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in

Mergos G. (ed.).
Agricultural price reform under transition in Bulgaria, Romania, and Slovenia

Chania : CIHEAM
Options Méditerranéennes : Série B. Etudes et Recherches; n. 22

1998
pages 210-222

AN ANALYSIS OF POVERTY IN SLOVENIA USING THE 1988 AND 1993 HOUSEHOLD BUDGET SURVEYS

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ABSTRACT

The objective of this paper is to measure income inequality and poverty in Slovenia before and after the beginning of transition. The paper uses the household level data of Household Budget Surveys of 1988 and 1993 and attempts an assessment of poverty and inequality. The results show that income inequality and poverty have increased slightly between 1988 and 1993, regardless of which measure of poverty is used. The Gini coefficient increased slightly from 0.28 in 1988 to 0.30 in 1993. Rural poverty is found to be much higher than urban poverty. About 56% of the agricultural households belong to the lowest two income groups (out of eight) compared to only 35% for the non-agricultural households. A similar situation is observed for both years.

Keywords:

SLOVENIA, POVERTY, INEQUALITY, TRANSITION ECONOMIES

1. Introduction

Most of the Central and Eastern European Countries (CEECs), as they liberalize their economies and move from a planned to a market-orientated environment, have experienced a dramatic decline in consumer purchasing power and agricultural incomes. Consumer prices increased significantly due to the abolition of subsidies and the liberalization of price and trade regimes. Furthermore, real income dropped sharply and domestic demand fell with significant implications for household welfare. However, there has not been such a marked drop in the case of Slovenia, where the macroeconomic changes are not as drastic as in the other CEECs.

Slovenia is a Central European country of about 2 million people, comprising a mere 8.4% of the former Yugoslavian population. During the 1990s remarkable developments have taken place in the country. Firstly, its independence was declared on 25 June, 1991; monetary independence was deferred until 8 October, 1991. Secondly, the Slovenian economy has been moving towards a market system with greater integration into the international economy (Erjavec and Turk, 1995).

Economic recovery in Slovenia started in 1993 when GDP grew by 1.3%, and continued in 1994 with GDP growth of 5%. However, the rate of unemployment increased to 14.5% in 1994. This increase in unemployment was mainly due to difficulties associated with the transition process and the loss of markets in the former Yugoslavia. Public sector consumption increased between 1991 and 1994. In 1994 industrial production grew by about 6.5%, while agricultural production increased by only 1.6%. Aggregate domestic demand increased by about 15% (OECD, 1995).

Slovenia retained a small and highly fragmented agricultural structure, characterized by a diffused system of part-time farms with a self-subsistence nature of production. Agricultural farm revenues are generally below the incomes earned elsewhere in the economy while private farmers still consider

themselves to be on the edge of Slovene society (Rednak et al., 1997).

This paper provides a profile of poverty in Slovenia for the years 1988 and 1993. Poverty is an important economic and social concept ince it affects the functioning of both the whole economy and society. In this transitional period, a knowledge of the extent of poverty is necessary for future planning for its alleviation. No poverty estimates have been previously computed for Slovenia.

The plan of the paper is as follows. Section two reviews the theoretical framework of poverty analysis. Section three contains the main analytical results for the poverty profile of the three countries during two different development stages (the pre-transitional and post-transitional period). The study concludes with a brief discussion of the main findings.

2. The Measurement of Poverty

This section focuses on the measurement of the intensity of poverty suffered by those below a threshold income. Thus, one important aspect that must be specified in order for a measure of poverty to be better understood is the poverty line. Kakwani (1980) referred to the poverty line as the threshold income below which one is considered poor, and which may reflect the socially-accepted minimal standard of living.

Gini Index

In dealing with the measurement of poverty, income distribution is very important. The Gini Index is the measure most widely used to analyze the size distribution of income and wealth. The Gini Index takes values between zero and one. It takes the value zero when every individual receives the same income (absolute equality), and takes the value one at the limit as the number of individuals increases, with one individual receiving all the income (absolute inequality). (Kakwani, 1980).

The Gini Index according to the definition by Sen (1973) can be computed using the following formula:

$$G = \frac{N+1}{N} - \frac{2}{N^2 \bar{y}} \sum_{i=1}^{N} (N+1-i) y_i$$

where N is the total number of units of the population, y_i is the income of the i unit and $\bar{y}$ is the mean income of the sample.

