who were able to remain on the labor market and those who were driven out from there. An estimate for the total account of the labor force is given in Table 1.2.

Table 1.2. Labor Accounts, March, 1998

	total		public	private	unknown
population aged 60+	20.0	100.0			
of which: employed		3.6	21.1	36.8	42.1
pensioner		91.5			
other inactive		4.9			
population aged 16-59	63.7	100.0			
of which: employed		56.7	100.0		
of which: industry		25.9	6.6	93.4	
agriculture		4.7	11.4	88.6	
services		30.2	42.9	57.1	
other		3.8	40.3	59.7	
public administration		4.6	100.0	0.0	
total above		69.1	30.8	69.2	
unknown		30.9			
unemployed		4.8			
military service		0.6			
pupils, students		11.3			
pensioner		15.2			
other inactive		11.2			
unknown		1.2			
population aged 15-	16.4	100.0			
of which: kindergarten, nursery		20.9			
primary school		47.9			
secondary		4.7			
other dependant		22.0			
unknown		4.5			
population total	100.0				

The total population is divided into three different age groups. One person in five, that is, twenty percent of the total population belongs to the age group of 60+ persons, 63.7 percent belong to the active age group (in this paper it is defined as those between 16 and 59 years of age). Approximately 16.4 percents will belong to the youngest generation.

Among the active age population, the very low share of the economically active seems to be the most problematic element. Even if students and soldiers are left out, some 26 percent of this age group is inactive (pensioners and other inactives). It is most probably due to the high rate of early retirement, the low pension age and the liberal practices of disability pensions. The branch distribution of the economically active population shows the picture of a relatively modern economy: agricultural employment accounts for about 5-6 percents, while the share of the tertiary sectors already exceeds that of industry. It is important to note that in industry and agriculture the share of the (at least partially) private sectors is around 90 percents. The relatively lower share of private sector employment in tertiary sectors is mostly due to the fact that two traditionally state-owned sectors, health and education belong to this category. Altogether it is safe to say that the private sector share in employment already reached a level from where significant further growth is quite unlikely in the medium run. Currently, some 70 percent of total employment is private sector (which means that the share would grow to 75 percent if public administration is taken out). Activity rates within the 60+ age group are still very low, less than four percent.

Changes in labor market status in the last decade determined earning possibilities of various social groups as well. Earnings of those being able to stay permanently on the labor market increased much more than earnings of those having only temporary employment. When observing the share of households receiving certain types of various incomes, the first shocking experience is, again, the decreasing share of those receiving market incomes. Although admittedly, problems of the survey used here may account for some of these trends, the low level and the decreasing trends are pronounced. At the same time, disability pensions and old age pensions have increased while, most recently, a drop in the shares of maternity benefit recipients and of family allowance recipients can be observed. (Table 1.3.)

Table 1.3. Ratio of households receiving certain types of income, 1992-1998

	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Market incomes	83.9	80.0	82.4	78.6	80.1	79.5	72.1
Old age pensions	38.3	39.9	41.4	37.8	37.2	40.3	42.0
Disability pensions	10.0	11.7	12.0	12.5	13.5	14.4	15.8
Other pensions	8.7	7.5	9.2	8.2	8.0	7.6	8.6
Child care fee	5.8	6.0	5.0	4.4	4.4	4.6	2.0
Child care benefits	4.9	6.0	5.7	4.5	5.3	7.6	6.4
Unemployment benefits	9.8	13.5	13.9	8.8	8.3	9.2	8.9
Sick-pay	11.6	11.9	11.7	10.9	10.9	9.0	7.9
Income support for long term unemployed	0.8	3.1	3.4	4.8	4.8	5.1	4.8
Family allowance	33.1	33.0	32.6	34.5	34.1	32.0	22.4
Social assistance	8.5	10.2	9.9	8.6	9.9	7.4	9.0

The dispersion of market incomes of households increased by some 10% between 1989 and 1997 as shown by the values of the Gini coefficient. This change was dominated by increased dispersion of earnings, while comparative figures for cash property incomes showed the reverse.

If all pre-transfer incomes (i.e., market incomes and non-public inter-household transfers) are taken together, the dispersion also increased, from 0.47 to 0.52. (Table 1.4.)

Table 1.4. Dispersion of various types of incomes in Hungary, 1992-1998 (GINI, %)

	1992	1993	1994	1995	1996	1997	1998
market incomes	46,56	47,07	49,93	50,64	50,12	51,64	52,64
other non-public incomes	64,33	68,72	71,90	68,89	65,84	67,82	70,81
pre-transfer incomes	47,17	47,96	50,45	51,01	50,41	52,22	54,06
public social transfers	37,27	35,61	36,57	36,66	37,91	40,1	40,76
social insurance benefits	31,79	35,23	35,39	36,11	37,89	36,7	37,57
pre-transfer incomes+public social transfers	45,12	45,55	47,89	48,70	48,42	50,0	51,21
total household incomes	29,50	27,75	29,47	31,62	30,85	30,85	32,00

Note: Gini coefficients in this table show the concentration of non-zero equivalent incomes of households ($e=0.73$).

Source: HHP, waves I-VI., TÁRKI Household Monitor, 1998.

Prior to the transition, income inequalities were more compressed in Hungary than in OECD countries. With the liberalization of wage policies, inequalities among different social strata increased. The ratio in mean incomes of the uppermost decile to that of the lowest decile increased from 3.8 in 1982 to 5.2 by 1991. From 1991 to 1994, the ratio increased further. In 1996, households in the highest decile (as measured by per capita incomes), were well over seven times more than the lowest decile.

As a summary, it is safe to say that probably the most important—and perhaps the most harmful—consequence of structural adjustment and of very permissive social policies was the rise in inactivity. This had at least two very negative consequences. One was the increase of fiscal burden under the circumstances of declining financial sources. The other harmful effect was the loss of human capital: with the spread of long-term unemployment and inactivity, an increasing number of persons lost their attachments to formal labor markets.

1.1.2. Cash transfer policies

Welfare benefits came into the centre of attention first in the first half of the 1990s, because at the time of the recession they amounted to more than 30 per cent of Gross Domestic Product. Hungarian social expenditures at that time exceeded the OECD average.¹ Then, partly because of the stabilization package, in 1996–1997 welfare expenditure fell back dramatically.²

Before we examine the influence of this on the income distribution of poverty and welfare benefits, we should like to present a few characteristics of the four-benefit system covered by our analysis: family allowances, unemployment benefits, pensions and social assistance.

In the period between 1992–1996, the total nominal amount spent on these four benefits rose by 70 per cent. The total sum spent on pensions increased somewhat more, doubling in nominal terms. Unemployment benefit expenditure showed no increase even in nominal terms (see Table 1.5.). Of course, the developments in incomes as a whole were influenced by changes in the number of benefit recipients, as well as by changes in the average values of the benefits. The

¹ Tóth, I. Gy.: A jóléti rendszer az átmenet időszakában. *Közgazdasági Szemle*. 1994. No. 4. 313–341. p.; Social and labor market policies in Hungary. OECD. Paris. 1995. 189. p.

² Lelkes, O.: Az állam szociális kiadásai Magyarországon 1988 és 1996 között. TÁRKI. Budapest, 1997. 15 p.

proportion of households receiving pensions rose by a few percentage points and indexing was also in operation. As a result, this benefit was the one which lost the least of its real value. In the case of unemployment benefits, the proportion of those benefiting decreased. Also, due to changes in legislation, the average amount of the payment fell to two-thirds during this period. The real value of family allowances also suffered a significant fall, to less than half. Here primarily the fall in average values was decisive.

Table 1.5. Some principal characteristics of cash social benefits

Cash benefits	In the year of				
	1992	1993	1994	1995	1996
	HUF billion				
Family allowances	91.8	108.9	110.6	101.6	95.7
Unemployment benefits	48.4	59.1	52.4	50.1	47.2
Pensions	314.9	392.9	477.4	553.4	633.9
Social assistance	18.3	22.3	24.9	29.2	33.3
Total (of above four)	473.5	583.1	665.3	734.4	810.1
Total income	2050.8	2350.9	2888.6	3560.3	4366.1
	Nominal change, 1992=100.0 per cent				
Family allowances	100.0	118.6	120.4	110.7	104.2
Unemployment benefits	100.0	122.0	108.3	103.5	97.5
Pensions	100.0	124.7	151.6	175.7	201.3
Social assistance	100.0	121.7	136.0	159.4	181.6
Total (of above four)	100.0	123.1	140.5	155.1	171.1
Total income	100.0	114.6	140.9	173.6	212.9
Price index (CPI)	100.0	122.5	145.5	186.6	230.6
	Change in real value, 1992=100.0 per cent				
Family allowances	100.0	96.8	82.7	59.3	45.2
Unemployment benefits	100.0	99.6	74.4	55.5	42.3
Pensions	100.0	101.8	104.2	94.2	87.3
Social assistance	100.0	99.3	93.4	85.4	78.7
Total (of above four)	100.0	100.5	96.5	83.1	74.2
Total income	100.0	93.6	96.8	93.0	92.3
	Share of various cash benefits in percent of total incomes of households				
Family allowances	4.5	4.6	3.8	2.9	2.2
Unemployment benefits	2.4	2.5	1.8	1.4	1.1
Pensions	15.4	16.7	16.5	15.5	14.5
Social assistance	0.9	0.9	0.9	0.8	0.8
Total (of above four)	23.1	24.8	23.0	20.6	18.6

Source: TÁRKI Social Policy Data Base.

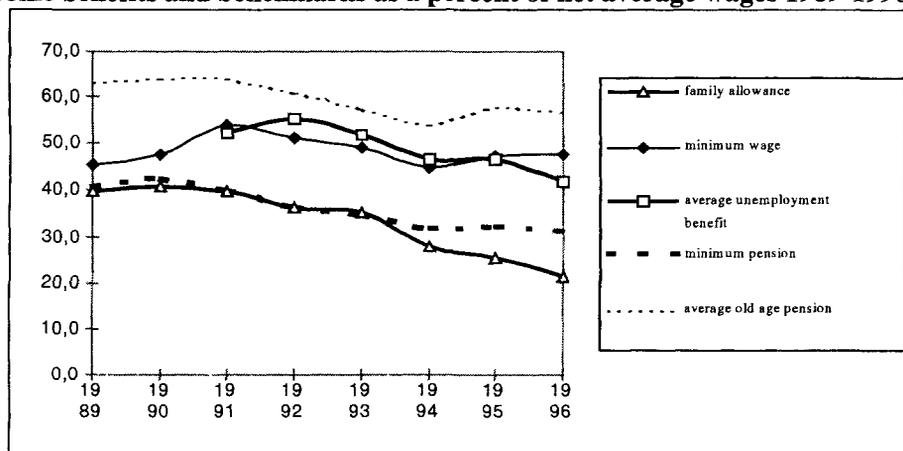
Since disposable income increased more rapidly in nominal terms than, benefits therefore, the role of these benefits in income composition decreased. While in 1992 the four benefits under discussion made up 23 per cent of total household income, by 1996 this figure had fallen to 19 per cent. Family allowances and unemployment benefits lost the most value, but to some degree so did pensions, which were of much greater importance. The significance of social assistance remained about the same. These structural changes are supported by the findings of the Hungarian Household Panel, so we shall rely on these series of data in our analysis.

To sum it up, gradualism and hesitation characterized the policy responses to the above trends in the early 1990s. There were virtually no eligibility cuts in the support systems between 1990-95.

Instead, in some cases, the potential clientele of the benefits was increased (most notably in pension systems and, also, in family benefit systems).

The strategy of gradual extensions, under the circumstances of severe budgetary constraints led to gradual but dramatic erosion of some benefits, most importantly the family benefits. Child allowances lost half of their real value between 1990 and 1994. There were no eligibility cuts for GYES and GYED, but both benefits were eroded. In the case of GYED, introduction of a benefit ceiling in 1992 accelerated this erosion.

Chart 1.1. Some benefits and benchmarks as a percent of net average wages 1989-1996



Source: TÁRKI Social Policy Database.

Note: June data or yearly average. Family allowance: two children, two adult household, allowance for two children.

These trends gradually changed the structure of social transfers, even though no radical reforms were implemented during the first half of the 1990s. Family benefits remained, by and large, universal until 1995-96, but their distributional impact was shown to shift into the direction of pro-poor distribution. However, as there were no eligibility cuts and family allowances were still perceived to favor the middle classes and, in fact, based on this argument, the government decided to revise the whole previous arrangements of these benefits.

Total social expenditures were on the rise until 1991-92. Then, mostly due to "freezing" of benefits and a consequent loss of their real values, social expenditures started gradually falling as a percent in GDP. (Table 1.6.)

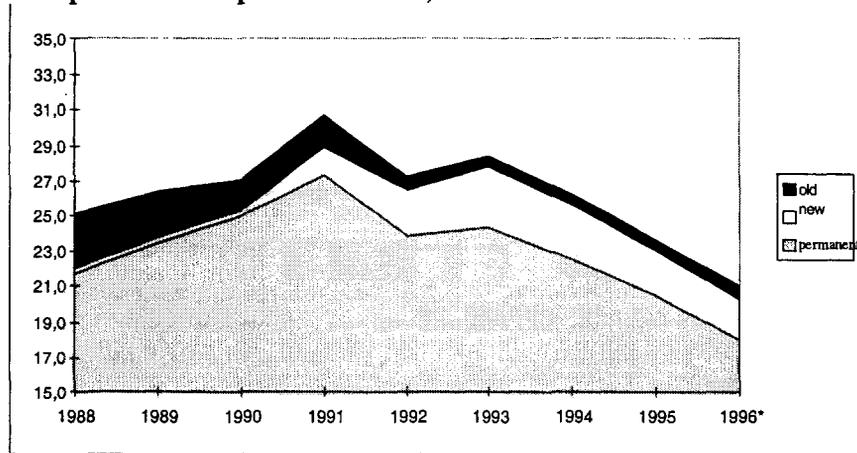
Table 1.6. Social expenditures of the general government in percent of GDP, 1988-1996

	1988	1989	1990	1991	1992	1993	1994	1995	1996*
Price subsidies	3.1%	2.6%	1.8%	1.8%	0.7%	0.6%	0.6%	0.6%	0.7%
Health	5.2%	5.7%	6.5%	7.6%	7.2%	7.6%	7.1%	6.4%	5.3%
Education, culture	6.1%	7.0%	8.2%	9.3%	8.5%	9.3%	9.9%	8.5%	7.7%
Housing	2.8%	3.5%	3.6%	2.5%	1.2%	1.1%	0.8%	1.2%	0.9%
Unemployment	0.0%	0.0%	0.1%	0.7%	1.6%	1.7%	1.2%	0.9%	0.7%
Pensions	9.1%	9.1%	9.7%	11.3%	10.4%	10.5%	10.3%	9.5%	9.1%
Social assistance	0.3%	0.3%	0.2%	0.9%	1.0%	1.8%	1.8%	1.7%	1.6%
Family support	3.4%	4.0%	4.0%	4.6%	4.1%	4.1%	3.5%	2.7%	2.2%
Sickness	1.2%	1.2%	1.2%	1.3%	1.0%	1.0%	0.9%	0.7%	0.5%
Total	31.1%	33.4%	35.2%	39.9%	35.6%	37.6%	36.2%	32.2%	28.6%

* Preliminary ;Source: Lelkes, 1997: Az állam szociális kiadásai Magyarországon 1988 és 1996 között.

An important trend of the systemic change was a constant battle for the reorientation of general government revenue and expenditure structures. When trying to regroup social transfers, one may find it useful to call consumer price subsidies and housing loan interest rate subsidies as "old" types of benefits. Some of the expenditure emerged as a consequence of the systemic change. Social assistance and unemployment benefits could most conveniently be grouped into the category of "new" type of benefits. There has been a clear restructuring between them in the first half of the nineties. Total expenditures peaked around 1991. However, there has been an internal change in the structure of the benefits. Old types of benefits started losing ground while the new ones increased.

Chart 1.2. Social expenditures in percent of GDP, 1988-1996



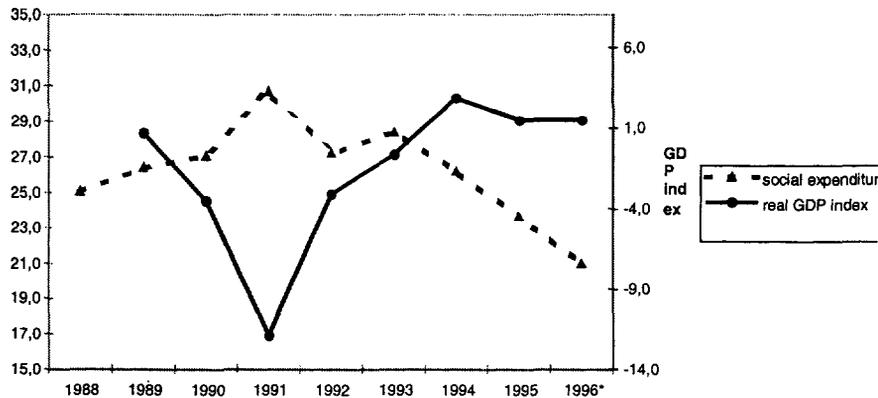
Source: TÁRKI (1998): Gazdasági aktivitás vagy szociális támogatás? A jóléti újraelosztás megváltozott keretfeltételei. Háttér tanulmányok a Középtávú Szociálpolitikai Konceptióhoz. Zárótanulmány 1., 52. p.

Note: "old" = subsidies on consumer goods and housing loans.

"new" = unemployment, social assistance.

"permanent" = pension, family, benefits, health, drugs.

Chart 1.3. GDP growth rate and social expenditures as percent of GDP, 1988-1996



Source: TÁRKI Social Policy Database

The dynamics of social expenditures can be more fully understood by comparing GDP shares of social expenditures to the annual GDP growth figures. (Chart 1.3.) It is clear that in the time of

the biggest fall of GDP in 1991 there was a sharp increase in social expenditure shares. However, the two trends do not seem to show perfect mirror images. After the 1995 austerity package, GDP stagnated, while social expenditures suffered a large drop between 1994-96.

2. Income distribution and poverty

In this study, which is one stage in research series going back many years, we attempt to describe the nature of the connection between welfare benefits and the trends in poverty indicators.

The study examines the changes in income distribution in the mid-1990s, with special focus on the evolution of relative poverty. We show the movement of the real and nominal values of the poverty thresholds employed, and attempt to color the description of the evolution of poverty with a calculation of additional measures besides the traditional ones. The next part presents some new calculations showing the effects of welfare benefits on poverty.

2.1. Problems of measurement

On what basis should the economic well-being be assessed? The discussion on consumption vs. income has two different key points: on the one hand methodological, conceptual, on the other hand data availability, quality issues. We do not want to go into conceptual questions or mention survey measurement problems regarding underestimation of “true” welfare. Here we just point out that the two concepts lead to two different results. For example, according to a study³ from the first part of the 1990s, although central measures were quite the same, distributions were significantly different, therefore poverty estimations were also varied.

This study is using income as a criterion for economic well-being. The main reason to use income as a poverty indicator is that this reflects better the capacities of households and individuals to participate in the mainstream of society rather than their actual consumption behaviour. Other factors (such as consideration on the health status, social pathologies, ecological environment) are not taken into account. This implies an assumption of a monotonic relation between income and welfare. Income as a poverty indicator is defined in the followings as disposable annual income of the household. Non-monetary parts of income (income in kind, such as health, education or home production) have been disregarded for the analysis.

In our earlier work we attempted to examine the distribution of welfare benefits and the changes in distribution over time. In examinations of this kind, preliminary decisions on a number of further methodological issues have to be made at the beginning. Here, without going into details we mention only a few.

The incomes of households may be compared in a number of different ways. As one extreme, no difference is made between the size of households. It is clear that this approach does not take family size into account when assessing earning capacity or consumption demands. For example, it treats as one household a one-person household, a household where there are many children, and a household where there are possibly several generations. Behind this is the assumption that the living expenses of a household do not change as the family gets bigger. On the other hand,

³ Péter Szivós: Profile of Poverty in Hungary, 1993, mimeo, 1995. p 45.

assuming per capita incomes means that the living expenses increase at the same rate as a family size. In the literature of income inequalities, both of these methods are used. However, we shall probably get nearer to the truth if we use an approach somewhere between these two extremities.

According to the logic of equivalence scales, an increase in the size of a family means an increase in its living costs, but not at the same rate as the increase in the family's size. For some households, then, equivalence scales attach diminishing weight to an increase in family size. As formally expressed, a multi-member family has an income equivalent to a single-member family when $j=h/N$, where j is the income of a single-member household, h is the total income of the household being examined and N is for indicating needs depending on the size of the family. In the literature it is regarded as proven that the co-efficient indicating the needs of a family can be well expressed using the formula $N=S^e$, where S is the size of the family/household.

In what follows, we calculate personal equivalent incomes according to three different equivalence scales, and the poverty rates calculated on the basis of these incomes. In the case of the $e=0.73$ scale we assume in practice that the first member of the household is 1, the second 0.7 and the third 0.5 as consuming units. Secondly, we use an equivalence scale which is more restrictive than this ($e=0.55$). This means that compared to those indicated so far, additional family members are given less weight as consumers. Last but not least, we calculate poverty rates on the basis of incomes per capita. This is prompted by very important social policy considerations, even if, from the statistical point of view, it might be more correct to give analyses made on the basis of equivalent incomes. First and foremost is the fact that in social policy, in practice, the criteria for entitlement to certain benefits is determined on the basis of per capita income. Therefore, before formulating any kind of actual social policy proposal, the implications of examinations conducted on the basis of per capita income need to be looked at.

Two additional methodological issues are worth mentioning. The first is the kind of poverty threshold to be used when assessing the extent of poverty and the role of welfare benefits in its alleviation. The second is the kind of poverty indicators to be used.

There is no space here to analyze the various concepts of poverty and the advantages and disadvantages of these. (This subject is dealt with in a whole series of articles.)

In the following, we will use three poverty thresholds. On the one hand, we shall regard as poor those whose per capita or equivalent income belongs to the bottom quintile (the bottom 20 per cent) of all such incomes. This measurement is not suitable for an examination of the size of poverty, since, by definition, 20 per cent of the population will always be in this bottom quintile. On the other hand, it is suitable for an examination of the composition of poverty, as well as for an examination of how the number of those living below the poverty threshold is represented by the upper limit of this quintile changes according to how individual social policy benefits featured in the incomes of individuals.

The other two measurements greatly depend on the actual pattern of income distribution. On the basis of these we can regard as poor those who (calculated on the basis of the various equivalence scales) live on an income less than half the average and half the median income. What is in favour of the choice of an average is the fact that certain international comparative studies, with which we would like to have comparable data, use this measurement. Against it, as we shall see later on, is the fact that the average, especially in the case of the smaller samples, is very sensitive to the extreme values. For this reason, the use of a median income seems to be more suitable.

In studies dealing with poverty in Hungary, the poverty rate and – less often – the poverty gap are the indicators which regularly appear. The first expresses ($H=p/n$) the proportion of poor people within the population, and is therefore the simplest and most readily understood type of poverty measure. Its big disadvantage, however, is its complete insensitivity to the intensity of poverty. This intensity – which in other words is the depth of poverty – is measured by the poverty gap, and by its relative version which shows the distance of the average income of the poor from the poverty threshold. The formula for this may be expressed as

$$I=1/p \cdot \sum_{i=1,p}((k-y_i)/k)$$

where

p – is the number of poor people,

y_i – is income of the poor,

k – is the poverty threshold.

The aggregate poverty gap – $\sum_{i=1,p}k-y_i$ – gives the minimum aggregate amount needed for the poor to rise above the poverty level. The poverty gap, however, is always insensitive to changes taking place in the number of the poor as long as the average income of the poor is unchanged. In order to combine the complementary characteristics of the two indices, the normalized version of the aggregate poverty gap can be used. This gives the amount of income to be redistributed from the non-poor to the poor if all of the poor are to rise to the level of the threshold.

Besides the above indicators, in the literature on the poverty of the last 15–20 years, many additional proposals have been made which are contained in a number of excellent summaries in Hungarian. In the following, we shall rely on these papers and on the indicators worked out in them.

Neither the above two indicators (the poverty rate and the poverty gap), nor a combination of the two gives any information on the scale and seriousness of poverty among the poor, in other words, they do not take account of inequalities of income among the poor. For example, let us take two income distributions $A=(1,2,3,4)$ and $B=(2, 2, 2, 4)$, with the poverty line being 3. The poverty rate is 75 per cent and the average poverty gap is 0.33 in both cases, and at the same time the poorest person in the A distribution has half the income of the poorest person in the B distribution. Let us suppose that a B distribution comes about with a redistribution from the least poor to the most poor in the A distribution. The poverty indicators we have examined so far are insensitive to such a redistribution. The poverty index proposed by A. Sen is appropriate from the point of view of the above criteria. The formula which bears his name is

$$P_s=H(I+(1-I)G_p),$$

where

H – is the poverty rate,

I – is the average rate of poverty gap,

G_p – is a measurement of income inequality among the poor on the basis of the Gini coefficient.

This index contains the information relating to the extent and intensity of poverty and to inequalities among the poor as well. The smallest value of the indicator is 0 and its highest is 1; 0 if there are no poor at all and 1 if everyone's income is zero. Insofar as the income of all the poor is the same, this income is the lowest possible, the more its value approaches the poverty rate, the higher the proportion of the poor is, and the more the value approaches the average poverty gap. A modification of the index was suggested by S. Anand who said that not only the incomes of the poor should be taken into account when measuring poverty, but the incomes of the non-poor as

well. The intensity measurement proposed by him compares the distance between the threshold value and the average income of the poor with the average income of the population as a whole. This index can be interpreted as the proportion of total incomes of the non-poor that needs to be transferred to the poor to lift them to the level of the threshold. The Anand measurement differs from the Sen measurement only in one constant, which is a quotient of the poverty line and the average income of the population as a whole.

Despite all their advantages, these indicators do not satisfy the requirement of additivity. They do not ensure that the poverty index relating to the population as a whole can be compiled as a weighted average of indices relating to sub-populations, or, the other way round, that it can be decomposable from the 'complete' index.

A relatively simple measure satisfying the above requirement is the Foster – Greer – Thorbecke index, which is built on a conception of a weighted poverty gap. Its formula is the following:

$$PFGT=1/n\sum_{i=1,p}((k-y_i)/k)^\alpha,$$

where

$\alpha \geq 0$,

p – is the number of poor people,

n – is the population size,

y_i – is income,

k – is the poverty threshold, α the value of the calculation parameter.

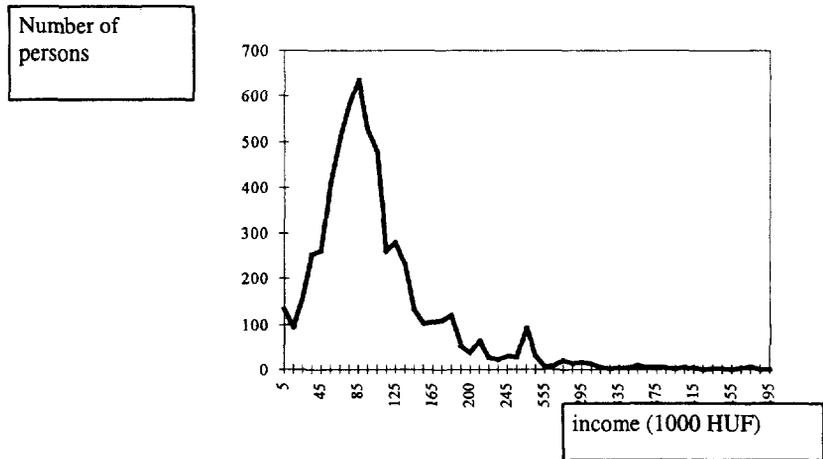
The greater the value of α , the greater the weight attached to the poorest of the poor. In the case of $\alpha=0$, it is weighted with the poverty rate. If $\alpha=1$, the weight is the product of the poverty rate and the average poverty gap, while when $\alpha=2$, the poverty gap is weighted with itself. Referring back to the earlier mentioned *A* and *B* distributions, the values of *FGT*(2) are 0.14 and 0.08 respectively. With the increase of the α values, this index also meets more and more axioms and criteria mentioned in the literature, such as those of monotony, transfer, sensitivity, symmetry and decomposition.

2.2. General trends in income distribution

The study, as we have indicated, shows data on those living on incomes below the poverty threshold calculated on the basis of the bottom quintile, half of the mean, and half of median income. The empirical differences between these three poverty lines are shown on the basis of data relating to the Hungarian income distribution in the years 1992–1998, using a number of poverty measurements. The data and the calculations are prepared by using the data base of the Hungarian Household Panel and TÁRKI Household Monitor (Table 2.1.).

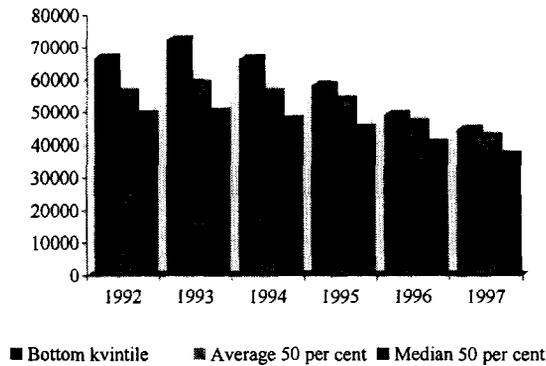
Income distribution in Hungary generally is skewed towards the left. In other words, the lower regions of the income distribution contain population cohorts of significant size. In the upper tail, on the other hand, those groups whose incomes are significantly higher than that of the average 'pull apart' the field. This can clearly be seen in Chart 2.1, where the income distribution data for 1992 can be examined. This feature of income distribution is also shown by the fact that the average income in 1992 exceeded the median income by 15 per cent. The difference remained largely the same throughout the period (although in 1995 the difference reached 20 per cent).

Chart 2.1. Income distribution in 1992. Number of persons belonging to the different per capita income categories



Source: Hungarian Household Panel, Wave I.

Chart 2.2. Real values of poverty thresholds, at 1991/92 prices

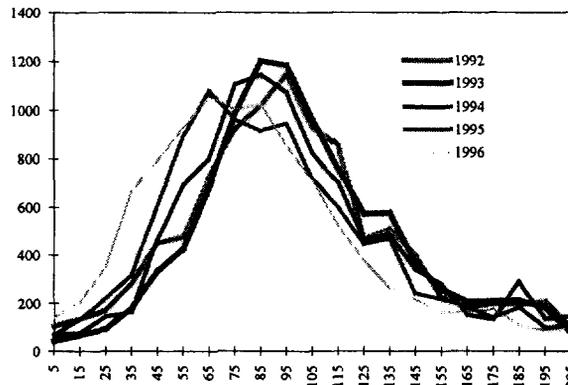


Source: Hungarian Household Panel, Waves I–VI. Inflation indices always compare the later March–March average with the earlier March–March average. Thanks are due to *István Bedekovics* for the calculations.

Comparing income distribution data through subsequent years in a period of considerable inflation, price adjustment of household incomes should be made. In the period between 1992 and 1997, inflation led to a fall in the real value of the different poverty thresholds. Out of the three thresholds, the greatest fall in real value (33%) in the period examined was the poverty threshold defined as the upper limit of the bottom quintile. (See Chart 2.2.)

Chart 2.3. Income distribution between 1991/92 and 1995/96, at 1991/92 prices

(Base period: April 1991–March 1992)

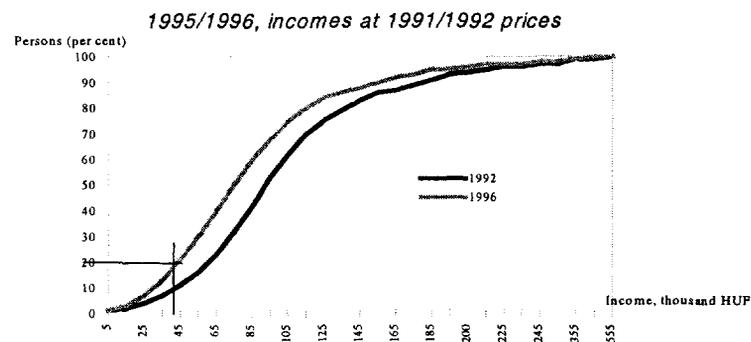


Source: Hungarian Household Panel, Waves I–V. For inflation indices see Figure 2.

The fact that income distribution shifted leftwards is also shown by the diagram which depicts the distribution of the real incomes in individual years compared to this poverty threshold (half of the 1992 median) (see Chart 2.3). It is obvious from this that in these successive years the fall in real incomes afflicted larger and larger population groups below the 1992 poverty threshold.

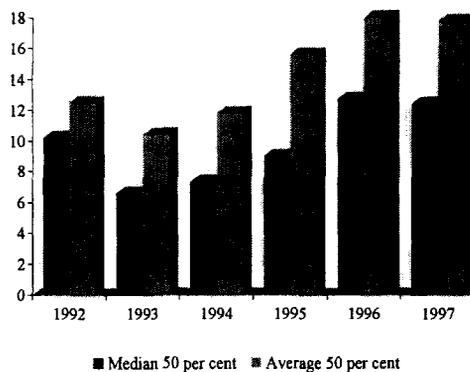
The development of relative poverty rates can clearly be shown by the presentation of cumulative distribution of social groups below the given income levels in the function of the increase in incomes. For the sake of simplicity, with the help of density functions only for 1992 and 1996, we can examine how the change in, or changing of, the poverty thresholds employed affected the proportion of poor people in a given population (see Chart 2.4). The vertical line placed on the diagram represents half of the median income in 1992. We can also see that in the 1992 density function, this value implied a poverty rate of 10,2 per cent, while in the 1996 distribution of income it implied a poverty rate of around 25 per cent. We can also see that near the above mentioned value cumulative frequencies rise somewhat steeply. This indicates that even a relatively small change in the poverty threshold affects comparatively significant population groups. On the other hand, with the help of a horizontal line placed on the Chart 2.4 at the 20 per cent value of cumulative distribution, the fall in the real value of the upper limit of the bottom quintile can be seen.

Chart 2.4. Cumulative distribution of persons on the various levels of per capita income in 1991/92 and 1995/96, incomes at 1991/92 prices



Source: Hungarian Household Panel, Waves I and V. Inflation indices: As in Diagram 2

Chart 2.5. Poverty rates of persons for different poverty thresholds defined on the basis of per capita incomes, 1992–1997



Source: Hungarian Household Panel, Waves I–VI.

2.3. The development of poverty during the nineties

The above mentioned movements in the characteristics of income distribution are also present in the increase of poverty rates. The proportion of poor people increased according to all three definitions over the period (see Chart 2.5 and Table 2.2.). The increase in relative poverty was especially significant in 1995 and 1996; on the other hand, we can speak of some decrease and almost no movement in 1997.

When assessing the rise and structure of poverty, most surveys show similar trends. Poverty and social exclusion tends to be determined by four major factors, like: demography, socio-geography, labor market and ethnicity. According to the latest surveys the poverty risk of

children, especially aged 7-14 years, tends to be twice as high as the average, while the risk of elderly less than half of the average. Latter is a result of a major shift from the situation of the early 1990s, when their risk was equal or higher than average. The vulnerability of children can be seen from the angle of family structure as well, because poverty rate of families with 3+ children is nine times higher than families without children. Even the poverty risk of families with one child is more than twice than families without children. When we assess poverty by family type, two groups are visible, poverty rates are higher among households with at least three children, or if the head-of-household is under 40 years of age, or a single parent. Differences between various household types are smaller for age categories between 40 and 60 years, but here also, single-parent families and families with three or more children were more likely to be poor. Finally, households headed by persons above 60 years of age who live alone are at great risk of being impoverished. This outlines a definitive life cycle profile of poverty.

Socio-geographic dimension can be measured two ways, like hierarchy of settlements and regions. Poverty rate is twice as high at the bottom of the hierarchy (villages) than at the top (capital-Budapest), and the same ratio is valid between the less developed part of the country (North, East) and the advantaged part (West).

Labor market, in conjunction with educational attainment is the most forceful factor determining poverty risk. It is banal to say that lower levels of education lead to higher poverty levels. The difference between the two ends of the hierarchy is five-fold, while a cut-off point can be seen between vocational and other secondary level. The poverty rate is half in households headed by persons with secondary education. Regarding the role of labor markets the most crucial thing is the attachment to the labor market itself. Households with heads who are unemployed or have children have a higher chance to be poor than others, while the increase in the number of employed member reduce poverty risk significantly. Also, ethnicity is an important factor. Roma families are much more vulnerable to poverty than any other groups of the society.

Table 2.1. Poverty rate by different socio-demographic groups, 1997/98.

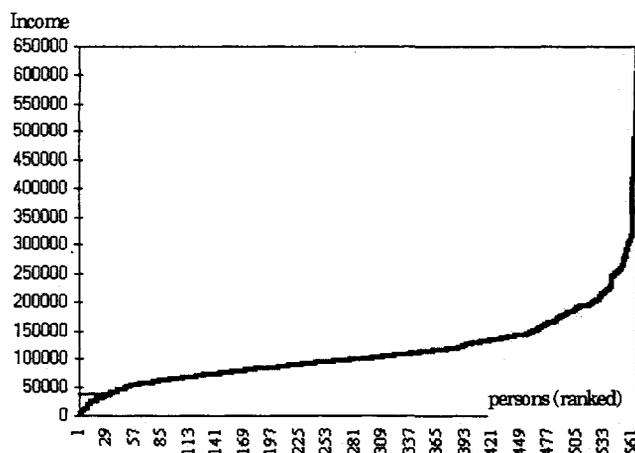
	Per capita			Equivalent(e=0.73)			N=
	half of median	half of mean	income quintile	half of median	half of mean	quintile	
Age							
0-2	15.5	20.2	35.7	14.0	16.3	28.7	129
3-6	17.8	25.1	36.2	13.7	17.8	29.4	218
7-14	18.5	23.5	36.1	14.4	20.1	31.7	438
15-19	17.1	22.0	30.5	13.8	18.6	28.1	413
20-29	7.4	11.1	18.6	6.2	9.0	16.0	844
30-39	10.8	16.7	26.0	8.6	12.8	24.4	654
40-49	10.4	14.5	20.6	9.1	13.4	20.6	751
50-59	4.7	7.2	12.7	5.8	7.7	15.0	726
60-69	1.8	2.8	5.5	2.0	4.3	9.7	495
70+	2.1	3.2	6.8	3.8	5.6	14.3	532
Educational attainment							
0-7 classes	9.3	14.3	20.2	10.5	15.7	27.8	496
primary	11.5	15.7	25.1	10.9	14.8	25.1	1168
vocational	6.4	10.9	15.9	4.8	8.4	16.1	920
other secondary	3.4	4.7	9.9	2.7	4.8	9.4	768
tertier	3.0	4.4	6.0	2.7	3.6	6.3	366
Type of settlement							
villages	11.8	16.4	25.5	11.1	14.7	25.7	1975
towns	8.4	12.4	20.7	6.5	10.6	18.6	1342
county seat	7.3	11.5	15.8	6.4	9.6	17.7	969
capital	6.1	7.2	12.1	5.2	7.3	12.1	915
Number of children							
0	2.7	5.00	8.3	3.7	5.9	12.9	2527
1	10.6	13.3	21.7	8.4	13.4	19.9	1139
2	9.6	14.9	26.5	8.1	10.7	22.7	1041
3+	37.9	47.5	63.1	29.2	36.9	50.6	493
Number of unemployed							
0	4.8	7.0	12.4	4.4	6.8	13.8	3819
1	20.2	27.2	43.0	17.4	24.2	40.0	718
2+	22.0	30.9	39.5	18.6	24.2	34.1	665
Number of pensioners							
0	11.6	15.6	24.5	9.2	13.3	22.5	2549
1	9.1	13.1	20.0	9.3	12.9	23.1	1578
2+	3.4	6.0	9.7	3.3	4.6	9.5	1075
Ethnicity							
roma	45.7	56.7	65.5	39.6	45.5	60.0	165
non-roma	5.7	8.8	14.9	5.3	8.5	16.1	3524
Total	9.1	12.8	20.0	8.0	11.4	20.0	5201

As we have already mentioned, poverty headcount, however, is just one measurement of poverty. In addition to this, new information is provided by data which show the nature of income distribution within the group of the poor.

For all three thresholds we can find that the average poverty gap was approximately 30 per cent in the last years (see Table 2.2.). This value is higher than the one given in the World Bank poverty assessment⁴ report which used the Household Budget Survey carried out by the Hungarian Central Statistical Office, where poverty in Hungary was described as 'shallow'. Nevertheless, this is not surprising, since the Panel, despite all its limitations, spans a relatively wider range of income distribution than the Household Budget Survey.⁵

However, the 'depth' of poverty is not simply a statistical or sociological question. In aggregate, the difference between the incomes of poor persons and the poverty threshold equals the amount of money needed for all poor persons to enjoy an income on the level of the poverty threshold. Chart 2.6. shows the Hungarian population ranked by household incomes per person. It can clearly be seen that incomes per person are somewhat unequal in the lower regions of the distribution, than in the upper part of income distribution.

Chart 2.6. The income of persons ranked according to per capita annual incomes, 1992



Source: Hungarian Household Panel, Wave I. Sample taken from the Panel's data base.

The horizontal line in Chart 2.6 represents the poverty threshold. (This is half of the median income, which in 1992 was HUF 49 000.) The size of the area between the horizontal line and the actual income distribution curve represents the area which would need to be filled for the poor to reach the poverty threshold (this is called the poverty deficit). Comparing the thus-defined poverty deficit with the incomes of the non-poor, we arrive at a measure which further colors the description of poverty.

The third section of Table 2.2. shows that the rate of such a redistribution would be rather slight. The raising of the lowest incomes to the upper limit of the bottom quintile would necessitate a redistribution of approximately 3–4 per cent of the total income of the non-poor. According to

⁴ Hungary: Poverty and Social Transfers. A World Bank Country Study, World Bank, Washington DC. 85 p.

⁵ Andorka, R.–Ferge, Zs.–Tóth, I.Gy.: Valóban Magyarországon a legkisebbek a jövedelmi egyenlőtlenségek? Közgazdasági Szemle. 1997. No. 2. 89–112. p.

our estimates, this would have been 85–90 billion HUF in 1996, which would have been the equivalent of twice the social assistance paid out that year. This is in line with those statistics which (using other data and other methodology) have so far been aimed at determining the poverty deficit.⁶

⁶ Szivós, P.: The evolution of poverty in Hungary, 1987-1992. mimeo. 1994. 36 p.

Table 2.2. Trends in individual indicators of poverty between 1992 and 1998 using the different poverty thresholds

Years	Poverty threshold		
	50 per cent of average income	50 per cent of median income	Upper limit of the bottom quintile
Poverty rate: Proportion of persons with per capita income less than the given poverty threshold			
1992	12.8	10.2	20.0
1993	10.4	6.6	20.0
1994	12.1	7.4	20.0
1995	15.8	9.0	20.0
1996	18.3	12.8	20.0
1997	17.8	12.4	20.0
1998	12.8	9.1	20.0
Poverty gap-ratio: Average income shortfall in terms of the poverty threshold (per cent)			
1992	33.2	31.3	30.9
1993	26.5	27.0	25.0
1994	26.3	26.7	26.2
1995	29.0	33.4	27.9
1996	29.8	29.9	31.2
1997	31.1	32.6	30.8
1998	29.2	30.7	27.8
Rate of poverty deficit to the total income of the non-poor			
1992	2.2	1.4	3.8
1993	1.4	0.8	3.2
1994	1.6	0.8	3.2
1995	2.3	1.3	3.1
1996	2.8	1.7	3.4
1997	3.0	1.8	3.5
1998	2.0	1.3	3.6
Sen index * 1000			
1992	59.7	46.5	88.4
1995	66.3	42.2	81.8
1996	77.8	55.7	87.5
1997	78.0	55.8	87.5
1998	53.8	39.5	80.5
FGT(2) *100			
1992	2.16	1.66	3.05
1993	1.02	0.80	2.10
1994	1.40	0.92	2.21
1995	2.20	1.51	2.62
1996	2.60	1.90	2.97
1997	2.64	1.93	2.94
1998	1.76	1.31	2.54

The notions used in Table 2.2. are:

Poverty rate: $H=p/n$,

Poverty gap-ratio: $I=1/p \cdot \sum_{i=1,p}((k-y_i)/k)$,

Poverty deficit/income rate: $\sum_{i=1,p} k \cdot y_i / \sum_{i=p \rightarrow n} y_i$

Sen index: $P_5=H(I+(1-I)G_p)$,

FGT index: $P_{FGT}=1/n \sum_{i=1,p}((k-y_i)/k)^\alpha$

where

p – is the number of poor persons,

n –the total population,

y_i – income,

k – the poverty threshold,

G_p – the inequality among the poor measured by Gini coefficient,

α – the value of the calculation parameter ($\alpha > 0$).

Among other indicators, we also use the Sen index, which, in addition to those so far, namely the poverty rate, the poverty gap and their derivatives, also incorporates income inequality among the poor. The values for this indicator are to be found in the fourth section of Table 2.2. According to this indicator poverty did not increase, or did not increase as significantly as it could have been expected on the basis of the increase in the poverty rate. Since the average poverty gap changed differently from 1992 to 1997 according to the different thresholds, and since income inequality among the poor decreased with all three thresholds, this indicator, arising as the product of all these effects, shows a smaller increase. To investigate the reason for the decrease in differences among the poor while an increase in the inequality characterizes the population as a whole, will require further research.