Lorenz Curve

In addition, the size distribution of income and wealth is presented by the Lorenz curve, which is defined as the relationship between the cumulative proportion of income units and the cumulative proportion of income received when units are arranged in ascending order of their income (Kakwani, 1980). Using the Lorenz curve technique which takes the total of units as 100, percentages are calculated for the various cumulated values. These percentages are plotted, formulating the Lorenz curve. If there is proportionately equal distribution of the frequencies over values of a variety, the points would lie in a straight line (the so-called egalitarian line). This means that everyone receives the same income (perfect equality of income), but in the absence of perfect equality the cumulative income units will enjoy a proportionately lower share of income and the Lorenz curve lies below the egalitarian line. The further the curve is from the line, the greater the variability in the series.

The head count ratio as a measure of poverty

There is a straightforward procedure which for a long time has been used implicitly to measure

poverty. This measurement refers to the so-called head count ratio and is defined as the proportion of poor people in the society F(x*), where x* represents the poverty level, which is assumed to be known. The variable X is the income of a person and is a random variable with the probability distribution function f(X) (Kakwani, 1980). It provides a simple and easily understood indication of the level of poverty and is also useful in analyzing the sectoral and inter-temporal changes of poverty in an economy (World Bank, 1994).

The head count ratio has two main disadvantages. It is insensitive to decreases in the income of families below the poverty line, and also to transfers of income among the poor and from the poor to the non-poor. Sen (1976) proposed the monotonicity and transfer axioms in order for the drawbacks of the headcount ratio to be avoided. Sen's proposed axioms, which a suitable measure of poverty must satisfy, are:

- *Monotonicity:* Other things remaining the same, a reduction in income of a person below the poverty line must increase the poverty measure.
- *Transfer:* Other things remaining the same, a pure transfer of income from a person below the poverty line to anyone who is richer must increase the poverty measure.

The head count ratio violates both of the above axioms.

The Poverty Gap Index

Another common measure is the poverty gap index. This index indicates the aggregate shortfall of income from the poverty line of all the poor taken together, namely the sum total of the deviations of poor people's income from the poverty line that is proportional to the degree of misery suffered by them. The drawback of the poverty gap is that it does not take into account the income inequality among the poor, it violates the transfer axiom but on the other hand satisfies the monotonicity axiom (Kakwani, 1980).

In mathematical notation the total poverty gap, defined as the total income that is necessary for all the poor people to be brought to the poverty line, is given by the form $\Sigma(\pi - y_i)$ where π is the poverty line, y_i is the income of poor people and by assumption is less than π. The mean poverty gap is given by $\pi - \nu$ where ν is the mean income of poor people.

The poverty index $I = (\pi - \nu)/\pi$ presents the percentage mean poverty gap from the poverty line. The poverty gap has also been defined as the proportion of total income of the sample and is given by the expression $I_1 = (\pi - \nu)/\mu$ where μ is the mean income of the population. Another way of defining the poverty gap is as a proportion of the total income of the non-poor, which is presented by the form $I_2 = (\pi - \nu)/(n\mu - q\nu)$ where n is the number of all the people and q is the number of poor people.

Sen (1976) proposed a rather complicated poverty index that takes into account all three aspects of poverty: proportion of poor people, poverty gap and inequality among the poor people. Sen's poverty index is defined as $P = \mathrm{H}\left[I + (1 - I) * G_\pi\right]$ where H is the proportion of poor people in the society, I is the percentage mean poverty gap and G_π is the Gini Index of the income distribution of poor people. The Gini coefficient, according to Sen's approach, gives higher weight to the lowest income groups. The poverty index P satisfies all of Sen's axioms, and lies between zero and one. It assumes a value of zero when everyone's income is above the poverty line and a value of one when everyone has zero income. If all the poor have the same income, the normalized poverty index P will be equal to the product of the proportion of poor people by the percentage poverty gap, which can be I or I_1 or I_2 (Kanellopoulos, 1993). Besides these commonly used poverty indexes, Sen-type poverty indexes can be estimated where each person's income gap assumes unity weights (P, M, and F indexes), or

rank-order weights (P_1, M_1 and F_1 indexes). (Kanellopoulos, 1992).