Another index calculated is the Foster – Greer – Thorbecke (FGT) index (used in the literature with the parameter $\alpha=2$), of which an important characteristic is the fact that it places a greater weight on the poorest than the earlier indicators did, with the result that it reacts more sensitively to the changes taking place in their ranks. This is the explanation for the fact that the year 1993 – which from a number of aspects did not conform with the trends – behaved 'strangely' here too, dropping the index to half. Comparing the beginning and the end of the period examined, its value increased by some 20 per cent in the case of the poverty thresholds represented by half of the average income and half of the median income, while falling a certain amount using the upper limit of the bottom quintile. Between the last two periods, there was almost no difference with regard to the level of the FGT index.

3. Welfare programs and poverty: the withdrawal effects

What kind of role do welfare benefits play in the reduction of poverty? We attempted to provide an answer to this question in an earlier study (see Note 1). Now, reformulating the question a little but essentially following our earlier thinking, we shall, as in Szivós's article,⁷ investigate the extent to which individual welfare benefits are capable of reducing poverty indicators.

This thinking is built on a very simple assumption. First, we examine the size of the poverty indices calculated on the basis of the various poverty thresholds when the various benefits are included in total incomes, and then we calculate their size when these benefits are taken out, leaving the thresholds unchanged. This is shown by Table 3.1. with regard to 1995/96, applying various equivalence scales and poverty thresholds.

In the second column of Table 3.1., we can find the proportion of those whose monthly income is less than the given level of income. The different equivalence scales give different poverty rates, since the poverty rate is sensitive to the equivalence scale employed in a measure dependent on the household structure.⁸

⁷ Szivós, P.: A munkanélküliek jövedelempótló támogatása. Statisztikai Szemle, 1996. No. 11. 894–907. p.

⁸ See Note 1. and Atkinson, A. – Rainwater, L. – Smeeding, T.M.: Income distribution in the OECD countries. OECD Social Policy Studies. No. 18. Paris.

Table 3.1. Poverty rates of persons in 1995/96, on the basis of personal equivalent incomes, according to different equivalence scales and poverty thresholds

Equivalence scale	Total income	Without family allowances	Without unemployment benefits	Without pensions	Without social assistance
Poverty threshold: 50 per cent of average income					
e=					
0.5	15.0	20.6	16.3	31.2	15.3
0.73	15.3	20.5	16.5	32.8	15.7
1	18.0	22.7	19.8	36.4	18.4
Poverty threshold: 50 per cent of median income					
e=					
0.5	8.8	14.7	10.6	25.8	9.4
0.73	9.6	15.3	11.1	26.5	9.7
1	12.7	18.0	14.3	29.9	13.3
Poverty threshold: Upper limit of bottom quintile					
e=					
0.5	20.0	25.6	21.1	40.0	20.7
0.73	20.0	24.9	21.6	41.6	20.6
1	20.0	25.6	22.1	43.1	20.4

The third column of Table 3.1. shows the size of poverty rates with unchanged poverty thresholds but for total incomes minus family allowances. Using all three equivalence scales, the poverty rates shown in the third column of Table 3.1. are substantially higher than those shown in the preceding column. All this is broken down in Table 3.2.a. on the basis of income per capita for the year 1996/97 (Table 3.2.b. for 1997/98), according to the number of children. Table 3.3. presents the changes in the FGT index.

Table 3.2.a. The poverty-reducing effects of family allowances: Poverty rates with family allowances and without them, 1996/97

Income – family allowance	Total	Number of children under 18 years				
		0	1	2	3	4 and more
Poverty threshold: 50 per cent of mean income						
Total income (1)	17.8	4.9	13.5	23.4	47.9	62.8
Total income – family allowances (2)	21.8	4.9	18.8	30.2	52.2	81.3
2/1	1.22	1.00	1.39	1.29	1.09	1.29
Poverty threshold: 50 per cent of median income						
Total income (1)	12.4	2.6	8.9	15.7	33.3	56.3
Total income – family allowances (2)	16.5	2.6	10.8	22.9	47.8	68.8
2/1	1.33	1.00	1.21	1.46	1.44	1.22
Poverty threshold: upper limit of bottom quintile						
Total income (1)	20.0	5.7	15.7	26.9	51.4	70.8
Total income – family allowances (2)	23.5	5.7	19.6	32.1	57.7	87.4
2/1	1.18	1.00	1.25	1.19	1.12	1.23

Table 3.2.b. The poverty-reducing effects of family allowances: Poverty rates with family allowances and without them, 1997/98

Income – family allowance	Total	Number of children under 18 years				
		0	1	2	3	4 and more
Poverty threshold: 50 per cent of mean income						
Total income (1)	12.8	5.0	13.3	14.9	34.5	73.1
Total income – family allowances (2)	15.9	5.2	15.5	22.6	45.8	79.6
2/1	1.24	1.03	1.16	1.52	1.33	1.09
Poverty threshold: 50 per cent of median income						
Total income (1)	9.1	2.7	10.6	9.6	21.8	68.9
Total income – family allowances (2)	12.4	2.7	12.6	15.0	43.9	79.6
2/1	1.36	1.03	1.18	1.56	2.01	1.16
Poverty threshold: upper limit of bottom quintile						
Total income (1)	20.0	8.3	21.7	26.5	52.0	84.5
Total income – family allowances (2)	24.1	8.6	24.1	39.3	63.4	88.7
2/1	1.20	1.03	1.11	1.48	1.22	1.04

Table 3.3.a. The poverty-reducing effects of family allowances: FGT index with family allowances and without them, 1996/97

Income – family allowance	Total	Number of children under 18 years				
		0	1	2	3	4 and more
Poverty threshold: 50 per cent of mean income						
Total income (1)	2.638	0.645	1.631	2.939	6.482	15.288
Total income – family allowances (2)	4.518	0.705	2.202	4.604	13.027	30.323
2/1	1.71	1.09	1.35	1.57	2.01	1.98
Poverty threshold: 50 per cent of median income						
Total income (1)	1.925	0.510	1.173	2.067	4.601	11.469
Total income – family allowances (2)	3.587	0.561	1.627	3.305	10.245	26.396
2/1	1.86	1.10	1.39	1.60	2.23	2.30
Poverty threshold: upper limit of bottom quintile						
Total income (1)	2.942	0.711	1.844	3.333	7.283	16.589
Total income – family allowances (2)	4.903	0.775	2.477	5.165	14.088	31.932
2/1	1.67	1.09	1.34	1.55	1.93	1.92

Table 3.3.b. The poverty-reducing effects of family allowances: FGT index with family allowances and without them, 1997/98

Income – family allowance	Total	Number of children under 18 years				
		0	1	2	3	4 and more
Poverty threshold: 50 per cent of mean income						
Total income (1)	1.755	0.411	2.146	1.447	3.028	18.874
Total income – family allowances (2)	2.806	0.450	2.728	2.603	8.064	30.030
2/1	1.6	1.09	1.27	1.80	2.66	1.59
Poverty threshold: 50 per cent of median income						
Total income (1)	1.31	0.288	1.676	1.008	2.006	14.898
Total income – family allowances (2)	2.209	0.318	2.148	1.911	5.975	25.760
2/1	1.68	1.11	1.28	1.89	2.98	1.73
Poverty threshold: upper limit of bottom quintile						
Total income (1)	2.538	0.685	2.955	2.330	5.065	23.970
Total income – family allowances (2)	3.796	0.735	3.698	3.955	11.234	35.131
2/1	1.50	1.07	1.25	1.70	2.22	1.47

In the absence of family allowances in 1996/97, the poverty rate of those under 16 would have risen from 31.7 per cent to 39.2 per cent using half of the average income as the poverty threshold, and from 23 per cent to 32 per cent using half of the median income as the poverty threshold. This latter poverty rate would have shown a 37 per cent increase. The investigation according to the number of children showed a jump in the poverty rate of those with two children, while the FGT index shed light on the serious situation of those with 3–4 children.

Leaving the logic of the analysis unchanged, we performed calculations of exactly the same type on unemployment benefits, pensions and social assistance, in addition to family allowances (see Tables 3.4–3.7.).

Table 3.4.a. The poverty-reducing effects of unemployment benefits: Poverty rates before and after unemployment benefits, 1996/97

Income benefits	Total	Unemployed	Not unemployed
	Poverty threshold: 50 per cent of mean income		
Total income (1)	17.8	27.4	17.0
Total income – unemployment benefits (2)	18.7	30.3	17.8
2/1	1.05	1.11	1.05
	Poverty threshold: 50 per cent of median income		
Total income (1)	12.4	20.8	11.7
Total income – unemployment benefits (2)	13.4	22.8	12.6
2/1	1.08	1.10	1.08
	Poverty threshold: upper limit of bottom quintile		
Total income (1)	20.0	30.0	19.3
Total income – unemployment benefits (2)	21.3	33.1	20.2
2/1	1.07	1.10	1.05

Table 3.4.b. The poverty-reducing effects of unemployment benefits: Poverty rates before and after unemployment benefits, 1997/98

Income benefits	Total	Unemployed	Not unemployed
	Poverty threshold: 50 per cent of mean income		
Total income (1)	12.8	27.1	11.4
Total income – unemployment benefits (2)	14.3	31.7	12.6
2/1	1.12	1.17	1.10
	Poverty threshold: 50 per cent of median income		
Total income (1)	9.1	18.2	8.2
Total income – unemployment benefits (2)	10.8	24.5	9.4
2/1	1.18	1.34	1.14
	Poverty threshold: upper limit of bottom quintile		
Total income (1)	20.0	38.0	18.3
Total income – unemployment benefits (2)	22.1	44.7	19.8
2/1	1.10	1.18	1.09

Table 3.5.a. The poverty-reducing effects of unemployment benefits: FGT index before and after unemployment benefits, 1996/97

Income – benefits	Total	Unemployed	Not unemployed
Poverty threshold: 50 per cent of mean income			
Total income (1)	2.599	5.186	2.418
Total income – unemployment benefits (2)	3.142	6.511	2.854
2/1	1.21	1.26	1.18
Poverty threshold: 50 per cent of median income			
Total income (1)	1.900	3.899	1.755
Total income – unemployment benefits (2)	2.380	5.107	2.146
2/1	1.25	1.31	1.22
Poverty threshold: upper limit of bottom quintile			
Total income (1)	2.969	5.697	2.708
Total income – unemployment benefits (2)	3.467	7.049	3.160
2/1	1.17	1.24	1.17

Table 3.5.b. The poverty-reducing effects of unemployment benefits: FGT index before and after unemployment benefits, 1997/98

Income – benefits	Total	Unemployed	Not unemployed
Poverty threshold: 50 per cent of mean income			
Total income (1)	1.755	3.296	1.597
Total income – unemployment benefits (2)	2.177	4.799	1.909
2/1	1.24	1.46	1.20
Poverty threshold: 50 per cent of median income			
Total income (1)	1.313	2.405	1.201
Total income – unemployment benefits (2)	1.669	3.637	1.468
2/1	1.27	1.51	1.22
Poverty threshold: upper limit of bottom quintile			
Total income (1)	2.537	4.886	2.297
Total income – unemployment benefits (2)	3.054	6.724	2.678
2/1	1.20	1.38	1.17

Table 3.6.a. The poverty-reducing effects of pensions: Poverty rates before and after pensions, 1996/97

Income – pensions	Total	Pensioners	Non-pensioners
	Poverty threshold: 50 per cent of mean income		
Total income (1)	17.8	5.5	21.9
Total income – pension (2)	44.0	77.3	32.8
2/1	2.47	14.05	1.50
	Poverty threshold: 50 per cent of median income		
Total income (1)	12.4	3.2	15.5
Total income – pension (2)	37.2	72.6	25.3
2/1	3.00	22.69	1.63
	Poverty threshold: upper limit of bottom quintile		
Total income (1)	20.0	7.1	24.5
Total income – pension (2)	46.4	78.8	35.5
2/1	2.32	11.10	1.45

Table 3.6.b. The poverty-reducing effects of pensions: Poverty rates before and after pensions, 1997/98

Income – pensions	Total	Pensioners	Non-pensioners
	Poverty threshold: 50 per cent of mean income		
Total income (1)	12.8	5.9	15.7
Total income – pension (2)	37.3	69.3	24.2
2/1	2.90	11.8	1.54
	Poverty threshold: 50 per cent of median income		
Total income (1)	9.1	3.7	11.3
Total income – pension (2)	32.9	65.5	19.6
2/1	3.6	17.7	1.73
	Poverty threshold: upper limit of bottom quintile		
Total income (1)	20.0	9.7	24.3
Total income – pension (2)	45.6	75.8	33.2
2/1	2.26	7.78	1.36

Table 3.7.a. The poverty-reducing effects of pensions: FGT index values before and after pensions, 1996/97

Income – pensions	Total	Pensioners	Non-pensioners
	Poverty threshold: 50 per cent of mean income		
Total income (1)	2.599	0.374	3.398
Total income – pension (2)	18.582	50.719	7.763
2/1	7.15	135.61	2.28
	Poverty threshold: 50 per cent of median income		
Total income (1)	1.900	0.210	2.502
Total income – pension (2)	17.048	48.625	6.418
2/1	8.97	231.55	2.57
	Poverty threshold: upper limit of bottom quintile		
Total income (1)	2.969	0.457	3.780
Total income – pension (2)	19.189	51.485	8.316
2/1	6.46	112.66	2.20

Table 3.7.b. The poverty-reducing effects of pensions: FGT index values before and after pensions, 1997/98

Income – pensions	Total	Pensioners	Non-pensioners
	Poverty threshold: 50 per cent of mean income		
Total income (1)	1.755	0.440	2.292
Total income – pension (2)	17.370	46.217	5.583
2/1	9.90	105.03	2.43
	Poverty threshold: 50 per cent of median income		
Total income (1)	1.313	2.276	1.736
Total income – pension (2)	16.273	44.702	4.664
2/1	12.40	162.15	2.69
	Poverty threshold: upper limit of bottom quintile		
Total income (1)	2.537	0.779	3.255
Total income – pension (2)	19.008	48.322	7.030
2/1	7.49	62.00	2.16

Without family allowances, the income poverty risk of persons living in households with children would have increased significantly but to a varying extent. The risk of those living in single-child households falling beneath the poverty threshold as determined by the upper limit of the bottom quintile would have risen from 15.7 per cent to 19.6 per cent in 1996/97, and the risk of those living in a two-child household, from 27 per cent to 32 per cent. The poverty risk of those living in three-child households would have risen from 51 per cent to 58 per cent. The poverty rate of those with four or more children, which is high even with family allowances, would have risen still more, from 71 per cent to 87 per cent. From these charts, we can conclude that, although the

incidence of receipt of family allowances favoured middle income groups before it was reformed into a means-tested scheme, the erosion of family allowances, nevertheless, has had a greater effect on those with lower incomes. This is supported by the trends in the FGT index, which shows a very significant rise, differentiated according to the number of children and primarily among those with three or more children. Among those with one or two children, a 30-60 per cent rise is discernible for all three thresholds. This indicates that the effectiveness of family allowances as a program of income support could have increased by making it income dependent (more precisely by making the net family allowance income dependent, namely by taxing family allowances) and by combining this with the differentiation by the number of children.

Of the four types of benefit investigated, the 'withdrawing' of the unemployment benefit and social assistance would, according to earlier examinations, have had the least dramatic effect, which stems from the relatively minor importance of these two benefits. We found for 1992/93 that the poverty risk of those households where the head of the household was unemployed would have risen by some 25 per cent (from 41 per cent to 51 per cent). One half of households where the head of the household was unemployed were households where total elimination of unemployment benefit would not have been accompanied by a fall to below the absolute poverty threshold. The 'withdrawing' of social assistance, on the other hand, would in practice not increase the poverty risk of the population as a whole. Of course, this does not mean that the abolition of social assistance would not cause serious problems for the very poor. On the contrary: it would clearly do significant harm to the situation of those who are already poor, as well as harming the income position of households who now could not be described as poor, but not so much that these would fall below the fixed poverty threshold.⁹

Now with these more recent calculations, we can arrive at similar conclusions, although now it is not the poverty rate of households that is being examined, but that of persons. Despite this, we can see that even a small 'withdrawal' of unemployment benefit and social assistance would increase the poverty rates and the FGT index, but the Sen index would not rise more than 20-30 per cent and 9-13 per cent respectively at the time the two benefits are 'withdrawn'. Especially surprising is the very small increase that would have characterized the withdrawal of social assistance. Further investigations will be necessary to explain the reason for all this.

Had there been no pension, the poverty risk of pensioners would have risen to 79 per cent as compared to a 7 per cent probability of belonging to the bottom quintile. Moreover, 77 per cent of them would have fallen not only below the quintile barrier, but also below 50 per cent of the average income. At the same time, a withdrawing of pensions would also have significantly increased the poverty risk of those households in which the head of the household is below pension age, as well as the risk of those who, although not pensioners themselves, live in households where one or more pensioners are living. There is a multifaceted explanation for all this. On the one hand, as we have seen on the basis of earlier investigations, in the income composition of households where the head of the household is of pension age, the proportion of income derived from pensions exceeds 70 per cent. This proportion is even higher in the case of pensioners living alone and in the case of pensioner couples. Because of this, a fall in the value of pensions (or the abolition of pensions altogether) would be equivalent to total poverty for them, and, in the majority of cases, to total lack of income. On the other hand, this is not true for

⁹ See Tóth, I.Gy. Note 1.

all pensioners. It is obvious that the poverty risk is smaller for those pensioners who have their own incomes from the market, or for those who live in households where there is at least one active earner. For these pensioners, part of the 'drop' stemming from the decrease in the value of pensions can be warded off by income from the market. In any case, the lesson is that the vulnerability of pensioner households can really be reduced by making their income composition more diversified.

Table 3.8. Summary data: Poverty rates with and without welfare benefits

Years	Poverty threshold HUF	Total income	Without family allowances	Without unemployment benefits per cent	Without pensions	Without social assistance
Poverty threshold: 50 per cent of mean income						
1992	55910	12.5	18.1	14.7	28.1	13.2
1993	71805	10.4	14.1	12.9	33.5	11.3
1994	82600	11.8	16.5	15.3	36.8	12.6
1995	95758	15.6	22.6	17.0	34.4	16.2
1996	106919	18.0	22.7	19.8	36.4	18.4
1997	118532	17.8	21.8	18.7	44.0	18.8
1998	137080	12.8	15.9	14.4	37.3*	14.1
Poverty threshold: 50 per cent of median income						
1992	49000	10.2	13.7	11.9	25.1	10.8
1993	61050	6.6	10.2	9.1	28.0	7.3
1994	69823	7.3	11.6	9.7	30.8	8.0
1995	79803	9.0	14.8	10.8	26.7	9.5
1996	92350	12.7	18.0	14.3	29.9	13.3
1997	102750	12.4	16.5	13.4	37.2	13.6
1998	120567	9.1	12.4	10.8	32.9*	10.4
Poverty threshold: Upper limit of bottom quintile						
1992	66502	20.0	27.1	22.3	40.6	20.9
1993	88586	20.0	25.9	22.7	49.4	20.8
1994	97840	20.0	24.6	22.4	49.6	20.8
1995	103600	20.0	27.0	21.9	43.4	20.9
1996	112800	20.0	25.6	22.1	43.1	20.4
1997	124600	20.0	23.5	21.2	46.4	20.9
1998	160544	20.0	24.1	22.1	45.6*	21.5

**Due to imputation process has been applied, this estimation is biased.*

Table 3.8. shows that poverty rates increased significantly in the first part of the 1990s. We need to add that data calculated on the basis of average incomes show certain hectic movement, which is probably due to the fact that the Hungarian Household Panel's sample size is rather small, it is just around 2000 households. In estimates of this kind, a small sample size greatly accentuates the sensitivity of the average towards extreme values.

From the table it can also be concluded that, in a certain sense, the poverty-reducing effects of family allowances and pensions work against each other. The fact that these two benefits are the two biggest items in the social benefits system certainly played a major role in this. In their cases, a decision on one of these benefits always has an effect on the other, since they are in competition for the funds relating to the 'maintenance' of benefits.

Table 3.9. The poverty-reducing effects of the different benefits: the ratio of the poverty rate in the absence of benefits to the poverty rate with benefits

Years	Family allowances	Unemployment benefits	Pensions	Social assistance
Poverty threshold: 50 per cent of mean income				
1992	145	118	225	106
1993	136	124	322	109
1994	140	130	312	107
1995	145	109	221	104
1996	126	110	202	102
1996	122	105	247	105
1998	124	111	290	110
Poverty threshold: 50 per cent of median income				
1992	134	117	246	106
1993	155	138	424	111
1994	159	133	422	110
1995	164	120	297	106
1996	142	113	235	105
1997	133	108	299	110
1998	135	118	361	113
Poverty threshold: upper limit of bottom quintile				
1992	136	112	203	105
1993	130	114	247	104
1994	123	112	248	104
1995	135	110	217	105
1996	128	111	216	102
1997	117	106	231	104
1998	120	110	227	107

We have calculated the Sen and FGT indices for the first and last two years of the period investigated. The poverty-influencing effect of the given benefits is presented in Table 3.10). It is worthy of note that although these two indices take into account different aspects of poverty, the changes in the benefits, over a period of time, display similar characteristics.

The first conspicuous characteristic is that, as the poverty-reducing power of the benefits – in the majority of cases – diminished, their internal order remained the same. The role of pensions changed the most, at the earlier date their role was more significant, which supports the fact that the relative position of pensioners has improved. Again, it is worth noting that the 'power' of social assistance has not increased, and that of family allowances has not shown a significant change, either.

Table 3.10. The poverty-reducing effects of the different benefits: Ratios of poverty indices in the absence of benefits to poverty indices with benefits

Years	Family allowances	Unemployment benefits	Pensions	Social assistance
Sen index	Poverty threshold: 50 per cent of average income			
1992	157	125	436	107
1996	149	114	400	107
1997	140	112	423	110
1998	142	118	544	114
	Poverty threshold: 50 per cent of median income			
1992	156	127	517	108
1996	160	115	494	109
1997	158	116	520	113
1998	152	122	674	116
	Poverty threshold: Upper limit of bottom quintile			
1992	147	119	347	106
1996	146	113	371	106
1997	141	112	393	109
1998	135	115	421	112
FGT(2) index	Poverty threshold: 50 per cent of average income			
1992	167	133	736	109
1996	168	115	683	111
1997	171	121	715	114
1998	160	124	990	118
	Poverty threshold: 50 per cent of median income			
1992	175	138	894	110
1996	176	116	860	114
1997	186	125	897	117
1998	168	127	1240	120
	Poverty threshold: Upper limit of bottom quintile			
1992	159	128	572	108
1996	164	116	620	110
1997	165	116	646	114
1998	150	120	749	115

4. Summary and policy conclusions

In this paper we examined nature and level of poverty in Hungary from different aspects. But before did that we drew a framework, evaluating labor market and social policy as the two major factors determining poverty.

There were two important trends on the Hungarian labor markets between 1989 and 1996. First, after some fall in the 1980s, there has been a drastic decline in economic activity in the 1990s, accompanied by a harsh selection process in employment opportunities. This drastic decline has accelerated as the transition progressed. By 1995, formal employment dropped by more than a quarter compared to its pre-transition level. Secondly, these tendencies also resulted in the

differentiation of market incomes. Each of these tendencies had their own effects on social policies and, also on the shape of income inequalities.

In 1998, the Hungarian labor market was still very segmented. Within this, the most important division lines are between those who were able to remain on the labor market and those who were driven out from there. Among the active age population, the very low share of the economically actives seems to be the most problematic element.

Changes in labor market status in the last decade determined earning possibilities of various social groups as well. Earnings of those being able to stay permanently on the labor market increased much more than earnings of those having only temporary employment. The dispersion of market incomes of households increased by some 10% between 1989 and 1997 as shown by the values of the Gini coefficient.

As a summary, it is safe to say that probably the most important—and perhaps the most harmful—consequence of structural adjustment and of very permissive social policies was the rise in inactivity. This had at least two very negative consequences. One was the increase of fiscal burden, under the circumstances of declining financial sources. The other harmful effect was the loss of human capital: with the spread of long-term unemployment and inactivity, an increasing number of persons lost their attachments to formal labor markets.

Welfare benefits came into the centre of attention in the first half of the 1990s, because at the time of the recession they amounted to more than 30 per cent of Gross Domestic Product. Hungarian social expenditures at that time exceeded the OECD average. Then, partly because of the stabilization package, in 1996–1997 welfare expenditure fell back dramatically.

There were virtually no eligibility cuts in the support systems between 1990-95. Instead, in some cases, the potential clientele of the benefits was increased (most notably in pension systems and, also, in family benefit systems). The strategy of gradual extensions, under the circumstances of severe budgetary constraints led to gradual but dramatic erosion of some benefits, most importantly the family benefits. Child allowances lost half of their real value between 1990 and 1994. There were no eligibility cuts for GYES and GYED, but both benefits were eroded. In the case of GYED, introduction of a benefit ceiling in 1992 accelerated this erosion.

These trends gradually changed the structure of social transfers, even though no radical reforms were implemented during the first half of the 1990s. Family benefits remained, by and large, universal until 1995-96, but their distributional impact was shown to shift into the direction of pro-poor distribution. However, as there were no eligibility cuts and family allowances were still perceived to favour the middle classes and, in fact, based on this argument, the government decided to revise the whole previous arrangements of these benefits.

At the next section of the paper we moved closer to the issues of poverty while describing trends of income distribution in Hungary. Income distribution in Hungary, generally, is skewed towards the left. In other words, the lower regions of the income distribution contain population cohorts of significant size. In the upper tail, on the other hand, those groups whose incomes are significantly higher than that of the average 'pull apart' the field. During the investigated period the distribution of real income shifted leftwards therefore relative poverty increased (then fell back to the original level), while poverty cut-offs lost their real values. Not only poverty rules, but other poverty indices were examined. It was found that the poverty gap is not as "shallow" as

was published in earlier papers (based on other data sources); however the gap-ratio of around 30 per cent which can not be considered as “deep” as well. Some facts or poverty profile were also incorporated. When assessing the rise and structure of poverty, most surveys show similar trends. Poverty and social exclusion tend to be high among the lower educated, those living in rural areas and among those who lost their attachments to the labor market. Also, ethnicity is an important factor. Roma families are much more vulnerable to poverty than any other group of the society. The impact of demographic composition of households on poverty rates should also be scrutinized. Poverty rates are higher among households with at least three children, or if the head of the household is under 40 years of age, or a single parent. Differences between various household types are smaller for age categories between 40 and 60 years, but here also, single-parent families and families with three or more children were more likely to be poor. Finally, households headed by persons above 60 years of age who live alone are at great risk of being impoverished. This outlines a definitive life cycle profile of poverty.

In the second section, we deal with the issue of poverty deficit. Our estimation for poverty gap-ratio was around 30 percent, which can be considered as neither deep nor as shallow. We also estimated poverty deficit related to the income of the non-poor, a kind of rate of redistribution, which would be rather slight. However, the situation is not so simple. The amounts indicated in the above denote only direct costs of a minimum income guarantee, but the total costs are appreciably more than this. Apart from the administrative costs, three factors would make its actual use extremely expensive. To begin with, a minimum income guarantee would mean a 100 per cent implicit marginal tax for those living below the poverty threshold, namely it would be a matter of indifference to them whether they acquired their income through work or through assistance. For this very reason, the non-benefit derived incomes of the poor must also be added to the redistribution costs. Secondly, a supplementation might discourage some people whose incomes are just above the poverty threshold from attempting to earn extra income through work. Namely, for them the marginal costs of undertaking work could significantly exceed the marginal incomes which the undertaking of work would bring. For this very reason, it could be expected that some of those who would otherwise have been above the poverty threshold could slip down.

Finally, supplementation is accompanied by tax costs. These taxes burden the incomes of those who are well above the poverty threshold. The disincentive effects stemming from an increase in taxation and the extremely high implicit marginal tax rate could undermine the moral foundations of the market economy even among those affected by these measures indirectly or only to a negligible extent. Consequently, a guaranteed minimum income could lead then to a situation accompanied by disincentive effects, in other words its social costs could significantly exceed the optimal level.¹⁰

¹⁰ *Gál, R. I.: A társadalombiztosítási programok ösztönző hatásai. Közgazdasági Szemle. 1996. No. 2. 128–140. p.; Semjén, A.: A pénzbeni jóléti támogatások ösztönzési hatásai. Közgazdasági Szemle. 1996. No. 10. 841–862. p.*

Chart 2.7. Problems of a guaranteed basic income

PROS	CONS
protection against impoverishment	poverty traps for the poor
social integration (reduction of social exclusion)	„shrinking effect” for those around the cut off line
simpler administration	disincentive effects for those with high incomes erosion of market norms

We, however, introduced the poverty deficit conception as a statistical measure rather than a social policy proposal. In this sense, the methodological status of the poverty deficit as a measurement is similar to that of the Robin Hood index.¹¹

The final section contained a set of calculation on the force of poverty reducing effects of four type of cash benefits, using the method of withdrawal effects. For example, without family allowances, the income poverty risk of persons living in households with children would have increased significantly but to a varying extent. The risk of those living in single-child households falling beneath the poverty threshold as determined by the upper limit of the bottom quintile would have risen from 15.7 per cent to 19.6 per cent in 1996/97, and the risk of those living in a two-child household, from 27 per cent to 32 per cent. The poverty risk of those living in three-child households would have risen from 51 per cent to 58 per cent. The poverty rate of those with four or more children, which is high even with family allowances, would have risen still more, from 71 per cent to 87 per cent.

Of the four types of benefit investigated, the 'withdrawing' of the unemployment benefit and social assistance would, according to earlier examinations, have had the least dramatic effect, which stems from the relatively minor importance of these two benefits.

The 'withdrawing' of social assistance, on the other hand, would in practice not increase the poverty risk of the population as a whole. Of course, this does not mean that the abolition of social assistance would not cause serious problems for the very poor. On the contrary: it would clearly do significant harm to the situation of those who are already poor, as well as harming the income position of households who now could not be described as poor, but not so much that these would fall below the fixed poverty threshold.

Had there been no pension, the poverty risk of pensioners would have risen to 79 per cent as compared to a 7 per cent probability of belonging to the bottom quintile. Moreover, 77 per cent of them would have fallen not only below the quintile barrier, but also below 50 per cent of the average income.

When analyzing various poverty measures, we found that the average poverty deficit would not be very high. This finding may be tempting to some observers to conclude that a universal minimum income guarantee could be easily implemented. However, the situation may not be so

¹¹ Atkinson and Micklewright (1992): *Economic transformation in Eastern Europe and the distribution of income*. Cambridge University Press.

simple. The amounts indicated in the above denote only direct costs of a minimum income guarantee, but the total costs are appreciably more than this. Apart from the administrative costs, three factors would make its actual use extremely expensive. To begin with, a minimum income guarantee would mean a 100 per cent implicit marginal tax for those living below the poverty threshold, namely it would be a matter of indifference to them whether they acquired their income through work or through assistance. For this very reason, the non-benefit derived incomes of the poor must also be added to the redistribution costs. Secondly, a supplementation might discourage some people whose incomes are just above the poverty threshold from attempting to earn extra income through work. Namely, for them the marginal costs of undertaking work could significantly exceed the marginal incomes which the undertaking of work would bring. For this very reason, it could be expected that some of those who would otherwise have been above the poverty threshold could slip down.

Annex

Table 1 (Annex)

Poverty rates of persons in 1991/92, on the basis of equivalent incomes, according to difference equivalence scales and poverty thresholds

Equivalence scales	Poverty threshold values	Total income	Without family allowances	Without unemployment benefits	Without pensions	Without social assistance
	Ft	%	%	%	%	%
e =		Poverty threshold: 50% of average income				
0.73	75961	12.1	16.7	14.2	27.3	13.0
1	55910	12.5	18.1	14.7	28.1	13.2
0.5	93941	13.3	18.0	15.5	26.3	14.6
e =		Poverty threshold: 50% of median income				
0.73	66716	8.5	12.2	10.0	23.1	9.0
1	98000	10.2	13.7	11.9	25.1	10.8
0.5	82280	8.9	12.5	10.8	22.2	9.3
		Poverty threshold: Upper limit of bottom quintile				
0.73	90557	20.0	27.5	22.5	38.1	20.5
1	66502	20.0	27.1	22.3	40.6	20.9
0.5	107037	20.0	26.3	22.4	36.2	21.0

Table 2 (Annex)

A Sen index in 1991/92, according to the different poverty thresholds

Poverty threshold	Poverty threshold values	Total income	Without family allowances	Without unemployment benefit	Without pensions	Without social assistance
	Ft	%	%	%	%	%
50% of average income	55910	0.0597	0.0936	0.0748	0.2607	0.0641
50% of median income	98000	0.0465	0.0725	0.0592	0.2405	0.0501
Upper limit of bottom quintile	66502	0.0884	0.1302	0.1054	0.3064	0.0938

Table 3 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1991/92

	Total	16-year-old and younger	17-year-old and older
persons			
Poverty threshold: 50% of average income			
Total income (1)	12.6	18.5	10.8
Total income – family allowances (2)	18.2	30.1	14.7
2/1	1.44	1.63	1.36
Poverty threshold: 50% of median income			
Total income (1)	10.2	15.2	8.8
Total income – family allowances (2)	13.7	21.9	11.3
2/1	1.34	1.44	1.28
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	26.5	18.0
Total income – family allowances (2)	27.1	41.5	22.8
2/1	1.36	1.57	1.27

Table 4 (Annex)

The poverty-reducing effects of family allowances: FGT index values with and without family allowances, 1991/92

	Total	16-year-old and younger	17-year-old and older
persons			
Poverty threshold: 50% of average income			
Total income (1)	2.155	3.282	1.822
Total income – family allowances (2)	3.598	6.616	2.705
2/1	1.67	2.02	1.48
Poverty threshold: 50% of median income			
Total income (1)	1.655	2.535	1.395
Total income – family allowances (2)	2.896	5.463	2.137
2/1	1.75	2.16	1.53
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	3.051	4.585	2.598
Total income – family allowances (2)	4.855	8.626	3.739
2/1	1.59	1.88	1.44

Table 5 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1991/92

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	12.5	7.8	9.4	14.1	24.1	53.8
Total income – family allowances (2)	18.2	8.1	12.7	23.0	46.9	75.7
2/1	1.46	1.04	1.35	1.63	1.95	1.41
Poverty threshold: 50% of median income						
Total income (1)	10.2	6.6	7.8	9.7	20.5	53.8
Total income – family allowances (2)	13.7	6.8	9.3	16.7	31.3	65.1
2/1	1.34	1.03	1.19	1.72	1.53	1.21
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	20.0	14.3	17.2	20.7	34.0	68.7
Total income – family allowances (2)	27.0	14.5	22.2	34.5	56.8	85.5
2/1	1.35	1.01	1.29	1.67	1.67	1.24

Table 6 (Annex)

The poverty-reducing effects of family allowances: FGT index values with and without family allowances, 1991/92

	Total	No of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	2.136	1.314	2.136	2.107	3.892	8.905
Total income – family allowances (2)	3.579	1.324	2.822	4.033	8.331	23.219
2/1	1.68	1.01	1.32	1.91	2.14	2.61
Poverty threshold: 50% of median income						
Total income (1)	1.640	0.992	1.747	1.659	2.804	6.432
Total income – family allowances (2)	2.881	0.994	2.351	3.218	6.703	19.373
2/1	1.76	1.00	1.35	1.94	2.39	3.01
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	3.027	1.891	2.827	3.009	5.686	13.036
Total income – family allowances (2)	4.832	1.920	3.722	5.856	11.319	28.686
2/1	1.60	1.01	1.32	1.86	1.99	2.20

Table 7 (Annex)

The poverty-reducing effects of unemployment benefits: poverty rates before and after unemployment benefits, 1991/92

	Total	Unemployed	Not unemployed
Poverty threshold: 50% of average income			
Total income (1)	12.6	23.7	11.8
Total income – unemployment benefits (2)	14.7	34.6	13.4
2/1	1.17	1.46	1.14
Poverty threshold: 50% of median income			
Total income (1)	10.2	20.1	9.6
Total income – unemployment benefits (2)	11.9	28.0	10.8
2/1	1.17	1.39	1.13
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	35.1	19.0
Total income – unemployment benefits (2)	22.3	46.8	20.7
2/1	1.12	1.33	1.09

Table 8 (Annex)

The poverty-reducing effects of unemployment benefits: FGT index values before and after unemployment benefits, 1991/92

	Total	Unemployed	Not unemployed
Poverty threshold: 50% of average income			
Total income (1)	2.155	4.068	2.030
Total income – unemployment benefits (2)	2.866	7.910	2.535
2/1	1.33	1.94	1.25
Poverty threshold: 50% of median income			
Total income (1)	1.655	3.096	1.561
Total income – unemployment benefits (2)	2.278	6.562	1.998
2/1	1.38	2.12	1.28
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	3.051	5.783	2.873
Total income – unemployment benefits (2)	3.897	10.232	3.482
2/1	1.28	1.77	1.21

Table 9 (Annex)

The poverty-reducing effects of pensions: poverty rates before and after pensions, 1991/92

	Total	Pensioners	Non-pensioners
Poverty threshold: 50% of average income			
Total income (1)	12.6	6.7	14.4
Total income – pension (2)	28.1	61.6	20.0
2/1	2.23	9.19	1.39
Poverty threshold: 50% of median income			
Total income (1)	10.2	5.3	11.8
Total income – pension (2)	25.1	58.5	17.0
2/1	2.46	11.04	1.44
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	13.4	22.0
Total income – pension (2)	40.6	76.8	29.5
2/1	2.03	5.73	1.34

Table 10 (Annex)

The poverty-reducing effects of pensions: FGT index values before and after pensions, 1991/92

	Total	Pensioners	Non-pensioners
Poverty threshold: 50% of average income			
Total income (1)	2.155	0.861	2.551
Total income – pension (2)	15.851	47.704	6.098
2/1	7.36	55.42	2.39
Poverty threshold: 50% of median income			
Total income (1)	1.655	0.615	1.974
Total income – pension (2)	14.800	45.884	5.283
2/1	8.94	74.63	2.68
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	3.052	1.353	3.572
Total income – pension (2)	17.454	50.148	7.443
2/1	5.72	37.05	2.08

Table 11 (Annex)

The poverty-reducing effects of social assistance: FGT index values with and without social assistance, 1991/92

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	2.136	1.314	2.136	2.107	3.892	8.905
Total income – social assistance (2)	2.326	1.541	2.211	2.228	4.241	9.639
2/1	1.09	1.17	1.04	1.06	1.09	1.08
Poverty threshold: 50% of median income						
Total income (1)	1.640	0.992	1.747	1.659	2.804	6.432
Total income – social assistance (2)	1.807	1.228	1.793	1.755	2.985	7.130
2/1	1.10	1.24	1.03	1.06	1.07	1.11
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	3.027	1.891	2.827	3.009	5.686	13.036
Total income – social assistance (2)	3.259	2.114	2.954	3.172	6.264	13.828
2/1	1.08	1.12	1.04	1.05	1.10	1.06

Table 12 (Annex)

Poverty rates of persons in 1992/93, on the basis of personal equivalent incomes, according to the different equivalence scales and poverty thresholds

Equivalence scale	Poverty threshold values	Total income	Without family allowance	Without unemployment benefits	Without pension	Without social assistance
		%	%	%	%	%
e =						
Poverty threshold: 50% of average income						
0.73	94224	10.0	14.4	12.9	31.3	10.9
1	71805	10.4	14.1	12.9	33.5	11.3
0.5	113989	11.3	15.6	14.4	30.7	12.0
e =						
Poverty threshold: a 50% of median income						
0.73	81000	5.3	8.6	8.2	26.5	5.9
1	61050	6.6	10.2	9.1	28.0	7.3
0.5	97973	6.6	9.1	9.4	26.6	7.2
Poverty threshold: Upper limit of bottom quintile						
0.73	116230	20.0	25.5	22.7	45.4	21.0
1	88586	20.0	25.9	22.7	49.4	20.8
0.5	136458	20.0	24.9	23.0	43.2	21.0

Table 13 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1992/93

	Total	16-year-old and younger	17-year-old and older
	persons		
	Poverty threshold: 50% of average income		
Total income (1)	10.4	21.9	10.0
Total income – family allowances (2)	14.1	27.7	13.8
2/1	1.40	1.30	1.40
	Poverty threshold: 50% of median income		
Total income (1)	6.6	16.4	6.4
Total income – family allowances (2)	10.2	22.2	10.0
2/1	1.50	1.40	1.60
	Poverty threshold: Upper limit of bottom quintile		
Total income (1)	20.0	30.2	19.8
Total income – family allowances (2)	25.9	44.5	25.5
2/1	1.30	1.50	1.30

Table 14 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1992/93

	Total	No. of children under 18 years				
		0	1	2	3	4+
	Poverty threshold: 50% of average income					
Total income (1)	10.4	4.4	13.2	13.2	24.9	81.4
Total income – family allowances (2)	14.1	4.5	16.5	22.9	46.3	89.1
2/1	1.36	1.02	1.25	1.73	1.86	1.09
	Poverty threshold: 50% of median income					
Total income (1)	6.6	2.6	8.7	7.3	16.6	64.5
Total income – family allowances (2)	10.2	2.7	11.4	15.0	42.4	83.7
2/1	1.50	1.00	1.30	2.10	2.60	1.30
	Poverty threshold: Upper limit of bottom quintile					
Total income (1)	20.0	12.7	23.1	23.4	47.0	89.1
Total income – family allowances (2)	25.9	13.1	29.1	40.7	70.1	89.1
2/1	1.30	1.03	1.26	1.74	1.49	1.00

Table 15 (Annex)

The poverty-reducing effects of unemployment benefits: poverty rates before and after unemployment benefits, 1992/93

	Total	Unemployed	Not unemployed
Poverty threshold: 50% of average income			
Total income (1)	10.4	26.5	8.7
Total income – unemployment benefits (2)	12.9	36.1	10.5
2/1	1.24	1.36	1.21
Poverty threshold: 50% of median income			
Total income (1)	6.6	16.9	5.6
Total income – unemployment benefits (2)	9.1	28.0	7.1
2/1	1.40	1.70	1.30
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	32.4	17.7
Total income – unemployment benefits (2)	22.7	52.7	19.6
2/1	1.14	1.63	1.11

Table 16 (Annex)

The poverty-reducing effects of pensions: poverty rates before and after pensions, 1992/93

	Total	Pensioners	Non-pensioners
Poverty threshold: 50% of average income			
Total income (1)	10.4	6.6	12.1
Total income – pension (2)	33.5	68.4	20.6
2/1	3.22	10.36	1.70
Poverty threshold: 50% of median income			
Total income (1)	6.6	4.3	7.7
Total income – pension (2)	28.0	62.9	15.1
2/1	4.20	14.60	2.00
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	15.3	22.2
Total income – pension (2)	49.4	83.5	33.3
2/1	2.47	5.46	1.50

Table 17 (Annex)

Poverty rates of persons in 1993/94. on the basis of personal equivalent income, according to the different equivalence and poverty thresholds

Equivalence scale	Poverty threshold values	Total income	Without family allowances	Without unemployment benefits	Without pensions	Without social assistance
	Ft	%	%	%	%	%
e =	Poverty threshold: 50% of average income					
0.73	108666	10.3	15.5	13.4	33.0	11.1
1	82600	11.8	16.5	15.3	36.8	12.6
0.5	131706	11.8	16.2	14.7	32.9	12.4
e =	Poverty threshold: 50% of median income					
0.73	92245	5.7	9.9	8.2	27.4	6.3
1	69823	7.3	11.6	9.7	30.8	8.0
0.5	111954	6.9	10.4	9.3	28.9	7.2
	Poverty threshold: Upper limit of bottom quintile					
0.73	128153	20.0	25.2	22.7	46.3	20.8
1	97640	20.0	24.6	22.4	49.6	20.8
0.5	152027	20.0	25.4	22.7	43.6	20.6

Table 18 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1993/94

	Total	16-year-old and younger	17-year-old and older
	persons		
	Poverty threshold: 50% of average income		
Total income (1)	11.8	21.5	11.6
Total income – family allowances (2)	16.5	36.2	16.1
2/1	1.40	1.68	1.39
	Poverty threshold: 50% of median income		
Total income (1)	7.3	13.4	7.2
Total income – family allowances (2)	11.6	29.6	11.2
2/1	1.60	2.20	1.60
	Poverty threshold: Upper limit of bottom quintile		
Total income (1)	20.0	39.5	19.6
Total income – family allowances (2)	24.6	56.2	23.9
2/1	1.23	1.42	1.22

Table 19 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1993/94

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	11.8	5.8	10.2	17.4	38.6	72.5
Total income – family allowances (2)	16.5	6.0	16.5	27.8	60.1	82.9
2/1	1.40	1.03	1.62	1.60	1.56	1.14
Poverty threshold: 50% of median income						
Total income (1)	7.3	3.5	6.9	10.0	21.7	54.2
Total income – family allowances (2)	11.6	3.6	10.1	19.2	47.2	82.9
2/1	1.60	1.00	1.50	1.90	2.20	1.50
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	20.0	9.9	22.4	29.2	58.5	81.9
Total income – family allowances (2)	24.6	10.2	28.8	42.7	70.3	83.2
2/1	1.23	1.03	1.29	1.46	1.20	1.02

Table 20 (Annex)

The poverty-reducing effects of unemployment benefits: poverty rates before and after unemployment benefits, 1993/94

	Total	Unemployed	Not unemployed
Total income (1)	11.8	27.8	10.1
Total income – unemployment benefits (2)	15.3	39.9	12.7
2/1	1.30	1.40	1.30
Poverty threshold: 50% of median income			
Total income (1)	7.3	20.4	5.9
Total income – unemployment benefits (2)	9.7	27.5	7.8
2/1	1.30	1.30	1.30
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	39.6	17.9
Total income – unemployment benefits (2)	22.4	47.9	19.6
2/1	1.10	1.20	1.10

Table 21 (Annex)

The poverty-reducing effects of pensions: poverty rates before and after pensions, 1993/94

	Total	Pensioners	Non-pensioners
Poverty threshold: 50% of average income			
Total income (1)	11.8	6.9	14.6
Total income – pension (2)	36.8	69.3	22.1
2/1	3.12	10.04	1.51
Poverty threshold: 50% of median income			
Total income (1)	7.3	4.3	9.0
Total income – pension (2)	30.8	65.0	15.3
2/1	4.20	15.10	1.70
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	12.7	24.0
Total income – pension (2)	49.6	80.0	33.0
2/1	2.48	6.30	1.38

Table 22 (Annex)

Poverty rates of persons in 1994/95, on the basis of personal equivalent incomes, according to the different equivalence scales and poverty thresholds

Equivalence scale	Poverty threshold values	Total income	Without family allowances	Without unemployment benefits	Without pensions	Without social assistance
	Ft	%	%	%	%	%
e =						
Poverty threshold: 50% of average income						
0.73	125726	14.0	19.8	15.7	31.2	14.7
1	95758	15.6	22.6	17.0	34.4	16.2
0.5	152234	15.2	20.3	16.8	30.0	15.7
e =						
Poverty threshold: 50% of median income						
0.73	104053	8.2	12.2	9.2	24.6	8.3
1	79803	9.0	14.8	10.8	26.7	9.5
0.5	125912	8.7	12.8	9.7	24.5	8.7
Poverty threshold: Upper limit of bottom quintile						
0.73	141200	20.0	27.0	21.5	42.3	20.7
1	103600	20.0	27.0	21.9	43.4	20.9
0.5	167048	20.0	26.3	21.3	39.2	20.9

Table 23 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1994/95

	Total	16-year-old and younger	17-year-old and older
	persons		
Poverty threshold: 50% of average income			
Total income (1)	15.6	25.9	12.7
Total income – family allowances (2)	22.6	39.6	17.9
2/1	1.45	1.53	1.41
Poverty threshold: 50% of median income			
Total income (1)	9.0	15.5	7.2
Total income – family allowances (2)	14.8	27.4	11.3
2/1	1.60	1.80	1.60
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	32.0	16.7
Total income – family allowances (2)	27.0	45.9	21.8
2/1	1.35	1.43	1.31

Table 24 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1994/95

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	15.6	5.4	20.6	15.9	32.9	72.3
Total income – family allowances (2)	22.6	5.8	26.8	28.7	55.6	96.0
2/1	1.45	1.07	1.30	1.81	1.69	1.33
Poverty threshold: 50% of median income						
Total income (1)	9.0	2.7	11.3	10.2	16.4	52.8
Total income – family allowances (2)	14.8	2.8	16.9	17.9	38.7	82.0
2/1	1.60	1.00	1.50	1.80	2.40	1.60
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	20.0	8.0	25.5	22.3	40.3	78.1
Total income – family allowances (2)	27.0	8.1	31.8	37.0	59.9	96.0
2/1	1.35	1.01	1.25	1.66	1.49	1.23

Table 25 (Annex)

The poverty-reducing effects of unemployment benefits: poverty rates before and after unemployment benefits, 1994/95

	Total	Unemployed	Not unemployed
Poverty threshold: 50% of average income			
Total income (1)	15.6	32.1	14.5
Total income – unemployment benefits (2)	17.0	37.7	15.8
2/1	1.09	1.17	1.09
Poverty threshold: 50% of median income			
Total income (1)	9.0	20.2	8.4
Total income – unemployment benefits (2)	10.8	25.7	9.9
2/1	1.20	1.30	1.20
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	37.7	18.9
Total income – unemployment benefits (2)	21.9	45.3	20.5
2/1	1.10	1.20	1.08

Table 26 (Annex)

The poverty-reducing effects of pensions: poverty rates before and after pensions, 1994/95

	Total	Pensioners	Non-pensioners
Poverty threshold: 50% of average income			
Total income (1)	15.6	6.9	18.6
Total income – pension (2)	34.4	68.6	25.4
2/1	2.21	9.94	1.37
Poverty threshold: 50% of median income			
Total income (1)	9.0	3.4	11.0
Total income – pension (2)	26.7	62.8	17.3
2/1	3.00	18.50	1.60
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	10.4	23.4
Total income – pension (2)	43.4	79.5	30.5
2/1	2.17	7.64	1.30

Table 27 (Annex)

A Sen index in 1995/1997, according to the different poverty thresholds

Poverty threshold	Poverty threshold values	Total income	Without family allowance	Without unemployment benefit	Without pension	Without social assistance
	Ft	%	%	%	%	%
50% of average income	107583	0.0778	0.1157	0.0883	0.3109	0.0830
50% of median income	92787	0.0557	0.0890	0.0642	0.2751	0.0608
Upper limit of bottom quintile	114298	0.0875	0.1278	0.0988	0.3248	0.0928

Table 28 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1995/96

	Total	16-year-old and younger	17-year-old and older
	persons		
Poverty threshold: 50% of average income			
Total income (1)	18.0	31.6	14.3
Total income – family allowances (2)	22.7	40.3	17.8
2/1	1.26	1.28	1.24
Poverty threshold: 50% of median income			
Total income (1)	12.7	22.3	10.0
Total income – family allowances (2)	18.0	33.3	13.8
2/1	1.40	1.50	1.40
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	33.7	16.3
Total income – family allowances (2)	25.6	43.9	20.6
2/1	1.27	1.30	1.26

Table 29 (Annex)

The poverty-reducing effects of family allowances: FGT index values with and without family allowances, 1995/96

	Total	16-year-old and younger	17-year-old and older
		persons	
	Poverty threshold: 50% of average income		
Total income (1)	2.599	4.146	2.170
Total income – family allowances (2)	4.359	8.269	3.277
2/1	1.68	1.99	1.51
	Poverty threshold: 50% of median income		
Total income (1)	1.900	2.896	1.624
Total income – family allowances (2)	3.341	6.352	2.508
2/1	1.76	2.19	1.54
	Poverty threshold: Upper limit of bottom quintile		
Total income (1)	2.969	4.803	2.461
Total income – family allowances (2)	4.860	9.183	3.663
2/1	1.64	1.91	1.49

Table 30 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1995/96

	Total	Poverty threshold: 50% of average income				
		No. of children under 18 years				
		0	1	2	3	4+
Total income (1)	18.0	5.6	21.7	20.5	41.4	74.7
Total income – family allowances (2)	22.7	5.7	26.3	29.2	53.4	91.9
2/1	1.30	1.00	1.20	1.40	1.30	1.20
		Poverty threshold: 50% of median income				
	Total	No. of children under 18 years				
		0	1	2	3	4+
Total income (1)	12.7	3.9	14.4	13.5	29.9	65.1
Total income – family allowances (2)	18.0	4.3	19.7	21.9	42.6	91.9
2/1	1.40	1.10	1.40	1.60	1.40	1.40
		Poverty threshold: Upper limit of bottom quintile				
	Total	No. of children under 18 years				
		0	1	2	3	4+
Total income (1)	20.0	7.0	25.5	22.4	44.0	74.7
Total income – family allowances (2)	25.6	7.2	31.9	33.3	54.3	94.8
2/1	1.30	1.00	1.30	1.50	1.20	1.30

Table 31 (Annex)

The poverty-reducing effects of family allowances: FGT poverty index values with and without family allowances, 1995/96

Poverty threshold: 50% of average income						
Total	No. of children under 18 years					
	0	1	2	3	4+	
Total income (1)	2.599	0.898	3.450	2.391	5.451	13.056
Total income – family allowances (2)	4.359	0.914	4.279	4.389	11.335	31.581
2/1	1.68	1.02	1.24	1.84	2.08	2.42
Poverty threshold: 50% of median income						
Total	No. of children under 18 years					
	0	1	2	3	4+	
Total income (1)	1.900	0.681	2.606	1.699	4.000	8.925
Total income – family allowances (2)	3.341	0.684	3.204	3.145	8.704	26.531
2/1	1.76	1.00	1.23	1.85	2.18	2.97
Poverty threshold: Upper limit of bottom quintile						
Total	No. of children under 18 years					
	0	1	2	3	4+	
Total income (1)	2.969	1.012	3.897	2.784	6.255	14.963
Total income – family allowances (2)	4.860	1.035	4.832	5.022	12.565	33.769
2/1	1.64	1.02	1.24	1.80	2.01	2.26

Table 32 (Annex)

The poverty-reducing effects of unemployment benefits: poverty rates before and after unemployment benefits, 1995/96

Poverty threshold: 50% of average income			
	Total	Unemployed	Not unemployed
Total income (1)	18.0	33.8	16.7
Total income – unemployment benefits (2)	19.8	38.9	18.2
2/1	1.10	1.15	1.09
Poverty threshold: 50% of median income			
	Total	Unemployed	Not unemployed
Total income (1)	12.7	24.1	11.8
Total income – unemployment benefits (2)	14.3	28.0	13.2
2/1	1.10	1.20	1.10
Poverty threshold: Upper limit of bottom quintile			
	Total	Unemployed	Not unemployed
Total income (1)	20.0	36.3	18.7
Total income – unemployment benefits (2)	22.1	41.4	20.5
2/1	1.10	1.14	1.10

Table 33 (Annex)

The poverty-reducing effects of unemployment benefits: FGT poverty index values before and after unemployment benefits, 1995/96

Poverty threshold: 50% of average income			
	Total	Unemployed	Not unemployed
Total income (1)	2.599	4.518	2.437
Total income – unemployment benefits (2)	3.000	6.058	2.744
2/1	1.15	1.34	1.12
Poverty threshold: 50% of median income			
	Total	Unemployed	Not unemployed
Total income (1)	1.900	3.233	1.788
Total income – unemployment benefits (2)	2.208	4.460	2.018
2/1	1.16	1.38	1.13
Poverty threshold: Upper limit of bottom quintile			
	Total	Unemployed	Not unemployed
Total income (1)	2.969	5.213	2.781
Total income – unemployment benefit (2)	3.412	6.872	3.122
2/1	1.15	1.32	1.12

Table 34 (Annex)

The poverty-reducing effects of pensions: poverty rates before and after pensions, 1995/96

Poverty threshold: 50% of average income			
	Total	Pensioners	Non-pensioners
Total income (1)	18.0	7.0	21.8
Total income – pension (2)	36.4	68.5	27.9
2/1	2.00	9.80	1.30
Poverty threshold: 50% of median income			
	Total	Pensioners	Non-pensioners
Total income (1)	12.7	5.2	15.3
Total income – pension (2)	29.9	63.6	21.1
2/1	2.40	12.20	1.40
Poverty threshold: Upper limit of bottom quintile			
	Total	Pensioners	Non-pensioners
Total income (1)	20.0	9.1	23.8
Total income – pension (2)	43.1	78.4	31.0
2/1	2.20	8.60	1.30

Table 35 (Annex)

The poverty-reducing effects of pensions: FGT poverty index values before and after pensions, 1995/96

Poverty threshold: 50% of average income			
	Total	Pensioners	Non-pensioners
Total income (1)	2.599	0.871	3.193
Total income – pension (2)	17.740	50.549	6.457
2/1	6.82	58.01	2.02
Poverty threshold: 50% of median income			
	Total	Pensioners	Non-pensioners
Total income (1)	1.900	0.579	2.354
Total income – pension (2)	16.330	48.468	5.277
2/1	8.60	83.76	2.24
Poverty threshold: Upper limit of bottom quintile			
	Total	Pensioners	Non-pensioners
Total income (1)	2.969	1.026	3.637
Total income – pension (2)	18.41	51.452	7.045
2/1	6.20	50.12	1.94

Table 36 (Annex)

The poverty-reducing effects of social assistance: FGT index values with and without social assistance, 1995/96

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	2.599	0.898	3.450	2.391	5.451	13.056
Total income – social assistance (2)	2.879	1.339	3.690	2.448	5.524	13.713
2/1	1.11	1.49	1.07	1.02	1.01	1.05
Poverty threshold: 50% of median income						
Total income (1)	1.900	0.681	2.606	1.699	4.000	8.925
Total income – social assistance (2)	2.156	1.120	2.811	1.726	4.025	9.425
2/1	1.14	1.64	1.08	1.02	1.01	1.06
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	2.969	1.012	3.897	2.784	6.255	14.963
Total income – social assistance (2)	3.258	1.450	4.152	2.848	6.359	15.663
2/1	1.10	1.43	1.07	1.02	1.02	1.05

Table 37 (Annex)

A Sen index in 1996/97. according to the different poverty thresholds

Poverty threshold	Poverty threshold values	Total income	Without family allowance	Without unemployment benefit	Without pension	Without social assistance
	Ft	%	%	%	%	%
50% of average income	118532	0.0780	0.1095	0.0876	0.3295	0.0860
50% of median income	102750	0.0558	0.0884	0.0647	0.2901	0.0631
Upper limit of bottom quintile	124600	0.0875	0.1232	0.0978	0.3441	0.0956

Table 38 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1996/97

	Total	16-year-old and younger	17-year-old and older
	persons		
Poverty threshold: 50% of average income			
Total income (1)	17.8	31.7	13.6
Total income – family allowances (2)	21.8	39.2	16.5
2/1	1.22	1.24	1.21
Poverty threshold: 50% of median income			
Total income (1)	12.4	23.0	9.2
Total income – family allowances (2)	16.5	31.6	11.9
2/1	1.33	1.37	1.29
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	35.4	15.5
Total income – family allowances (2)	23.5	41.6	18.0
2/1	1.18	1.18	1.16

Table 39 (Annex)

The poverty-reducing effects of family allowances: FGT index values with and without family allowances, 1996/97

	Total	16-year-old and younger	17-year-old and older
	persons		
	Poverty threshold: 50% of average income		
Total income (1)	2.636	4.688	2.011
Total income – family allowances (2)	4.517	8.982	3.158
2/1	1.71	1.92	1.57
	Poverty threshold: 50% of median income		
Total income (1)	1.925	3.352	1.491
Total income – family allowances (2)	3.587	7.191	2.490
2/1	1.86	2.15	1.67
	Poverty threshold: Upper limit of bottom quintile		
Total income (1)	2.969	5.254	2.239
Total income – family allowances (2)	4.900	9.697	3.440
2/1	1.65	1.85	1.54

Table 40 (Annex)

The poverty-reducing effects of social assistance: poverty rates with and without social assistance, 1996/97

	Total	No. of children under 18 years				
		0	1	2	3	4+
	Poverty threshold: 50% of average income					
Total income (1)	17.8	4.9	13.5	23.4	47.9	62.8
Total income – social assistance (2)	18.8	5.2	14.7	24.5	47.9	70.3
2/1	1.06	1.06	1.09	1.05	1.00	1.12
	Poverty threshold: 50% of median income					
Total income (1)	12.4	2.6	8.9	15.7	33.3	56.3
Total income – social assistance (2)	13.6	3.1	10.3	17.9	35.2	56.3
2/1	1.10	1.19	1.16	1.14	1.06	1.00
	Poverty threshold: Upper limit of bottom quintile					
Total income (1)	20.0	5.7	15.7	26.9	51.4	70.8
Total income – social assistance (2)	20.9	6.1	16.9	27.9	51.4	74.5
2/1	1.05	1.07	1.08	1.04	1.00	1.05

Table 41 (Annex)

The poverty-reducing effects of social assistance: FGT index values with and without social assistance, 1996/97

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	2.638	0.645	1.631	2.939	6.482	15.288
Total income – social assistance (2)	3.017	0.826	2.060	3.390	7.193	16.120
2/1	1.14	1.28	1.26	1.33	1.11	1.05
Poverty threshold: 50% of median income						
Total income (1)	1.925	0.510	1.173	2.067	4.601	11.469
Total income – social assistance (2)	2.243	0.653	1.513	2.429	5.209	12.401
2/1	1.17	1.28	1.29	1.18	1.13	1.08
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	2.942	0.711	1.844	3.333	7.283	16.589
Total income – social assistance (2)	3.346	0.904	2.300	3.818	8.014	17.552
2/1	1.14	1.27	1.25	1.15	1.10	1.06

Table 42 (Annex)

A Sen index in 1997/98. according to the different poverty thresholds

Poverty threshold	Poverty threshold values	Total income	Without family allowance	Without unemployment benefit	Without pension	Without social assistance
	Ft	%	%	%	%	%
50% of average income	137080	0.0538	0.0764	0.0635	0.2928	0.0612
50% of median income	120567	0.0395	0.0600	0.0481	0.2661	0.0458
Upper limit of bottom quintile	160544	0.0805	0.1085	0.0927	0.3388	0.0897

Table 43 (Annex)

The poverty-reducing effects of family allowances: poverty rates with and without family allowances, 1997/98

	Total	16-year-old and younger persons	17-year-old and older persons
Poverty threshold: 50% of average income			
Total income (1)	12.8	24.1	10.4
Total income – family allowances (2)	15.9	31.8	12.4
2/1	1.24	1.32	1.20
Poverty threshold: 50% of median income			
Total income (1)	9.1	18.2	7.2
Total income – family allowances (2)	12.4	26.7	9.3
2/1	1.36	1.47	1.29
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	20.0	36.1	16.7
Total income – family allowances (2)	24.1	45.7	19.5
2/1	1.20	1.26	1.17

Table 44 (Annex)

The poverty-reducing effects of family allowances: FGT index values with and without family allowances, 1997/98

	Total	16-year-old and younger	17-year-old and older
	persons		
Poverty threshold: 50% of average income			
Total income (1)	1.755	3.613	1.356
Total income – family allowances (2)	2.805	6.592	1.990
2/1	1.60	1.82	1.47
Poverty threshold: 50% of median income			
Total income (1)	1.313	2.704	1.014
Total income – family allowances (2)	2.209	5.287	1.548
2/1	1.68	1.96	1.53
Poverty threshold: Upper limit of bottom quintile			
Total income (1)	2.537	5.140	1.978
Total income – family allowances (2)	3.795	8.638	2.755
2/1	1.50	1.68	1.39

Table 45 (Annex)

The poverty-reducing effects of social assistance: poverty rates with and without social assistance, 1997/98

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	12.8	5.0	13.3	14.9	34.5	73.1
Total income – social assistance (2)	14.1	5.7	14.7	16.5	36.9	76.6
2/1	1.10	1.14	1.11	1.11	1.07	1.05
Poverty threshold: 50% of median income						
Total income (1)	9.1	2.7	10.6	9.6	21.8	68.9
Total income – social assistance (2)	10.3	3.2	11.4	10.8	28.8	72.4
2/1	1.14	1.21	1.08	1.12	1.32	1.05
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	20.0	8.3	21.7	26.5	52.0	84.5
Total income – social assistance (2)	21.5	9.7	23.2	28.2	53.3	84.5
2/1	1.07	1.17	1.07	1.06	1.03	1.00

Table 46 (Annex)

The poverty-reducing effects of social assistance: FGT index values with and without social assistance, 1997/98

	Total	No. of children under 18 years				
		0	1	2	3	4+
Poverty threshold: 50% of average income						
Total income (1)	1.755	0.411	2.146	1.447	3.028	18.874
Total income – social assistance (2)	2.065	0.678	2.440	1.559	4.132	19.635
2/1	1.18	1.65	1.14	1.08	1.36	1.04
Poverty threshold: 50% of median income						
Total income (1)	1.313	0.288	1.676	1.008	2.006	14.898
Total income – social assistance (2)	1.569	0.536	1.932	1.059	2.791	15.515
2/1	1.20	1.86	1.15	1.05	1.39	1.04
Poverty threshold: Upper limit of bottom quintile						
Total income (1)	2.538	0.685	2.955	2.330	5.065	23.970
Total income – social assistance (2)	2.931	0.985	3.318	2.555	6.514	24.964
2/1	1.15	1.44	1.12	1.10	1.29	1.04

FLUIDITY AND SEGREGATION

**THE DYNAMICS OF POVERTY AND THE LIVING CONDITIONS OF THE POOR IN
HUNGARY DURING THE TRANSFORMATION**

ZSOLT SPÉDER

1998

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Introduction

The present paper summarises the results of our research conducted in the first part of the 90s. We had been conducting our research into poverty with Rudolf Andorka and István György Tóth since 1992. The results of the work were published in *Műhelytanulmányok* (Working Papers) of the research project of the Hungarian Household Panel, published annually. During the course of research a kind of division of labour emerged. The author of the present paper had the study of the changes of poverty by time and the analysis of the dynamism of poverty as his major task. In this paper I am going to use the results achieved and the methods elaborated during the course of research, thus I strongly rely on our and on my earlier writings. Of them I wish to mention two in particular: Andorka-Spéder 1996; Spéder 1998. At the same time the present writing contains a number of new elements as well, therefore it may be regarded as the continuation of earlier works. Partly we analysed only five waves in the earlier writings, that is our data covered the period between 1992 and 1996. In this paper - in each case whenever there was a possibility - the data of the sixth wave were also used, which means that data of 1997 are the last ones.¹ Secondly, it is here that we have used a new variable of the dynamics of poverty. Thirdly, we deal with the interrelationships of poverty, living standards and the subjective components of well-being in much greater detail than earlier, that is with the question of what is the life of the poor like. Hopefully all this will make the interpretation and understanding of the dynamism of poverty possible in a more comprehensive way.

The structure of the paper is the following. At first some hypotheses are clarified behind the concepts of poverty, interesting from the angle of changes of poverty in time. The concepts of 'N-times poor' and 'spell' are used here. Subsequently the social characteristics of permanent poor are at first identified, and next the processes of structuring behind temporary poverty are explored. Then we study the living conditions of the poor with the help of a few selected indicators, and finally their psychological condition and satisfaction.

Our analyses are based on the data base of the Hungarian Household Panel which is presented in brief in the Appendix (Sík, Tóth 1993, 1994, 1997; Tóth 1994).

1. Trends of poverty - some methodological remarks

Prior to the discussion of poverty timewise it is indispensable to separate even formally the perspectives of cross-section from the longitudinal ones. As it is commonly

¹ This is the first paper where we have analysed data by using the newly done weighting. This is the reason why in the case of a few variables our data differ from the earlier ones.

known, if the perspective of cross-section is applied, we define what proportion of the population can be considered poor in a given point in time, and as a function of the concept of poverty used. The timewise changes of poverty cover changes in the proportion of the poor. This is what we call *trend* of poverty. When the longitudinal perspective is applied, we consider every episode of poverty and also the non-poor situation of a given period of time. Even if the proportion of the poor is growing, there may be some who can emerge from poverty. The longitudinal perspective considers every poverty situation of a given period. When discussing this approach we speak about the *dynamism of poverty*.² When studying the changes of poverty in time our paper concentrates on the second approach. At the same time our longitudinal data also offer an opportunity for the analysis of data by cross-section.³ Thus in Chapter one it is studied what would characterise the changes of poverty if our data are interpreted as cross-section ones. In addition to getting a picture of the trends of poverty, this approach has a significance of content from the angle of our later analysis, as the trends described offer one of the 'framework precondition' of the dynamism of poverty.

During the course of our earlier studies of poverty we often followed the way of simultaneously applying several approaches to poverty. We were aware that not a single approach was able to cover alone all the phenomena of poverty. Naturally, there was and still is a concept of poverty selected and favoured by us, the concept of *relative income poverty*, but we know that this approach also has its limitations.

Elsewhere it was analysed in detail what preliminary assumptions were behind the various concepts of poverty (Andorka, Spéder 1994; 1996; Tóth et al. 1996). However it was somewhat left in the background in the works referred to how well the concepts of poverty can be used if we wanted to measure the changes of the extent of poverty in time. Now we only *study the approaches to poverty used by us from the angle of comparability in time and of measuring change in time*. Thus we do not strive to full theoretical clarification, our goal only is to understand what kind of processes actually taking place (may) be reflected by our data.⁴ In other words, our goal is not to achieve theoretical totality, but to discover the assumptions behind the available indicators of poverty and that too from the angle of time. Actually results related to poverty differ most in respect of the extent of the population living in poverty and of the rate of its change. The composition and the extent of poverty risks depend much less on the nature of the approach to poverty used.

One of the basic dilemmas when studying changes of poverty in time is *whether we should compare our current situation of poverty or well-being only (and exclusively) to*

² By economic terms: in the first case we study the 'net', in the second case the 'gross' changes.

³ Obviously its reverse is not true.

⁴ The theoretical clarification of the concepts of poverty are not considered as the task of our paper even from the angle of change in time.

our own position in the past, or, should we consider the changes of the welfare of the society? (The concepts of absolute income poverty and subsistence level correspond to the first assumption, whereas the concept of the relative income poverty corresponds to the second one.)

Before clarifying the dilemma it is worth referring to the fact that the social science of welfare has profoundly studied this problem and a consensus has more or less been achieved in respect of the results, however, this dispute was closed in another 'economic era', under conditions of growth. Ruggles says that the changes of the situation of the individual in time must not be torn away from changes of the situation of the society (or, of the 'average individual') (Ruggles 1994:40ff). In fact an individual's income may grow from one year to the other in vain if society is being enriched faster, in that case one should speak about the deterioration of that individual's welfare position. In this sense only the welfare of those would grow whose income grows faster than the average. Naturally all this may be translated into the approaches to poverty. In this sense - with a strong simplification - it is not enough to reevaluate the various levels of poverty and to correct them by changes of the price level, but it should also be considered how the general level of welfare has grown. Thus the poverty lines should be 'promoted' by the average growth of the level of well-being (e.g. growth of average income). Once more attention should be called to the fact that these considerations were crystallised in the decades of *economic growth*. Had the lines of poverty been corrected by the extent of inflation and not by the rate of the changes of real income, many people would have been excluded from the category of poverty, while their condition of life had not improved - or even may have deteriorated - if compared to others, and they would have continued to be unable to safeguard the minimum level of consumption out of their meagre resources.⁵ In other words, the poor also have to share the enrichment of the society (Ruggles, 1994).

Can this argumentation be applied amidst circumstances of *economic recession* - and a period of transformation, characterised by recession? If yes, then it should be stated that the poor as well as those who are in a better situation have to accept the fact that the level of the well-being of the society has fallen! In other words, the proportion of the poor would only grow if there are such non-poor whose income situation deteriorates more than the average. That is, if the income inequalities grow. Under such conditions many families may be characterised by a deteriorating position of well-being, if compared to their earlier situation, but their relative position has remained unchanged, or may have improved. The *concept of relative poverty* corresponds to this approach and stand. Let us make it transparent once more: according to this concept - and in the case of economic recession - individuals may get out of poverty if their living conditions have deteriorated in comparison to the previous year.

One, of course, may occupy the other stand as well. It may be said that if the

⁵ Consumption may be totally transformed with the passage of time as the structure of consumption may change, together with the structure of goods considered as those of basic needs.

output of a country decreases it is manifest in general impoverishment. And thus it is natural that the proportion of those living in poverty would have to increase. Concepts of poverty, closely related to subsistence minimum, including the concept of absolute income poverty, correspond to this approach. (It should be noted here, that the absolute income poverty, applied by us, does not consider the difference of the structure of consumption of the poor and of those living in the proximity of poverty from the general one.)

If the concrete figures are considered, it can be stated that *according to the concept of relative income poverty the proportion of the poor has grown by one and a half times, whereas according to the concept of absolute income poverty growth was more than two and a half times* (Table 1.1). As now our objective is to make change by time visible, we have made the 1992 poverty threshold of absolute income poverty - artificially and arbitrarily - equal to the poverty threshold of relative income poverty. Then we have developed the absolute income poverty thresholds by correcting annually that poverty threshold by inflation. The growth rate of absolute income poverty corresponds to the growth of population at subsistence minimum as there the values of the household specific subsistence minimum are always corrected by the rate of inflation. It is conspicuous and corresponds to economic recession that the proportion of the poor, thus calculated, grows at a far higher rate than in the case of relative income poverty.

We have a time series to yet another concept of poverty. Minimum pension can be considered as a kind of the concepts of poverty in social *policy*, and in the indicator of the crises of household economy there are subjective as well as objective elements mixed up. The political nature of *minimum pension* is due to the fact that partly it is shaped in social discussion, as its size and the way of its calculation are regulated by the Acts of Parliament. On the other hand, several types of social care and aid are linked to this threshold value (Monostori, 1997). Thus minimum pension is the result of the agreement among political forces and serves as the basis of socio-political entitlements. Returning to our Table it can be stated that this is the only time series where the growth of poverty cannot be unambiguously identified in the period under survey (Table 1.1.).

Two types are presented of the group of questions measuring the *consumption crises of households*. The question concerning 'shortage of money by the end of the month' wishes to see how many times has the given household hit the limitations of its budget during the period under survey. (Did it happen in the past 12 months that you have run short of money by the end of the month? If yes, how many times?) The second group of questions inquires about the scantiness of the budget if compared to the needs of the given household (needs in clothing were included in the Table), about postponement or abandoning of spending on consumption. ("Did it happen that less than the necessary could be spent on clothing if compared to your needs?") While the first question inquires about financial crisis as an outcome of realised consumption, the second one measures the postponement of expenses deemed necessary. Both indicators decisively depend on required consumption as well as on the income position. It should not be forgotten either

that it is not only people of low income and the poor who can get into a household crisis, but the well-to-do too, when their aspirations go beyond their financial possibilities.⁶ Thus our indicators are not exclusively those of poverty, but it is justly assumed that in the case of massive impoverishment the number of those would significantly grow who would face shortage of money, and who would be able to spend less than necessary on clothing. Our data show that the proportion of households who would face a shortage of money, has grown only a little, but the trend of growth is unambiguous even in the case of these variables (Table 1.1.).

As a result one should very cautiously speak about the extent of poverty and the growth of the poor population. The *proportion of the poor* has undoubtedly grown between 1992 and 1996, but the extent of dynamism depends on what concept of poverty is applied. The poverty concept of relative income, preferred by us, is supported by the fact that we consider the position relative of others as of primary importance at the definition of poverty. The use of the concept of relative income poverty is strengthened by the fact that the extension of the crisis situations of household economy was not explosive during the period under survey.⁷ But we also accept the fact that the proportion of those who have got into worse situation if compared to the past has significantly grown by leaps.

Table 1.1. Poverty rates in Hungary between 1992 and 1997
(using different weights)

Poverty concepts	1992	1993	1994	1995	1996	1997*
And poverty lines						
Relative income poverty (50 % of mean income)	10.1	10.4	11.6	12.4	14.0	
(with new weighting)*	(11,6)	(9,9)	(12,0)	(11,8)	(12,9)	(13,3)
Absolute income poverty	10.1	12.5	16.1	19.9	26.6	28-30
Subsistence minimum	21.5	24.0	31.8	-	-	-
Minimum pension	5.2	5.4	6,7	5.1	6,2	
Not enough money for clothing	67.1	69.3	69.7	71.1	75.2	74,3
Financial crisis in households						
monthly	26.4	26.3	25.4	25.1	28.1	30.5
never	38.7	39.0	41.1	40.9	31.2	35.5

*New weights.

⁶ It should be noted however, that there is a strong relationship between the financial situation, the condition of poverty and the household crises. Later on it will be discussed.

⁷ Here we do not discuss the processes behind it. It should be found in greater detail in another paper.

2. The basic features of longitudinal poverty

2.1. The description of the longitudinal poverty measures

It is well known, that one of the most remarkable and most disputed results of the first household panel surveys (PSID, GSOEP) has been the differentiation *between permanent and transitory poverty*. (Duncan, 1984; Headey, Habich, Krause, 1990; Krause, 1994). It could be showed only with the panel surveys that poverty in the industrial societies has a twofold character. It exists as permanent as well as transitory poverty. There are on the one hand people who are always, at any time poor. On the other hand there are people who were poor only in a short period of time. The poor in a given year could raise their income above the poverty threshold in the next one, or several years, so they could escape poverty. Most of the individuals who experienced poverty at least once in their life belong to the transitorily poor population, and only a very small portion of the always poor population could be described as permanently poor.

The very substantial question was then whether we can find the same, or similar figure apparent in relatively stable societies in Hungary too, at the time of transformation. In other words: could households, living below the poverty line in one year escape from poverty in the next year at the time of "transitional recession"(Kornai). Based upon the growing extent of poverty, the likelihood of becoming poor seemed to be plausible, whereas the movement in the opposite direction was not so obvious. It clearly means that the enlargement of the poor population can only be understood, if there are persons and households who were not poor in a given year and fell into poverty in the next year. And it was a commonplace, a shared view between social scientists, politicians and others in public discussions. The assumption about the other type of move - coming out of poverty, that is to escape poverty -, seemed to be very unbelievable, because of the general deterioration of living conditions.

Thus at first we demonstrate that there were always escapees during the investigated period (Table2.1.). The rate of those who could come out of poverty was about 40 per cent. In order to get a finer picture, we see in our Table the ratio of those who could escape from the first decile. By this approach we do not take into consideration the changing extent of poverty and concentrate only on the mobility pattern⁸. In our last row it is shown that the distance of the moves can be characterised substantially only for part of the escapees.⁹

As far as the whole investigated period is concerned, the construction of the '*N-times poor*' variable is one of the most simple methods to capture poverty mobility. Here we simply *count how many years a household had income lower than the poverty threshold*. We can sum up our results in two very general statements.

⁸ It is a kind of standardisation.

⁹ We will deal with this issue in the following.

First, during the six-year period many more people experienced poverty situation, were poor once at any time in the past than the view of the annual cross-sectional figures would suggest (Table 2.2.).¹⁰ The annual rates are about half of the always poor population. If we assume that the poverty situation leaves a long-lasting negative memory in the individuals, we could understand why the proportion of those was so high who saw themselves as poor during the transformation.

Second, the proportion of permanently poor people is lower than expected, it can be estimated as somewhat more than five per cent of the population. But if we relate the permanently poor to the annually poor population, and not to the once poor, we come to a somewhat different conclusion. In 1997 about one-third of the poor was permanently poor, the other third transitorily, but more times poor, and the last third once poor. But it is worth contrasting these two views somewhat sharper, and this is why we have constructed our next table (Table 2.3). In the second column we see the distribution of the at least once poor population. This is identical with the first approach mentioned. In the third column we see the distribution of all poverty events between the different poverty positions (how many times poor). We call *'poverty event'* one person's one-year poverty experience. So those, who were three times poor have three times more poverty experience, than those, who were only poor once. The distribution of the poverty events during the whole investigated period can be seen as a kind of *generalised frequency distribution*. It tells us the portion of the different longitudinal poverty positions (N-times poor) in a year. It means, that between the cross-sectional yearly poor only somewhat more than fifteen per cent (16.9%) of people are one time transitorily poor, about one-fifth (22.1%) are two times transitorily poor, and another one-fifth (21.5%) permanently¹¹ (six times) poor (see Table 2.3.). In the following *we will call the four and more times poor as permanently poor*. In this usage in an average year *nearly half (48.2) of the poor population is permanently poor*. I hope it is clear, that both approaches are justifiable, and the two views show us different sides of longitudinal poverty. As we have seen, *in a given period of time only a smaller proportion (23.0%) of those who were poor at least once can be defined as permanently poor, but the permanently poor have a much larger proportion (48.9%) in the annual poverty figures*.

As we mentioned above, the 'N-times poor' is only one, the simplest, but very widely used longitudinal category of poverty. This variable does not take into consideration whether the poverty situation is continuous or interrupted. The construction of *'poverty spells'* gives an answer to this challenge. Here we observe each continuous poverty position as a different case (see Bane, Ellwood, 1995). In our former variable (N-times poor) the four-year long continuously poor individuals fall into the same category as those who are poor twice two-years long. Using the 'spell' approach only the former individuals will belong to the

¹⁰ Here attention has to be repeatedly called to the fact that due to new weighting our data partly differ from those published in earlier years, however it does not influence the tendencies.

¹¹ Permanent in the strictest sense.

four-year long poor category, the second individuals will be 2 different cases between the 2-year long poor categories (Tables 2.4.). Naturally it is assumed that these two observations are different.

What is then the meaning of this 'spell' approach? This longitudinal poverty concept stresses the dimension of *continuity and duration*. And for special questions (see Bane, Ellwood, 1995) it is really important. By employing this view we see that most (62.8 %) of the poverty spells are only very short, one-year long (Table 2.4.). But if we change our view once again, we can point out that from all poverty events one-fifth (20.4%) belongs to very long (6-year and longer) poverty spells (Table 2.4. column 3).

Using this approach it cannot be avoided to speak about *censoring the data*. It means that we do not know whether there were former poverty experiences before the poverty situation the first year of the investigated period or not. And that is the case with the last year too: we do not know, whether the poverty situation in 1997 would last further or not. More than two fifths of the one-year spells are first or last year spells. And that is much more the case with the longer poverty spells. So this kind of approach underestimates the longer spells, the duration of poverty. The longer the investigated period is the lower is the underestimation. We will not use this approach in the following, because we have data only about a quite short period.¹²

Our findings raise questions and doubts about the significance of the results, because they seem to be contrary to our expectations. That is why we will try to dispel some of these doubts and questions in the following, and will attempt to capture the nature of poverty mobility during the transformation. But before the detailed analysis and explanation we would like to demonstrate poverty mobility with using subjective measures. They can be understood also as separate poverty measures and longitudinal poverty indicators, as a kind of verification of the income-based approach.

As it is mentioned above we asked one household member about the household's everyday financial hardships. Whether they had "enough money at the end of the month" for everyday purposes, if not, then how frequently did they have a financial crisis. And how many times did they have not enough money in the last year for the necessities (basic food, rent, heating). It is clear, that these questions have no objective character, because the experience of the hardships depend very much on the 'style of household' and on the aspirations too. But we thought that the objective material conditions also have a strong influence too. It is evident that there are positive relations between the poor on the one hand, and those on the other, who have monthly (very frequent) financial crises, or having frequently not enough money for basic food. Consequently we have chosen two of these

¹² Bane and Ellwood analysed 21 years in their classical work (Bane, Ellwood, 1995).

variables, and constructed three types of '*N-times financial hardship*' indicators:

- How many years had a household monthly financial crises at the end of the month during the investigated period.
- How many years had a household experienced "having not enough money for basic food" (at least once a year).
- How many years had a household always¹³ problems buying basic food during the investigated period.

The figures below (Table 2.5) show us *basically the same pictures as the N-times poor* variable did, depending on the content of the variables. There are many households where people have experienced financial crisis at least once, independently from the content of the variables. But a large proportion of them faced difficulties only transitorily (one or two times). Looking at the permanent financial difficulties of the household, about one-fifth (20.8%) of the households had four and more times frequent financial crises' during the 6-year period, and 6.3 per cent of the population had monthly problems in buying basic food (Table 2.5). The relation between this variable and the N-times poor is very close, but it is not identical: between the permanently poor 58.4 per cent had 3 and more times financial difficulties in buying basic food. Regarding the relation of our objective and subjective poverty measures, we know that there are poor people who had a very strict style of household economy, and there are well-off households who can have financial hardships as well.¹⁴

At the end of the description of the basic variables, we do not want to repeat our former statements, so we turn to investigate the 'significance'¹⁵ of our variable. I think that before the sociological analysis of our variables, it is useful to check our independent variable against some others. We intend to settle some of the remaining doubts and questions

2.2. *The significance of the N-times poor variable*

At first we are going to demonstrate that poverty mobility exists on the basis of the absolute income poverty (subsistence minimum) concept. Unfortunately, we are unable to test the data for the whole period of the survey, because we only had subsistence minimum levels for the first three years of the investigation. The Hungarian Statistical Office changed the concept of the subsistence minimum in 1995 (KSH, 1997), so we did not have time-

¹³ In every month, or in every two months in the year questioned about.

¹⁴ See (Spéder, 1996).

¹⁵ Using the word '*significance*' we only would like to point out the relation between our longitudinal variables and reality. So we do not use the philosophical, nor the statistical understanding of this category.

comparable subsistence minimums for the period after 1994. We found that mobility was manifest between the poor and non-poor positions, if the absolute poverty concept is applied (Table, 2.6). Naturally, there are differences. There are more permanently poor than temporarily poor if we use the subsistence minimum concept.

Furthermore, we can compare the objective poverty concept, based on income, and the indicator of household financial crisis (Table 2.7). Using the financial crisis with different time span, we see that longer period poverty lasts more often if the household suffers from household expenditure problems.

In the next step let us compare Hungarian data with German data calculated similarly. We have found small differences between the country-specific figures. To make the differences visible, we computed a so-called 'segregation-measure', to compare the poverty dynamics in the two societies (Table 2.8.). This measure shows the rate of permanent poverty events and the sum of poverty events in a certain period of time. In other words, how sharp is the borderline between the permanent poor and the others? Consequently, in Hungary the segregation is lower than in West Germany, but higher than in the former East Germany. (If we handle East Germany as a single society.) But, if we count the East German poverty profile using income distribution in the unified Germany, the segregation is the lowest in Hungary. As we know, expanding poverty induces growth in the proportion of temporary poverty. However, the rate of change can be high or low. The degree of segregation between temporary and lasting poverty is determined by the relation of these two complementary processes the proportions of which are difficult to identify.

We mentioned in our first section, that it is very important to know how far those who can escape poverty can get from their earlier income position. The other question is what was the earlier financial situation of those who have slipped into poverty. In other words, from which income classes did the new poor originate. To give an answer to these questions we have defined income classes: we have marked the boundaries of the classes as percentage of the average equivalent income. At first, let us examine how far who escaped from poverty those could get (Table 2.9). Many of them only reached the next income category, but there are quite few whose nominal income increased notably, and they therefore succeeded to move far away from the poverty line. Except for the last year, this latter group was larger than the former one.

Considering the inflow side of the movements we have found in every year that the proportion of the poor coming from income classes near the poverty-line is less than the proportion of those who used to belong to higher income classes (Table 2.10.). Namely, that primarily not only people who belong to income classes near, or just above the poverty-line are slipping into poverty, but impoverishment also characterizes the members of middle income classes. These two tables clearly show that during the transformation there were significant intensive income movements and changes on the household level. It is very difficult to make statements about the trend of movements and changes in the given period

of time. After all, we propose in our hypotheses that around 1995 the trends of movements changed. On the one hand, less people slipped into poverty from the higher income classes, though in that year there were plenty of 'new' poor. On the other hand, it seems that the 'escapees' from poverty were not able to get too far from the poverty-line in 1995. It means that the intensity of mobility as well as the distance of movement appear to have decreased. We would like to point out that we have found a similar tendency in the case of the former East Germany for the period 1993-1994. After the next wave of our Panel Survey, we hope to test the hypothesis mentioned above. (Krause, Spéder, 1996)

We hope that the features of the Hungarian longitudinal poverty, above, have made it clear that during the time of transformation

- there was substantial mobility between poor and non-poor positions;
- there was intensive inflow and outflow in poverty mobility (there were people who fell into poverty, as well as others who escaped from poverty)
- both permanent and transitory poverty exist;
- the permanent poor are a small proportion of the at least one time poor, and at the same time the permanently poor have a much larger proportion of all poverty events;
- there was mobility between poor and non-poor positions too, if a kind of subjective concept of poverty is also used.

All this implies that 'transformation' took place not only on institutional and macro levels, but on the level of everyday life too. The income mobility figures and the similar pattern of subjective indicators indicate a much more intensive and permanent change of position than was expected from the macroeconomic shifts. In the following we clarify which social groups had the highest risk of becoming and remaining poor.

Table 2.1. Chances of coming out of poverty next year in Hungary, between 1992 and 1997
(using 97 weights)

Definitions of different escapees	92 ⇒ 93	93 ⇒ 94	94 ⇒ 95	95⇒96	96 ⇒ 97
Rate of escapees* from poverty	49.6	36.2	44.0	32.1	37.3
Rate of individuals belonging to the first decile in the first time point, who left the first decile by the next year	45.9	44.3	46.4	36.1	42.6
Rate of first decile members arriving higher then second decile	27.4	18.1	24.0	17.0	20.0

*Escapees are those who were poor in the first time point and not-poor in the next year. **Table 2.2.**

Table 2.2. Distribution of persons between different poverty situations in Hungary,1992-1997

(poverty threshold=50 per cent of mean income)

N times poor	Proportion of persons who experienced poverty situation
Never poor	73.6
Once poor	10.7
2 times poor	7.0
3 times poor	2.6
4 times poor	1.7
5 times poor	2.1
6 times poor	2.3
Total (%)	100
N=	4497

Table 2.3. Poverty dynamics: the distribution of *N-times poor* in Hungary, 1992-1997.

	Proportion of <i>persons</i> having different poverty positions	The distribution of <i>all poverty events</i> between different poverty positions
Once poor	40.6	16.9
2 times poor	26.5	22.1
3 times poor	9.8	12.2
4 times poor	6.4	10.7
5 times poor	8.0	16.7
6 times poor	8.6	21.5
Total (%)	100	100
N=	1187	2851

Table 2.4. Poverty dynamics: the distribution of *poverty spells* Hungary, 1992-1997.

The duration of spells	Proportion of <i>poverty spells</i>	The distribution of <i>all poverty events</i> between different poverty spells
1 year	62.8	32.3
2 years	16.0	16.3
3 years	5.4	8.3
4 years	3.7	7.6
5 years	3.7	9.5
6 years	8.4	26.0
Total (%)	100	100
N=	1212	2357

Table 2.5. Proportion of households having different kinds of crisis concerning everyday livelihood between 1992-1997

	Monthly financial crisis in households	Not enough money for meals (at least sometimes)	Not enough money for meals (monthly, bi-monthly)
Never	37.7	65.7	72.2
Once	20.9	14.0	12.0
2 times	12.5	6.0	6.3
3 times	8.1	6.0	2.9
4 times	9.0	3.0	2.5
5 times	5.9	2.5	2.3
6 times	5.9	2.8	1.5
Total (%)	100	100	100
N=	1671	1671	1671

Table 2.6. Poverty dynamics in Hungary 1992-1994

(two different poverty concepts)

N times poor	Equivalent income		CSO subsistence minimum
	50% of the mean	60% of the mean	
Never	81.6	67.4	58.0
Once	11.7	17.0	16.8
Twice	3.7	8.6	15.1
3 times	3.1	7.1	10.2

Table 2.7. Occurrence of the financial crisis at the end of the month and different longitudinal poverty positions in Hungary (households)

Poverty positions	Occurrence of financial crises in 1996				Total N=
	Monthly	Two-monthly	Sometimes	Never	
Poverty position 1996					
Poor	59.4	13.4	15.0	12.1	218
Not poor	24.0	11.9	30.3	33.8	1656
Poverty position in 1995-1996					
Both years poor	67.9	11.6	6.9	13.6	122
Fallen	42.4	18.4	27.3	17.1	82
Escaped	39.5	14.9	28.6	11.9	72
Never	23.6	12.0	30.3	34.0	1517
Poverty position in 1992-1996					
Permanent*	(63.8)	(14.6)		(14.6)	69
Temporary**	45.3	17.5	21.2	16.0	137
Once poor	35.0	16.0	32.0	17.1	199
Never poor	22.5	11.9	30.0	35.6	1325

* Permanently poor: 5 times and 4 times poor

** Temporarily poor: 3 times and 2 times poor

Table 2.8. Poverty dynamics in Hungary, East Germany, and West Germany 1992-1995
(50% of mean equivalent income)

N times poor	Hungary	East Germany		West Germany
		East income	German income	
Never	77.7	84.6	73.3	81.4
Once	13.0	8.3	12.3	8.6
Twice	4.3	3.9	5.8	3.9
3-times	2.7	2.1	5.1	2.8
4-times	2.3	1.1	3.5	3.3
Total	100	100	100	100
Segregation measure	44.5	39.9	55.0	56.8

Source: Krause and Spéder, 1996.

Segregation measure: the proportion of permanent poverty (3 and 4 times poor) from all poverty events.

Poverty event: poor in one year.

Table 2.9. Distances of the outflow shifts

(The distribution of the t time poor population between income classes in one year later (t+1 time))

t time point	Income position in t+1 time point (income classes in relation to the mean equivalent income)				Total N=
	Under 50 (poor)	50-60	60-75	Above 75	
1993	45.8	16.8	15.2	22.3	603
1994	51.7	34.3	12.9	13.3	492
1995	47.3	26.0	12.0	23.9	631
1996	68.5	20.0	8.2	9.9	523
the 1992 poor in 1996*	45.5	12.8	16.1	25.6	404

* Income position of the 1992 poor in 1996, poor=under 50 percent.

Table 2.10. Distances of the inflow shifts or the recruitment of poor population

(The distribution of the t time poor population between income classes in one year before (t-1 time))

t time point	Income position in t-1 time point (Income classes in relation to the mean equivalent income)				Total N=
	Under 50 (poor)	50-60	60-75	Above 75	
1993	49.7	19.0	16.4	15.1	555
1994	42.8	16.8	17.7	22.8	595
1995	45.3	27.4	11.8	15.3	658
1996	57.8	14.7	19.4	8.1	620
the 1996 poor in 1992*	32.8	12.7	19.0	35.7	565

* Income position of the 1996 poor in 1992.

3. Social groups living in poverty

In order to identify the poor social groups, we can use both the annual cross-sectional and the longitudinal approaches. Here we will use both. Not because they have different results; on the contrary, they identify nearly the same social groups as poor. But there are differences in the risks of being poor or not poor. In this section we show and describe three types of poverty categories. Namely,

- poor in 1997
- at least one time poor during the investigated period (1992-1997)
- permanent (4 and more times) poor during the investigated period (1992-1997).

The main focus is on the first and last categories, the cross-sectional and permanent poor. Our analysis about temporary poverty is given in the next section.

One of the most dangerous processes in the last decade is the *enlargement and deepening of children's poverty risks*. We agree with the statement of the Florence research centre of UNICEF (1993, 1995) that children are among the great losers of systemic change in East Central Europe. This tendency was already noticed in the socialist period. It was in contrast to the early socialist time, where the elderly were the most disadvantageous cohorts in respect of poverty risks. (Table 3.1.) (see Andorka, 1990). This tendency could be observed in the highly developed industrialised countries (Rainwater, 1988; Smeeding, 1988; Smeeding, Torrey, 1988). The tendency, however, seems to have grown stronger after the 90s, during the transformation¹⁶. We know that the per capita income, used in Table 3.1. is not the best income concept to evaluate well-being and poverty, but we have no other data from the socialist time. And I think it is suitable for comparison, for understanding development, because if the equivalent income is used we get similar patterns. The poverty risks of children are two-three times as large as the general risks if the equivalent income concept is used (Table 3.1. column 2.) the picture does not change if we turn to the longitudinal poverty concept. Children's risks of being in long-term poverty are twice the average. There seem to be some chances of escaping poverty - children have the highest rate in temporary poverty, but we cannot be sure that children will automatically escape poverty if they grow up. Some of the families with children probably can escape from poverty, if the mother and/or the father get access to the labor market and gets a job after his/her children become older. (See Table 3.3., where with the age of youngest child the poverty risks fall.) But some other existing factors (unemployment, divorce, etc.) could hinder the 'rules of family cycles'.

Furthermore, there is a new phenomenon, namely that within the ageing and retired population a differentiation has occurred. We should deal with a stratified 'ageing society'. The differences among the elderly depend on the type of household, the kind of pension they have, their age, and the type of residence (see below).

¹⁶ We should mention that our data from the period before 90s is from Hungarian Central Statistical office, the data about the time of transformation are from the HHP.

The effects of the life cycle are heavily modified by the type of household, and the number of children within the household. Living alone, bringing up children alone, having three and more children increase the risk of becoming poor (Table 3.3.). Those whose poverty position depends heavily on life cycle and family types (Andorka, Spéder, 1996). we describe as *demographic poor*.

A brief explanation is required to understand why the proportion of the poor is smaller among the elderly, and particularly among those aged 60-69 (c.f. Milanovics, 1995.). The likely cause is that the majority of the elderly population have acquired the right to a relatively high pension, and though the real value of pensions has decreased, the income situation of the population in retirement age has deteriorated less than the national average. Furthermore, partly because the old-age population is being constantly replaced demographically, older people on smaller pension die and are replaced by younger ones with higher pension (the real value of whose pension will decrease in the coming years). At least the pensioners were not threatened by unemployment, the major risk factor of the active age group. However, it should be stressed that the fact that the proportion of the poor is not particularly high among the elderly does not mean that there are no groups among the elderly who live in abject poverty. These are widows and those on disability pension, people who have retired early during the past few years (Table 3.7.). The elderly living alone (in single member households) may also belong to this group. A large part of the latter are old widows in rural regions.

There are some factors well known from sociological studies which caused significant income disadvantages in the post-socialistic period as well as before and were therefore accompanied by a higher than average occurrence of poverty. That is why they are called '*traditional factors of poverty*'. Very low education makes it impossible to find a regular job, and was an underlying factor at the time of reduction of employment (Table 3.5.). This is the case with those belonging to the strata of unskilled workers and to that of the agricultural blue-collar workers. The social-geographical factors can also be seen as traditional factors. In smaller villages in East Hungary, there were always poorer living conditions. But, during the transformation the social-geographical factors, especially regional settlement, became an increasingly visible factor. In order to see this development I listed the 1992 cross-sectional poverty rates as well. The gap between East and West Hungary and Budapest deepened during the transformation (Table 3.6.). In 1992, in East Hungary the poverty risk was about two times higher as in West Hungary, in 1997 the multiplier was about seven or eight. The message of the longitudinal poverty figures is the same. Permanent poverty, and several times transitory poverty is concentrated on the north eastern part of the country. In the south-east the risk of being poor transitorily is average. Longitudinal poverty risks are very low in West Hungary and Budapest (Table 3.5.). Perhaps it is worth separating this kind of phenomenon, and call it '*social-geographic poverty*'. It is not our purpose to explain the processes behind these figures, but it seems to be very probable that the nature of the transformational de-industrialization and restructuring (closing of factories, shortage of new investment) and the inefficiency of the welfare state

programs may be partly responsible for it.

The phenomenon called '*new poverty*' by us has emerged in close relation to the sharp contraction of the labor market. The unemployed, the young who are 'seeking their first job' and the so-called 'inactive individuals' or 'adult dependents' are the most visible groups. As we see, the proportion of poor in these activity categories are the highest (Table 3.7.). We should keep in mind that not only the unemployed, but the other categories mentioned are strongly linked to the (reduction of the) labor market. The 'outflow-analysis' of the unemployed show that one-fourth of the unemployed in 1995 became inactive in 1996 (Nagy, Sík, 1997). However, the retired disabled, pensioners on widowhood pension, housewives could also be classified under this heading. Most of them, for whatever reason, could not finish their labor market career. In other words, all those who have no job producing regular income, or who do not enjoy a pension paid after a 'completed' career of more or less full employment (Table 3.7). The 'new poor' come from among the 'traditionally poor' (see later) to a large extent, because the risk of unemployment is much higher among them. As it is well known from other studies, the risk of becoming unemployed and being long-term unemployed is much higher than the average among people of low education, the unskilled workers and peasants, and among rural people (Table 3.5.). All this corroborates the commonly known fact that if somebody drops out of regular occupation it becomes one of the decisive factors of his life, causing poverty.

Last but not the least, there is *poverty of ethnic character* in today's Hungary.¹⁷ It was known earlier as well that a much larger than average part of the population of an estimated half a million people of Romany¹⁸ ethnicity is poor. However, the Hungarian Household Panel offers an opportunity for the first time to make comparisons between the income relations of the Romany and non-Romany population. The reason being that earlier there was no possibility of identifying the ethnic origin of people in the national surveys. Despite all the reservations concerning the identification the Romany group, the very fact that the 'overrepresentation' of the poor in the case of every poverty threshold is the highest among the Romany people, calls attention to the fact that they constitute the part of Hungarian society most endangered by poverty, and in all probability it is they who are the greatest losers of systemic change. It is clear too, that in the case of the Romany population, the already mentioned poverty risk factors are apparently cumulative (Table 3.5).

Besides summing up the structuring factors of poverty, I would like to underline a usually insufficiently stressed relationship. In our approach poverty is a household level category. Consequently, the poverty situation of the individuals heavily depends on the position of other household members. Depending on the situation, the household can counterbalance an individual's hardship as well as it can cumulate the disadvantages too.

¹⁷ In the HHP sample there are no homeless and people living in institutions. They could be seen as a fifth type of poor.

¹⁸ Ethnicity is defined by the interviewer.

The individual poverty position is the result of personal careers and their accumulation in the family.

Table 3.1 Proportion of the poor by age groups in 1972, 1987, 1992 and 1997

(lowest decile, per capita income)

Age groups	1972	1987	1992	1997
0-2	15.2	20.7	19.6	27.8
3-6	15.3	17.0	19.2	22.7
7-14	15.1	15.1	15.6	18.8
15-19	6.3	7.2	13.9	15.9
20-24	5.0	6.0	11.9	10.1
25-29	5.1	12.9	12.3	12.3
30-34	7.9	11.5	9.3	12.2
35-39	6.7	9.7	9.7	6.9
40-44	4.4	6.4	7.2	8.9
45-49	3.2	4.7	8.0	7.4
50-54	3.6	5.4	5.5	3.2
55-59	6.2	6.0	5.5	5.1
60-69	15.1	9.8	5.8	0.9
70-	27.9	11.7	4.1	1.4
Total	10.0	10.0	10.0	10.0

Source: CSO Income Studies, HHP first wave.

Table 3.2.

Cross-sectional and longitudinal poverty position of individuals between 1992 and 1997 by age groups in 1997

Age group in 1996	Poor in 1997 (per cent of the age group)	How many times poor between 1992 and 1997 (50% poverty threshold)				Total N= (100%)
		never	transitory once	Transitory more (2 and 3) times	Permanent (4, 5 and 6-times)	
- 2	33.7					
3 - 6	26.0	(61.6)	(14.8)	(13.0)	(10.5)	77
6-14	22.3	62.2	13.8	12.9	11.1	610
15-19	18.2	64.0	11.3	16.5	8.2	370
20-29	15.2	70.6	11.8	11.1	6.5	634
30-39	12.1	75.1	11.7	8.6	4.6	716
40-49	12.1	76.4	8.4	9.4	5.9	647
50-59	8.6	77.7	9.7	7.4	5.2	544
60-69	2.7	87.6	7.6	3.2	1.7	474
70-	4.3	77.5	10.2	7.8	4.5	425
Total (%)	13.3	73.6	10.7	9.6	6.1	100
N=	636	3310	482	431	274	4497

Table 3.3.**Cross-sectional and longitudinal poverty position of households between 1992 and 1997 by the number of children and age of the youngest child in 1997**

	Poor	How many times poor between 1992 and 1997 (50% poverty threshold)				Total
	in 1997 (percent of the age group)	never	transitory once	transitory more (2 and 3) times	permanent (4,5 and 6- times)	N= (100%)
<i>Number of children* in household</i>						
No children	4.9	79.8	9.2	7.4	3.6	1058
1 child	13.3	68.1	12.1	11.2	8.6	268
2 children	13.3	73.0	12.2	10.3	4.5	281
3 and more children	35.8	47.1	13.0	19.5	19.5	123
<i>Age of the youngest children*</i>						
No children	5.4	79.8	9.2	7.4	3.6	1058
- 3	30.8	59.6	12.0	14.6	13.8	147
4- 6	14.0	65.0	14.4	11.5	9.1	113
7- 9	19.3	66.3	18.0	9.6	6.1	128
10-12	11.1	71.8	8.0	13.7	6.5	101
13-16	12.2	74.9	7.7	8.2	9.2	124
Total (%)	10.1	75.1	10.3	8.9	5.7	100
N=	159	1255	172	149	95	1671

* child: aged under 16.

Table 3.4.**Cross-sectional and longitudinal poverty position of households between 1992 and 1997 by household size and family type in 1997**

	Poor	How many times poor between 1992 and 1997 (50% poverty threshold)				Total
	in 1997 (percent of the age group)	never	transitory once	transitory more (2 and 3) times	permanent (4,5 and 6- times)	N= (100%)
<i>Number of household members</i>						
1	4.9	73.6	9.7	11.0	5.7	327
2	7.0	80.8	10.3	5.2	3.8	463
3	9.6	74.1	11.6	9.8	4.5	312
4	12.6	77.4	9.6	6.9	6.1	339
5	18.4	65.4	10.8	19.0	4.8	145
6 and more	(28.3)	(61.4)	(10.4)	(8.6)	(19.6)	83
<i>Type of the family</i>						
One-person household	4.9	73.6	9.7	11.0	5.7	327
Couple	5.9	83.4	9.6	4.1	2.8	329
Single-parent family	18.7	60.5	16.8	10.9	11.8	139
Nuclear family	14.6	72.9	9.8	10.3	6.9	708
Three generations	2.8	(84.1)	(13.8)	(0)	(2.5)	58
Others	4.3	82.6	7.6	9.8	0	109
Total (%)	10.1	75.1	10.3	8.9	5.7	100
N=	159	1255	172	149	95	1671

Table 3.5.
Cross-sectional and longitudinal poverty position of individuals between 1992 and 1997 by education, ethnicity and gender

	Poor	How many times poor between 1992 and 1997 (50% poverty threshold)				Total
	in 1997 (per cent of the age group)	never	transitory once	transitory more (2 and 3) times	permanent (4,5 and 6- times)	N= (100%)
School education						
Less than 8 classes	14.7	65.4	8.3	9.4	17.0	472
Primary (8 classes)	15.3	68.8	11.7	13.4	6.2	1126
Apprentice school	10.2	73.6	12.3	10.3	3.7	872
Secondary school	5.0	84.8	10.2	4.6	0.4	852
University, college	0.4	96.7	2.8	0.4	0.1	377
Ethnicity						
Non-Romany	9.5	76.4	11.3	8.7	3.6	4257
Romany	(69.9)	(21.9)	(0)	(21.4)	(56.7)	233
Gender						
Male	13.9	73.6	10.8	9.1	6.5	2087
Female	12.8	73.6	10.6	10.0	5.8	2410
Total (%)	13.3	73.6	10.7	9.6	6.1	100
N=	636	3310	482	431	274	4457

Table 3.6.
Cross-sectional and longitudinal poverty position of individuals between 1992 and 1997 by type of residence and regions

	Poor		How many times poor between 1992 and 1997 (50% poverty threshold)				Total
	(per cent of the age group)		never	transitory once	transitory more (2 and 3) times	permanent (4,5 and 6- times)	N= (100%)
	1992	1997					
Type of residence							
Village	12.5	18.5	68.3	10.6	12.2	8.9	1796
Small town	7.1	13.9	76.1	10.8	6.6	6.5	1314
County seat	8.3	11.5	66.1	13.8	16.1	4.0	548
Budapest	6.1	2.0	85.9	8.9	4.4	0.7	839
Regions							
Budapest	6.1	2.0	85.9	8.9	4.4	0.7	839
North-west Hungary	7.4	3.0	85.7	8.4	5.9	0	576
South-west Hungary	8.5	7.0	82.7	9.2	5.7	2.4	682
Middle and South-east Hungary	7.1	12.2	76.5	10.4	7.2	5.9	682
North-east Hungary	14.3	24.7	58.1	13.2	16.1	12.6	1666
Total (%)	9.2	13.3	73.6	10.7	9.6	6.1	100
N=		636	3310	482	431	274	4497

Table 3.7.

Cross-sectional and longitudinal poverty position of individuals between 1992 and 1997 by the social strata and activity position of the adults in 1997

	Poor in 1997 (per cent of the age group)	How many times poor between 1992 and 1997 (50% poverty threshold)				Total N= (100%)
		never	transitory once	transitory more (2 and 3) times	permanent (4,5 and 6- times)	
Higher and medium manager	0.9	97.3	2.7	0	0	92
Professional	6	97.6	2.4	0	0	174
Clerical	5.0	82.4	12.9	4.0	0.7	243
Lower supervisor	0.7	88.4	9.7	1.9	0	96
Self-employed artisan, merchant	8.1	80.5	9.3	10.2	0	143
Skilled worker	5.1	81.3	8.1	8.6	2.0	414
Unskilled worker	11.0	74.4	12.1	10.2	3.3	367
Peasant, agricultural worker	10.4	(83.1)	(9.4)	(7.0)	(0)	66
Unemployed	34.7	47.2	13.6	20.6	18.7	154
Child care allowance and aid	34.2	55.4	15.1	16.7	12.5	139
Housework	(25.8)	(47.8)	(18.9)	(21.7)	(11.6)	55
Pensioner, working	(0)	(90.5)	(4.8)	(4.7)	(0)	65
Old age pensioner	2.4	86.1	8.9	4.1	0.9	892
Disability pensioner	14.9	67.6	12.0	9.6	11.4	281
Pensioner on widowhood allowance	15.4	(41.0)	(12.1)	(10.2)	(1.6)	98
Student (above 16)	9.2	75.7	12.6	10.2	1.6	342
Others	32.3	47.6	10.9	18.6	23.0	169

4. Behind temporary poverty: macro- and micro level processes

It should be admitted that while the identification of the permanently poor population - as far as possible - has been successful and in some sense satisfactory, the components of temporary poverty could not be described very precisely. It is mainly because permanent poverty is the result of stable, structural processes, but *temporary poverty is the outcome of accumulating several macro- and micro level changes*. As already mentioned above, some macro changes, namely growing overall income inequality, shifts in the employment structure between enterprise, employment, unemployment and inactivity explain *the shifts toward poverty, becoming poor*. Of course, these changes appear on the household level in different forms. It can be e.g. losing a job, getting higher/or lower raise in wages, getting career advancement, etc... But what can be the relevant explanatory factors of escaping poverty? In order to answer this question, we had to invent such types of explanatory variables which covered the individual or macro level changes in time. Our possibilities were quite limited, so our efforts concentrated in the following spheres of change: we have examined the effects of certain *life cycle events* on the one hand, and the consequences of different activity changes in the household with employing the *income component* methods on the other.

One can say that life cycle events are the results of individual decisions. It is true that

they are always private affairs, but the given behaviour is always dependent on the condition in society. It is especially so during the transformation (see. Zapf, Mau, 1996). And the demographic changes (divorce, child-birth, death, etc.) have consequences upon the given family.

Although not too many demographic events have occurred in our sample, we tried to construct some kind of variable with the purpose of understanding the material consequences of the above-mentioned events ¹⁹(Table 4.1). Changes in the constitution of the household (changes in the household size in both directions) have a clear impact on the welfare position of the family (Table 4.1.). Does it mean that *household instability* causes higher poverty risks? It seems to be yes. But we can go further behind the instability of the households. One of them is *marriage*. Its influence or consequences are not clear. It is clear that some poverty events are clustering around it. But we have had no possibility to analyze whether marriage is a 'means' as in the US by which a poor woman can escape from poverty (Durcan, 1984), or whether marriage causes poverty. If we take into consideration that the first child usually comes just after marriage, then possibly *not marriage, but the very close event of having a child is responsible for falling into poverty*. This assumption is supported by the fact that couples as household types have one of the lowest poverty risks (see Table 3 bb). As we saw before, childbirth is clearly an event of higher poverty risk of the family. And, of course, it is the very case if the child is the third, fourth, etc. On the other hand, if the children are old enough to begin to work, and there are enough opportunities of getting a job, then the family can escape from poverty.

Dissolution of the household, namely divorce and becoming widowed, increase the probability of impoverishment too. The first type of family event rather implies temporary poverty, while the latter brings permanent poverty (Table 4.1). Among those who *divorced*, the rate of temporary poverty is higher than among those who remained married. Among those divorced after 1992 there is quite a high proportion of once poor. Concerning widowhood, it can be assumed that the loss of partner, especially of those living not far from the poverty line cause deep poverty event(s). It depends probably on the partner's other resources (education, skills, etc.), and on the opportunities at hand whether the result will be 'only' temporary poverty or long-term, permanent poverty.

We know it would be better to analyze the impact of *widowhood* using multivariate methods, but we have - as by marriage - only very few cases. But perhaps we can formulate a hypothesis about it. We see that the overall poverty rates of the widowed are not much higher than the other categories. In each category, there are about 75 per cent of the never poor. What we see is that in the category 'widowed after 1992' - those who became widowed during the investigated period - the proportion of more times, and permanent poverty is

¹⁹ We used only the first five waves of the HHP, because we questioned extensively the demographic life cycle events in the fifth wave. Concerning this question we have lost more of the high no responses, than we could win from the new data in the sixth wave.

higher. This indicates that one reason for the shift between transitory and permanent poverty can be this life cycle event. In other words: for those living near the poverty line, being affected with transitory poverty, the loss of the husband/partner leads to permanent poverty.

Elsewhere we have already argued that the *change of the status of economic activity*, even if delayed, foreshadows slipping into, as well as escaping from poverty (Andorka, Spéder, 1994. Habich, Spéder, 1998). Taking into consideration the fourth and the fifth waves of our survey (1995, 1996)²⁰ we analyzed the income component effect of the four poverty situations:

1. never poor, namely not poor in 1995 and 1996 (82.8 per cent of the population);
2. falling into poverty, namely not poor in 1995 but poor in 1996 (7.9 per cent of the population)
3. escaping poverty, namely poor in 1995, no longer poor in 1996 (3.6 per cent of the population)
4. both years poor (7.9 per cent of the population)

Our procedure is the following: We decompose the incomes in the above-mentioned four population groups in 1995 as well in 1996. We hope that with the comparison of the proportion of the different income types in both years we will have an insight into the factors resulting in poverty stability and mobility. For our purpose we have differentiated among five types of income²¹, namely

- a. earnings (main job only);
- b. social insurance benefits;
- c. public social transfers;
- d. income from odd/informal, etc. jobs and
- e. joint income of the household.

Now let us see the distribution of the decomposed income of the four social groups.

In the poverty categories examined, the income component effects were in accordance with the expected results. During the investigated two years there was a big *difference* concerning the *income structure* of the group whose members were never poor, and the group of the poor in both years (Table 4.2.). Among the non-poor, the most important income types are the salary/wage and benefit(s) from Social Security, while among the 'permanent' poor (poor in both years) the incomes are from Social Security benefits and social assistance. There is also a difference between both groups concerning the importance of secondary incomes: in case of non-poor households, this sum constitutes a significant part of the total income. But there is -and it is very important regarding the poverty mobility

²⁰ Here we repeat somewhat extensively our analysis as in Andorka, Spéder, 1997., Spéder, 1998. using the same tables.

²¹ About the different income types see Tóth, *et al.*, 1994.

pattern - a *common* characteristic too. There was *only very little change regarding the income composition* of both the above-mentioned groups

Now let us see those whose position has been *changed* in the given period (1995, 1996). We have found considerable *restructuring in the income composition* of the two groups. In the group of 'escapees', the proportion of salary/wage and the joint income of the household members (e.g. incomes from small-scale production) increased. At the same time, the proportion of Social Security incomes and social benefits decreased. Among those who slipped into poverty, it happened the other way round.

In order to offer a clearer explanation of mobility, we have analyzed the rise of mean income of the different income types and poverty categories also (Table 4.3.). Among those escaping poverty the amount of social insurance benefits and social assistance did not decrease. On the other hand, they have experienced a really vague rise in earnings, and joint income of the household. With further analysis, we could find out that the rise in earnings is the result *both of increasing individual earnings, and the larger number of earners in the household* (positive change in economic activity career). Regarding the 'slippers', we see that social benefits and public assistance could not counterbalance the fall of earnings and joint household income.

It is important to stress further the *interrelation of individuals and households*. Above we have seen that both income rise and an additional earner position are important for escaping poverty. So the grouping of different individual efforts on the household level is decisive for the understanding of economic well-being. But this is the fact that makes it very hard to decompose the different factors. Because it is not enough to capture an individual event or change, we should take into consideration other types of individual changes in the household, the kind of 'aggregation' of these changes on household level and in the household context also as the individual welfare position, and so the poverty position is a household level variable. This complexity led us to construct three very simple household types of economic activity pattern: number of earners, number of unemployed²², and a variable made from the two former ones. The number of the unemployed and employed household- members is important (Table 4.4.). Firstly, the more unemployed, the higher the risk is of being poor and permanently poor. Secondly, the more earners, the lower the risks are of being poor, and permanently poor. Thirdly, the presence of earners can soften the negative effects of individual fate, and vice versa (Table 4.4.). This is not enough to understand mobility, because the above-mentioned household level variables are characteristic for the last year of our investigation only. The suitable explanatory variables should incorporate all possible changes in the above-mentioned variables, not speaking about other types of characteristics. That is why it was so hard to isolate the effects of different life

²² Here we used a broadened understanding of unemployment. Besides the declared unemployed we have put the job seeker inactive adults and housewives into the unemployed category.

cycle events. And all that makes it complex to analyze the poverty mobility pattern.

So our concluding remarks cannot be seen as statements summing up our findings. They are only some insights. We can corroborate that life cycle effects (birth, marriage, divorce, death) deeply affect one's economic well-being. And that is also the case with the changes in the economic activity pattern of the households. We can assume that mainly wages (wage rise *and/or* new earners) and joint incomes of the household members (small-scale production) are responsible for the dynamics of poverty. Social assistance and social security benefits stabilize, but could not counterbalance the reduction of labor income.

Table 4.1.

Longitudinal poverty position between 1992 and 1996 by the different household characteristics in 1996

	How many times poor between 1992 and 1996 (50% poverty threshold)				
	never	transitory once	Transitory (2 and 3 times)	permanent (4 and 5-times)	
Change in the household size between 1992 and 1996					
Decrease	70.3	15.6	9.9	4.3	470
No change	79.2	10.9	7.2	2.8	1096
Increase	65.8	17.1	9.7	7.4	135
Date of marriage					
No marriage	73.6	14.2	8.1	3.6	634
Marriage before 1992	76.6	12.7	7.2	3.5	2518
Marriage after 1992	70.4	16.5	9.9	3.1	127
Date of divorce					
Never married	73.6	14.6	8.1	3.6	634
Married never divorced	77.1	12.5	6.9	3.4	2191
Divorced before 1992	72.8	13.9	9.4	4.0	382
Divorced after 1992	(70.0)	(17.9)	(9.6)	(1.8)	72
Widowhood					
Never married	73.6	14.6	8.1	3.6	634
Not widowed after 1992	76.4	13.0	7.3	3.3	2517
Widowed after 1992	75.5	9.6	8.4	6.5	128
Total	75.8	13.2	7.7	3.5	100

Table 4.2. Income composition in 1995 and 1996 of groups living in different poverty situation *

Types of income	Income distribution in 1995 and 1996 of groups living in different poverty situations in two years							
	never poor		poor 1995, not poor in 1996		not poor in 1995, poor in 1996		Poor in both year	
	1995	1996	1995	1996	1995	1996	1995	1996
Earnings	52.3	52.0	27.1	34.6	47.5	34.8	15.5	17.1
Social insurance benefits	23.5	25.2	43.9	34.7	18.4	29.3	42.8	43.7
Public social transfers	6.1	6.0	20.7	14.9	18.4	30.7	33.0	33.2
Odd/informal jobs, etc.**	5.2	4.6	3.2	2.6	2.3	1.2	1.9	0.5
Joint income of the HH***	7.1	6.0	3.6	10.8	9.2	3.5	5.7	4.6
Others	5.8	6.2	1.5	2.4	4.2	0.5	1.1	0.9
Total (%)	100	100	100	100	100	100	100	100
(in Forint)	255583.-	294650.-	101907.-	166109.-	165941.-	112752.-	88334.-	94642.-

* Yearly equivalent income.

** Secondary jobs: all types of secondary incomes, not small-scale production.

*** Household incomes: mainly agricultural small-scale production.

Table 4.3. Percentage change of the different income types in the four poverty positions concerning the years 1994 and 1995 *

Income distribution in 1995 and 1996 of groups living in different poverty situations in two years				
	never poor	poor 1995, not poor in 1996	not poor in 1995, poor in 1996	poor in both years
Earnings	113	227	47	117
Social insurance benefit	122	139	101	107
Public social assistance	111	127	107	107
Household's joint income	92	536	24	86
Total income	114	176	64	106

* Average equivalent income of 1996 in percentage of the 1995 income.

Table 4.4. Cross-sectional and longitudinal poverty position of households between 1992 and 1997 by different household activity profile in 1997

Activity profile of the households in 1997	Poor in 1997 (percent of the age group)	How many times poor between 1992 and 1997 (50% poverty threshold)				Total N= (100%)
		never	transitory once	transitory more (2 and 3) times	permanent (4,5 and 6-times)	
No of earners in the HH						
No earner	14.0	66.5	11.9	11.4	10.2	706
1 earner	10.3	76.8	11.5	8.4	3.2	483
2+ earners	3.8	86.4	7.3	5.2	1.0	478
The number of unemployed						
No unemployed	6.4	78.8	10.0	7.2	4.0	1449
1 unemployed	34.7	57.4	14.9	15.4	12.3	184
2 unemployed	(53.9)	(23.7)	(5.9)	(35.5)	(34.8)	35
Earners and unemployed						
No earner & no unemployed	7.0	73.0	11.2	8.8	7.0	644
1 earner & no unemployed	8.8	77.9	11.3	7.3	3.5	398
2+ earners & no unemployed	3.3	87.2	7.3	5.0	0.5	449
No earner & 1 unemployed	50.4	37.8	18.2	21.6	22.3	88
No earner & 2 unemployed	(62.7)	(9.6)	(7.7)	(37.3)	(45.4)	27
1 earner & 1 unemployed	(17.8)	(71.3)	(12.7)	(14.0)	(2.1)	79
2+ earners & 1+ unemployed	(12.1)	(78.5)	(7.3)	(5.5)	(8.7)	23
Total (%)	10.1	75.3	10.5	8.7	5.6	100
N=	173	1255	175	145	93	1668

5. The living conditions of the poor

What does it mean to be poor in daily life? How far does limited income influence daily existence? Does the very disadvantageous, and permanent disadvantageous income position appear in the living conditions of families and if yes, how? Should we believe in statements saying that the income position does not properly measure the welfare position and living conditions of individuals and families and for all this it would be recommended

to measure adverse situations and poverty by a 'deprivation index'? In other words, those who have living conditions far lagging behind the average should be considered poor, as the living conditions are more lasting characteristics of the welfare situation than 'volatile' income.

We are in quest of an answer to such kinds of questions when some components of the living conditions of the poor are studied within the possibilities offered by the data base of the MHP. This way we wish to give an answer to the above questions and to make the 'consequences' of poverty more tangible. (Naturally, we are aware that the direction of the relationship between the factors studied and poverty is not always the same). Last but not least, we get feedback from yet another field concerning the 'goodness' of our concept of poverty based on the relative income position.

During the course of the study of living conditions, mental health and satisfaction the latter ones are to be analyzed in the next part - we would compare the characteristics of three income groups, such as:

1. *poor in 1997*²³ (living below fifty per cent of average income)
2. *permanent poor* (poor four, five, or six times between 1992 and 1997);²⁴
3. those belonging to the uppermost quintile.

Finally, data concerning the entire population are also given as reference in the table. In addition the distribution of the categories of the longitudinal poverty variable is separately given. Here we wish to call attention to the fact that during the course of our study we always analyse living conditions of 1997. Thus changes, if any, during the period under survey, are not considered.

We have attempted to grasp *living conditions* by the conditions of housing and the equipment of households. To this the commonly known and often used indices of 'shortage' were applied.²⁵ Our indices 'measuring' housing conditions show what proportion of those belonging to the income category under consideration have no water supply by pipeline, WC, and a functioning bathroom inside the flat. In our view, all the three indices can be regarded as basic and we are of the opinion that a large majority of people would consider the three indices of the quality of housing mentioned above, as indispensable to a conduct of life acceptable as a minimum. We may not be far from the

²³ Subsequently, they will be called at times 'currently' poor, or poor by 'cross-section'.

²⁴ Naturally, the first and second groups may overlap.

²⁵ The majority of these indices were elaborated by Rudolf Andorka, and these indicators figured in the outline planned to be written on stratification during the course of the current research. (Andorka, without date). Clearly, many other criteria could have been used, but - just as in the case of many other surveys - we had to work on whatever was available.

truth if we assume that people whose home does not have the above characteristics, can be considered as 'miserable' in the Hungary of the 90s in respect of housing. In addition to the characteristics of 'deprivation' defined by us, we have also taken into consideration whether the flat had "some other feature, making life difficult and causing trouble". People answering to this question stressed features like *fusty, damp, mouldy, dark, noisy*, etc. It should be noted that these assessments do not only reflect the objective conditions but also the subjective perception of the housing situation. The fact that the flat is noisy, or dark, is learned through the 'eyes', the system of assessment of the people concerned. Yet irrespective of all this it is definitely worth studying whether the flats have these negative features.

Differences between people belonging to the individual income positions (poor, permanent poor, and belonging to the upper quintile) are conspicuous in the case of every indicator (Table 5.1.). The homes of the permanent poor have more than ten times more of the above mentioned features of housing deprivation, than the homes of people in the upper quintile. It is obvious that people in the upper income position have better living conditions, and it is just as important to state that the permanent poor have been living under far more 'miserable' conditions than those who were poor in 1997. If we compare them to the average characterizing the entire population, then the multiplier would be 3.5-4. In other words, those who are permanent poor have no water supply by pipe in their home 4.1 times more often than of the entire population. Namely: while only a little more than one-tenth of the entire population have no water tap in their home, half of the permanent poor have no running water indoors. If the 'currently poor' of 1997 are compared to the permanent poor, one may find significant differences: the housing conditions of the permanent poor are significantly worse in respect of every objective indicator. The currently poor lag behind the entire population 2-3 times. If two groups of the temporarily poor (poor once and several times) are studied, it may be stated that their housing conditions are better than those of the poor in 1997 and are only a little worse than the average characterizing the population (Table 5.2.). The housing conditions of those who have been poor only for a short time, or who have been able to emerge from poverty, may be considered as average. Whereas the distribution of poor once and several times (twice, or thrice) is very similar. All this corroborates our considering those people permanent poor who are poor four, or more times.

A somewhat different picture is received if housing conditions are studied by criteria containing subjective elements as well (Table 6.1.). Though in this case also it is the permanent poor who are in the worst situation, their lagging behind compared to the average, or to the currently poor, is not so important. And the situation of the temporarily poor is not worse at all than that of the average. As it was mentioned above, one should keep in mind in the case of these variables that the demands and norms do influence our considering a flat dark or noisy. At the same time, it should also be known that people concerned cannot change these characteristics as phenomena depending upon the objective environment have to be faced. The characteristics of homes mentioned earlier may be

solved more or less by one's own efforts. In other words, the income resources of households offer less likelihood of solution of the unpleasant housing conditions.

The indicators measuring the *equipment of households* can be regarded less as indices of deprivation. Few would agree with the statement that if someone has no colour television set, then he/she may be qualified as poor. We attribute a different content to the indicators measuring the equipment of households. We are of the view that some of them are linked to wealth, others to a certain kind of lifestyle, and yet others to social standards. One may study how far the poor are 'excluded' from the lifestyle, way of life of the well-to-do and those of a middle position, socially considered 'adequate and expected'. Among others this is why it is also important to consider those in the upper quintile and not only the entire population as a reference group. Two indicators - sewing machine, freezer - are used as characteristics of a self-reliant life. The colour television set and the ownership of a car are used to measure social 'standard', and another indicator - possession of a PC - is used to mark participation in modern life.

Looking at our data one may easily draw the conclusion that the poor are being squeezed out of the way of life where the instruments of modern world are present and which allow for participation in daily life (colour TV, and a passenger car partly belongs to this category too), and they also lag behind the average in respect of possessing means promoting activities of self-reliance. Thus, their possibilities are more limited than the average for self-reliant, self-service adjustment (Table 5.3.). And they are totally excluded from the use of the latest goods of modernization (PC). It is difficult to say where the deeper gaps run between the various income groups. It is clear that those who belong to the highest income category, are eminently well equipped, but only about half of these families have e.g. a sewing machine. Nevertheless, the deepest gap is still assumed to run between the poor and the well-to-do, and the difference is somewhat smaller, but still identifiable between those who were poor in 1997 and those who are permanent poor (Table 5.3.). Thus, it can be stated that in respect of the equipment of households the relationship is similar to that found in respect of the conditions of housing, but the differences are slightly smaller. As far as the positions of longitudinal poverty are concerned, the most unambiguous borderline runs between the permanent and the temporarily poor (Table 5.4.). Even if there is some difference between those who are once poor and who are twice, or three times poor among the temporarily poor, it is rather insignificant. We would rather stress the similarities between the two categories. Clearly those who have never been poor are much better equipped than any of the categories of the poor.

Summing up it can be stated that a clear border line can be drawn partly between the permanent poor and the temporarily poor, and also between the permanent poor and the 'currently' poor in respect of living conditions (housing, supply of consumer durables). There is a strong relationship between poverty of income and the indicators of deprivation, and the closeness of this relationship is all the more obvious the longer the period studied

and the more precisely it can be defined who may be regarded permanent poor. In other words, lasting poverty is accompanied by rather disadvantageous living conditions.

Table 5.1. What percentage of households belonging to the different income positions did not have the listed indicators of housing quality in 1997?

	Poor in 1997	Income positions Permanent poor*	Upper quintile	Entire population
No water supply in the home	33.9	48.2	4.1	11.6
No WC in the home	43.2	63.5	3.6	20.2
No bathroom in the home	37.2	48.9	4.3	14.9
Trouble in the home	35.5	52.7	22.5	25.
Several kinds of trouble in the home	8.9	19.7	3.8	6.5

* Poor more than 3 times between 1992-7.

Table 5.2. What percentage of the flats of households belonging to the various groups of longitudinal poor did not have the listed indicators of housing quality in 1997?

	Never was poor	Income positions Temporarily poor (once)	Several times poor (2,3 times)	Permanent poor (4+times)	Entire population
No water supply in the home	8.2	16.9	16.4	48.2	12.0
No WC in the home	15.8	24.5	28.7	63.5	20.6
No bathroom in the home	10.7	17.6	25.6	48.9	15.1
Trouble in the home	23.3	23.8	23.6	52.7	25.0
Several kinds of trouble in the home	5.1	8.5	5.6	19.7	6.3

Table 5.3. What percentage of households belonging to the various income positions did not have the following consumer durables in 1997?

	Poor in 1997	Income position Permanent poor	Upper quintile	Total population
No sewing machine	79.5	95.3	52.2	65.7
No freezer	64.1	82.5	22.5	37.3
No car	77.8	94.2	34.4	64.1
No colour TV	49.2	69.3	1.7	22.7
No PC	96.6	100.0	74.2	88.3

* Poor more than 3 times between 1992-7

Table 5.4. What percentage of households belonging to the various groups of longitudinal poor did not have the following consumer durables in 1997?

	Income position				Total population
	Never was poor	Temporarily poor (once)	Several times poor (2,3-times)	Permanent poor (4+times)	
No sewing machine	61.1	65.3	72.5	95.3	64.4
No freezer	30.0	46.6	51.0	84.5	36.5
No car	56.7	74.2	79.0	94.2	62.6
No colour TV	16.0	19.7	34.4	69.3	22.0
No PC	84.3	92.2	96.4	100.0	87.0

6. Invisible resources and consequences: psychological state as reflected by the material conditions

Would differences of income, poverty status and of the objective environment appear also in the field of the psychological state? We have good reason to assume that those living under worse conditions are also in a disadvantageous position in respect of mental resources as they have to secure their daily life under conditions more difficult than the average. At the same time it is not rare to come across such views that the well-to-do live in constant stress, they are lonely, etc. Several empirical analyses are known about the relationship between the financial situation and the mental condition (e.g. Kopp et al., 1996), but such works are rather rare which try to find an interrelationship between the financial situation characteristic of an entire given period of time and the components of the psychological condition.²⁶ Our paper is about longitudinal poverty, therefore this Chapter will precisely discuss the latter consideration. In other words, we would study the relationship between lasting and transitory situations and some components of the mental state. The cross-section variables, used in Chapter 5, would continue to figure as references.

This time we are not going to discuss the theoretical approaches to mental state, anomie, and alienation, or the possible operationalizations. In this respect, we rely on the works of Rudolf Andorka and the authors Kopp and Skrabski (Andorka 1993, 1996; Kopp, Skrabski 1992, Kopp et al. 1996). It is commonly known that the issues of anomie and of psychological problems are strongly related to each other, yet it is worth separating them. Actually our questions measuring problems of the mental state try to assess such symptoms which suggest health problems without an organic base (Kopp et al. 1996). In other words, it measures the *mental state of readiness* of the individual by methods applied elsewhere. In the case of *anomie* and *alienation* stress is laid on certain aspects of the relationship between the individual and society. Finally, we would also study the group characteristics of *satisfaction*, that is those of happiness and unhappiness.

²⁶ In this respect the work by Duncan 1984 is an exception.

Rudolf Andorka differentiated five dimensions of anomie and alienation when analyzing data of the MHP. Statements used at the operationalization of the dimensions are the following (Andorka 1993: 102):

ANOMIE	- violation of rules - unable to find one's way
ANARCHY	- I realise what I've decided to do - my future depends on me - I do not influence my destiny - I cannot mitigate my problems
MEANINGFULNESS OF LIFE	- I trust my future - I don't find happiness in my work
LONELINESS	- I'm lonely
NEGATIVE SELF-ASSESSMENT	- I'm helpless - I'm unable to solve my problems

(Attention is called to the fact that due to the wording of statements it is not always agreement which represents 'anomic answer', and that we have characterized one dimension only by one variable during the course of concrete analysis.)

During the course of our analysis we continue the order followed in Chapter 1. At first, we compare the distribution of the poor by cross-section, the permanent poor and those of people belonging to the upper quintile with the distribution of the entire sample. Next - provided meaningful characteristics are found - the characteristics of the temporarily and permanent poor are compared. Turning to concrete analysis, it can be stated that almost all the symptoms of psychological problems (depression) are far more widespread among the poor than the average, be they either 'currently', or permanent poor (Table 6.1.) 'Frequent headache', and 'frequent strong palpitation' are the exceptions which are more widespread among the permanent poor than the average. It is worth stressing a few components separately too: The poor are more than twice as frequently likely to 'worry about fears' than the entire population. Though a large part of the Hungarian population - almost half of it - feel that they are not lucky, this proportion would go up to 67 per cent in the case of the currently, and 75 per cent in the case of the permanent poor (Table 6.1.). If we focus our attention to the two types of poverty it can be stated that the group of the permanent poor is in a much worse position than the currently poor. The only exception is the symptom of 'anxiety' mentioned above, where the proportion is around 35 per cent in both categories of poverty. The upper quintile is not particularly analyzed here, it should only be noted that those in the upper income position possess a far better than the average psychological 'resource household', as the symptoms mentioned here are much below the average in each case. When studying the various values of the longitudinal poverty variable what is most conspicuous is that there is no essential difference between the two

types of the temporarily poor - poor once and poor several times - in respect of the symptoms of psychological problems (Table 6.2.). Though in the groups of the temporarily poor there are relatively few of the 'currently' poor in 1997, but the occurrence of symptoms measuring their psychological state closely resembles the distribution of the poor in 1997 (column 1 of Table 6.1, columns 2 and 3 of Table 6.2). It is inferred from this fact that the psychological state of individuals who have experienced poverty for shorter or longer periods of time is 'regenerated' only with difficulty, they 'carry' the burden of their emergency situations of income for a long time.

One may find similar interrelationships in the case of the majority of the indicators of *anomie*, yet their analysis should begin with an exception. The breaking of norms becoming a norm ("Whoever wants to achieve something in life is forced to violate certain rules.") is unambiguously considered realistic by every member of the society - the poor just as well as those of the uppermost income position (Table 6.3.). Almost half of the population fully agrees with this statement, and a further one-tenth would 'partly' agree with it (Table 6.2.). At the same time it is interesting that the unintelligible or unclarified nature of rules - "I can hardly find my way in matters of life" - is decisively sensed by the poor. It may suggest that the statement of the well-to-do, agreeing with the violation of norms, is more likely to be linked to the knowledge of the nature of the 'violation of the rule' than that of the poor. (With this nothing was said about who would commit a violation of norms more often.) Looking at the further dimensions of *anomie* one always finds a greater proportion of agreement with the listed features of *anomie* among the poor. The difference between the currently poor and the permanent poor is decisively manifest in that the permanent poor sense certain symptoms of *anomie* and alienation a little more unambiguously, though the differences are not so big than the ones we have seen in the case of the psychological condition. Considering the two groups of the temporarily poor one can again stress the similarity between the two groups and the poor of 1997.

Finally, it is studied how far *satisfaction* with certain areas of life differs among the various income positions. It is known that satisfaction is strongly linked to the objective conditions of life, but it is also known that the habit of the individual, his/her attitudes and psychological state influence it as well (Habich, Zapf, 1996). As the study of living conditions and the psychological state has shown that the poor, and particularly the permanent poor, are in a worse situation than the average, clearly it is expected to find many more dissatisfied among them. And our expectations are reflected by the answers given to questions related to satisfaction (Table 6.5.). The poor are more dissatisfied in every field of life than the average citizen, not speaking about those who are well-to-do. Further on, the permanent poor are more dissatisfied in every field than the poor in 1997. Almost all the poor - and this calls attention to the forcefulness of the objective factors - are dissatisfied with their income position (Table 6.5.). Dissatisfaction with living standards is also much above the average in both categories of the poor.²⁷ Another

²⁷ They can be interpreted also as a kind of justification of the concept of poverty by income.

characteristic area of dissatisfaction is related to the economic condition of the country. However, this dissatisfaction is not linked to income position, and may be regarded as a generally widespread one. Dissatisfaction with the past and the future - more exactly "with the changes of one's life" and "with future perspectives" may be mostly linked to the longitudinal poverty variable (Table 6.6.). The close relationship is not surprising, as our longitudinal poverty variable describes the welfare career of individuals between 1992 and 1996. The more someone has been poor the less he or she is satisfied with changes of life so far experienced. Dissatisfaction with housing and residential environment is also higher among the poor (Table 6.5.). It is not surprising either as the poor have much less favourable housing conditions.

After having studied some components of the psychological condition it can be stated that a disadvantageous financial condition 'shows itself' in people's psychological condition as well. The poor, and particularly the permanent poor, are much more characterized by certain symptoms of psychological depression and phenomena of anornie are more widespread among them. Finally, the financial situation and psychological problems - through all kinds of processes of 'comparison' and 'assessment' - make the individuals dissatisfied and unhappy. Methodologically it is interesting, but it is considered to be a result to be further studied, that there is a rather strong relationship between the objective situation (situation of poverty) and the subjective components of welfare.²⁸

Table 6.1. What percentage of people in different positions of income has sensed some symptoms of psychological problems in 1997 in Hungary?

	Poor in 1997	Income position Permanent poor between 1992-7	Upper quintile	Total population
Often exhausted, in low spirits	64.9	70.7	36.5	51.4
Frequent strong palpitation	28.1	38.3	15.3	26.1
Constantly excited, anxious	34.8	45.5	13.4	22.3
Frequently trembles	21.1	26.2	7.0	15.2
Feels not being lucky	67.1	75.3	28.3	47.6
Worries a lot for one's health	36.9	49.5	19.9	33.2
Gets mixed up if several activities are to be done simultaneously	31.0	40.4	14.7	22.5
Frequent strong headache	24.6	38.1	17.8	25.5
Cannot get rid of fears and worries	34.0	35.0	7.5	14.2

* Poor more than 3 times between 1992-7.

²⁸ It is to be further studied whether all this would characterize only those in the worst and best position, or whether it is a generally widespread relationship.

Table 6.2. Distribution of the never poor, the temporarily and permanent poor by what percentage of them has sensed some symptoms of psychological problems in 1997 in Hungary.

	Never poor	Income position			Total population
		Temporarily poor (once)	Several times poor (2,3-times)	Permanent poor (4+times)	
Often exhausted, in low spirits	47.4	60.9	57.5	70.7	50.8
Often strong palpitation	23.2	31.3	30.9	38.3	25.4
Constantly excited, anxious	19.2	23.0	25.2	45.5	21.4
Frequently trembles	13.3	21.1	17.8	26.2	15.1
Feels not being lucky	43.2	50.3	50.5	75.3	46.1
Worries a lot for one's health	30.9	35.2	34.1	49.5	32.5
Gets mixed up if several activities are to be done simultaneously	19.5	26.6	26.2	40.4	21.8
Frequent strong headache	23.6	26.6	25.0	38.1	24.7
Cannot get rid of fears and worries	12.4	17.8	15.5	35.0	14.3

Table 6.3. What percentage of people in different income positions agreed entirely or partly with the following statements in 1997 in Hungary?

		Income position			Total population
		Poor in 1997	Permanent poor	Upper quintile	
Whoever wants to achieve something, is forced to violate certain rules	Entirely true	46.9	46.4	46.8	43.7
Whatever I decide, I shall realize	Partly true	37.3	35.2	36.3	38.8
Nowadays I can hardly find my way in matters of life	Entirely true	27.3	20.4	33.5	30.1
I often feel Lonely	Partly true	45.5	47.8	60.4	56.5
I am helpless often even in important issues	Entirely true	25.5	36.3	7.7	17.4
	Partly true	39.2	40.0	26.2	34.0
	Entirely true	10.5	20.5	3.9	9.0
	Partly true	20.5	19.1	9.5	13.3
	Entirely true	18.3	21.1	4.5	9.9
	Partly true	38.9	42.5	24.5	32.8

* Poor more than three times between 1992-7.

Table 6.4. Distribution of never poor, temporarily and permanent poor by the percentage of those who agreed fully, or partly with the following statements in 1997 in Hungary

Agreement in 1997		Income position				Total population
		Never poor	Temporary poor (once)	Several times poor (2,3-times)	Permanent poor (4+times)	
Whoever wants to achieve something, is forced to violate certain rules	Entirely true	43.4	43.9	40.0	46.4	43.3
Whatever I decide, I shall realise	Partly true	39.4	32.5	42.6	35.2	38.7
Nowadays I can hardly find my way in the matters of life	Entirely true	31.4	27.7	30.3	20.4	30.4
I often feel Lonely	Partly true	58.7	53.6	49.5	47.8	56.8
I am helpless often even in important issues	Entirely true	14.6	20.2	31.8	36.3	16.8
	Partly true	32.8	35.2	22.0	40.0	33.3
	Entirely true	7.7	11.6	9.8	20.5	8.9
	Partly true	12.0	14.8	16.7	19.1	13.1
	Entirely true	8.0	14.1	12.3	21.1	9.6
	Partly true	30.8	35.8	34.5	42.5	32.2

Table 6.5. What percentage of people in different income position was dissatisfied with certain fields of life in 1997 in Hungary?

Dissatisfied in 1997 ...	Poor in 1997	Income position		Total population
		Permanent poor	Upper quintile	
... with the changes of one's life	38.1	53.0	7.0	16.2
... one's living standards	59.6	70.6	17.0	35.0
... income	83.8	90.9	35.5	57.9
... with one's future perspectives	55.9	63.6	16.7	32.8
... with one's work	x	x	7.5	9.8
... with one's home	36.0	44.1	8.0	13.1
... with the home's environment	30.8	34.8	10.1	15.2
... with one's health	31.8	41.9	13.2	25.4
... with the citizens' involvement in political decision-making	47.1	48.1	38.6	42.1
... with the economic situation of the country	71.6	72.2	67.3	72.1

* Poor more than 3 times between 1992-7.

Table 6.6. Distribution of the never poor, temporarily and permanent poor by their percentage of being dissatisfied with certain fields of life in 1997 in Hungary.

	Never poor	Income position			Total population
		Temporary poor (once)	Several times poor (2,3-times)	Permanent poor (4+times)	
... with the changes of one's life	12.3	17.2	26.7	53.0	16.0
...one's living standards	28.6	36.9	41.8	70.6	32.7
... income	53.4	63.9	76.8	90.9	57.9
...with one's future perspectives	27.7	35.2	46.1	63.6	31.8
... with one's home	9.8	14.1	19.3	44.1	12.7
... with the home's environment	13.7	16.9	19.5	34.8	15.5
... with one's health	23.3	28.7	26.1	41.9	25.0
... with the citizens' involvement in political decision-making	41.8	47.5	39.6	48.1	42.4
... with the economic situation of the country	71.9	74.0	72.1	72.2	72.1

7. Summary

In our paper we have studied the characteristics of poverty during the period of transformation from several angles. It was found that the extent and the speed of the growth of poverty depended on what concept of poverty is used; however, poverty was growing by any concept during the period under survey. It was found that even in the period of growing poverty there were some who could emerge from their adverse situation. After having introduced time into the analysis of poverty, it could be stated that the poor may be classified as permanent and temporarily poor. A three-year period was used to separate permanent poor from the temporarily poor. A person is permanent and hopelessly poor whose income was three times less than the poverty line of the day during the period under survey. The validity of the borderline was also justified by the analysis of the social characteristics of the poor and by the study of their living conditions. Lasting poverty may be traced back to demographic, educational, labour market, regional and ethnic reasons. Individual events of life (child birth, divorce, widowhood) and the successes (finds a job, gets promotion, successful enterprise, etc.) and failures (becomes unemployed) in the world of work are behind transitory poverty. These individual events would ultimately 'exert their influence' in the family context. In other words, family context may amplify as well as mitigate personal consequences. Finally, it can be stated that a relatively disadvantageous situation, particularly if it is a lasting one in time, is accompanied by adverse living conditions, symptoms of depression more frequent than the average and by general dissatisfaction. Disadvantageous income and lasting poverty make it impossible for people concerned to have access to a minimum level of living standards and basic equipment of their homes, indispensable to an accepted way of life. It should also be noted that the temporarily poor only lag a little behind the average in respect of the objective conditions of life, whereas as far as their psychological condition is concerned they are in a rather disadvantageous position if compared to the average. Their psychological condition and resources resemble much more those of the currently poor. Thus experiencing poverty gets imprinted in the soul of people, and as data show, it is more difficult to get rid of this knowledge than of the conditions of their disadvantageous situation.

Appendices

All of the data are taken from the series of surveys entitled Hungarian Household Panel (Tóth, 1995), with the exception of the macro-statistical data given in Table 1.1, which are taken from the income surveys of KSH (Central Statistical Office), and Table 2.4, taken from the German Panel (GSOEP). The Hungarian Household Panel follows the method of similar foreign longitudinal surveys (Duncan, 1984), and particularly that of the West German ones (Hanefeld, 1987; Rendtel and Wagner, 1991; Zapf, Schupp and Habich, 1996). The latter were extended to the former East Germany immediately before reunification.

About 2,000 households were included in the original survey sample. They were randomly selected, but the sample was strongly concentrated territorially (originally not all the counties were included). About 4,500 individuals above the age of 16 live in these households. A questionnaire was filled in about the households and about every individual above the age of sixteen. In addition, there were about 1,200 children in those households; their data figure in the household questionnaire.

It derives from the nature of panel surveys that these households are visited each year (in May) and are questioned. The questionnaires primarily contain data about incomes and employment behaviour, housing, households' coping strategies. In addition—not with annual regularity—questions are put on many other topics. Such questions enquire about satisfaction, symptoms of psychological problems, manifestations of anomie and alienation.

The Hungarian Household Panel was conducted for six years. In 1997 data collection had to be terminated due to the lack of resources. Dropping out was rather high during the course of the survey, much higher than in the case of the West European ones. As a result we weighted the data again in the interest of restoring representativity. In the present paper these new weights were used.

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LABOR MARKET DISADVANTAGE AND POVERTY

EVIDENCE FROM HUNGARY PANEL DATA 1992-1997

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Submitted: June 1, 1999

Final version: April 2001

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INTRODUCTION

1. Unemployment in Hungary has increased substantially during the first years of transition and is currently relatively high, ratcheted at around 10-11 percent. It is pretty obvious that unemployment increases the risk of poverty. But how strong is the relationship? Are the unemployed poor? To what extent is chronic poverty associated with unemployment?

2. Transition has also led to a substantial increase in earnings inequality and, correspondingly, in the incidence of low pay, which in turn has led to the increase in the number of the working poor. What are the chances of low paid workers to find better jobs and thus escape poverty? Is low-paid employment a stepping-stone into a higher-paid career, or a permanent trap?

3. This paper addresses these questions using a unique longitudinal data set, referred to as Hungarian Household Panel Survey, which tracks a group of individuals over the five-year period 1992-1997. The paper aims to present and analyze links, especially longitudinal ones, between labor market status and poverty, and to discuss some of their policy implications. Given the poverty spin of the paper, a natural focus is on those workers who are disadvantaged at the labor market: the unemployed and the low paid.

4. The paper finds that in Hungary unemployment increases the risk of poverty dramatically, more so than in other countries. In most cases the unemployed and their families are poor. Duration of unemployment has a strong impact on poverty and long-term unemployed tend to be chronically poor.

5. Poverty is also prevalent among the working poor, which largely results from relatively low wages. Although a substantial fraction of workers in Hungary go through a period of low-paid employment during their working career, for many this is just a brief low-pay stop-over. However, there is also a large group for whom low pay is a permanent trap. Low-pay careers are likely to be associated with prolonged periods of poverty.

6. The paper is organized as follows. The next section presents basic background data on the dynamics of unemployment. In Section II we try to determine how unemployment translates into poverty. First, we look at cross-sectional data, and then take a longer term view to determine the relationship between the duration of unemployment and the persistence of poverty. In Section III we examine probabilities to slide into and escape from unemployment. Section IV, the final one, deals with the issues of earnings volatility, low-pay and earnings mobility of low-paid workers.

I. BACKGROUND: UNEMPLOYMENT DYNAMICS AND PROFILE

7. After a sharp increase at the outset of the transition, unemployment remained roughly stable in Hungary during the period of 1992-1997. According to official Labor Force Survey data, the unemployment rate in 1997 was 9.2 percent, virtually the same as

in 1992 (Table 1). The Hungarian Household Panel (using a comparable definition of unemployment as a lack of any paid job) yields a somewhat higher figure of 11.3 percent in 1997; one percentage point higher than in 1992. Unemployment is still higher – around 12 percent – if casual jobs are excluded and instead only those who have a regular job are considered.¹

Table 1: Unemployment rate dynamics, 1992-1997

Unemployment defined as:	1992	1993	1994	1995	1996	1997
lack of any paid job (ILO definition)	10.1	11.8	11.5	10.4	10.8	11.3
lack of a regular job	11.0	12.6	12.2	11.8	11.8	12.3
Memorandum:						
Official LFS unemployment rate	9.6	11.9	10.7	10.1	9.9	9.2

Note: Weighted data.

Source: Hungarian Household Panel Survey, Labor Force Survey, Bank staff calculations.

8. The duration structure of unemployment is of high relevance for poverty analysis. The same unemployment rate can be a result of a large number of workers being unemployed for a short period of time, or a relatively small number of workers unemployed for a long period of time. It is the second type of unemployment that has a particularly strong negative impact on poverty.

9. The incidence of long-term unemployment is modest in Hungary compared with OECD countries, nonetheless it is quite high by absolute standards. According to the LFS data, roughly every second unemployed person is without a job for more than one year.² What is most worrisome, however, is the dynamics of long-term unemployment (Table 2). The incidence of long-term unemployed almost tripled since 1992, although this is not surprising given that in the early 1990s unemployment was a new phenomenon. The mean duration of unemployment increased from less than 10 months in 1992 to the present 16-18 months. Most tellingly perhaps, long-term unemployment has been increasingly concentrated among a small group of workers. Currently, 10 percent of the unemployed account for more than one-third³ of total unemployment duration, up from one-fourth in 1992. This points to the emergence of a group of hard core unemployed, whose re-employment chances are very limited. These are the people

¹ In the proceeding analysis unemployment will be defined as a lack of a regular job. This departure from the standard ILO definition is dictated by two reasons. The first reason is substantive; persons who report having a casual job as a rule are usually unemployed (although not currently unemployed), a category that seems more relevant for the poverty analysis. The second reason is statistical; the narrower category of unemployment (lack of any job) yields a sample of unemployed which is too small to be amenable to a statistical analysis.

² HHPS data seems to underestimate the actual scope of long-term unemployment. The likely reasons for this are small sample size and non-random sample attrition, whereby the long-term unemployed leave the sample at a higher rate than other persons.

³ This is a lower-bound estimate due to reasons indicated in the previous footnote.

that are likely to face an increased risk of chronic poverty – an assertion that will be tested in the next section.

Table 2: Duration of unemployment, 1992-1997

	1992	1993	1994	1995	1996	1997
Median duration,	8	9	12	13	10	8
Mean duration,	9.6	11.1	15.0	17.2	17.8	16.2
Top decile's share Of unemployment duration,	24.7	27.4	29.6	28.3	33.05	36.2
Share of long-term						
According to	29.1	36.5	48.7	51.9	47.2	39.0
According to	17.2	32.3	41.8	45.3	49.5	44.7
Number of jobs.	322	364	326	312	242	190

Notes:

Unless otherwise indicated the data come from the HHPS

Weighted data

Long-term unemployed = unemployed for more than 12 months

Source: Hungarian Household Panel Survey, Labor Force Survey, Bank staff calculations.

10. Long-term unemployment has a distinct profile in Hungary, similar to that in other countries (Table 3). A typical long-term unemployed is a prime age man with only primary education living in a village. Of these, low skills seem to be the most salient correlate of long-term joblessness: workers with primary education account for almost one-half of all long-term unemployed, much more than their sample share.

Table 3: Profile of unemployment, 1997

	Duration of unemployment, 1997 a/		Frequency of unemployment, 1992-1997, b/		
	Short-term unemployed	Long-term unemployed	Never unemployed	Occasionally unemployed	Usually unemployed
<i>Total</i>	100.0	100.0	100.0	100.0	100.0
<i>Gender</i>					
Men	51.3	66.3	41.0	52.6	71.2
Women	48.7	33.8	59.0	47.4	28.3
<i>Age</i>					
15 - 24	d/ 13.7	14.3	6.0	11.5	6.3
25 - 49	75.8	74.2	37.2	65.1	77.5
50 +	d/ 10.5	11.5	56.8	23.4	16.3
<i>Education</i>					
Primary	32.7	47.3	38.1	24.0	48.8
Vocational training	38.2	37.6	20.4	36.9	38.8
Secondary	c/ 22.5	12.7	25.6	32.1	8.8
Tertiary	d/ 6.6	2.4	16.0	7.1	3.8
<i>Residence</i>					
Major city	d/ 26.3	15.2	41.4	40.5	16.3
Town	34.2	30.3	24.3	25.4	28.8
Village	39.5	54.5	34.3	38.1	55.0

Notes:

Short term unemployed = Unemployed for no more than 12 months.

Long-term unemployed = Unemployed for more than 12 months.

Occasionally unemployed= classified as unemployed 1-2 times during the observation period

Usually unemployed = classified as unemployed 3-6 times during the observation period.

Unemployment = lack of a regular job

a/ Weighted data.

b/ Unweighted data.

c/ Less than 50 observations.

d/ Less than 30 observations.

Source: Hungarian Household Panel Survey, Bank staff calculations.

11. Another (although related) way of looking at the issue of long-term unemployment is to see how frequently it occurs. For some individuals, the period of long-term unemployment ends with finding a long-lasting job, while for others unemployment tends to be recurrent, although unemployment spells may be relatively short. Examining the frequency of unemployment during the five-year period, virtually the same picture emerges as when the focus was on unemployment duration (Table 3). The usually unemployed persons are disproportionately men (71 percent), aged 25-49 (78

percent), with primary or lower education (49 percent), living in rural areas (55 percent). Interestingly, among the "occasionally" unemployed, women, younger and older workers, workers with vocational and secondary education and living in large cities are much more frequently represented than among usually unemployed.

II. UNEMPLOYMENT AND POVERTY

12. To what degree does unemployment overlaps with poverty? In other words, how much unemployment increases the risk of low income? This question can be addressed in a number of different ways. For example, the focus can be on an individual, or on a family (household). Furthermore, the issue can be looked at any given moment of time, or over a longer period of time. We will adopt these different perspectives in turn.

Individual perspective: a snapshot

13. An unemployed individual faces an extremely high risk of poverty: every second unemployed person is poor (Table 4). This risk is as much as five times higher than that faced by an employed person. Thus, inability to find a job has disastrous consequences on one's income status. Interestingly, the negative impact of unemployment is much stronger in Hungary than in some other transition economies. For example, in Bulgaria most of the unemployed are not poor, and the lack of job has a much weaker impact on poverty.⁴

⁴ In Bulgaria, less than one-third of the unemployed are in the bottom quintile of income distribution and the poverty incidence among the unemployed is "only" 2.2 times higher than among the employed. See: Rutkowski, J. (1998), "Labor Markets and Poverty in Bulgaria," World Bank, mimeo.

Table 4: The incidence of poverty by individuals' labor force status, 1996 and 1997

	1996				1997			
	Labor force status				Labor force status			
	N	Regular job	No regular job	Inactive	N	Regular job	No regular job	Inactive
All workers	3589	11.5	49.5	23.8	2833	10.9	56.4	23.3
<i>Gender</i>								
Men	1630	11.9	53.9	20.6	1273	12.0	55.4	18.7
Women	1959	11.1	42.7	25.6	1560	9.8	57.9	26.5
<i>Age</i>								
Young (15-24)	604	8.8	32.2 ^a	28.0	459	10.4	53.2 ^{a/}	20.1
Prime age (25-49)	1474	13.3	55.3	43.8	1136	11.9	59.0	43.4
Older (50+)	1511	4.5	43.8 ^a	18.0	1238	6.2	42.0 ^{a/}	19.6
<i>Duration of unemployment</i>								
Short-term unemployed	122	x	38.3	x	109	x	51.36	x
Long-term unemployed	103	x	60.3	x	65	x	62.26	x

x = Not applicable

Notes:

Weighted data.

Poverty = bottom quintile of equivalent income distribution.

a/ The cell has less than 50 observations.

Source: Hungarian Household Panel Survey, Bank staff calculations.

14. There are a number of possible reasons why unemployment has such a strong effect on poverty in Hungary. First, it may be the case that in Hungary more often than in Bulgaria the unemployed are members of families where there are other non-employed persons. Such families hit by the "unemployment syndrome" do not provide a natural cushion in the sense that unemployment of one person is partially offset by employment of other family members. Second, families with unemployed individuals may not be covered by a social safety net, which would alleviate the impact of joblessness.

15. An obvious implication of the fact that in Hungary there is a strong overlap between unemployment and poverty is that unemployment benefits are well targeted, that is they go to the poor. Also, social assistance benefits granted to long-term unemployed in most cases reach the poor, as the incidence of poverty among the long-term unemployed is still higher and accounts for about 60 percent. In other words, unemployment and especially long-term unemployment is a powerful indicator of poverty in Hungary.

16. The poverty rate among unemployed women is roughly similar to that of unemployed men. This is not an obvious finding, as for example in Macedonia unemployed women are much less likely to be poor than unemployed men.⁵

17. Not surprisingly, unemployed young and older workers are less likely to be poor than the prime age workers. This reflects the fact that prime age workers are usually primary earners and support larger families. Younger workers tend to be secondary earners, whereas older workers less frequently have to support children.

Individual perspective: a longer-term view

18. The snapshot perspective used above fails to tell us whether unemployment is associated with transitory or permanent poverty. This shortcoming can be overcome by looking at the association between unemployment and poverty over a longer period of time. Let us start with a benchmark case of a person who was employed over the entire period 1992-1997 (Table 5). Such a person had about 11 percent chance to be poor for a short period of time, 9 percent chance to be poor for about half of the five year period, and less than 2 percent chance to be poor for most of the period, i.e. to be chronically poor. Thus, employment does not protect against short-term poverty, but it virtually safeguards against chronic poverty.

Table 5: The incidence of poverty by the individuals' labor force status over six years (1992-1997)

	N	Never poor	Short-term poverty (1 year)	Medium-term poverty (2-3 years)	Long-term poverty (4-6 years)
Frequency of unemployment					
Never	1943	65.8	12.0	11.8	10.4
Once	206	48.2	15.4	21.3	15.1
More than once	186	33.4	14.8	21.2	30.7
Frequency of employment					
Never	859	25.1	12.3	13.0	22.7
Seldom (1-3 years)	392	48.6	12.6	20.8	18.1
Usually (4-5 years)	384	58.2	16.4	16.8	8.6
Always	700	78.7	10.9	8.6	1.8

Notes: The frequencies of poverty, unemployment, and employment refer to the number of times an individual was observed as poor, unemployed and unemployed, respectively

Poverty = bottom quintile of equivalent income distribution.

Unemployment = lack of a regular job.

Sample consists of workers who were continuously observed over six years.

Source: Hungarian Household Panel Survey, Bank staff calculations.

⁵ Rutkowski, Jan (1998), Labor Market Developments and Poverty in FYR Macedonia, World Bank,

19. Even a relatively brief spell of unemployment changes this picture considerably. A person who reported a lack of job only once during the five year period is 1.5 times more likely to be short-term poor, more than twice as likely to be medium-term poor, and more than eight times more likely to be chronically poor than a person who was continuously employed.

20. However a really dramatic impact on the risk of poverty is the long term or recurrent unemployment. This impact largely manifests itself in a very high incidence of permanent poverty. Nearly one-third of all long-term/frequently unemployed live in chronic poverty. The incidence of chronic poverty among the frequently unemployed is twice as high as among the short-term/one-time unemployed, and over 15 times as high as among the always employed.

21. Few long-term or frequently unemployed are able to avoid poverty at all. Two out of every three long-term unemployed have experienced at least temporary poverty. However, even a one-time experience of unemployment is likely to lead to at least temporary poverty: one out of two one-time unemployed was at some point poor.

22. The duration of poverty increases with the duration of joblessness. Most of the poor who were long-term unemployed lived in prolonged or permanent poverty.⁶ Most of the poor who were one-time unemployed were poor only temporarily.⁷ By contrast, most of the poor who were continuously employed were poor for only a brief time.⁸

23. A proviso is in place that unemployment is often associated with low skills and low productivity and other personal characteristics, all of which can have an independent impact on poverty. Therefore, the link between unemployment and poverty should be interpreted here in terms of an association rather than direct causality. This is particularly relevant to longitudinal analysis. An unemployed person who found a job may still be poor due to low productivity and thus wage. Determining the separate, independent contribution of these different factors requires additional research and goes beyond the scope of this study.

24. The conclusion is simple, yet powerful. Unemployment multiplies the risk of poverty. The risk is the higher the longer the duration of unemployment. And, in addition, the longer the duration of unemployment the higher is the probability of prolonged poverty.

Family perspective: a snapshot

25. When the focus is on poverty, the family perspective is the most relevant. Some people who themselves are not unemployed may still be poor owing to unemployment of

mimeo.

⁶ That is, they were in the bottom quintile of equivalent income distribution from 2 to 6 times during a six year period.

⁷ That is, they were in the bottom quintile of equivalent income distribution from 1 to 3 times during a six year period.

⁸ That is, they were in the bottom quintile of equivalent income distribution only once during a six year period.

their family's member. Thus, the relevant question is, how the family's labor force status affects its income? In particular, we focus on families hit by unemployment, by which we mean families where one or more family members are without a job. What is the risk of poverty faced by such families? How much greater is it compared with that faced by families which do not suffer from unemployment? And, how much labor does a family need to minimize the risk of poverty?

26. A family's head labor force status has a dramatic impact on income (Table 6). Employment of a household's head, although does not protect the family from poverty, makes it relatively unlikely. The incidence of poverty among persons coming from families where the head has a job is 14 percent. By contrast, unemployment of a household's head is extremely likely to bring about poverty. About two-thirds of people from families headed by an unemployed person are poor. The number of such families is relatively small, however, it is not negligible: about ten percent of the population suffers from family's head unemployment. Thus, unemployment striking family heads is a serious social problem in Hungary.

Table 6: The incidence of poverty by the labor market status of the Individual household, 1997

	N	Sample share	Poverty Share	Poverty Incidence
Labor force status of head				
Regular job	609	57.1	34.6	14.1
No regular job	85	9.7	27.1	65.1
Inactive	610	33.2	38.2	26.8
Unemployed household member^{A/}				
Yes	172	18.5	41.1	51.9
No	1133	81.5	58.9	16.9
Number of unemployed household members				
None	1133	81.5	58.9	16.9
One	148	15.0	28.9	45.1
Two or more	24	3.5	12.2	80.2
Unemployment duration of household members^{C/}				
Short-term unemployed	111	x	x	36.2
Long-term unemployed	76	x	x	56.4
Number of earners in the household^{B/}				
None	531	22.4	45.4	45.1
One	302	26.1	29.5	25.1
Two or more	472	51.5	25.1	10.8

Notes:

Weighted

The figures relate to the number of individuals living in households of a given

N = The number of households in the

Poverty = bottom quintile of equivalent income

a/ One or more

b/ Households with at least two persons of working age

c/ If more than one household member is unemployed then the longest duration unemployment is considered.

Source: Hungarian Household Panel Survey, Bank staff.

27. Unemployment of any family member, not only the head, is likely to have a disastrous consequence for family's income. If a family is hit by unemployment, the risk that it becomes poor goes up sharply and becomes very high at over 50 percent. In other words, every second person coming from a family stricken by unemployment is poor. By comparison, the incidence of poverty among persons coming from families where there is no unemployed person is 17 percent. Thus, the incidence of poverty among unemployed

families is 3 times as high as among families which do not suffer from unemployment. This again provides an evidence that in Hungary unemployment has a particularly strong impact on poverty. In Bulgaria, for example, the incidence of poverty among unemployed families is substantially lower than in Hungary and so is the risk ratio (i.e. in Bulgaria unemployment raises the risk of poverty less than in Hungary). This points to the limited role played by formal and informal social safety nets in Hungary in alleviating the hardship caused by unemployment. It can also point to certain characteristics of unemployed families – such as isolation and inadequate social capital – that render them less likely to receive assistance.

28. If two or more family members are unemployed the family has little chances to escape poverty, as in this case the incidence of poverty approaches 80 percent. Fortunately, such families are small in number, accounting for less than four percent of the population. Nonetheless, such an "unemployment syndrome" should be of particular policy concern as it almost certainly leads to poverty.

29. The preceding paragraphs have documented that a reduction in household labor supply due to unemployment is likely to lead to poverty. Is increasing the household labor supply a way to protect the family from poverty? The answer is: Yes, but to a limited degree. The incidence of poverty among families with two earners is around 11 percent, which is almost 2.5 times lower than among families with only one earner. Obviously, it is much lower than among families where there are no employed persons. Two earners substantially reduce the risk of poverty but do not protect the family from poverty. This is in contrast to the situation prevailing in OECD countries where "double earnership" – both partners earning a wage – appears to be an almost watertight guarantee against poverty.⁹ One possible explanation why quite a significant fraction of two earner families is still poor in Hungary is that the number of earners is negatively correlated with household wages, i.e. that a higher number of earners in the household is meant to compensate for lower earning capacity. Another possibility is negative correlation between wage and non-wage income and/or low share of wage income in total household income.

Family perspective: a longer-term view

30. How does the duration of unemployment affect the risk of poverty and its duration? Table 7 presents longitudinal data on poverty incidence and duration by household employment status. To provide a backdrop for further analysis, let us begin with a case of a family where one or more members were employed in each of the six years during 1992-1997. Most of the persons living in such a family did not experience poverty. Those who did – a sizeable one-third – tended to be temporary poor, i.e. at most for 3 years. Long term poverty among working families is rare, although not insignificant: about 5 percent of persons from continuously employed families was chronically poor. Thus, the problem of working poor does exist in Hungary. In the vast

⁹ Marx I. And G. Verbist (1997), "Low-paid work, the household income package and poverty. A cross-country analysis," Paper presented at the European Low-Wage Employment Research Network conference on the analysis of Low-wage employment, London, December 12-13.

majority of cases poverty among working families is transitory; however, there is a non-negligible minority of working families who seem to be permanently poor.

Table 7: The incidence of poverty by the household labor force status over six years (1992-1997)

	N	Never poor	Short-term poverty (1)	Medium-term poverty (2-3)	Long-term poverty (4-6 years)
Frequency of unemployment ^{a/}					
Never	826	67.0	12.4	12.5	8.2
Once	187	47.5	13.2	25.0	14.3
More than once	229	34.8	14.9	21.7	28.6
Frequency of employment ^{b/}					
Never	350	35.8	12.6	12.4	39.3
Seldom (1-3 years)	134	30.3	12.7	20.2	36.7
Usually (4-5 years)	151	32.2	9.5	28.9	29.5
Always	607	65.0	14.2	16.0	4.8

Notes:

Weighted data.

N = The number of households in the sample.

The figures relate to the number of individuals living in households of a given category.

The frequencies of poverty, unemployment, and employment refer to the number of times the household was observed as poor, employed and hit by unemployment, respectively.

Poverty = bottom quintile of equivalent income

Unemployment = lack of a regular

Sample consists of workers who were continuously observed over six years.

a/ One or more household members unemployed (lacking a regular job).

b/ One or more household member employed (having a regular job).

Source: Hungarian Household Panel Survey, Bank staff calculations.

31. A one-time experience of unemployment by one or more household members considerably increases the risk of the family being poor. Over one-half of persons from families which suffered from short-term unemployment experienced some period of poverty. Poverty tends to be of short to medium-term, most persons spend 2 to 3 years in poverty.

32. The incidence as well as the duration of poverty increase dramatically among families which experienced long-term or recurrent unemployment. Most – two out of three – persons from families suffering from prolonged unemployment experienced poverty, and poverty tended to be long-term. Specifically, close to 30 percent of persons from families suffering from long-term/recurrent unemployment live in chronic poverty. This is yet another evidence that during the transition a group of hard-core unemployed poor has emerged in Hungary. Altogether the size of this group is relatively small, but its

very existence points to the problem of social exclusion and the incipient danger of the emergence of an underclass.

III. THE RISK OF UNEMPLOYMENT AND CHANCES TO ESCAPE IT

33. A person who is unemployed or comes from a family hit by unemployment is likely to be poor in Hungary. In this sense, unemployment is one of the important causes of poverty. It is thus important to see what is the likelihood of losing a job and not being able to find a new one, as well as the likelihood of escaping joblessness. Those who do not have a job are likely to end up in poverty, those who find a new one increase their chances to avoid it.

34. Table 8 presents estimated probabilities of entry into and exit from unemployment for selected years. The probability to lose a job within a year varied from 3.7 percent in 1994-1995 to 5.4 percent in 1996-97. In addition, around 3 percent of persons who had been out of the labor force launched an unsuccessful job search filling in the ranks of the unemployed. By international standards, inflow into unemployment is not particularly high in Hungary. A more important source of the unemployment problem (common to virtually all transition economies) is low outflow from unemployment.

Table 8: Yearly labor market transition rates

	Transition rates for:		
	1992-1993	1994-1995	1996-1997
Entry into unemployment	%		
From employment	5.1	3.7	5.4
From inactivity	3.5	3.1	2.6
Exit from unemployment			
To employment	30.3	33.7	30.2
To inactivity	24.5	23.2	29.6
Stay in unemployment	45.2	43.1	40.2

Notes:

Weighted data

Unemployment = lack of a regular job.

Transition rate = The number of persons who moved from the labor force state X (e.g. employment) to the labor force state Y (e.g. unemployment) as a percentage of all persons in the state X in the baseline year.

Source: Hungarian Household Panel Survey, Bank staff calculations.

35. The probability that an unemployed person will find a job within twelve months in Hungary is of the order of 30 to 33 percent, that is roughly one-half of the yearly transition probabilities for unemployment estimated for the United States and two-thirds of those of high unemployment European countries.¹⁰ Correspondingly, most unemployed in Hungary either stay unemployed for one year or more (40 to 45 percent), or become discouraged by a futile job search and withdraw from the labor force (23 to 30 percent). Thus, the chances of escaping unemployment and finding a job are relatively low in Hungary, although substantially higher than in stagnant slowly reforming transition economies, such as Bulgaria. The implication of modest inflows into unemployment and relatively low outflows is that policies to reduce unemployment and thus poverty should focus at improving chances to find a job, rather than at preventing lay-offs and thus slowing industrial restructuring.

36. A longer term view at labor market transitions is presented in Table 9, which allows one to trace changes in the labor force status over 5 years. Movements from employment to unemployment tend to cumulate over time, that is in each consecutive year more persons who were employed in 1992 are unemployed. However, this process takes place at a low rate, largely because many of those who lost their job managed to find a new one, or withdrew from the labor force. Specifically, slightly less than 7 percent of workers who were employed in 1992 were without a job in 1997. This should be compared with just over 5 percent of workers who lost a job within a year (1992-93). This moderate increase of less than 2 percentage points implies that yearly inflows to unemployment were to a large extent offset by yearly outflows from unemployment.

¹⁰ Boeri, T. (1998), "Labor Market Flows in the Midst of Structural Change," in S. Commander ed., *Enterprise Restructuring and Unemployment in Models of Transition*, Washington, D.C.: World Bank.

Table 9: Labor market transitions

	Transition rates <i>OVER</i> :				
	One year 1992-1993	Two years 1992-1994	Three years 1992-1995	Four years 1992-1996	Five years 1992-1997
	%				
Entry into unemployment					
From employment	5.1	5.8	5.9	6.4	6.7
From inactivity	3.5	3.3	3.1	2.3	3.1
Exit from unemployment					
To employment	30.3	44.6	46.7	50.6	45.7
To inactivity	24.5	22.5	26.7	24.9	30.2
Stay in unemployment	45.2	32.9	26.6	24.5	24.1

Notes:

Weighted data.

Unemployment = lack of a regular job.

Transition rate = The number of persons who moved from the labor force state X (e.g. employment) to the labor force state Y (e.g. unemployment) as a percentage of all persons in the state X in the baseline year.

Source: Hungarian Household Panel Survey, Bank staff calculations.

37. Outflows from unemployment were mostly to jobs, to a lesser degree to inactivity, which is a positive facet of labor market mobility in Hungary. After four years, half of those who were unemployed in 1992 were back in jobs, although this proportion fell to 46 one year later, which may indicate the problem of recurrent unemployment among some groups of workers. A five-year transition rate from unemployment to jobs is around 50 percent higher than the yearly transition rate (30 percent). The five-year outflow rate from unemployment to inactivity accounts for 30 percent, and was only slightly higher than the yearly rate of 25 percent. Altogether, after five years three-quarters of unemployed moved out of unemployment; the outflows to jobs being about 1.5 times as high as the outflows to inactivity.

38. Still, the problem of persistent unemployment is present in Hungary. Almost one-quarter of those who were unemployed in 1992 remain so after a five year period. These are the hard-core unemployed, with extremely limited re-employment chances. There is plenty of international evidence pointing to the decreasing probability of finding a job with the increase in the duration of unemployment. This state-dependence may be either casual or due to so-called "sorting". If it is casual, the exit rate from unemployment declines because the experience of unemployment leads to the erosion of skills and morale and thus progressively undermines a worker's potential to find a job. The sorting explanation assumes that workers entering unemployment in a given year *a priori* differ in their future labor market prospects due to differences in abilities, skills and motivation. Over time, the workers with the best prospects find jobs, leaving behind a pool of workers with the poorest prospects.

39. The relative importance of these two factors – erosion of skills vs. sorting – has important policy implications. If long-term unemployment is largely caused by the

erosion of skills and morale, policy interventions should be targeted at the medium-term unemployed whose profile points to a high risk of long-term unemployment (e.g. low skills). If, on the other hand, the declining exit rate is mostly due to worker heterogeneity and sorting, a more efficient targeting strategy may be to focus interventions on the long-term unemployed. Unfortunately, to distinguish these two explanations empirically is very difficult.

40. Transition rates vary in Hungary depending on labor market history, thus pointing to path dependence (Table 10). In particular, strong labor market history affects the probability of losing a job. Workers who were unemployed in the past are much more likely to lose a job than workers who did not. In the former case, the risk of losing a job is 12-14 percent, while in the latter less than 4 percent. This implies that there is a group of workers in Hungary who are susceptible to recurrent unemployment, and whose attachment to the labor market is thus relatively weak.

Table 10: Labor market transitions and unemployment history

	1993-94	1994-95	1995-96	1996-97
A. Entry rate from employment to unemployment				
No unemployment history	2.9	3.1	3.3	3.8
Unemployment history	14.2	7.2	11.4	14.1
B. Exit rate from unemployment to employment				
No unemployment history	34.3	34.2	32.7	33.5
Unemployment history	35.8	31.4	30.7	27.9
Short-term unemployed	33.7	37.6	33.4	35.4
Long-term unemployed	35.7	31.2	32.4	27.2

Notes:

Weighted data.

In most cases, calculations are based on less than 50 observations and thus the range of error may be relatively large.

Unemployment = lack of a regular job.

Unemployment history = unemployed at least once during the preceding period.

Transition rate = The number of persons who moved from the labor force state X (e.g. employment) to the labor force state Y (e.g. unemployment) as a percentage of all persons in the state X in the baseline year.

Source: Hungarian Household Panel Survey, Bank staff calculations.

41. The evidence that transitions from unemployment to jobs depend on labor market history is less pronounced and – due to the small sample size – less convincing. Workers with longer unemployment history tend to have lower chances of finding a job than workers who just become unemployed, but only for 1996-1997 transitions the difference seems significantly large (17 percent), perhaps thanks to a longer series of “historic” data. The same is the case when labor market history is measured by the duration of unemployment: the long-term unemployed have about 25 percent lower probability to

find a job than the short-term unemployed. As pointed out earlier, it is difficult to ascertain whether this evidence of the path dependence reflects casual process of skill erosion, or sorting of heterogeneous workers.

IV. EARNINGS VOLATILITY AND LOW PAY

42. The issues of earnings inequality and wage determination have been thoroughly dealt with by Hungarian researchers and will not be addressed here, except for a brief summary below.¹¹ Instead, we will focus on other aspects of earnings that are relevant for poverty analysis: the issue of wage volatility, the incidence of low pay, and mobility out of low wage employment.

43. Let us briefly summarize major findings on wage inequality in Hungary during the transition. Five stylized facts should be highlighted. First, as in other transition economies, earnings dispersion has substantially increased over a relatively short period of time. The Gini coefficient for both gross and net wages increased by 7 points during 1989-1996. Although substantial, this increase has been much lower than in some other transition economies, particularly those of the FSU. Second, the widening of the wage distribution was largely driven by the increase in returns to education and skills. In particular, there has been a strong increase in the premium to university education. Third, the current level of wage dispersion in Hungary is moderately high by OECD standards. In 1996, the Gini coefficient for gross wages was around 34 and for net wages around 29. Fourth, the personal income tax system is progressive in Hungary, implying that the dispersion of net earnings is substantially lower than that of gross earnings. Fifth, the increase in wage inequality brought about the increase in the incidence of low pay, which reached relatively high level.¹²

Earnings volatility

44. The concept of earnings volatility captures the prospect of a pay rise as well as the risk of a pay decline. Thus, substantial earnings volatility is a double edged sword: it means improvements for some group of workers and deterioration for others. Earnings volatility was substantial in Hungary during 1992-1997 (Table 11), which should be put against the backdrop of the considerable fall in real earnings of 12.5 percent. Thus, a vast majority of workers – over 70 percent – witnessed a substantial decline in their real earnings. For as much as 45 percent of workers the loss in purchasing power exceeded 20 percent. At the same time, a small groups of workers experienced a significant increase in their real wages, of which the top decile saw their wages increase by more than 20 percent.

¹¹ See Kertesi, G. and J. Kollo (1997), "Realberek es kereseti egyenlotlensegek, 1986-1996, Kozgazdasagi Szemle, 7-8; Kertesi, G. and J. Kollo (1998), Economic Transformation and the Return to Human Capital. The Case of Hungary, 1986-1996, Budapest: Institute of Economics, April, mimeo. Also: Pudney, S. (1994), "Earnings inequality in Hungary: A comparative analysis of household and enterprise survey data, Economics of Planning 27, 251-276.

¹² See Rutkowski, Jan (1997), "Low wage employment in transitional economies of Central and Eastern Europe", MOCT-MOST ,7, 105-130.

Table 11: Dispersion of real earnings growth, 1992-1997
 Monthly earnings of full-time wage and salary workers

Earnings growth range (%)	Percentage of workers
Less than -40 %	15.0
-40 to -20	30.8
-20 to -10	16.7
-10 to -5	9.0
-5 to 5	10.4
5 to 10	3.6
10 to 20	4.5
20 to 40	4.9
More than 40%	5.1
Memorandum:	
Mean growth: -12.5%	

Source: Hungarian Household Panel Survey, Bank staff calculations.

45. Who were the losers and who were the winners? In absolute terms, there was not a single worker group who saw their real earnings rise, except for the first decile workers, whose wages on average grew just over 2 percent (Table 12). Thus, one can talk of winners only in relative terms, as worker groups which improved their relative earnings status.

Table 12: Mean real earnings growth by workers' characteristics, 1992-1997
 Monthly earnings of full-time wage and salary workers

	Mean real earnings growth, 1992-1997
Total	-12.5
<i>Gender</i>	
Men	-13.7
Women	-11.2
<i>Age (1992)</i>	
16 - 24	-6.9
25 - 34	-8.2
35 - 49	-15.8
50 - 64	-18.2
<i>Education (1992)</i>	
Primary	-19.7
Vocational training	-10.8
Secondary	-12.6
Tertiary	-6.5
<i>Manual/Non-manual occupation</i>	
Manual	-13.3
Non-manual	-11.4
<i>Occupation (1992)</i>	
Unskilled	-12.5
Skilled	-13.9
Administrative/clerical	-12.6
Managerial/professional	-10.4
<i>Earnings in 1992</i>	
1st quintile	2.3
2nd quintile	-5.5
3rd quintile	-17.2
4th quintile	-15.8
5th quintile	-26.6

Source: Hungarian Household Panel Survey, Bank staff calculations.

46. Two groups stand out as the biggest losers, i.e. suffered the largest earnings decline: older workers and workers with low educational attainment. The degree of the fall in earnings was negatively related to age and education. Correspondingly, young and university educated workers suffered relatively little, their earnings falling on average less than 7 percent.

47. In addition, a group that lost the most was workers who were top paid in 1992, while as already mentioned, the bottom paid improved their absolute and thus also relative earnings position. This pattern of earnings mobility, whereby the rich lose and the poor gain, countervailed the tendency toward the increase in earnings inequality.

48. Interestingly, there is no clear pattern of wage growth by occupation. Manual workers experienced only slightly larger wage loss than non-manual workers.

Managerial and professional workers saw their earnings fall by some 10 percent, whereas unskilled workers by 12 percent – a rather small difference over five years. Surprisingly, skilled manual workers were the hardest hit as their wages fell by 14 percent.

49. Gender differences in wage growth are not large, although women on average somewhat improved their earnings position compared with men.

The incidence of low pay

50. Low paid workers are the group that is a natural focus of poverty analysis, as often low pay is associated with poverty. As the previous analysis indicated, the working poor account for a non-negligible part of poverty in Hungary. Defining low-pay as less than two-thirds times the median earnings¹³, we find that the incidence of low pay in Hungary in 1997 was 14.1 percent, which is in the middle of the range observed in OECD countries. However, low-pay is heavily concentrated among certain groups of workers (Table 13).

¹³ A standard approach in the research on low pay, used also by OECD.

Table 13: Incidence and concentration of low-paid employment by workers' characteristics, 1997

	Low-pay employment	
	Incidence	Concentration ^{a/}
Total	14.1	1.00
Gender		
Men	11.2	0.80
Women	17.0	1.20
Age		
16 - 24	23.4	1.66
25 - 34	14.6	1.04
35 - 49	11.5	0.81
50 +	17.3	1.22
Education		
Primary	33.9	2.40
Vocational training	16.8	1.19
Secondary	8.5	0.60
Tertiary	0.6	0.04
University	1.3	0.10
Manual/Non-manual occupation		
Manual	21.1	1.49
Non-manual	4.2	0.30
Occupation		
Unskilled	31.0	2.20
Skilled	12.8	0.91
Administrative/clerical	6.5	0.46
Managerial/professional	2.5	0.18
Residence		
Village	18.8	1.34
Town	14.0	0.99
Large city	16.7	1.19
Budapest	5.5	0.39

Note: Low pay defined as less than 2/3 times the median monthly earnings of full-time workers.

a/ Incidence of low-paid employment in each category relative to overall incidence of low-paid employment.

Source: Hungarian Household Panel Survey, Bank staff calculations.

51. A typical low-paid worker is a woman more often than a man, is either young (less than 24 years of age) or older (over 50), most often has only primary or lower education, or (less often) a basic vocational training, has an unskilled manual job and lives in a village. Particularly worth stressing is the heavy concentration of low-pay among poorly educated and unskilled workers. About one-third of unskilled and poorly-educated workers are low-paid. Accordingly, the incidence of low-pay among unskilled and poorly-educated workers is over two times higher than the average. Thus, low pay reflects low productivity.

52. While a relatively small fraction of workers are low-paid in Hungary in any given moment of time, over one-third are in low-paid employment over six-years.¹⁴ This means that the risk of low-pay is high in Hungary, substantially higher than in most OECD countries, where the proportion of workers ever low paid over six years is as a rule less than 25 percent, often less than 20 percent.

53. The distribution of years spent in low-paid employment in Hungary differs from that in both the continental Europe model of regulated labor market, represented here by Germany, and the Anglo-Saxon model of flexible labor market, represented by the U.K. (Table 14). The proportion of workers for whom low-paid employment is only a brief episode is in Hungary lower than in Germany but significantly higher than in the U.K. On the other hand, the proportion of chronically low paid, at 35 percent, is higher in Hungary than in Germany but substantially lower than in the U.K. A worrisome feature of the Hungarian labor market is that the proportion of workers who are always low paid seems to be higher than in both Germany and the U.K.¹⁵ Overall, for a sizeable fraction of workers low-paid employment is a permanent trap rather than a stepping stone into a higher paid career. These workers are likely to fill the ranks of the working poor.

Table 14: Distribution of years spent in low-paid employment

Years spent in low pay ^{c/}	Hungary	Germany	United Kingdom
	Share of workers ^{a/}		
1	36.2	41.7	27.2
2 - 3	28.6	29.1	25.5
4 - 6	35.	29.2	47.3
Ever low-paid ^{b/}	34.7	19.9	17.8
Always low-paid ^{b/ d/}	5.5	2.7	4.8

a/ Percentage of continuously employed workers with at least one year of low pay, who were low-paid for the specified number of years.

b/ Percentage of all continuously employed full-time workers.

c/ Low pay defined as bottom quintile of mo. earnings of full-time workers.

d/ Calculation based on 19 observations

Source: Hungarian Household Panel Survey, Bank staff calculations, Employment Outlook 1997.

¹⁴ For the sake of comparability with other OECD countries, in the ensuing analysis low pay is defined here as bottom quintile of monthly earnings.

¹⁵ However, this hypothesis should be treated with great caution, as the calculations for Hungary are based on a very small number of observations (19).

Earnings mobility of low-paid workers

54. High incidence of low-pay careers in Hungary points to low chances of moving up the earnings ladder and escaping low paid employment. Indicators of earnings mobility show that this is indeed the case (Table 15). In Hungary, low paid jobs are more often a permanent trap than a stepping stone to higher earnings. Three points deserve to be emphasized. First, an extremely large proportion of workers who were low-paid in Hungary in 1992 were no longer in full-time employment after five years. Most of them either withdrew from the labor force, or became unemployed.¹⁶ Second, a majority – 54 percent – of low-paid workers in Hungary were still in the bottom quintile after five years. This compares unfavorably to other OECD countries, where (except the U.S.) the proportion of workers who were not able to escape low pay within five years is lower than 50 percent. For example in the U.K. it accounts for 41 percent. This reinforces the previous evidence of the existence of a relatively sizeable group of permanently low-paid workers in Hungary. Third, of those workers who escaped low pay most moved to the second quintile, while the “long-distance” earnings mobility is limited in Hungary, more so than in other OECD countries. For example, while in Hungary only 19 percent of low paid workers managed to move to quintiles 3-5, in the U.K. so did 27 percent. Thus, in Hungary low paid workers have relatively low chances to see a substantial improvement in their earnings, and instead they tend to be trapped in low-paid jobs.

Table 15: Five-year earnings mobility of low-paid workers who were employed full-time at both the beginning and the end of the five-year period^{a/}

Country	Still in bottom quintile	Moved to second quintile	Moved to quintiles 3-5
Hungary	53.7	27.4	18.9
France	49.8	28.9	21.4
Germany	45.	27.6	27.3
Italy	47.7	27.5	24.
Sweden	49.1	25.5	25.5
United Kingdom	41.1	31.9	27.1
United States	52.2	28.5	19.3

a/ Hungary: 1992-1997; OECD: 1986-1991.

Source: Hungarian Household Panel Survey, Bank staff calculations, Employment Outlook 1997.

55. Earnings mobility of low-paid workers varies across worker groups (Table 16). Men have a higher chance to move up the earnings ladder than women. Younger workers (up to 34 years of age) have better chances than older workers. It is easier to increase earnings for better educated workers than for less educated workers, and in this case

¹⁶ Only 21.8 percent of workers who were in bottom quintile in 1992 were observed in full-time employment in 1997. In other countries, this proportion usually is in the range of 60-70 percent, although direct comparison is difficult owing to different panel attrition rates and treatment of missing observations.

differences in mobility are quite dramatic. For example, almost three-quarters of workers with primary education are still low-paid after three years, compared with 30 percent of workers with secondary education.

Table 16: Earnings mobility of low-paid workers by socio-demographic characteristics, 1992-1997

	Earnings status of workers who were low-paid ^{a/}					
	One-year earlier ^{b/,d/}			Three-years earlier ^{c/, d/}		
	Still in bottom quintile (%)	Moved to second quintile (%)	Moved to quintiles 3-5 (%)	Still in bottom quintile (%)	Moved to second quintile (%)	Moved to quintiles 3-5 (%)
Total	63.9	24.2	11.9	56.7	24.2	19.1
Gender						
Male	57.4	27.7	14.9	47.7	28.8	23.6
Female	66.6	22.8	10.7	60.4	22.4	17.2
Age						
16-24	60.8	26.1	13.1	58.7	22.3	19.0
25-34	58.8	27.3	13.8	47.4	27.2	25.4
35-49	67.7	20.7	11.6	60.7	23.0	16.3
50+	67.5	26.6	5.9	64.1	29.5	6.3
Education						
Primary	73.8	19.9	6.3	72.7	18.6	8.7
Vocational Training	63.8	24.1	12.1	55.8	26.0	18.3
Secondary	47.8	32.4	19.8	30.1	30.9	39.0
Tertiary ^{e/}	30.1	49.6	20.3
Occupation						
Manual	68.2	22.3	9.5	61.3	22.2	16.6
Non-manual	42.1	33.1	24.9	33.1	35.2	31.7

.. Data not available.

a/ Low-paid defined as bottom quintile.

b/Observations are summed and averaged over five yearly transitions (1992-1993, 1993-1994, ..., 1995-1996).

c/ Observations are summed and averaged over three three-year transitions (1992-1995, 1993-1996, 1994-1997).

d/ Longitudinal weights were used to correct for sample attrition.

e/ Based on 22 observations.

Note: the averaging procedure (applied to overcome the problem of small sample size) is likely to give biased results as the transition probabilities tend to fall over time. Correspondingly, mobility is underestimated.

Source: Hungarian Household Panel Survey, Bank staff calculations.

56. High incidence of low pay and low mobility tend to go hand in hand. Worker groups with high prevalence of low-pay as a rule have low chances to improve their earnings status. In other words, low pay careers are strongly concentrated among certain groups of workers, among which the low educated stand out. From the poverty viewpoint this is a negative phenomenon, indicating that for most low-paid workers chances to move out of poverty through seeking better employment are limited.

HUNGARY: SOCIAL PROTECTION SYSTEM

ADDITIONAL TABLES

ANITA PAPP

Final version: April 2001

Annex Table 7.1 Universal Family Benefits

Title	Eligibility Conditions	Amount and Time Length	Financing
UNIVERSAL BENEFITS			
Family Allowance	<p>The benefit is available by: (a) parents and step-parents, (b) custodian; (c) head of institute in case of institutionalized children after</p> <p>(i) non-yet school-aged children (i.e. children below 6); (ii) permanently ill children below the age of 18; or (iii) disabled people who became disabled before their age of 18 and are expected to be in that condition for at least another year; (iv) and children in institutions (including those in prisons). The eligibility cease to exist as soon as the child reaches school-age.</p>	<p>Available until the eligibility criteria hold. Non-means tested</p> <p>Amount: varies by the number of children within the family.</p> <ul style="list-style-type: none"> · Family with 1 child: Huf 3800/month; · Single parent family with 1 child: Huf 4500/month; · Family with 2 children: Huf 4700/month per child; · Single parent family with 2 children: Huf 5400/month per child; · Family with 3 or more children: Huf 5900/month per child; · Single parent family with 3 or more children: Huf 6300/month per child; · Permanently ill or heavily disabled child: Huf 7500/month; · Institutionalized child: Huf 5400/month. 	Central Government Budget
Schooling Allowance	<p>This allowance is available After</p> <p>(i) school-aged children; and (ii) pupils who are not school-aged any more (i.e. reached the age of 16) but are pupils in preliminary or secondary schools.</p>	See above.	Central government.

Title	Eligibility Conditions	Amount and Time Length	Financing
GYES (Child Care Fee)	The benefit is available by: (a) parents and step-parents; (b) custodian after children raised in own household below the age of 3, or for permanently ill/heavily disabled child below the age of 10. Parent are not allowed to have employment until the age of 1.5 of the child. Between the age of 1.5-3 of the child, the parent is eligible to work part-time, or full-time.	The amount of benefit is independent from the number of children raised. It is equivalent to the minimum pension: Huf 15,350/month.	Central government.
GYET (Child Care Aid/ Support)	The benefit is available by: (a) parents and step-parents, (b) custodian; or (c) step-parents if he/she raises 3 or more children in own household. The benefit is available from the age of 3 of the smallest child until his/her 8 th birthday. The parent is allowed to work part-time. Full-time job is allowed only if the parent works at home.	The amount of benefit is independent from the number of children raised. It is equivalent to the minimum pension: Huf 15,350/month.	Paid by local governments, fully reimbursed by the central government.
One-time Birth Allowance	(a) Women who participated in 'Pregnant care programs' at least four times during the pregnancy are eligible for the benefit. The maternity benefit is available also if the child is born dead. The benefit is also available to: (b) the custodian; and (c) step-parents if decision about adoption takes place within 60 days after the child's birth.	The amount of benefit is 150% minimum pension: Huf 23,025. It is a one-time benefit.	Central government.

Title	Eligibility Conditions	Amount and Time Length	Financing
INSURANCE BASED BENEFITS			
Pregnancy Benefit	Available to women who accumulated an insurance period of at least 180 days within a 2 years period before the pregnancy, and has a valid insurance.	The benefit is available for the period of child birth leave (168 days). Its amount is 70% of the average wage.	Central government.
TAX DEDUCTION			
PIT Deduction	Available by those families who are eligible for Family allowance and Schooling allowance and who pay PIT. (Only one of the parents is eligible for the deduction.)	Amount of benefit varies by the number of children: <ul style="list-style-type: none"> · In case of 1 or 2 children: Huf 1700/month/child · In case of 3 or more children Huf 2300/month/child · In case of disabled children Huf 2600/month/child 	Central government.

Annex Table 7.2 Social Benefits

Title	Eligibility Conditions	Amount and Time Length	Financing
1. CASH BENEFITS			
1.1. Universal Benefits			
GYET	See above at Family and Child raising benefits.		
1.2 Means-tested benefits			
Unemployment benefit for long-term unemployed	<p>People who no longer obtain unemployment insurance are eligible if the monthly per capita income in the households is below 80% of the minimum pension.</p> <p>The eligibility does not apply if the unemployed receives any other form of regular cash allowance, and/or does not cooperate with the Labor Office and the local government in participating at public work programs.</p> <p>Meeting of eligibility conditions are annually reviewed by the local government.</p>	<p>The benefit is available for 24 months. (With re-newed employment the person becomes eligible for both insurance and long-term unemployment benefit.)</p> <p>Maximum amount of the benefit is 80% of minimum pension. If the household has any other kinds of incomes, the amount of the Long-term unemployment benefit has to supplement the other forms of income to the level of 80% of the minimum pension.</p> <p>The minimum amount of benefit is Huf 1000.</p>	<p>The benefit is paid by local government and reimbursed up to 75% by the central government (from the Labor Market Fund).</p>

Title	Eligibility Conditions	Amount and Time Length	Financing
Regular social assistance	<p>Those people are eligible for the benefit who are in their active age, but are not employed and their individual monthly per capita income is below 70% of the minimum pension, and that of their household members is below 80% and they do not have any assets. (Mostly people who fall out from the system of Long-term unemployment benefit.)</p> <p>In addition, people who are in active age and lost 67% of their working capacity, or are blind and their per capita monthly income is below 80% of minimum pension are eligible for the benefit.</p> <p>Meeting of eligibility conditions can be reviewed annually by municipalities.</p>	Maximum amount of the benefit is 70% of minimum pension. If the applicant for the benefit has any other kinds of incomes, the amount of the Regular social assistance supplements other forms of income to the level of 70% of the minimum pension.	Financed from central governments non-earmarked transfers for current expenditures (normative). The total amount of transfer contains a so-called <i>social normative</i> calculated on the basis of the number elderly, that of children, and living at a given settlement. Local governments are not obliged to spend their social normatives on social purposes (the principle of non-earmarked) funds.
Old-age allowance	<p>People above the age of 62, or above the retirement age valid for the given individual are eligible if monthly per capita net income (including the income of spouse and other members of households) is below 80% of minimum pension or below 95% in case of single households.</p> <p>Meeting of eligibility conditions can be reviewed by municipalities every second year.</p>	Maximum amount of the benefit is 80% of minimum pension or 95% in case of single households. If the household has any other kinds of incomes, the Old age allowance has to supplement the other forms of incomes to the level of 80% or 95% of the minimum pension, depending on the types of households.	The benefit is paid by local government and reimbursed up to 70% by the central government.

Title	Eligibility Conditions	Amount and Time Length	Financing
Regular child protection benefit	<p>Children are eligible in whose families the monthly per capita income is less than the minimum pension.</p> <p>The local government annually reviews whether eligibility conditions still hold.</p>	<p>Available maximum until 25th birthday of the child, if he/she is a student.</p> <p>The amount of the benefit cannot be less than 20% of the minimum pension per child.</p>	<p>Paid by local governments. Financed from central governments non-earmarked transfers for current expenditures (normative). The total amount of transfer contains a so-called <i>child protection normative</i> calculated on the basis of the number children at a given settlement. Local governments are not obliged to spend their social normatives on social purposes (the principle of non-earmarked) funds.</p>
Extraordinary child protection benefit	Children are eligible if their family is temporarily limited in raising them adequately.	(There is no specification about the amount in the law.)	Paid by local governments. (See above.)
Support to establishing first home	<p>Young adults are eligible who were raised in child care institutions in the preceding two years and whose personal wealth (including cash savings) is worth less than 50 times the minimum pension.</p> <p>Savings from own earnings shall not be taken into account when calculating personal wealth.</p>	<p>The amount of the benefit is:</p> <ul style="list-style-type: none"> • 20 times the minimum pension, if the young person was institutionalized for less than 3 years; • 30 times the minimum pension, if the young person was institutionalized for more than 3 years; • 40 times the minimum pension, if the young person was institutionalized for more than 4 years; • 50 times the minimum pension, if the young person was institutionalized for more than 5 years. 	Central government fully reimburses local governments.
Advancement for child alimantation fee	Children are eligible if there is a court decision in force on divorce of parents.	Varies by the court decision.	Central government reimburses localities if they pay advancement.

Title	Eligibility Conditions	Amount and Time Length	Financing
Housing maintenance support	Families or individuals are eligible who live in dwellings whose size and quality are not above the minimum standards determined by the local governments, have no income from renting dwellings, and the monthly maintenance cost (including re-payments of housing loans) of dwellings are above 35% of the monthly income of the household or the heating costs are above 20% of the households monthly income, and the monthly per capita income of household members is less than twice the minimum pension.	The benefit is available for 1 year or for 1 heating season. The application for the benefit shall be renewed annually by the applicants. The amount of the benefit shall contribute to maintaining the dwelling. Its minimum amount is Huf 1000/month.	Paid by local governments.
Medical treatment fee	Parents who do provide medical care for their children are eligible for this benefit if their child is above the age of 2 and is seriously disabled or is permanently ill below the age of 18. The parents are not eligible if they have any other kinds of regular cash assistance or if the children are institutionalized (in school, health or social institute) for more than 2 months.	The minimum amount of the benefit is the minimum pension.	Paid by local governments.
Temporary assistance	Persons are eligible who are in life threatening situations due to major diseases, and/or cannot maintain their lives.	The benefits could be provided as a grant or as a loan with zero interest. It could be provided monthly, or discretionally from time to time.	Paid by local governments.
Funeral benefit	Persons are eligible who paid the costs of funeral for non-relatives, or for relatives but whose life maintenance is threatened by the extra expenditures of a funeral. No funeral benefit is available by those whose per capita income monthly is more than 3 times the minimum pension.	The minimum amount of the assistance is at least 10% of the cost of the cheapest local funeral ceremony, and could be as high as the total costs of the funeral.	Paid by local governments.

Title	Eligibility Conditions	Amount and Time Length	Financing
2. IN-KIND BENEFITS			
Public burial	If there are no relatives or volunteers who are ready to organize the funeral for a dead person, the local governments have to bear the costs of the funeral.	In kind.	Paid by local governments.
Public health card	<p>The local government issues public health cards for ensuring cheap access to medication to people receiving regular social assistance, institutionalized children, war victims.</p> <p>In addition, the local government has the authority to provide public health cards to those whose monthly drug expenditure is at least 10% of the minimum pension, and the per capita monthly income in the household is less than the minimum pension, or in case of single households less than 1.5 times the minimum pension .</p> <p>The local government annually reviews whether the eligibility conditions are met.</p>	<p>Card owners are eligible for certain medications and medical supplements free of charge. Local governments pay 75% of the minimum pension to the health insurance for every card they issue.</p> <p>Card are valid for a period of 1 year.</p>	Paid by local governments.
Publicly identified eligibility for health insurance services	The mayor of any municipality is entitled to provide access to health insurance services to people whose per capita monthly income is below the minimum pension taking into account the income of household members, or below 1.5 times the minimum pension in case of single households.	The access to health services is provided for a period of 1 year.	Paid by local governments.

Title	Eligibility Conditions	Amount and Time Length	Financing
Other	Local governments might decide to provide in kind benefit or pay on behalf of families for schooling, heating, eating at home or in the school, accessing public utilities.		Paid by local governments.
3. PERSONAL CARE			
3.1 Basic personal care			
Public food	Local governments are obliged to provide warm food at least once per day to those who permanently or temporarily cannot supply enough food to themselves or to their dependents. Elderly or seriously sick are also eligible if they are unable to provide food for themselves.	In kind.	Paid by local governments.
House care	People are eligible who do not have the adequate physical power to care for themselves, or sick children who cannot be institutionalized and whose parents cannot provide day-care.	In kind.	Paid by local governments.
Family support	The local governments have to provide mental, hygienic and social support to a family also through the family support network.	The service is free of charge.	Paid by local governments.

Title	Eligibility Conditions	Amount and Time Length	Financing
3.2 Institutional care			
Special homes	<p>Local governments shall provide care in institutional form for those who are unable to care for themselves or only with permanent help. The institutions have to provide food 3 times per day, clothing, mental and medical treatment.</p> <p>Such institutions are: old-age homes, psychiatric homes, homes for disabled.</p>	In kind.	<p>Paid by local governments. Financed from central governments non-earmarked transfers for current expenditures (normative). The total amount of transfer contains a so-called <i>institutional normative</i> calculated on the basis of the number of users of the institutions at a given settlement. Local governments are not obliged to spend their social normatives on social purposes (the principle of non-earmarked) funds.</p>
Rehabilitation institutes	<p>Local governments shall provide rehabilitation to psychiatrics, addicts and disabled persons for educating them to maintain their lives without support. Rehabilitation institutes provide daily occupation to their members.</p>	In kind.	Paid by local governments.

Title	Eligibility Conditions	Amount and Time Length	Financing
Day-care homes	<p>People who live on their own shall have access to spend their time in day homes, and/or access to hygienic infrastructure.</p> <p>Day-care homes are:</p> <ul style="list-style-type: none"> Clubs for elderly, organized especially for socially or mentally-handicapped elder people who require daily care. Day care for disabled, organized for disabled above the age of 3 who cannot participate in public schooling and require daily help. Day shelter, for homeless. Institutions for addicts 	In kind.	Paid by local governments.
Temporary homes	<p>Local governments shall continuously ensure access to temporary homes and accommodation for the night.</p> <p>Temporary homes are:</p> <ul style="list-style-type: none"> Homes for elderly Homes for disabled Homes for psychiatric patients and addicts Shelter for homeless <p>People whose family does not provide appropriate care are eligible for the institutional care in these institutions.</p>	In kind.	Paid by local governments.

**ETHNICITY AND LONG-TERM POVERTY IN HUNGARY: AN INVESTIGATION
USING MULTIVARIATE METHODS**

(BACKGROUND PAPER FOR THE HUNGARY POVERTY UPDATE OF THE WORLD BANK)

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Submitted: December 8, 1999

Final version: April 2001

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1. Introduction

It is well known that the Roma are one of the most economically vulnerable groups in Hungary. Analysis of the Hungarian Household Panel (HHP)¹ indicates that the Roma have an incidence of long-term poverty (defined as being poor in four or more of the last six years) of 57.4 percent, compared with a national average of 7.5 percent. From a policy perspective it is important to attempt to understand the factors which contribute to the poverty situation of the Roma. In particular, is the poverty experience of the Roma a result of this group possessing particular *identifiable* characteristics which are known to be correlated with poverty (such as large family size, low education, weak links to the labor market), or is their experience a result of other factors which cannot be measured in a household survey? An example of such a factor may be discrimination which leads to higher poverty risk for the Roma (note discrimination may also be affecting the observable characteristics of the Roma, such as education attainment and success in the labor market).

Information about such questions can be of use in the design of policy towards the Roma. In particular, if it is shown that there is nothing intrinsic about the Roma that leads to their high rate of long-term poverty, then policy can focus on the improvement of their observable characteristics such as education and employment. If, however, the Roma are found to have higher rates of long-term poverty, *after controlling for the observable characteristics which are known correlates with long-term poverty*, then additional policies may be required.

Cross-tabulations are one of the main tools used in poverty analysis. While cross-tabulations are useful in identifying correlations between poverty status and household characteristics, their interpretation may be clouded by the existence of interactions between the household characteristics. As mentioned above, cross-tabulations will not be able to tell us whether the high rate of long-term poverty of the Roma may be just because this group has lower education and employment prospects or live in a disadvantaged area, rather than a characteristic intrinsic to this group which leads to higher poverty risk. The potential interactions between household characteristics is addressed by the use of multivariate methods, and regression analysis is the main tool that has been used in poverty analysis.

While regression analysis can isolate the relationship between a particular household characteristic and poverty status, independent of the effect of all other household characteristics, it relies on the assumption that the RHS variables are independent of poverty status. The problem is that for the variables typically included in poverty profiles (which have policy use), this assumption of independence is usually not valid.

The question addressed in the present paper is: in the absence of a behavioral model of poverty determination, how do we interpret data on household characteristics and household welfare? Simple cross-tabulations are not adequate; there is a need to reduce the dimensions of the data and to account for potential interactions between household characteristics. While regression

¹ The HHP is a six year longitudinal household survey conducted by the Social Research Center (TARKI).

analysis does this, it imposes assumptions about the independence of the RHS variables which may not be valid.

The aim of the present paper is to identify the long-term poverty correlates of the Roma using regression analysis and two alternative multivariate methods.² The first alternative multivariate method considered is factor analysis (FA), which attempts to determine the quantitative relations between observed variables, where these relations are due to separate, general influences (or 'factors'). An advantage of FA in the present context is that, in contrast to regression analysis, no distinction is made between independent and dependent variables. However, it is argued below that the difficulty of interpreting the results of FA, and the potential inapplicability of FA to qualitative data (which is commonly used in poverty analysis), makes FA unlikely to be of use in constructing a poverty profile.

The second alternative multivariate method presented in this paper is multiple correspondence analysis (MCA). Multiple correspondence analysis is primarily used for the analysis of frequency data, which is typically represented in contingency tables (or cross-tabs, as they are generally called in economic analysis). MCA graphically shows the extent to which the frequencies in rows are independent of the columns in which they are located; in the present context MCA can thus be used to graphically show the degree of correlation between household characteristics and poverty status. MCA is related to FA, in fact one author states that MCA is "...an analogue of [FA], which is appropriate to discrete rather than to continuous variables" (Hill, 1974, p.340).

Factor analysis and multiple correspondence analysis, while popular in other social sciences, have been largely ignored in economics. The main reason for this is the inferential nature of most economic analysis: a behavioral model is hypothesized and regression analysis is undertaken to assess the validity of this model. When there exists a behavioral model, regression analysis is the most appropriate tool for investigation. However, in the case where the relationship between different variables is to be investigated in the absence of a theoretical behavioral model, it is not clear that regression analysis is appropriate.

The layout of this paper is as follows. In Section 2, cross-tabulations between poverty status and households characteristics are presented. In Section 3, regression analysis (both probit and levels regression) is used in an attempt to provide greater understanding of the relationship between Roma ethnicity and long-term poverty status. In Section 4, the first alternative multivariate method, factor analysis, is briefly described and applied to the HHP data. In Section 5, the second alternative multivariate method, multiple correspondence analysis, is applied to the HHP data. Section 6 concludes this paper.

² This paper draws from a companion paper, Ackland (1999) which describes the alternative multivariate methods in detail.

2. Cross-tabulations

The poverty status of individuals from households with different characteristics is presented in Table 1. The measure of household welfare is per equivalent income (the economies of scale parameter, θ , was estimated via the subjective approach to be 0.63 – for details see Annex 1 of this Update). Three poverty states are shown: not poor (have not been poor in last 6 years) poor (have been poor 1-3 times) and long-term poor (have been poor 4 or more times). From Table 1, individuals living in households headed by Roma have long-term poverty rates of 57.4 percent compared with a national average of only 7.5 percent, and only 4 percent of individuals in non-Roma households.

Three types of multivariate analysis are now applied to the HHP data. The aim is to see whether multivariate methods enable one to discern relationships between poverty status and household characteristics which are not apparent in the simple cross-tabulations and in particular, to establish whether the Roma have higher long-term poverty rates even after allowing for the effect of the other poverty correlates.

Table 1: Poverty correlates

	Number of Times Poor			Total
	Never	1-3 times	>=4 times (Long-term poor)	
Hungary	72.1	20.5	7.5	100.0
<i><u>Location</u></i>				
Village	64.4	24.7	10.9	100.0
Town	72.9	19.8	7.2	100.0
Major City	71.6	22.8	5.6	100.0
Budapest	87.7	10.6	1.7	100.0
<i><u>Household Head Labor Force Status</u></i>				
Employed	82.0	16.4	1.7	100.0
Pensioner (all types)	66.8	22.7	10.6	100.0
Self-employed	83.2	16.8	0.0	100.0
Out of the labor force	34.0	27.1	38.9	100.0
Unemployed	34.0	42.4	23.6	100.0
<i><u>Number of Members Receiving Unemployment Benefit</u></i>				
Zero	76.8	17.2	6.0	100.0
One	49.6	36.5	13.9	100.0
Two	43.4	34.4	22.2	100.0
<i><u>Number of Members Receiving Disability Pension</u></i>				
Zero	74.2	18.9	6.8	100.0
One	61.7	29.3	9.0	100.0
Two or More	74.2	19.3	6.5	100.0
<i><u>Household Typology</u></i>				
Single parent with child(ren)	51.4	31.8	16.9	100.0
Other household with child(ren)	67.9	22.9	9.1	100.0
Single elderly male	70.0	27.5	2.5	100.0
Single elderly female	46.4	34.9	18.8	100.0
Other households without children	84.0	13.4	2.7	100.0
<i><u>Gender of Household Head</u></i>				
Male	73.2	19.8	7.0	100.0
Female	66.7	23.5	9.8	100.0
<i><u>Ethnicity of Household Head</u></i>				
non-Roma	76.0	20.0	4.0	100.0
Roma	20.7	22.0	57.4	100.0

Table 1: Poverty correlates (continued)

	Number of Times Poor			Total
	Never	1-3 times	>=4 times (Long-term poor)	
<i>Access to land</i>				
No	68.4	22.1	9.5	100.0
Yes	85.4	14.2	0.4	100.0
<i>Owns Color Television</i>				
No	44.0	31.7	24.3	100.0
Yes	79.5	17.4	3.1	100.0
<i>Owns Automobile</i>				
No	60.8	27.0	12.2	100.0
Yes	86.0	12.4	1.7	100.0
<i>Education of Household Head</i>				
Primary	51.4	29.4	19.2	100.0
Vocational	72.7	23.1	4.3	100.0
Secondary	87.5	12.4	0.1	100.0
Higher	96.0	4.0	0.0	100.0
<i>Number of Elderly</i>				
Zero	67.3	23.5	9.2	100.0
One	74.6	19.7	5.6	100.0
Two or More	90.7	7.0	2.3	100.0
<i>Number of Children Under 18</i>				
Zero	80.1	15.7	4.2	100.0
One	69.1	22.0	8.9	100.0
Two	76.3	19.6	4.1	100.0
Three or More	45.4	33.5	21.2	100.0

3. Regression analysis

The first multivariate method considered is regression analysis.³ Two types of regression are performed. First is probit analysis, where the dependent variable is a binary variable indicating whether a household is long-term poor. As argued by Grootaert and Braithwaite (1998), probit analysis may be preferable to levels regression (where the dependent variable is the log of equivalent welfare) in the construction of a poverty profile if there is concern that measurement error in the welfare measure may be correlated with some of the explanatory variables in the

³ Note that all the multivariate methods are conducted on weighted household data, not individual-level data.

model (for example, older people may have difficulty with accurate reporting, or households with self-employment income may try to hide income to avoid taxation). Such correlation could lead to bias in the welfare equation estimated by OLS.

For completeness, the second regression presented is OLS, where the dependent variable is the log of equivalent income in 1997. Note, however, that in this regression the factors influencing current welfare status are being modeled, not long-term poverty status.

In Table 2, the results from the probit regression are presented. It is apparent that Roma ethnicity is associated with a highly significant increase in the probability of a household being long-term poor, even after allowing for other household characteristics. A household headed by a Roma has a 12.6 percentage point increase in the probability of being long-term poor, compared with a comparable household headed by a non-Roma person. This may not appear to be a large increase in the risk of long-term poverty, but the only other characteristic to have a greater positive impact on poverty risk is the household head being out of the labor force. It is important to note here that because poverty status was derived using a measure of equivalent income, the finding that the Roma have a higher risk of long-term poverty is not influenced by the fact that they tend to have larger household size.⁴

⁴ An alternative way of controlling for household size would have been to use per capita income to derive poverty status, and then to have included household size or composition variables on the RHS in the probit regression.

Table 2: Probit regression (probability of being long-term poor)

Dependent variable: household long-term poor/not long-term poor	Coefficient	P-value	Change in probability of being long-term poor
<i>Location</i>			
Village	-0.006	0.971	0.000
Major city	0.177	0.479	0.005
Budapest	-0.538	0.054	-0.010
<i>Employment status of head</i>			
Pensioner	0.810	0.002	0.026
Out of the labor force	1.618	0.000	0.205
Unemployed	0.985	0.003	0.072
2 or more members unemployed	-0.444	0.327	-0.007
<i>Household typology</i>			
Single parent with child(ren)	0.605	0.076	0.029
Other household with child(ren)	0.617	0.010	0.021
Single elderly male	-0.260	0.649	-0.005
Single elderly female	0.325	0.191	0.011
Female household head	0.452	0.062	0.015
Has access to land	-0.882	0.005	-0.014
Owens color TV	-0.493	0.002	-0.018
Own car	-0.198	0.426	-0.005
<i>Education of head</i>			
Primary	0.330	0.096	0.009
Secondary	-1.123	0.025	-0.017
Higher	-0.666	0.302	-0.010
2 or more elderly members	-0.151	0.597	-0.003
3 or more children	-0.417	0.211	-0.007
Roma ethnicity	1.290	0.000	0.126
Constant	-2.256	0.000	

Note: Omitted categories are: located in town, household head employed, household typology: other household with children, household head has vocational education.

In Table 3 the results of the OLS regression of household characteristics on the log of 1997 equivalent income is presented. It is apparent that Roma ethnicity has a significant negative effect on equivalent income, even after controlling for other characteristic. A Roma-headed household is estimated to have equivalent income 25.6 percent lower than a comparable household headed by a non-Roma person.

Table 3: Welfare regression (dependent variable: log of 1997 equivalent income)

Dependent variable: log of 1997 equivalent income	Coefficient	P-value
<i>Location</i>		
Village	0.028	0.342
Major city	0.051	0.192
Budapest	0.250	0.000
<i>Employment status of head</i>		
Pensioner	-0.193	0.000
Out of the labor force	-0.503	0.000
Unemployed	-0.338	0.000
2 or more members unemployed	-0.086	0.402
<i>Household typology</i>		
Single parent with child(ren)	-0.245	0.000
Other household with child(ren)	-0.215	0.000
Single elderly male	-0.108	0.162
Single elderly female	-0.088	0.079
Female household head	-0.136	0.000
Has access to land	0.096	0.002
Owens color TV	0.120	0.000
Own car	0.141	0.000
<i>Education of head</i>		
Primary	-0.047	0.157
Secondary	0.160	0.000
Higher	0.368	0.000
2 or more elderly members	-0.008	0.827
3 or more children	-0.094	0.072
Roma ethnicity	-0.256	0.000
Constant	10.266	0.000

Note: Omitted categories are: located in town, household head employed, household typology: other household with children, household head has vocational education.

4. Factor Analysis

Factor analysis is based on the assumption that there exists a number of general, unobservable factors which cause relations between observed variables. FA is thus a search for relationships between observable variables and unobservable (latent) processes which are presumed to be generating the observations. In the context of poverty analysis, where we have observations on poverty status (derived using a welfare measure and a poverty line), and household characteristics, there is an immediate problem of interpretability. Can it be argued that there is some latent force which is determining the characteristics of a household and its poverty status? Can this latent force be identified? Interpretation of FA is an issue which is not just reserved to applications to poverty analysis – it is called the *labeling problem* which is the sometimes difficult task of finding substantive interpretations of a set of hypothetical latent variables that have been derived through FA.

FA attempts to determine the quantitative relations between observable variables, where these relations are due to separate, general influences, or conditioning ‘factors’. In contrast to regression analysis, the distinction between independent and dependent variables is thus blurred with FA. By expressing the variables as functions of the factors, there is considerable simplification in the description of the interrelations between the variables. Another way of putting this is that the dimensions of the data are reduced (this is really the aim of all multivariate methods), thus enabling interpretation.

The solution to the FA model uses as input a matrix of correlations between the observed variables. The question therefore is whether correlation is a valid measure of association among the variables used in the study. In particular, one needs to be aware of strong curvilinear relationships; the correlation coefficient only measures linear relationships and the presence of strong non-linear relationships among the variables may lead to spurious results from FA. Of major importance to the present application is whether FA is appropriate for binary data. Jackson (1991, p. 381) suggests that while some authors have justified the use of FA with binary variables, multiple correspondence analysis (described in the next section) is perhaps a more appropriate multivariate method.

In FA, the general factors hypothesized to cause the observed variances in the original data can be separated into two categories: *common* factors (factors which influence several variables simultaneously), *specific* or *unique* factors (factors which influence only one variable at a time – these include stochastic error in the data).⁵

Assume we have collected m variables on n households, where y_{ij} is the observation on variable j for household i . Factor analysis makes use of the normalized value of variable j for household i

$$z_{ij} = \frac{y_{ij} - \bar{y}_j}{s_{y_j}}, \text{ where } \bar{y}_j = \frac{\sum_{i=1}^n y_{ij}}{n} \text{ and } s_{y_j} = \sqrt{s_{y_j}^2} = \sqrt{\frac{\sum_{i=1}^n (y_{ij} - \bar{y}_j)^2}{n}}. \text{ It can be shown that } \bar{z}_j = 0 \text{ and } s_{z_j}^2 = 1.$$

FA is primarily concerned with finding the common factors that linearly reconstruct the m original variables. The FA model is written:

$$(1) \quad z_{ij} = a_{1j}f_{i1} + a_{2j}f_{i2} + \dots + a_{qj}f_{iq} + e_{ij} \quad j = 1, \dots, m \quad i = 1, \dots, n$$

where f_{ik} is the i th observation of the k th common factor, e_{ij} is the i th observation of the specific factor pertaining to variable j , and $\mathbf{a}'_j = (a_{1j}, \dots, a_{qj})$ are the coefficients or *factor loadings* on the common factors, corresponding to the j th variable.⁶ The number of common factors q is to be determined in the estimation procedure, but in general, $q < m$.

⁵ Note that in some presentations of FA the stochastic error in the data is hypothesized to be related to a separate error factor.

⁶ Note that in some presentations of FA the specific factor e_{ij} has a coefficient, say b_j , and is assumed to have variance of one. However in the following presentation, the coefficient on e_{ij} is one, and the variance is, as shown below, not equal to one. The two forms of presentation are equivalent.

There are two main approaches for solving the factor analysis model. In Common Factor Analysis (CFA), the solution to the FA model will involve extracting factor loadings which maximize the *shared variance* of the original variables (principal factor analysis, PFA, is the most commonly used method for solving the CFA model). Alternatively, the solution to the FA model can involve extracting factor loadings which maximize the *total variance* (both common and specific) of the original variables. This second approach is known as Principal Component Analysis (PCA).

The investigator must make the choice as to which solution to the FA model to use. The choice between PCA or PFA depends on whether one expects the variables in the analysis to exhibit significant uniqueness (i.e. to be influenced by specific factors). If the answer is yes, then PFA is appropriate since uniqueness is specifically accounted for. If the answer is no, then PCA is probably the way to go. In the context of our poverty data, it can be expected that the variables will be influenced by specific factors, and hence PFA is the appropriate tool to use.

Table 3 shows the results of applying PFA to the HHP data using the STATA factor command. The first three eigenvalues are retained (together they explain 83.1 percent of the data, which is quite low).

Table 3: Results of principal factor analysis - factor retention

Factor	Eigenvalue	Difference	Proportion	Cumulative
1	2.677	1.107	0.416	0.416
2	1.570	0.475	0.244	0.661
3	1.095	0.395	0.170	0.831
4	0.700	0.090	0.109	0.940
5	0.610	0.134	0.095	1.035
6	0.476	0.055	0.074	1.109
7	0.420	0.131	0.065	1.174
8	0.289	0.060	0.045	1.219
9	0.229	0.081	0.036	1.254
10	0.148	0.063	0.023	1.277
11	0.085	0.014	0.013	1.291
12	0.072	0.050	0.011	1.302
13	0.022	0.045	0.003	1.305
14	-0.023	0.036	-0.004	1.301
15	-0.060	0.062	-0.009	1.292
16	-0.122	0.035	-0.019	1.273
17	-0.157	0.033	-0.024	1.249
18	-0.190	0.033	-0.030	1.219
19	-0.222	0.047	-0.035	1.185
20	-0.270	0.010	-0.042	1.143
21	-0.280	0.026	-0.044	1.099
22	-0.305	0.028	-0.048	1.052
23	-0.334		-0.052	1.000

Table 4 shows how the variables load onto the three retained factors. The question is how to interpret the factor loadings and construct a poverty profile from this information. One approach

is to look at which factor long-term poverty ‘loads onto’ (i.e. the factor for which the factor loading for long-term poverty is high, in an absolute sense) and then look at how the household characteristic variables load on to this factor. If a particular household characteristic also loads onto this factor then can argue that the presence of this characteristic is correlated with long-term poverty status. This approach to interpreting the factor analysis model is in the spirit of that suggested by Schilderink (1977, p. 98).

Table 4: Results of principal factor analysis, factor loadings

Variable	Factor loadings			Uniqueness
	factor 1	factor 2	factor 3	
<i>Long-term poverty status</i>	0.339	0.338	0.244	0.711
<i>Location</i>				
Village	0.209	0.361	-0.327	0.719
Major city	-0.064	-0.119	0.138	0.963
Budapest	-0.145	-0.336	0.216	0.820
<i>Employment status of head</i>				
Self-employed	0.692	-0.228	-0.288	0.386
Pensioner	-0.283	-0.032	0.037	0.918
Out of the labor force	-0.004	0.306	0.145	0.886
Unemployed	-0.039	0.205	0.131	0.939
<i>2 or more members unemployed</i>	0.008	0.206	0.095	0.949
<i>Household typology</i>				
Single parent with child(ren)	0.060	-0.067	0.333	0.881
Other household with child(ren)	-0.454	0.432	0.034	0.606
Single elderly male	0.093	-0.032	-0.133	0.973
Single elderly female	0.571	-0.223	0.202	0.584
<i>Female household head</i>	0.514	-0.333	0.402	0.463
<i>Has access to land</i>	-0.125	0.016	-0.274	0.909
<i>Owens color TV</i>	-0.407	-0.321	-0.053	0.728
<i>Own car</i>	-0.560	-0.018	-0.088	0.678
<i>Education of head</i>				
Primary	0.663	0.235	-0.140	0.486
Secondary	-0.269	-0.253	0.162	0.838
Higher	-0.269	-0.190	0.053	0.889
<i>2 or more elderly members</i>	0.107	-0.126	-0.423	0.794
<i>3 or more children</i>	-0.118	0.398	0.151	0.805
<i>Roma ethnicity</i>	0.137	0.426	0.253	0.736

Long-term poverty status loads relatively strongly on to both the first and second retained factors (of the three factors, the factor loadings are highest for the first and second). Focusing on the second factor, it is apparent that Roma ethnicity also loads strongly on to this factor – this is evidence of a positive correlation between Roma ethnicity and long-term poverty. The other household characteristic which was shown in the probit analysis to have a large positive impact on long-term poverty status was the household head being not in the labor force; the factor analysis supports this result since this characteristic also loads positively onto the second factor.

One of the main problems with interpreting the results from the FA model is the fact that 'uniqueness' (which indicates the proportion of the variance of the variables which is due to specific, rather than shared factors) is high for just about all of the variables. Unless a large proportion of the variance of a variable is shared with the other variables in the model, it is very difficult to attach any plausible interpretation to the factor loadings. Some of the references on factor analysis (for example, the STATA manual) argue that interpreting the FA model is problematic when uniqueness is higher than 0.7. With high uniqueness so much of the variance of a particular variable is being determined by the specific factor (or measurement error), that it is difficult to attribute importance to the common factors and look for links between variables. The majority of the variables in this study have uniqueness over 0.7, therefore interpretation of the results is indeed problematic.⁷

5. Multiple Correspondence Analysis

In the above section, FA was described and applied to the construction of a poverty profile using data from the HHP. It was decided that because of problems with interpretation and also the potential inapplicability of FA to binary data, FA may not be suitable for use in constructing poverty profiles. In this section, an alternative multivariate method, multivariate correspondence analysis (MCA), is described and used in the construction of a poverty profile.⁸

MCA is designed for the analysis of frequency data which is typically represented in contingency tables (or cross-tabs, as they are generally called in economic analysis). MCA is related to FA, but is a more appropriate multivariate method when one is analyzing binary data (Jackson, 1991 and Hill, 1974). MCA aims to graphically show the extent to which the frequencies in the rows are independent of the columns in which they are located, or whether they are *contingent* upon the column identification. In the present context, multiple correspondence analysis can be used to assess the extent of the correlation between household characteristics and poverty status.

MCA may be useful in poverty analysis for two reasons. First, as mentioned above, it is specifically designed for the analysis of qualitative data; in fact the starting point of MCA is the table of cross-tabulations which is often constructed as part of constructing a poverty profile. Second, results of MCA are more easily interpreted in the context of poverty analysis, compared with the results of FA. MCA is commonly used in the area of marketing to answer such questions as: what type of person is more likely to buy brand X washing powder? Such a research question is similar to the question asked in poverty analysis, namely, what type of households are more likely to experience poverty?

There are many approaches to MCA, but the procedure described in Greenacre (1984) and Carroll et al. (1986, 1987) is the most widely used, and this is what was used in the present paper. The mechanics of MCA are not described here but can be found in a companion paper

⁷ The interpretation of the results of FA can sometimes be enhanced by the use of factor rotations, but with such high uniqueness of the variables, there is not much point in pursuing rotations.

⁸ MCA applies to the analysis of three or more categorical variables, while the term 'correspondence analysis' applies to the analysis of two categorical variables.

Ackland (1999), which in turn draws heavily from Jackson (1991). MCA was applied to the HHP household characteristics and poverty status variables using a routine available in STATA called `mca.ado`, which was written by Philippe Van Kerm. The following plots, which are in effect comprise a poverty profile, were outputted.

Figure 1a: MCA – location and poverty status

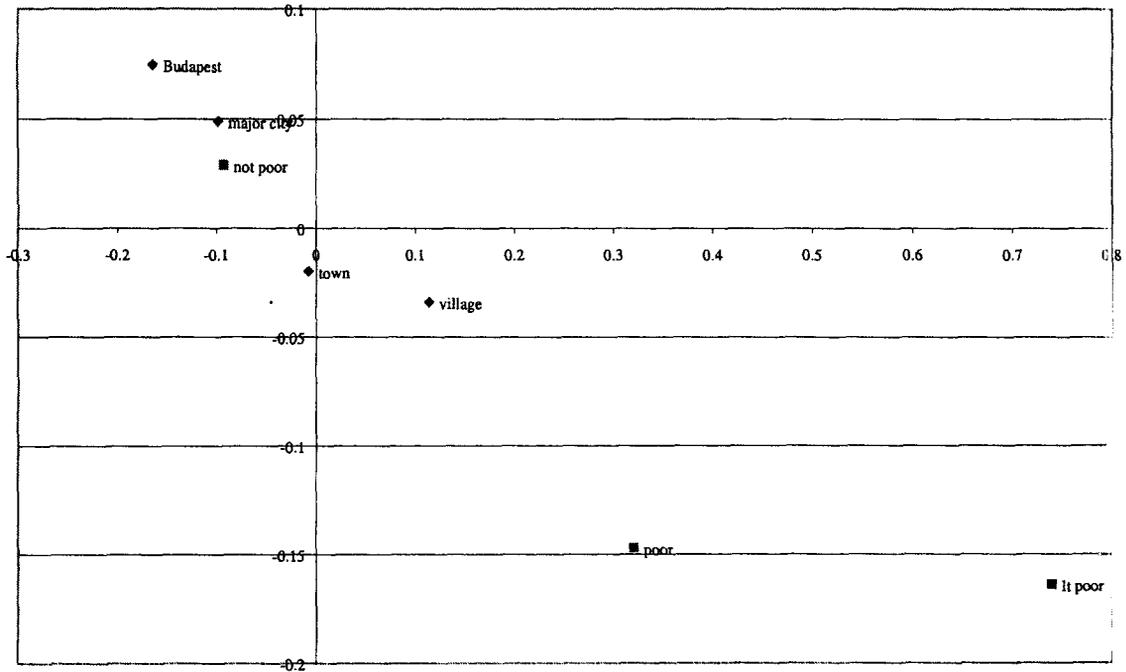


Figure 1b: MCA – labor market and poverty status

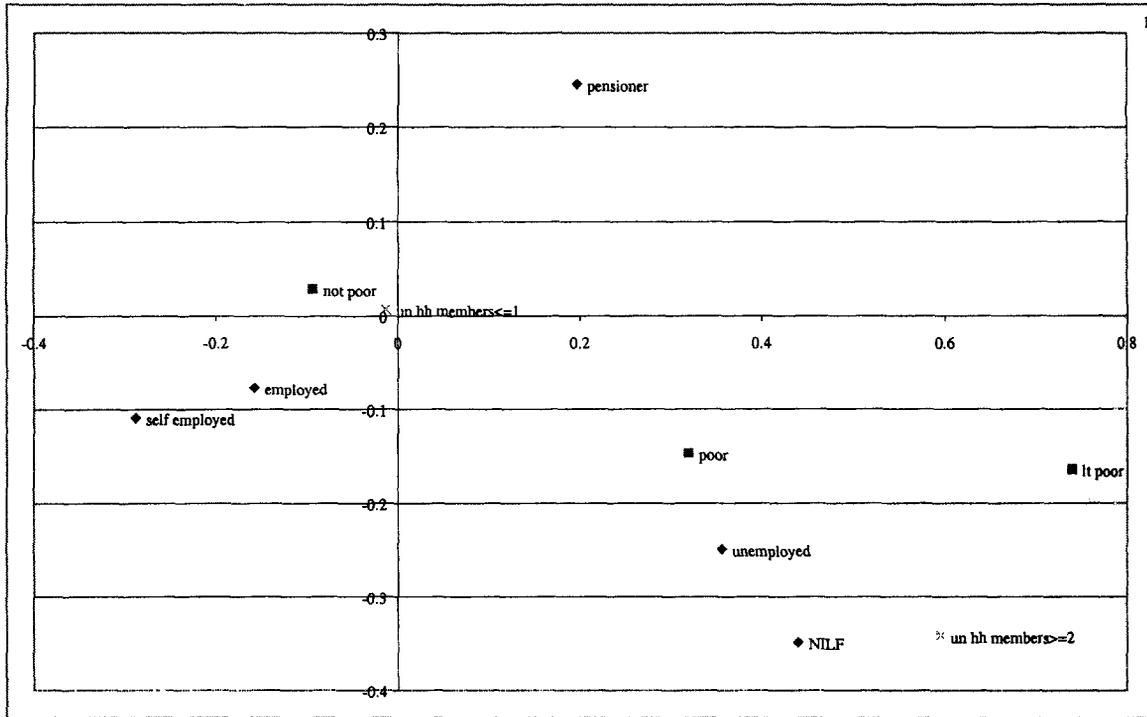


Figure 1c: MCA – household structure I and poverty status

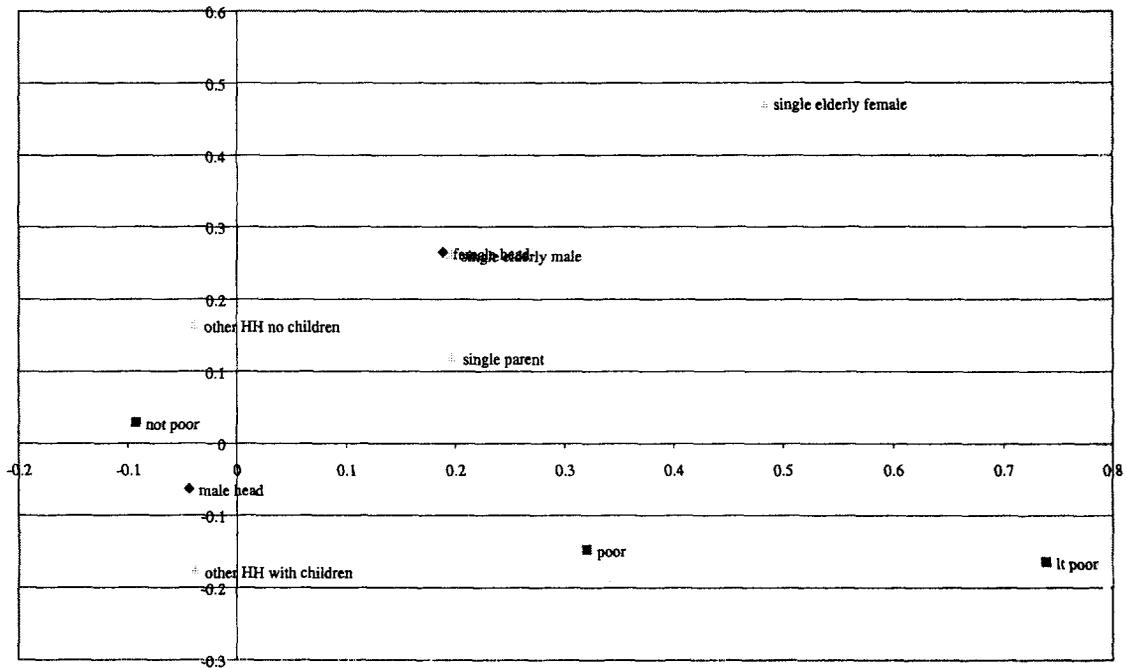


Figure 1d: MCA – household structure II and poverty status

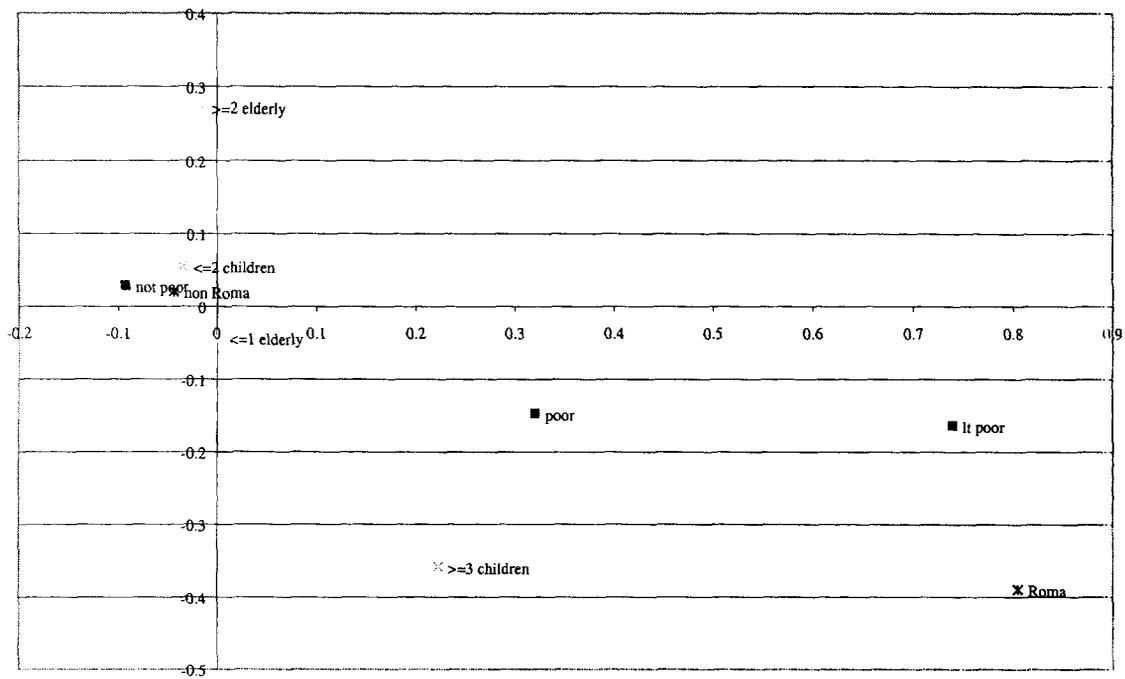


Figure 1e: MCA – education of household head and poverty status

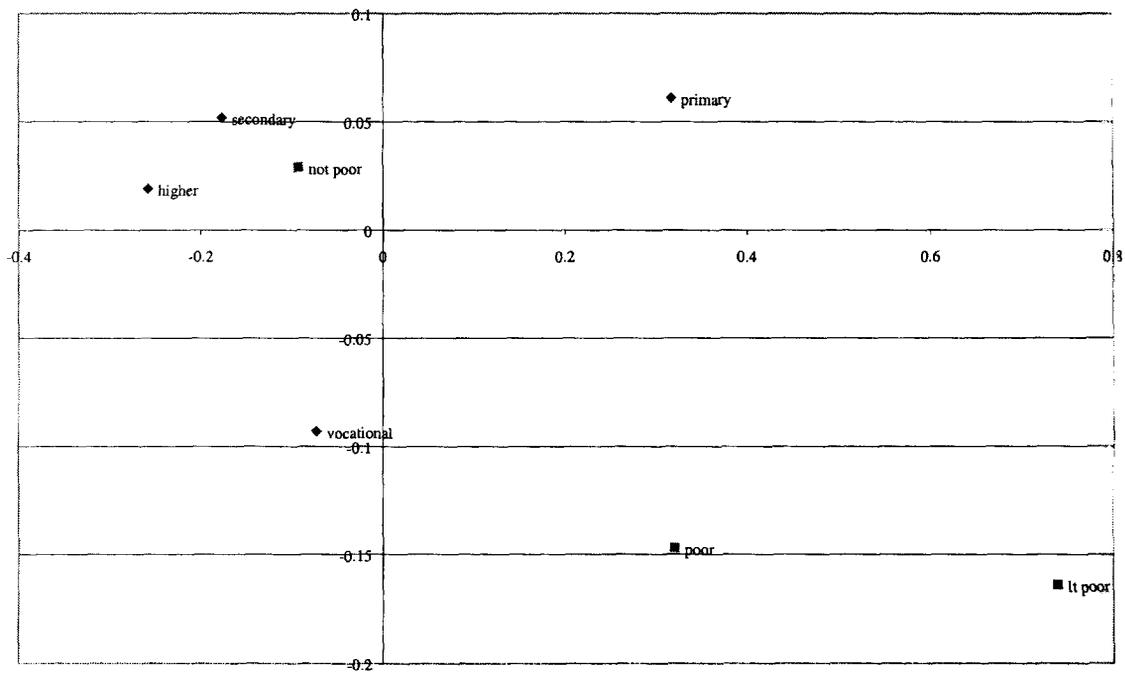
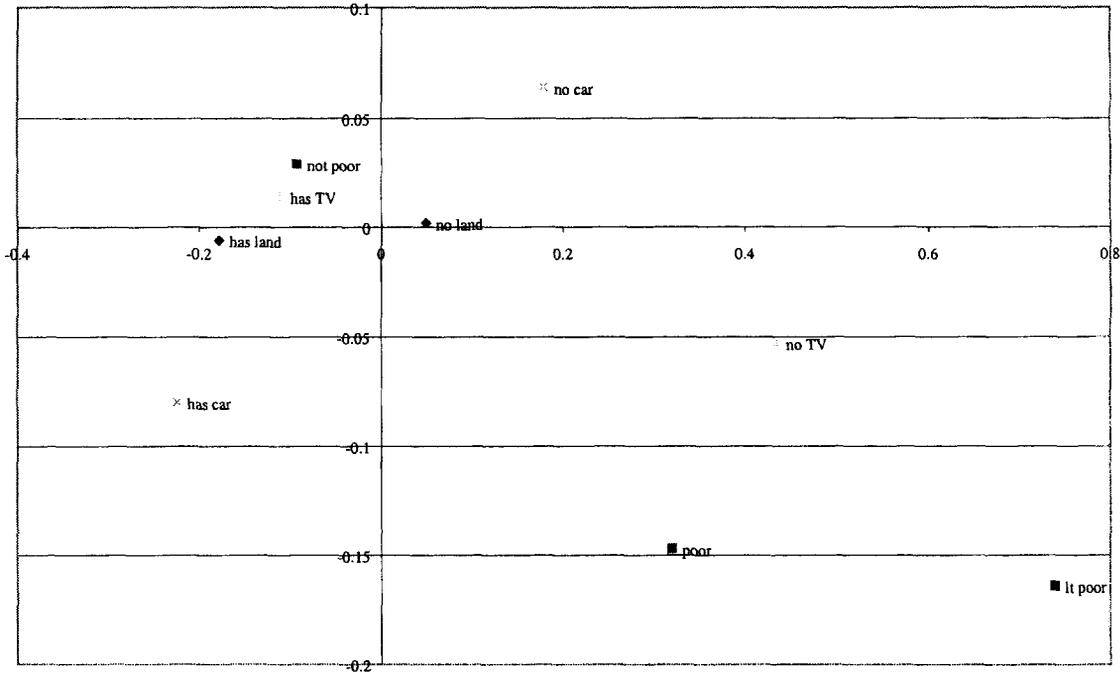


Figure 1f: MCA – household assets and poverty status



MCA is a form of multidimensional-scaling. The original variables exist in a multidimensional space, the points of which are projected into a lower-dimensional space. In the case of the plots above, two dimensions (the two axes) are used. In some cases it is preferable to use an additional dimension, however the first two dimensions explained 90.3 percent of the total variance of the variables, and so it was decided that not much information would be lost by restricting the analysis to the first two dimensions which are represented in the plots.⁹

The figure of most interest in the current application is Figure 1d which plots ethnicity (among other characteristics) versus household poverty status (note that MCA was run on all variables simultaneously – the plots were split up only for the purpose of interpretation, and this is why the poverty status variables, which feature in all plots, are in the same position in each plot). The method for interpreting MCA plots is similar to the interpretation of the solution of the FA model.¹⁰ Long-term poverty status and Roma ethnicity both load (highly) positively onto the horizontal axis, and thus can be said to *define* the positive section of the horizontal axis. In general, highly positively correlated variables will jointly define the positive or negative end of an axis, while highly negatively correlating variables will – if defining the same axis – each define the opposite section. Thus, the results from the MCA support the findings from the other

⁹ The similarities between MCA and FA should be apparent here. In the FA solution, the first two factors only explained 66.1 percent of the shared variance of the variables. In contrast, the first two dimensions of the MCA solution explained 90.3 percent of the total variance of the variables. This is evidence of the superiority of MCA when binary variables are being analyzed.

¹⁰ See Dangschat and Blasius (1987) for an example of using MCA in an application in the social sciences.

two multivariate methods that Roma ethnicity and long-term poverty status are highly correlated, even after controlling for the effect of other household characteristics.

6. Conclusion

In this paper, three multivariate methods (regression analysis, factor analysis and multiple correspondence analysis) have been used to analyze the relationship between Roma ethnicity and long-term poverty status in Hungary using the Hungary Household Panel data. While regression analysis is easy to use and interpret, a drawback in applying it to the construction of a poverty profile is the requirement that the RHS variables are independent of the LHS variable, poverty status. Factor analysis, in contrast, does not distinguish between dependent and independent variables, and hence does not suffer this drawback. However, it was argued that the results of factor analysis tend to be difficult to interpret, especially in the construction of a poverty profile, and also there is some doubt as to whether factor analysis is appropriate when the variables studied are binary in nature (as they often are in poverty analysis).

The final multivariate method considered, multiple correspondence analysis, was found to have certain advantages over both the other techniques. First, unlike regression analysis, there is no condition that household characteristic variables be independent of poverty status. Second, unlike factor analysis, multiple correspondence analysis was specifically designed to be applied to categorical or binary data. An additional benefit of using multiple correspondence analysis is that the results are present in two-dimensional plots, hence making the identification of poverty correlates very simple.

Despite the differences in the mechanics and underlying assumptions of the three multivariate methods used in this analysis, there is conformity in the evidence they produce on the relationship between Roma ethnicity and long-term poverty status in Hungary. The results of all three techniques suggest that the Roma have a higher poverty risk, even after allowing for the effect of other household characteristics. This finding is important in the context of designing policies to address the high rate of long-term poverty amongst the Roma in Hungary.

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**SOCIAL TRANSFERS AND POVERTY IN HUNGARY: RESULTS FROM THE 1997
HOUSEHOLD BUDGET SURVEY**

(BACKGROUND PAPER FOR THE HUNGARY POVERTY UPDATE OF THE WORLD BANK)

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Final version: April 2001

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1. Introduction

Hungary's extensive social safety net has been the subject of much research in recent years. Grootaert's (1997) study of the system of cash transfers in Hungary was based on the 1993 Household Budget Survey (HBS), and presented a detailed analysis of the efficiency (how accurate is the targeting of benefits?) and effectiveness (how does each benefit contribute to poverty alleviation?) of the cash transfer program. The aim of the present paper is to update this work using the 1997 HBS and, in particular, to attempt to evaluate whether legislative changes since 1995 have significantly altered the operation of the social safety net.¹

While an attempt has been made to make the comparison between the two periods as valid as possible, there may be some problems with the comparison arising from changes in the coverage of the surveys and also differences in the structure of benefits. For example, two of the benefits included in the earlier study, the child care fee (GYED) and child care allowance (GYES), were merged in 1995. A further potential problem with the comparison is the fact that while Grootaert (1997) used per equivalent consumption as the measure of household welfare (using the OECD equivalence scale), the majority of the analysis in the present paper is based on per capita consumption (see Ackland 1999 for details of the construction of the welfare measure).

The most recent analysis of the social safety net in Hungary (Szivos and Toth, 1998a and 1998b) is based on the Hungary Household Panel (HHP) and uses per equivalent household income (employing three different equivalence scales) as the measure of household welfare.² While Szivos and Toth did not look at the efficiency of targeting of social transfers, they did evaluate the effectiveness of the different benefits in poverty alleviation. A secondary aim of the present study is therefore to see whether the assessment of the performance of the social safety net is altered by using a different data source and measure of household welfare.³

2. Social transfers in Hungary

For the purposes of this paper, six components of the social safety net are identified: pensions, child care aid (GYES), child care support (GYET), family allowances, social assistance and unemployment benefits. While these benefits do not comprise the entire social safety net, they are the main transfers under the current system.

The aim of the paper is to evaluate the role of each transfer in poverty alleviation in Hungary. For the purposes of this study it is assumed that all cash transfers have a legitimate role in moderating poverty, however it should be noted that not all the transfers are specifically designed

¹ Grootaert's (1997) study was more extensive than the present one. In particular, an analysis of the receipt of transfers by different household types is not considered here.

² The HHP is a six year longitudinal household survey conducted by the Social Research Center (TARKI).

³ Note that Szivos and Toth (1998a,1998b) only considered family allowances, unemployment benefits, pensions and social assistance in their analysis.

for poverty alleviation. Pensions are a special type of transfer in the sense that they have an income-smoothing function and thus may be regarded as deferred wages. While the pension system is not specifically designed for poverty alleviation, pensions are the largest single social transfer in Hungary and as shown below, they do contribute significantly to mitigating poverty. Of the other benefits, social assistance, unemployment benefits and the family allowance (especially now that it is means tested) do have a specific anti-poverty focus.

2.1 Findings from the 1993 HBS and reforms since 1993

Grootaert (1997) also studied six components of the social safety net: four of these (pensions, family allowances, social assistance and unemployment benefits) are included in the present study.⁴ Two of the benefits included in the earlier study, the child care fee (GYED) and child care allowance (GYES), were merged [check whether this is true] into a single benefit called child care aid (GYES). One of the main conclusions in Grootaert (1997) was that too many people were benefiting from too many cash transfers and that the amounts received by the neediest households were too small to lift them out of poverty. With regards to the different types of transfers, it was found that those programs with an explicit anti-poverty focus (social assistance and, to a lesser extent, family allowances) exhibited significant benefit “leakage” to the non-poor. Other programs were found to be more successful at lifting people above the poverty line for the reason that they had broad coverage (pensions), a relatively high level of benefits (the child care fee) or were well targeted (unemployment benefits).

While a detailed discussion of recent changes in the social transfer system is outside of the scope of this paper, the following is a brief summary of the major developments. Since 1993 there have been marked changes to the social safety net, with the government’s austerity package of March 12, 1995 and the budgets of 1995 and 1996 introducing instigating the dismantling and reconstruction of some of these transfers. The changes introduced in March 1995 challenged the principle of universal entitlement which was an underlying feature of the system to that date. One of the main changes was the introduction of means testing for the family allowance, and other proposed changes included a greater emphasis on social assistance, modifications to the eligibility rules for unemployment benefits, and a merging of the child care allowance (GYES) and child care fee (GYED), which was to be means tested based on the same criteria as the family allowance.

2.2 The situation in 1997

In 1997, total social transfers accounted for 28 percent of total gross income and 85.6 percent of households received at least one form of transfer (Table 1).⁵ This represents a marked change from 1993 when social transfers accounted for 38 percent of disposable income and 91 percent of households were recipients of at least one benefit. This apparent decline in the role of social transfers is supported by Szivos and Toth (1998b) who show that the social transfers included in

⁴ Note that it appears that Grootaert (1997) included child care support (GYET) in social assistance, while in the present study the two are separated.

⁵ The social transfers not included in this study (which include orphan’s benefit, child alimony, educational support, maternity aid and scholarships) account for 1.1 percent of total gross income.

their study declined as a share of gross income from 24.8 percent in 1993 to 18.6 percent in 1996. The average amount of transfers received by recipient households in 1997 was 280,999 HUF/year.

Table 1: Social transfers – general information

	Share of gross income	Percentage of households receiving	Average amount received by recipient households (HUF/year)
Pensions	21.8	55.4	337,863
Non-pension transfers	6.2	43.4	123,207
Child care aid	0.9	7.6	104,186
Child care support	0.2	2.0	106,952
Family allowance	3.3	35.5	80,094
Social assistance	0.3	6.1	36,437
Unemployment benefits	1.5	12.0	106,489
Total social transfers	28.0	85.6	280,999

Pensions are the largest of the social transfers, accounting for 21.8 percent of gross income. Pension income is received by 55.4 percent of households, and the average recipient household receives 337,863 HUF/year in pensions. This amount is 87.8 percent higher than the average amount of pensions received by recipient households in 1993; over this period the CPI has increased by approximately 2.3 times, thus indicating that the real value of pensions has fallen (note that the real value of pensions has been eroded less than that of other benefits).

Family allowances are the second most commonly received transfer, with 35.5 percent of households receiving this benefit, and the benefit accounting for 3.3 percent of gross income. The average recipient household receives 80,094 HUF/year, which is only 19.6 percent higher than the average amount of family allowances received in 1993. Given the extent of inflation over this period, it is apparent that the real value of family allowances has fallen markedly compared with the fall in the real value of pensions.

Unemployment benefits are received by 12 percent of households; this compares with the 16.2 percent of households receiving unemployment benefits in 1993 and reflects the fall in the unemployment rate over the period from 12.1 to 10.4 percent. Unemployment benefits account for 1.5 percent of gross income, and the average benefit received by recipient households is 106,489 HUF/year (compared with 79,775 HUF/year in 1993).

Child care aid (GYES) and child care support (GYET) are received by 7.6 and 2 percent of households, respectively. Child care aid is payable to a parent raising the child at home up until the child's third birthday (or 10th if the child is disabled). Child care support is available to parents who are raising at least three minors where the smallest child is between 3 and 8 years of age. Child care aid (support) accounts for 0.9 (0.2) percent of gross income, and the average benefit received by recipient households is 104,186 (106,952) HUF/year.

Finally, social assistance was received by 6.1 percent of households. This benefit accounts for only 0.3 percent of gross income, and the average recipient household in 1997 received 36,437 HUF/year, compared with 18,207 HUF/year received in 1993.

3. Efficiency of targeting of social transfers

Social safety nets can be assessed on two criteria. First, it is important to establish the *efficiency* the targeting of the different benefits comprising the safety net: are the benefits are being received by the households which should be receiving them? Second, the ability of social transfers to move people out of poverty, or the *effectiveness* of the social safety net, must be assessed. The efficiency of the social safety net in Hungary is looked at in this section and the effectiveness of social transfers is assessed in the following section.

There are two indicators which can be used to gain an understanding of the efficiency of the targeting of social transfers: the incidence of transfers (percentage of households at different levels of welfare receiving transfers) and the share of benefits being received by these households.

3.1 Incidence of receipt of transfers by households in different deciles

Figure 1 shows the percentage of households in each per capita expenditure decile receiving social transfers.⁶ From this figure, it appears that all social transfers combined are pro-rich; the percentage of households receiving at least one type of social transfers declines monotonically from 98.9 percent in the bottom decile to 67.3 percent in the richest decile. On the basis of incidence of receipt, pensions are pro-rich with 39.8 percent of households in the bottom decile being in receipt of pension income, compared with 55 percent of households in the top decile. Non-pension transfers are pro-poor with 85.6 percent of households in the bottom decile receiving non-pension transfer income, compared with 17.4 percent of households in the top decile.

⁶ Note that the deciles are calculated over *individuals* rather than households (and hence poorer deciles will tend to contain less households than deciles higher up in the welfare distribution, since poorer households tend to be larger).

Figure 1: Percentage of households in each (per capita) decile receiving transfers

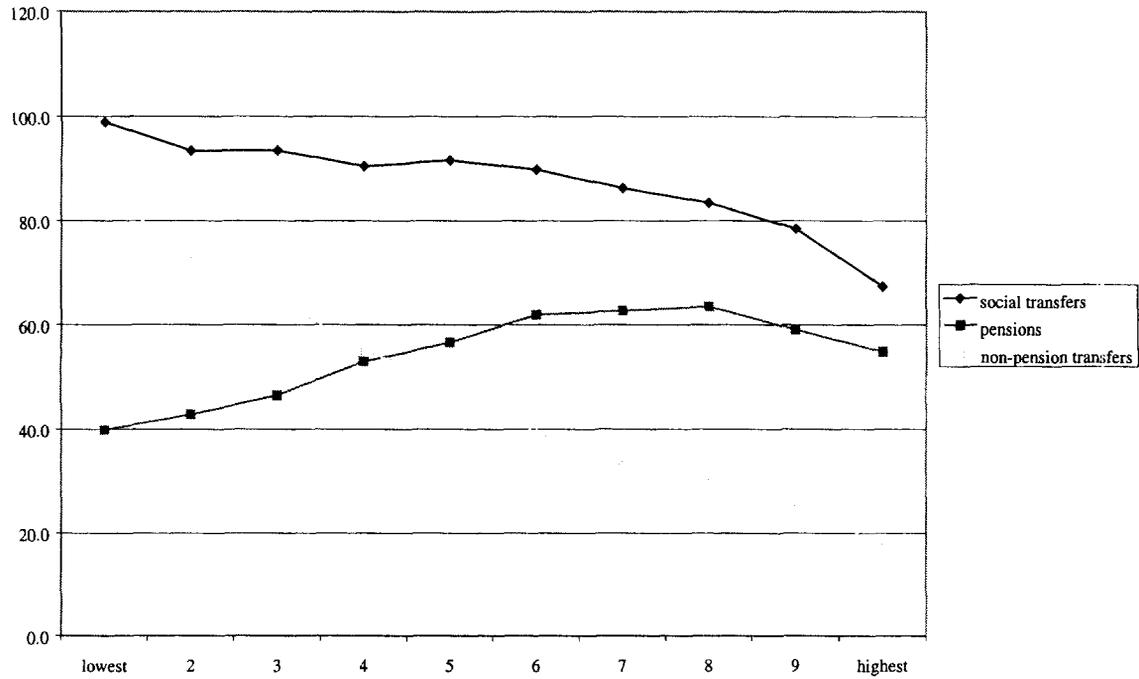
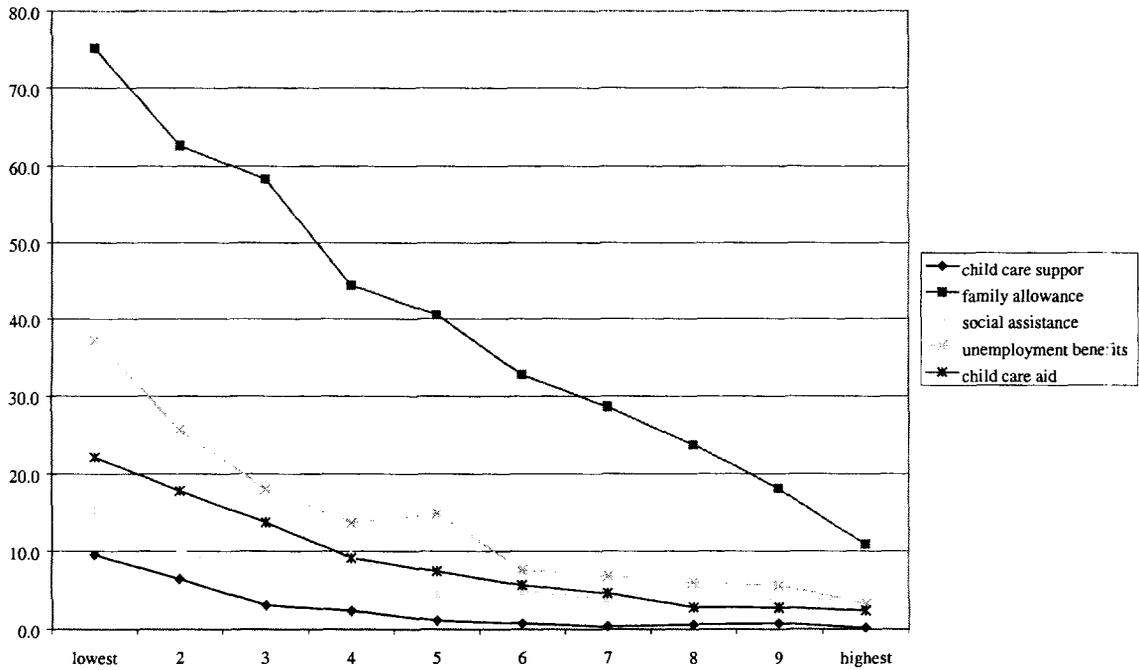


Figure 2 shows incidence of receipt for the different types of non-pension transfers and on this basis, all non-pension benefits are pro-poor.

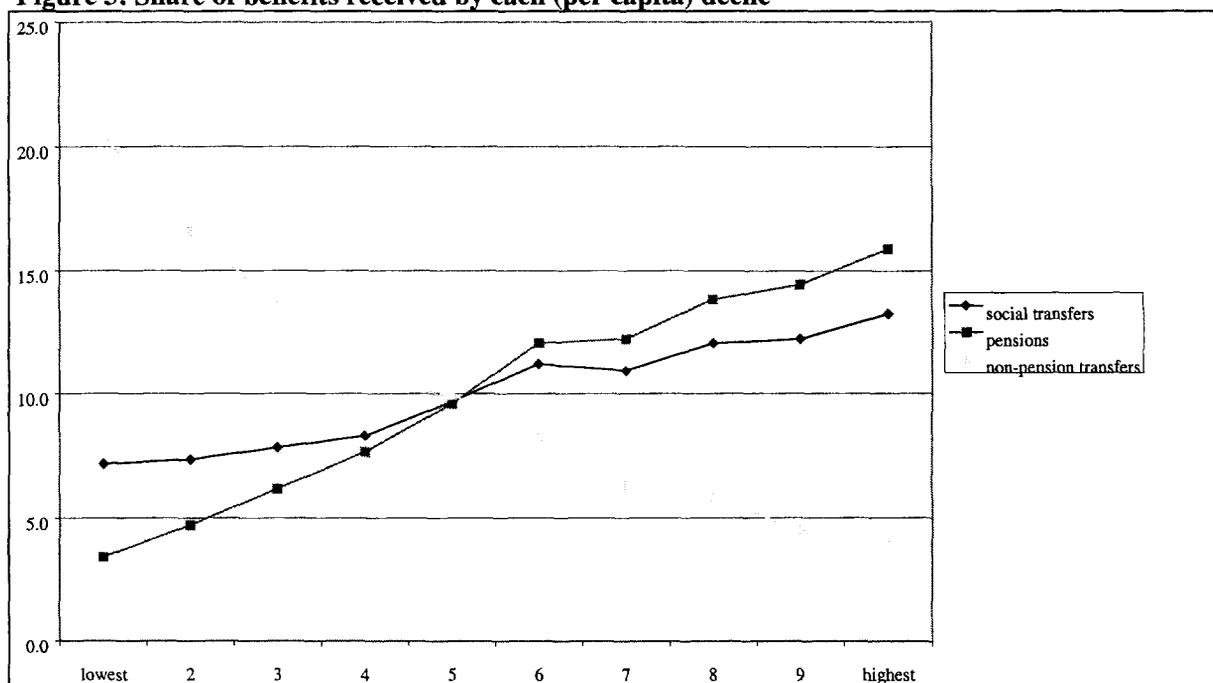
Figure 2: Percentage of households in each (per capita) decile receiving transfers



3.2 Share of transfers received by households in different deciles

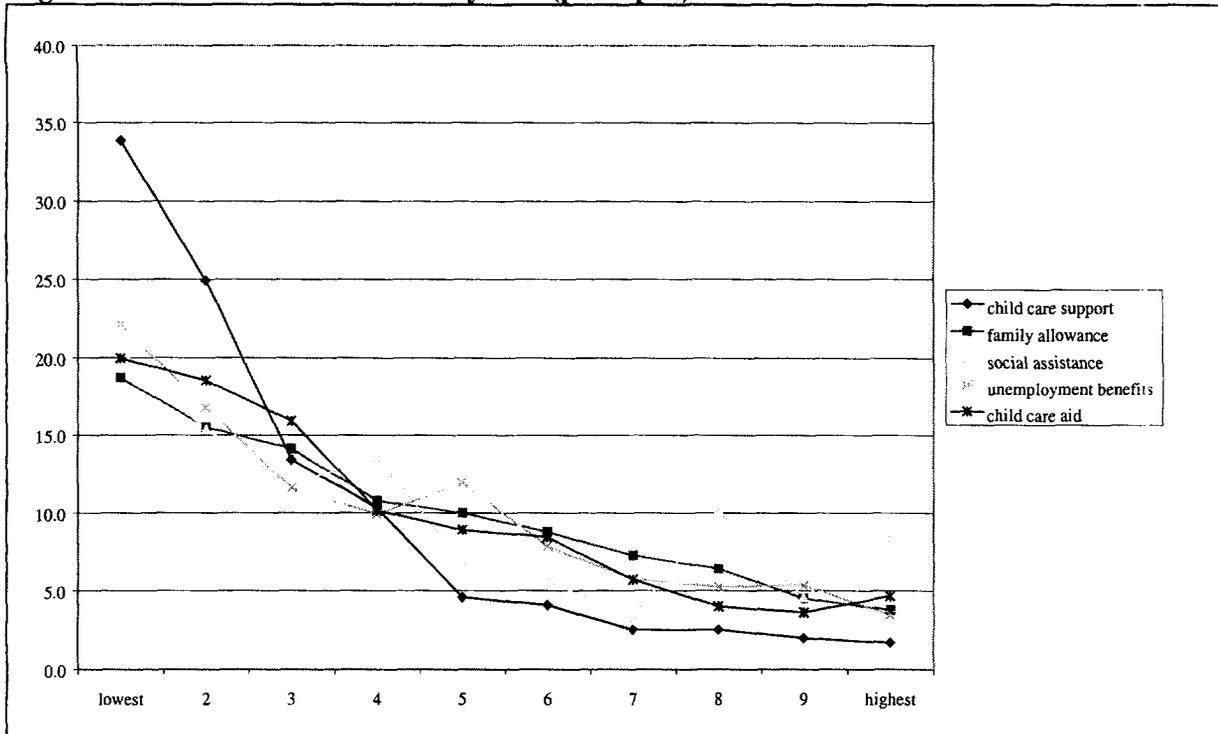
The problem with the story presented in Figures 1 and 2 is that it doesn't take into account the *amount* of transfers received by each decile. It can be argued that a more accurate picture of the efficiency of transfers is presented in Figure 3, which shows the share of social transfers received by each per capita expenditure decile. In contrast to the findings in Figure 1, it is apparent that total social transfers as a whole are pro-rich in that the amount received increases as income increases. The top quintile of households receives 25.4 percent of all social transfers, while the bottom quintile receives only 14.5 percent. However, this pattern of receipt is due to pensions (which, as shown above, are the largest share of social transfers); non-pension transfers are pro-poor with the lowest quintile of households receiving 37 percent of non-pension transfers and the richest quintile receiving only 8.5 percent.

Figure 3: Share of benefits received by each (per capita) decile



On the basis of the share of benefits received, all non-pension transfers are pro-poor (Figure 4). The poorest quintile receives 38.6 percent of the total amount of child care aid paid, while the top quintile receives 8.4 percent. Child care support is even more efficiently targeted, with the poorest quintile receiving 58.7 percent, compared with the richest quintile receiving only 3.7 percent. The poorest quintile receives 34.2 percent of family allowance paid, while the top quintile receives 8.3 percent. It is to be expected that benefits related to children will be pro-poor since children are disproportionately represented among the poor. However, the fact that social assistance and unemployment benefits appear to be pro-poor is a welcome sign. The bottom quintile receives 35.8 (38.9) percent of social assistance (unemployment benefits) while the top quintile receives 12.8 (8.9) percent of these benefits.

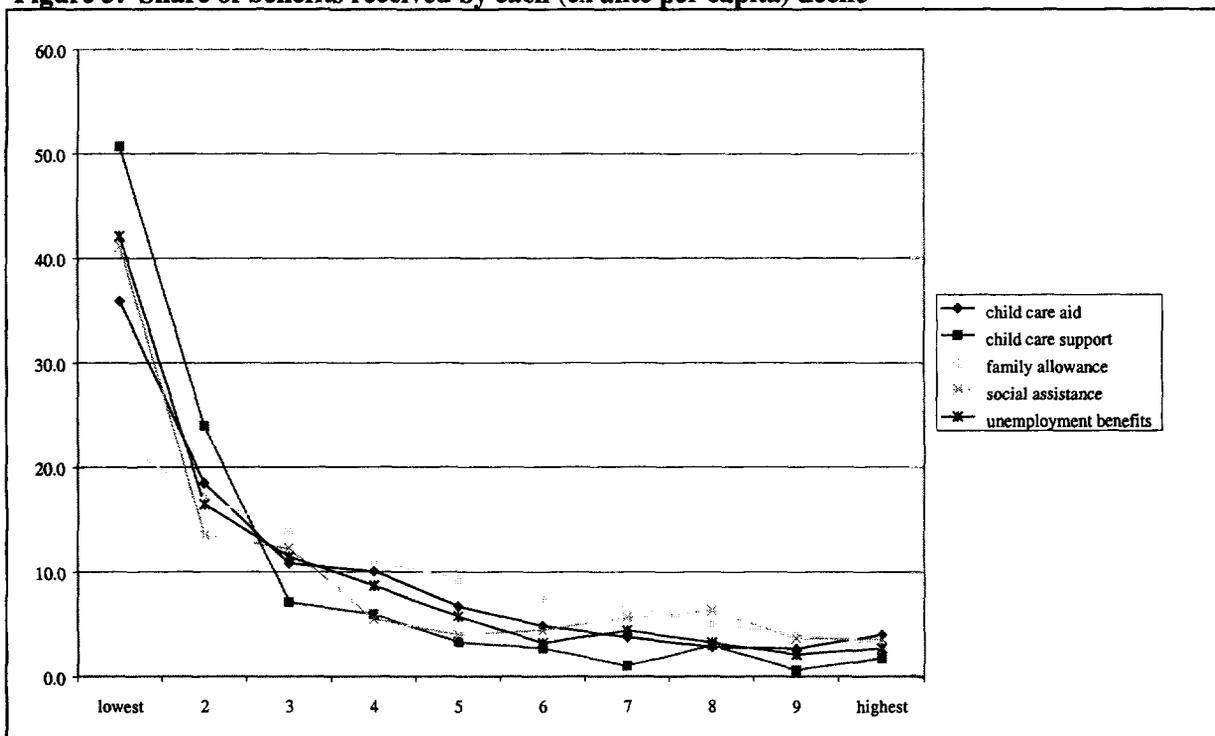
Figure 4: Share of benefits received by each (per capita) decile



The efficiency of the targeting of transfers may be more accurately assessed if one employs an alternative measure of household consumption. *Ex post* consumption is total household consumption and *ex ante* consumption is total household consumption less the amount of the social transfer received by the household. Both measures of consumption are adjusted for household size to construct *ex post* and *ex ante* welfare measures. *Ex ante* welfare is an approximation of what household welfare would be without the receipt of the social transfer (assuming that the marginal propensity to consume from benefits is one). Social transfers will move recipient households up the welfare distribution, and thus the use of an *ex ante* welfare measure may result in a more accurate picture of the efficiency of targeting of cash benefits.

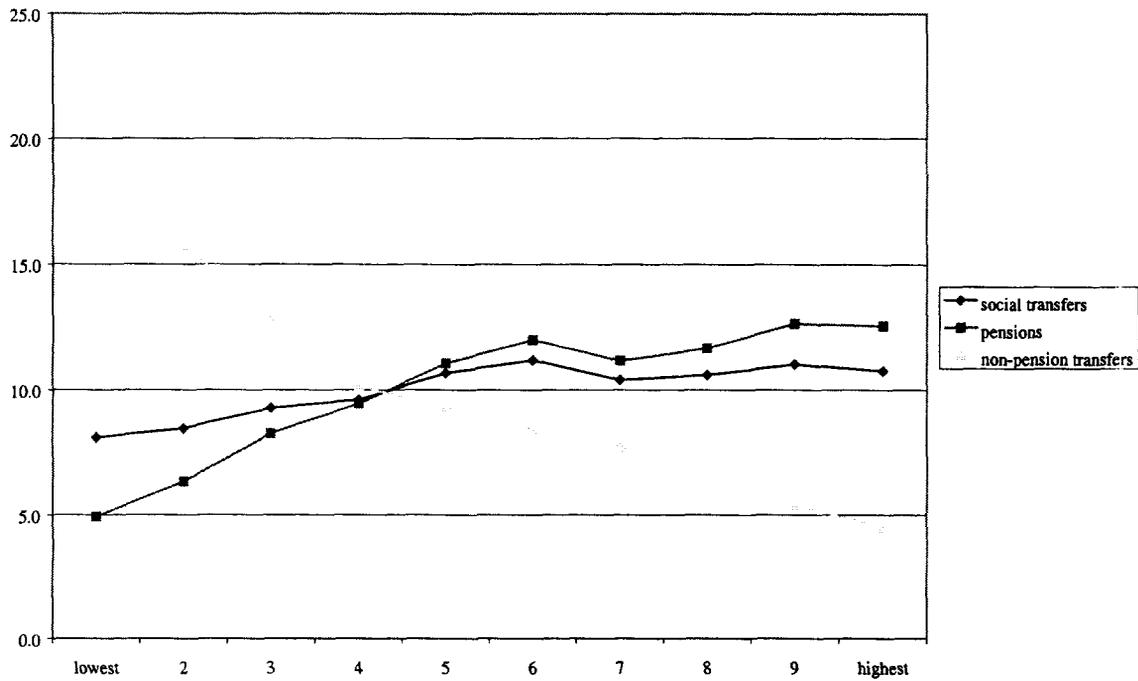
From Figure 5 it is apparent that the use of the *ex ante* (per capita) welfare measure does lead to a more favorable assessment of the efficiency of the targeting of the non-pension cash benefits. The poorest quintile now receives 54.4 percent of the total amount of child care aid paid, while the top quintile receives 6.6 percent. With regards to child care support, the poorest quintile receives 74.7 percent, compared with the richest quintile receiving only 2.3 percent. The use of an *ex ante* welfare measure does not have a large impact on the distribution of family allowance: the poorest quintile receives 39.5 percent, while the top quintile receives 7.1 percent. With the *ex ante* welfare measure the bottom quintile receives 54.7 (58.6) percent of social assistance (unemployment benefits) while the top quintile receives 7.2 (4.9) percent of these benefits.

Figure 5: Share of benefits received by each (ex ante per capita) decile



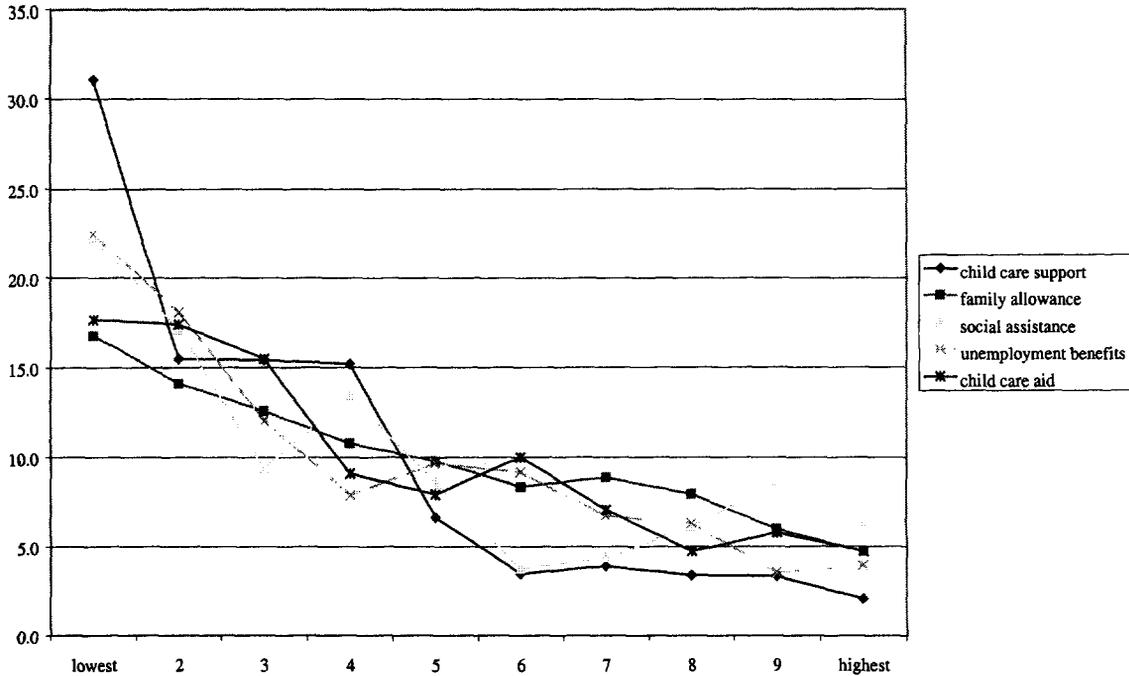
As discussed in Ackland (1999) the profile of poverty constructed using the HBS data changes markedly if one allows for the presence of economies of scale in consumption. Employing different equivalency scales in the construction of the welfare measure will similarly affect the assessment of the efficiency of the targeting of social transfers. Ranking households on the basis of *equivalent expenditures* and using a (rather conservative) adjustment for economies of scale of $\theta=0.8$ results in the top quintile receiving 21.8 percent of all social transfers, while the bottom quintile receives 16.5 percent (Figure 6). The bottom quintile receives 11.2 percent of pension income, while the top quintile receives 25.2 percent. With households ranked by equivalent expenditures, non-pension transfers are slightly less pro-poor with the lowest quintile of households receiving 34.8 percent of these transfers and the richest quintile receiving 9.9 percent.

Figure 6: Share of benefits going to each (theta=0.8) decile



The reason for the slight pro-rich shift in the targeting of non-pension transfers is family-related transfers; with equivalent expenditures, the bottom quintile receives 35.1 (46.6) of child care aid (child care support), while the top quintile receives 10.5 (5.4) percent (Figure 7). With regards to the family allowance, the poorest quintile now receives 30.9 percent and the richest quintile receives 10.7 percent. This change in the shares of benefits received is to be expected since by employing equivalent expenditures large households (which generally have a lot of children) tend to be ranked higher in the welfare distribution than when per capita expenditures are used as the welfare measure. It is to be expected that by using $\theta=0.6$ in the construction of the household welfare measure, family-related transfers would be found to be even less progressive.

Figure 7: Share of benefits going to each (theta=0.8) decile



3.3 Incidence receipt of transfers by poor and non-poor households

The previous discussion has focused on deciles, however the efficiency of targeting of social transfers in Hungary can also be assessed by considering the incidence of receipt of transfers received by poor and non-poor households.⁷ When per capita expenditure is used as the welfare measure, the poverty line (set at 50 percent of mean per capita expenditure) is 123,560 HUF and the individual poverty rate is 12.5 percent (for further details, see Ackland, 1999). From Table 2, 97.8 percent of poor households were in receipt of at least one type of social transfer, compared with 84.5 percent of the non-poor.

The incidence of receipt of pensions was higher for the non-poor compared with poor (56.6 percent compared with 42.3 percent). It is difficult to accurately compare the incidence of receipt by the poor and non-poor with what was found using the 1993 HBS data, since a different poverty line was obviously used in the analysis of the 1993 data. However, Grootaert (1997) found that the incidence of receipt of pensions was higher for the poor compared with the non-poor. The incidence of receipt of non-pension transfers by the non-poor was less than half that of the poor (39.8 percent compared with 81.8 percent), and all the component non-pension benefits were progressive.

⁷ It is not particularly useful to look at the share of transfers received by the poor and non-poor since such shares will be dominated by the fact that the non-poor are a far larger share of the population (in contrast to the analysis above where we were comparing shares received by groups containing equal numbers of people) and also the shares will be influenced by where the poverty line is set.

Table 2: Incidence of receipt by poor non-poor households (per capita)

	<i>Ex post</i> welfare measure		<i>Ex ante</i> welfare measure	
	not poor	poor	not poor	poor
Pensions	56.6	42.3	29.2	88.7
Non-pension transfers	39.8	81.8	34.1	90.5
Child care aid	6.4	19.8	4.9	31.3
Child care support	1.3	9.1	1.0	12.3
Family allowance	32.2	71.5	29.1	80.4
Social assistance	5.3	14.8	4.8	18.6
Unemployment benefits	9.8	35.0	7.4	49.2
Total social transfers	84.5	97.8	70.8	99.6

Since April 1996 the family allowance has been subject to a means test (previously it was a universal benefit), and the evidence here suggests that this legislative change has made this benefit strongly pro-poor, with 71.5 percent of poor households in receipt compared with 32.2 percent of non-poor households. The incidence of receipt of the key poverty alleviation transfers is higher for the poor compared with the non-poor; 14.8 (35.0) percent of the poor receive social assistance (unemployment benefits) compared with 5.3 (9.8) percent of the non-poor. As was found above, the targeting of all benefits is improved markedly if the *ex ante* welfare measure is used.

3.4 Targeting errors of social transfers

The efficiency of the targeting of social transfers can be further assessed by looking at the two types of targeting errors: non-payment to poor households ('exclusion' or Type I errors) and payment to non-poor households ('inclusion' or Type II errors). Exclusion errors can be quantified by the *undercoverage rate* which is the percentage of *ex ante* poor who do not receive the social transfer (100 minus the *ex ante* incidence rate in Table 2, using per capita expenditure as the welfare measure). From Table 3, the undercoverage rate for social transfers as a whole is very low, but for certain benefits (for example, social assistance and child care support), it is high.

Table 3: Undercoverage and leakage rates

	Undercoverage		
	rate	Leakage rate	100-leakage rate
Pensions	11.3	29.5	70.5
Non-pension transfers	9.5	65.7	34.3
Child care aid	68.7	58.5	41.5
Child care support	87.7	44.8	55.2
Family allowance	19.6	71.7	28.3
Social assistance	81.4	72.5	27.5
Unemployment benefits	50.8	54.8	45.2
Total social transfers	0.4	40.1	59.9

Errors of inclusion can be measured by the *leakage rate* which is the number of *ex ante* non-poor recipient households as a percentage of all recipient households. Of the non-pension transfers,

the leakage rate is highest for social assistance – 72.5 percent of the recipients of social assistance are non-poor. Grootaert (1997) found that in 1993, social assistance had the highest leakage rate and unemployment benefits the lowest leakage rate. In 1997, child care support has the lowest leakage rate of the non-pension transfers (44.8 percent), followed by unemployment benefits (54.8 percent). The leakage rate for the family allowance (71.7 percent) is the second highest of the non-pension benefits; this suggests that the introduction of means testing in 1995 has not had a large impact on leakage of this benefit.

3.5 Average transfers per *ex-ante* poor person

A final measure of targeting efficiency is the amount of money spent in order to help a poor person. A shortcoming of the following analysis is the fact that information on administration costs, which in principle should be added to the amount of transfers in order to compare different benefits, is not available. The first column of Table 4 shows the total amount of each transfer divided by the total number of people in the country who were poor before receiving the transfer (*ex ante* poor). This gives a broad measure of the cost of reaching one eligible poor person, and this cost includes leakage i.e. transfers being paid out to the non-poor. The second column shows the average amount of each transfer actually received by the *ex ante* poor (the cost of leakage is thus excluded from the numerator, and the denominator *ex ante* poor recipients only).

Table 4: Average transfer per *ex ante* poor person (HUF/year)

	Average transfer paid out per poor person	Average transfer received by poor person
Pensions	182,092	226,451
Non-pension transfers	82,669	87,447
Child care aid	17,979	54,162
Child care support	6,174	35,807
Family allowance	56,515	63,396
Social assistance	7,400	38,850
Unemployment benefits	28,632	58,926
Total social transfers	185,817	186,455

The information in Table 4 thus gives another indication of the degree of leakage in the social safety net. Under perfect targeting towards the poor, leakage would be zero and both columns would be identical. For those programs which are specifically aimed at the poor, the second column should be larger than the first, indicating that the transfer is more efficient at the level of the ultimate poor beneficiaries than for the potential target group as a whole. All transfers meet this condition with the current poverty line. Grootaert (1997) found that for one of the poverty lines used in his study, this condition was met by all transfers except family allowance.⁸

Table 4 also shows the degree of difference across benefits in the cost of helping a poor person. Including the cost of leakage, the pension system spends 182,092 HUF per *ex ante* poor person per year while child care support and social assistance both spend less than 8,000 HUF per poor

⁸ Note that all other things equal, targeting is more likely to succeed the higher is the poverty line, so the results here are dependent on the level of the poverty line and a strict comparison between 1993 and 1997 is not possible.

person. The table also shows that there are significant differences in amounts actually transferred to the poor. For example, the unemployment benefit system transfers 58,962 HUF per poor recipient while social assistance transfers 38,850 HUF per poor recipient. This difference will influence the effectiveness of the different benefits in raising people out of poverty and closing the poverty gap, as indicated in the following section. Note that while the average unemployment benefit received by a poor person is about 1.5 times the average amount of social assistance received, this difference is less than what was found in 1993 (when the difference was found to be about 2.6 times).

4. Effectiveness of targeting of social assistance

As with efficiency, there are several ways the effectiveness of the social safety net can be assessed.

4.1 Amounts of benefits received by poor/non-poor

It was shown in Table 2 that the incidence of receipt of pensions is higher for the non-poor compared with the poor; from Table 5 it is apparent that the average non-poor household in receipt of a pension received 343,947 HUF/year, compared with the 251,216 HUF/year received by the average poor recipient household. Therefore, the pension system in Hungary appears to be increasing inequality in the distribution of living standards.

Table 5: Social transfers - effectiveness

	<i>Amount received per recipient household</i>		<i>Transfer as percentage of expenditures</i>			
	Non-poor	Poor	All households	All recipient households	All recipient	All recipient
					non-poor households	poor households
Pensions	343,947	251,216	32.3	62.8	62.3	73.2
Non-pension transfers	110,882	186,967	8.9	17.5	14.4	46.0
Child care aid	103,430	106,808	1.2	13.4	11.7	23.5
Child care support	102,111	114,411	0.4	14.4	11.5	22.5
Family allowance	74,929	104,818	4.9	11.0	9.4	25.1
Social assistance	33,696	46,821	0.4	7.3	6.4	13.2
Unemployment benefits	104,362	112,804	2.0	16.2	13.9	27.4
Total social transfers	282,738	265,013	41.2	47.5	45.9	71.7

It was shown in Table 2 that child care aid and child care support are pro-poor in terms of incidence; the fact the amount of these benefits received does not vary greatly by expenditure level (Table 5) is evidence that these benefits contribute to the equalizing the distribution of living standards. This is even more so the case for the family allowance; in addition to it being strongly pro-poor in terms of incidence (Table 2), poor recipient households receive more than non-poor recipients (104,818 HUF/year compared with 74,929 HUF/year). The average amount of unemployment benefits received does not vary greatly by household expenditure, but poor recipients of social assistance receive 46,821 HUF/year compared with the 33,696 HUF/year received by non-poor households.

4.2 Contribution of benefits received to living standards

The effectiveness of the social safety net is also reflected in the contribution that the different benefits make to the standard of living of different households. From Table 5, the social safety net in Hungary represents 41.2 percent of the expenditure of an average household (and from Table 1, provides 28 percent of its income). While this is fairly high, it represents a decline in the importance of social transfers compared with 1993 when 54 percent of expenditures of the average household were accounted for by the social safety net. Pensions contribute 32.3 percent to household expenditures, family allowances contribute 4.9 percent, unemployment benefits 2 percent and the remaining benefits contribute 2 percent.

Social assistance contributed only 0.4 percent to household expenditures, which is significantly lower than in 1993 when social assistance contributed 1.4 percent to household expenditures. Despite the finding that social assistance is a small proportion of total expenditures, this does not mean that this transfer was not important for recipient households (social assistance covered 7.3 percent of recipient household expenditures in 1997).

A key issue in assessing the role of the social safety net in poverty alleviation is whether social transfers cover more of household expenditure for the poor than the non-poor. On this basis, the social safety net in Hungary appears to be very progressive; Table 5 indicates that all transfers contribute more to the expenditures of poor recipient households compared with non-poor recipient households. For example, social assistance was 13.2 percent of total expenditures for poor recipient households, while for non-poor recipient households the share was 6.4 percent.

4.3 Number of *ex ante* poor helped by each transfer

An alternative method for gauging the effectiveness of the social safety net is to look at the number of poor people that are helped per Forint spent on social transfers (as before, this should ideally include administrative costs). Hence, what is calculated is the poverty impact of different transfer programs after normalizing for the size of the program. The first column of Table 6 shows the number of (*ex ante*) poor per 1 million HUF spent on a given transfer program (this is the size of the potential target group). The second column shows the number of *ex ante* poor reached by the transfer per 1 million HUF spent, and the final column shows the number of poor lifted above the poverty line as a result of receiving the benefit (once again normalized for the size of the program).

Table 6: Average number of *ex ante* poor helped per 1 million HUF of transfers

	Average number of poor people	Average number of poor recipients	Average number of poor recipients lifted out of poverty
Pensions	5.5	4.4	3.7
Non-pension transfers	12.1	11.4	5.6
Child care aid	55.6	18.5	6.9
Child care support	162.0	27.9	8.3
Family allowance	17.7	15.8	5.9
Social assistance	135.1	25.7	6.2
Unemployment benefits	34.9	17.0	5.8
Total social transfers	5.4	5.4	4.0

Per 1 million HUF spent, the most poor people are reached by child care support (27.9), and this also has the largest impact on poverty, lifting 8.3 people out of poverty per 1 million HUF spent. This poverty impact reflects the fact that the amount of child care support transferred per household is quite high (Table 5). Social assistance reaches 25.7 people per 1 million HUF spent, while all other programs reach less than 20 people. The pension system reaches the fewest poor people per 1 million HUF spent (4.4), but this is to be expected given it transfers the highest amounts (Table 5) and it is not designed specifically for poverty alleviation.

Child care aid is the next most effective program in lifting people out of poverty, doing so for about 7 people per 1 million HUF spent. Family allowance, social assistance and unemployment benefits all lift about 6 people out of poverty per 1 million HUF spent.

4.4 Poverty alleviation impact of social transfers

The effectiveness of the social safety net can further be assessed by looking at the impact of each transfer on the different poverty measures. First, consider how many *ex ante* poor recipient households are moved above the poverty line as a result of the transfer (first column of Table 7). Pensions are the largest component of the safety net and for this reason they contribute the most to keeping people out of poverty: 80.5 percent of households who receive pensions are lifted above the poverty line.⁹ The second best poverty alleviation effect (31.2 percent) is achieved by the family allowance and, in contrast with the findings from the 1993 survey, this benefit is significantly more effective at poverty alleviation compared with unemployment benefits (21.8 percent).

Table 7: Poverty alleviation impact of social transfers

	Percentage of <i>ex ante</i> poor recipient households lifted above poverty line as result of social transfer	Social transfers received by poor households as percentage of poverty gap	Individual <i>ex ante</i> poverty rate	Individual <i>ex ante</i> poverty gap
Pensions	80.5	418.4	37.6	65.7
Non-pension transfers	47.8	601.9	23.5	38.9
Child care aid	14.4	83.1	14.7	24.4
Child care support	3.5	41.0	13.2	23.1
Family allowance	31.2	295.0	18.7	28.5
Social assistance	4.5	27.2	13.0	23.0
Unemployment benefits	21.8	155.6	15.2	28.1
Total social transfers	83.3	1020.3	47.9	67.7

While child care support and social assistance are the two most progressively distributed transfers (Table 6), they have the lowest poverty alleviation impacts (3.5 and 4.5 percent,

⁹ Note that in contrast to Table 6, where poverty impact was normalized for the size of the program, no such normalization is used here.

respectively). For child care support, the reason is that so few households receive this benefit (2 percent from Table 1), while in the case of social assistance, the benefit paid is very small (Table 5). The low poverty alleviation impact of social assistance mirrors the findings in the 1993 survey and indicates that the size of the benefit will have to be increased (and targeting improved) if it is to have a significant role in tackling poverty in Hungary.

The social safety net can have a major impact on the living standards of recipient households even when it does not result in lifting the households above the poverty line. The second column of Table 7 shows the transfers received by poor households as a percentage of the poverty gap. Total social transfers received by the poor are 1020.3 percent of the poverty gap. Hence, without transfers, the poverty gap would be over 10 times larger than what is currently is.

A final method for measuring the effectiveness of social assistance targeting is to look at the impact of targeting on the different poverty measures. Using per capita consumption as the welfare measure, the individual poverty rate is 12.5 percent and the individual poverty gap (defined as the average shortfall of expenditures of poor persons, as a percentage of the poverty line) is 21.8 percent. The final two columns of Table 7 show the *ex ante* poverty measures (what the poverty measures would be if the transfer were not received). The social safety net as a whole has a large impact on the poverty measures; the poverty rate would be 47.9 percent and poverty gap 67.7 percent in the absence of a social safety net. Without the pension system, the poverty rate would be 37.6 percent. The importance of the family allowance is also apparent, with the poverty rate increasing to 18.7 percent in the absence of this transfer. As shown above, child care support and social assistance have only marginal impact on poverty alleviation.

Szivos and Toth (1998a) also looked at the impact on individual poverty rates of removing different transfers and found a similar pattern of results to the present study. Their baseline poverty rate (using per capita income) was 18 percent; this increased to 18.4 percent with the removal of social assistance, 19.8 percent with the removal of unemployment benefits, 22.7 percent with the removal of family allowances and 36.4 percent with no pension benefits.

5. The Impact of Changes to the Social Safety Net: Poverty Simulations

In the final part of this paper, two targeting simulations are considered. The first scenario is the removal of the transfer program which gives the smallest benefit per recipient household. From Table 1, this program is social assistance, which gives only 36,437 HUF/year to recipient households. The poverty impact of the removal of this program is shown in Table 7 – the individual poverty rate would increase only slightly to 13 percent and the poverty gap to 23 percent.

The second simulation is deducting a fixed amount from each program. Each recipient household has 36,000 HUF deducted from its expenditure (if the amount of benefit received is less than 36,000 HUF, then the amount of the benefit is deducted). From Table 8, the impact of this particular scenario is fairly small. The largest impact would be from cutting the family allowance, where the poverty rate would increase to 14.9 percent and the poverty gap to 23.3 percent.

Table 8: Targeting simulation - cutting 36,000 HUF/year from benefits of recipient households

	Individual headcount	Individual poverty gap
Pensions	14.0	22.9
Child care aid	13.2	22.1
Child care support	12.7	22.2
Family allowance	14.9	23.3
Social assistance	12.8	22.0
Unemployment benefits	13.5	22.9

6. Conclusions

In this paper, an evaluation of the efficiency and effectiveness of the social safety net in Hungary in 1997 has been presented. The analysis is based on the 1997 HBS, and a comparison is made with the findings from a study of the 1993 HBS by Grootaert (1997) and also recent analysis using the HHP (Szivos and Toth, 1998a and 1998b). A number of conclusions about the social safety net in Hungary can be made:

- The extensive coverage of the pension system means that this cash transfer, as was found in 1993, is the most effective in poverty alleviation (despite not having a specific anti-poverty role).
- While the government's austerity package of March 1995 aimed to increase the role of social assistance in poverty alleviation, there is not much evidence that this has worked. Social assistance has the highest leakage rate of all cash benefits and the lowest payout per recipient household: as a result, social assistance has only a small impact on poverty alleviation. Clearly the size of benefits and accuracy of targeting need to be improved for social assistance to become an effective tool in combating poverty in Hungary.
- Means testing for the family allowance was introduced in 1995 but this transfer still has the second highest leakage rate of all benefits. However, despite the poor targeting of the family allowance, the relatively generous level of benefits results in it being the second-most effective cash transfer in alleviating poverty.
- As was found in 1993, unemployment benefits are relatively well targeted and have payout levels higher than most other non-pension transfers; this results in unemployment benefits being relatively effective in alleviating poverty.
- Child care support (GYET) is the best-targeted non-pension benefit and also has the highest payouts of the non-pension transfers. After normalization for the different sizes of the components of the social safety net, child care support is the most effective in lifting people above the poverty line. However, child care support is the smallest of the programs studied in this paper, and for this reason it has only a minor role in poverty alleviation in Hungary.

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FRENCH REINSERTION PROGRAM
R.M.I - REVENU MINIMUM D'INSERTION

PAULETTE CASTEL

Submitted: December 1999
Final version April 2001

FRENCH REINSERTION PROGRAM

R.M.I - REVENU MINIMUM D'INSERTION

The Program

The French reinsertion program is a safety net payment that is combined with active labor market and other social reinsertion programs. The goal of the program is that besides providing a minimum income, society must provide incentives and tools to the beneficiaries to leave the program and find a job. In some cases, the search for employment requires, first, specific actions to help the beneficiary reintegrate the social network or overcome certain non-work related limitations. The social reinsertion part of the program focuses on this aspect. It provides health and housing financing support to all the beneficiaries as well as specific measures depending on the need of each person.

The program guarantees a mean-tested minimum income. Such a minimum is defined according to the composition of the households, its income¹ and the level of other social allowances as well as access to free housing. At the end of 1996, the average benefit was equivalent to 36% of the minimum wage net of social contributions². The program also provides free health coverage and supplemental in housing allowance which represents an additional 6.6 percent of the average wage income.

All legal residents of France who are 25 years or older are eligible. The allocation is also provided to those who are younger if they have dependent children.

While the State finances the safety net part of the program as well as the administrative cost related to it, "departments" (French semi-regional jurisdiction) finance the the reinsertion program. According to the law, departments spending money on the reinsertion program must match 20% of what the State spent on benefits in the corresponding area in the previous year. In fact, many other reinsertion programs are also financially supported by local authorities ("communes").

Every beneficiary must be offered a contract of reinsertion within 3 months after receiving the benefits and must receive an individual follow-up. In return, the recipient must provide a quarterly income report. In most of the cases, the contract negotiated with local social workers lay out a strategy for re-employment. Such a strategy, however, might relies on a large range of actions. According to the statistics of the Minister of Labor, besides financing access to the health system, the resources for the reinsertion program are used in programs:

- **Professional Reinsertion:** formation, subsidized job in enterprises and public or non-profit organizations, financing support for creation of an enterprise. (41%);

¹ There is no cumuli of minimum income within the same household.

² The average benefit was of FF 1950 pr month.

- **Social Reinsertion**: fight against illiteracy, refreshment of knowledge, higher education, support for the access to public services and benefits, social or individual help such as family budget planning. (27%);
- **Health Status**: prevention, financing support for health expenditures not covered by insurance, fight against alcoholism (4%); and
- **Housing Problems**: higher financing support than stipulated by the law (11%)

In cases where successful professional reinsertion occurs, benefits are gradually reduced over a period of 9 to 12 months depending on the activity³ in an attempt to reduce the trade-off between getting a remunerated job and losing the subsidy.

Who are the Beneficiaries

As of June 30, 1998, there were approximately 1.1 million beneficiaries, of which 975,457 lived in the main French territory while 114,191 lived overseas in the French departments and territories. The latter are not considered or included in almost all the analysis and figures presented in this note. The cost and the implications of the program greatly differ between these regions and the main French territory because of large differences in living standards and the economic situation.

According to the Ministry of Labor, there are as many men as women in the program, but 60 percent of them are single household units. Only a small fraction of less than 10 percent, however, live in a precarious condition. Homelessness represents only 2 to 4 % of the total number of beneficiaries.

Similarly, the analysis of J.P. Zoyem (1999), show that the composition by age is even, but that 76 percent of the beneficiaries have not finished secondary education and 16.5 percent of them declare themselves as having problems in reading, writing or calculating activities (see Table 1).

Table 1. Composition of Beneficiaries by Age and Level of Education

<i>By age as of December 31th,1996</i>	<i>In %</i>
Less than 30 years	30.2
30 to 39 years	31.0
40 to 49 years	22.8
50 years and more	16.0

³Twelve (12) months if involved in self-employed activity.

<i>By level of education</i>	<i>In %</i>
No study at all and some primary school: illiterate*	11.2
No study at all and some primary school: literate	4.0
Complete primary school some specialized school: illiterate	5.3
Complete primary school some specialized school: literate	9.8
Some or completed middle (including vocational school)	45.8
Some or completed high school	11.2
Some tertiary education	12.6

* Illiterate: A beneficiary who declared to have problems in reading, writing and calculating activities

Source: J.P. Zoyem (1999)

There are no specific statistics describing what the beneficiaries previous situation was prior to entering the program. Many documents, however, insist on the variety of the profiles depending on the age, working history, and family situation. Jean de Legge (Ouest-France, 1999) who directed a survey of the situation of the beneficiaries in 12 departments in the West region of France, observes that most of the young beneficiaries use the program as a financial bridge while searching for their first job. Among the older beneficiaries, he distinguishes between two categories. The first category includes the workers who had a long and stable working experience before the enterprise where they worked was restructured, while the second includes those who didn't⁴. The latter, generally, 45 and more have a very low expectation about their ability to find a job or improve their social situation. Finally, single mothers age 35 and over composed a fourth group⁵. Those women have usually experienced repeated interruptions and a precarious working history of public and part-time work.

The reinsertion contracts

As mentioned above, "departments" (French semi-regional jurisdiction) finance the part of the program related to social and professional reinsertion. According to the law, departments allocating funds to the reinsertion program must match 20% of what the State spent on benefits in the corresponding area in the previous year. In fact, many other reinsertion programs are also financially supported by local authorities ("communes").

According to the Minister of Labor and Solidarity, those credits for reinsertion programs are increasingly used from 71.9% in 1990 to over 90% since 1992. These aggregated

⁴ Unemployment benefits are paid for period of 4 months to 2 years and 9 months depending on eligibility criteria.

⁵ Official statistics show that single mothers represent 20 percent of the total beneficiaries.

figures cover, however, important regional disparities. In 1995, 34 (upon 96) departments had fully used the available resources, while 13 had used 85 percent or less of it.

Statistics on the number of reinsertion contracts signed by beneficiaries, however, indicate relatively low coverage. According to the law, all participants should sign a contract, but in December 1996 only about 40 to 50 % of them have signed one (J.P. Zoyem, 1999). Table 2 show the repartition for 1996:

Table 2. Details of those who signed a reinsertion contract

Number of beneficiaries who signed a contract in percent of the total	38.9
Of which having a contract including clauses related to:	
Job search strategies	33.1
Use of job services (through the National Agency for Employment, ANPE)	19.3
Search of a subsidized job in non profit organization (Contract Employment Solidarity of one year CES)	18.6
Search of another type of job (not specified)	21.2
Search for specified job or support for specific professional project	9.9
Formation	18.5
Administration process	8.4
Access to health care	8.1
Access and maintenance of housing	3.9
Others	2.7

Source: J. P. Zoyem (1999)

The beneficiaries of the program have access to the same range of active labor market programs as other members of the working age population. However, since 1996, those in the program have been given priority in getting subsidized jobs along with the individuals experiencing long-term unemployment⁶ and those who are handicapped.. Norbert Holcblat (1998) observes that, as a result, the share of beneficiaries of the RMI entering the system (excluding renewals) has increased from 21 percent in 1995 to 32 percent in 1997. However, the coverage among the number of beneficiaries was lower in 1997 than in 1995, because of the reduction of the budget allocated to these programs. In

⁶ Persons being unemployed for more than 3 years, or persons age 50 and more unemployed for more than one year

1997, 18.3 percent of the beneficiaries of the RMI benefited from an active labor market program compared to 20.8 percent in 1995.

**Table 3: Share of Beneficiaries of the RMI in
Active Labor Market Programs in 1997**

	Main characteristics	Total beneficiaries	Persons receiving the RMI	% of persons receiving the RMI
Subsidized job in enterprise	1 to 2 years contract at least 16 hours per week Social contribution exempted up to 100% of the minimum wage for one year Additional support of FF 2000 for hiring of long-term unemployed (more than 3 years) and beneficiaries of RMI and handicapped persons.	212,739	30,571	14.4
Subsidized job in non-profit organization: first one year contract	3 month to 1 year contract of 20 hours per week, remuneration in proportion of the minimum wage for one year, Social contributions exempted (except for the unemployment insurance) Remuneration subsidized up to 95 percent for the beneficiaries of the RMI , 200 hours of formation financed by the State.	300,136	95,644	31.9
Subsidized job in non-profit organization: following first year of contract	Regular contract for at least one year, renewable up to 5 years Social contributions exempted (except for the unemployment insurance) up to 120% of the minimum wage and 30 hours per week. Subsidies gradually decreased from 60 percent of the remuneration in the first year to 20 percent in the fifth year.	31,909	8,971	28.1
Formation		141,115	40,300	28.6
Total		685,899	175,486	25.6

Source: Norbert Holcblat (1998)

Active Labor Market Policy toward Activities in Enterprises

M.O. Tesniere (1998) observes that while the proportion of men and women among the beneficiaries of the RMI is similar, 66 percent of those who have had access to a subsidized job in an enterprise are men. They are most likely to be hired by small

enterprises with less than 2 employees. Indeed, the proportion of persons who experienced long-term unemployment is of 76 percent among the persons hired by enterprises hiring their first employee. This proportion is of 71 percent among the persons hired by enterprises with 1 or 2 employees. Financial help is of greater importance to such enterprises and the criteria used for hiring is probably more flexible than those used in larger enterprises.

Active Labor Market Policy toward Activities in Non-profit Organizations

Two types of contract have been developed--the Contract Employment and Solidarity (CES) and the Contract Employment Consolidated (CEC). The CES contract is a one year contract. Its objectives are to employ long-term unemployed⁷, beneficiaries of the RMI or persons who are handicapped in the production of a public good or service which has not been yet developed. Under the CES, the contract is part-time for not more than 20 hours per week. The contract is almost entirely subsidized⁸. Besides being employed, the worker can in addition have access to 200 hours of formation.

A one year contract quickly appears to be an inadequate amount of time both for a successful professional reinsertion and ensure that the new developed activity is financially viable. The CEC contract, created in 1995, constitutes the next step. The contract is for at least one year and the participants work no more than 30 hours per week. It can be renewed within the limit of 5 years. The State gradually reduces its financial support over this period, from about 60 percent of the remuneration in the first year to 20 percent in the last year. A similar contract, the Contract Employment City (CEV) is specifically oriented to meet the needs of young job seekers (18 to 25 years) who live in impoverished neighborhoods and are excluded from the RMI program because they are under 25 years of age.

The analysis of P. Marioni (1998) show that most of the jobs offered under these contracts are low-skilled occupations. One third of the beneficiaries work in low-skilled maintenance activity such as janitorial positions. As of March 1997, the main occupations were related to the following activities: maintenance, public services, secretariat and administration, gardening, non-skilled construction activities, pre-school assistance, social and cultural activities, documentation, catering and accounting. The employers of these occupations are either the public administrations or local associations. Local associations, however, are more active and offer more variety in terms of occupations.

The role of the Local Associations and Special Programs

Although there is few statistics about the participation of beneficiaries of the RMI, subsidized work in households or in specialized institutions and associations "intermediaires" are important form of support for the social reinsertion of the beneficiaries of the RMI. The development of such solutions or institutions often corresponds to a new approach of the re-insertion problems. The initial approach was formulated on the idea that the situation of the long-term unemployed as well as the beneficiaries of RMI would be transitory. The measures tended to provide the financial

⁷ being unemployed for more than three years or for more than one year if 50 or older.

⁸ The Social European Fund co finance the scheme.

bridge and social support to those affected until improvement of the economic situation occurs. However, at the contrary, the increased selection criteria in the job market made more and more difficult for these persons to find a job. As a result, a new approach has been developed with less emphasis on obtaining a stable job, but with attempting to multiply the opportunities. Under this new approach, “the persons end up neither being really employed (under the same regulation than other workers) neither completely excluded” (R. Castel cited by M. Thierry (1996)).

Like in the case of the other active labor market policy, some of the new scheme are open to all the working age population others are restricted to special categories. Most of the employers in these schemes are households which employ for home work, ironing, taking care of children or elderly and gardening, etc. a person for a few hours. The household either pays the worker with a cheque bought from the administration and has only to declare to the name of the person and the number of hours worked or employ the person through specialized institutions or associations “intermediaire” (AI). In the first case, the administration does the paperwork, in the second case the institution or association takes it in charge. The purchase by households of some of these services is subsidized (for example, having someone taking care of children at home) while social contributions are partly exempted. Since their creation, in the beginning of the 90’s, these schemes have been very successful and dynamic. The number of households employers participating increased from 515 000 in 1991 to 1 147 000 in 1997 while the number of worked hours rose from 105 000 to 210 000 equivalent full-time positions. (R. Cealis and S. Zilberman, 1998).

The associations “intermediaires” (AI) explicitly employ persons long-term unemployed⁹, or beneficiaries of the RMI for which they also ensure a professional and social follow-up. Created in 1987, the number of such associations have been constantly increasing. According to R. Cealis (1998), there were, at the end of 1997, 1102 associations, with 80 000 registered potential workers of which 13,5 percent were beneficiaries of the RMI program. The total of hours worked was equivalent to more than 20 000 full time jobs. While most of the clients of these associations are household units (73%), 40 percent of the hours were, however, realized in enterprises.

Similarly, the enterprises of reinsertion specifically employ persons with low productivity and re-insertion problems, but not necessarily long-term unemployed or beneficiaries of the RMI. Like other enterprises, their activity is to produce goods and services like any other enterprises. For example, in Marseille, an association was employing ex-drug addicts to build fishing boats. The working conditions are very specific. In many cases, the persons receive lower remuneration and benefits than they would receive under the current regulation. Workers can be hired under two year fixed-term contracts renewable twice. In many instances the department provides transfers in order to partially cover eventual deficits. The fact that these enterprises produce competing goods and services has limited in some way their development. Since they are seen from non-subsidized enterprises as subsidized competitors, the government has never been able to be largely involved in their development, in particular in financing their capital. According to J. Villalard (1998), there were in 1997 only 778 enterprises of reinsertion in France.

⁹ being unemployed for more than three years or for more than one year if 50 or older.

These enterprises employed 10,150 persons as of December 1997, but had signed 26,000 contracts over the same year.

Success of the Program of Reinsertion

The indicators available to measure the success of the reinsertion program are only related to the number of exits. These exits do not provide a good measure of the success of social reinsertion. Indeed, an exit may occur if a person receives another type of allocation such as for a handicap, single motherhood or retirement. The exit from the system may be interpreted as a success, but the person may be still experiencing hardship. To the contrary, beneficiaries of the RMI who have access to limited activities like those described above in households or associations or enterprises of reinsertion, might remain in the program while at the same time experiencing working opportunities and social reinsertion.

For example, a local association in Brest recycles old bread into wheat which is sold to pigs farms. All the employees (12 persons) are beneficiaries of the RMI. Half of them are employed under a CES or a CEC contract and work 20 hours per week. The others have a much more flexible working arrangement. Over a three week period, such individuals can choose to come or not to work two half days per week (FF 30 each). Statistically, many of these persons are still beneficiaries of the RMI.

Overall, the rate of exit from the RMI program is low. According to J.P. Zoyem, about 30 percent of the beneficiaries left the system in 1997 for a period at least of 3 months. Young beneficiaries as well as more educated persons are more likely to be able to find employment in a non-subsidized job. Women exit the system more likely because they are eligible for other types of benefits. By contrast, persons with health or illiteracy problems have little chance of success. Table 4 shows the rate of exit depending on the age and level of education of the beneficiaries

Table 4. Beneficiary Exits According to the Age and Level of Education

Composition in percent	Exit for at least 3 months in 1997			No exit	Total
	Full-time Employed	CES CEC	Not employed		
By age					
Less than 30 years old	18.6	7.8	13.3	60.4	100
30 to 39	12.4	5.3	8.6	73.7	100
40 to 49	9.8	3.7	8.9	77.5	100
50 and more	5.4	1.1	13.6	80.9	100
By level of education					
No education – illiterate	4.5	0.4	9.9	85.1	100
No education – literate	5.2	4.0	11.8	79.1	100
Primary education – illiterate	6.4	4.1	12.6	76.9	100
Primary education – literate	8.0	3.2	10.2	78.6	100
Middle school	11.3	6.1	11.6	71.1	100
High school	16.9	4.7	10.3	68.1	100
Tertiary education	27.7	7.5	9.3	55.5	100
Total of beneficiaries	12.4	5.0	10.9	71.7	100

Source: J. P. Zoyem (1999)

Regarding the professional insertion, statistics of the Minister of Labor show that about half of the beneficiaries who are employed worked in enterprises, and one third in non subsidized occupations.

Table 5. Employment of Beneficiaries of the RMI

	1992		1997	
		in %		in %
Employment in enterprises	63,000	45.4	129,700	54.7
of which:				
Non subsidized (estimate)	40,000	28.8	75,000	31.6
Subsidized (1 to 2 years contract)	14,000	10.1	35,700	15.1
Subsidized creation of enterprise	2,000	1.4	7,000	3.0
Enterprise of reinsertion	7,000	5.0	12,000	5.1
Employment in non-profit organizations	75,650	54.6	107,300	45.3
of which:				
CES contract	75,650	54.6	98,300	41.5
CEC contract	0	0.0	9,000	3.8
Total RMI beneficiaries employed	138,650	100.0	237,000	100.0

Source: Minister of Labor and Solidarity (1998)

Regional Disparities

Regional disparities regarding the number of the beneficiaries of the RMI and their access to labor market policies are large. According to the Minister of Labor, the proportion of beneficiaries in the population per department varies from 1 to 5. The density is higher in urban areas, and departments with less favorable labor market situations. In general, the number of beneficiaries of the RMI is relatively higher in the department with the highest level of unemployment.

Regional differences in the access of active labor market policy is even larger (number of beneficiaries of the RMI among the beneficiaries of the active labor market policies) and varies from 1 to 7 depending on the department. In areas with relatively high number of beneficiaries, social workers' caseload is likely to be higher so time and resources are reduced in terms of individual follow-up. In addition, job supply and, thus, reinsertion opportunities are limited.

However, even with similar rates of unemployment some regions have greater success than others. N. Holcblat (1998) suggest that these disparities are explained by the level of local dynamism in both associative and political areas. For example, the city of Rennes had organized a program similar to the RMI program before it was created at the national level. Since then, the city has been developing many schemes which involve enterprises in experience of reinsertion. A special commission gathers representatives of the State, the region and the city with members of entrepreneurial organizations and agencies for employment. The commission works on problems related to a large number of insertion issues including alcoholism, the cost of subsidizing employment etc. Regarding the beneficiaries of the RMI, the association uses its contacts to build a bridge between

enterprises and beneficiaries. For example, entrepreneurs commit themselves in coaching one beneficiary/ in its professional reinsertion strategy (Cahier travail et emploi, 1996)

The Effectiveness of the Program Relies on Public Coordination.

Many beneficiaries, have problems that social workers cannot confront and resolve alone. The success of their action depends on how much support they receive in the field from health, housing and educational systems. An extreme example is the case of the access of Roma people to free health services. Although free health coverage is guaranteed by law to any beneficiary, there are still cases of discrimination against Roma people for access to hospitals.

The support and mutual cooperation of local authorities and associations is crucial. Most of the reinsertion activities envisaged in the contract are realized through local associations. These associations present reinsertion projects and compete for funds allocated at the local, departmental or regional level for the reinsertion program. Although non governmental, these associations work closely with local authorities and politics. In some cases, they have even been created in response to a State concern. For example, the association working with Roma people in Nanterre was created because the health public administration (DAS) showed particular interest in creating it. The financing of such an association, however, is not related to the DAS. This association competes like other local associations for the funds allocated to the local associations as well as for the reinsertion or employment programs. (information gathered from J. Elghozi, Adjoint of maire de Nanterre1999)

The Cost of the Program

Figures do not reflect the program's entire cost because the beneficiaries of the RMI program have access to other public programs and as mentioned above, local authorities might be particularly active and multiply the activities and support for the beneficiaries.

According to the Minister of Labor, the cost of the program in 1997 was as follows:

Budget related to the RMI program

	in FF bln	composition
State Budget	33.6	77.3
Benefits	24.5	56.3
Job Subsidies	6.7	15.3
Credits for the DOM	0.8	1.9
Administrative cost	0.3	0.6
Housing financing support	1.0	2.3
Medical support	0.4	0.9
Local Governments	9.9	22.7
Insertion Credits	3.8	8.7
Individual insurance	2.9	6.7
Medical support	3.2	7.4
Total	43.5	100.0

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