3. Empirical Analysis

A profile of poverty in Slovenia for the years 1988 and 1993 is presented here. The most appropriate source for an analysis of poverty is a household budget survey (Mergos and Mizzi, 1995). Although these surveys, which recorded income, food and non-food expenditures at household level according to demographic composition and socioeconomic characteristics, have been criticized as being affected by biases and reliability problems, there is no alternative approach, especially in the case of CEECs (Atkinson and Micklewright, 1992). The analysis is carried out in terms of income, which is a measure of the individual budget constraint and its potential buying power. Many researchers would argue that, especially in transition periods, it may be preferable to use more "stable" welfare indicators such as consumption. In our case because of the high own consumption reported and the fact that the problem of reliability has become more severe, income has been used as the welfare indicator instead of consumption. The available data on income are values in Slovene SIT and Yugoslav DIN and the whole analysis is concentrated on the household as a micro-unit. In order to obtain comparable estimates for the two periods, monetary values from 1993 are deflated by the average annual retail price index adjusted for the monthly variations in 1988 (Erjavec *et al.*, 1996).

The analysis of the economic position of the Slovenian household is based on data gathered through surveys conducted by the Statistical Office of the Republic of Slovenia. The data used are those from the 1988 and 1993 household budget surveys and provide the position of Slovenian households with respect to income and socioeconomic features. The analysis includes, after adjustment of the data for estimations, all 3,027 and 3,113 households of the Household Budget Surveys and represents 0.46 and 0.47% of the total Slovenian population for the years 1988 and 1993 respectively.

The quantitative part of this analysis measures a poverty line through the relative definition of poverty. The relative approach to poverty arises entirely as a consequence of an unequal distribution of incomes, irrespective of the income level or what the corresponding state of deprivation of the people at the bottom end of the income scale might be.

The poverty line which presents the income level adequate to support a socially-accepted standard of living can be defined in a variety of ways. In accordance with the relative approach, many researchers have used 40%, 50% or higher percentages of the mean or median income of the sample as the poverty line in their studies. In this study we define the poverty line as half of the average per capita income. Differences in the size and composition of households imply that different levels of income are necessary to support a particular standard of living, therefore per adult equivalent income has to be calculated for each household. The data we used here do not provide adequate information about the household composition. For this reason, accepting that there are economies of scale in household expenditures, we make the assumption as others have done (Deaton and Muellbauer, 1980) that on average, additional household members require an extra 70% of the income of the head of the household. However, the choice of a 50%t line and a 70% adjustment is relatively arbitrary and small changes in these percentages could lead to major changes in the number of households, persons and groups estimated as belonging to the poor. However, as has already been mentioned above, these percentages have been adopted in many similar studies (Kanellopoulos, 1992).

Table 1 shows the main indices of poverty for the whole population, as derived from the 1988 (SURS, 1988) and 1993 (SURS, 1994) data. The poverty line in 1993 for the whole sample is 216,208.8 Slovene SIT (or 3,243,132 Yugoslav DIN)[15] per year while in 1988 it is 2,856,909

[15] Conversion Rate: 1 SIT=15 DIN (Source: SURS).

Yugoslav DIN per year; the threshold income in 1993 is higher than that in 1988. According to this table it is clear that there has been an almost 3% increase in poverty in Slovenia over the six year period. Specifically, for 1993 the percentage of households below the poverty line (head count ratio, fourth row) is calculated as 14.648% while for 1988 it is calculated as 11.826%.

The total poverty gap (fifth row) refers to the amount of money that poor people need in order for their income to be brought to the poverty line. The mean poverty gap (sixth row) is derived by dividing the total poverty gap by the number of all poor people. For the 456 poor households in 1993 the total poverty gap turns out to be 21,946,673 Slovene SIT (or 329,200,095 Yugoslav DIN) and the per household gap is 48,128.67 Slovene SIT (or 721,930 Yugoslav DIN) per year. In 1988 for the 358 poor households the total poverty gap is computed at 218,503,294 Yugoslav DIN and the per household gap at 610,344.4 Yugoslav DIN per year. Furthermore, in 1993 the poverty gap as a percentage of the total income of the sample is 0.163037%, and 1.72851% of the income of the non-poor households. In 1988 the poverty gap as a percentage of the total income of the sample is 1.263337%, and 1.324719% of the income of the non-poor households. As is expected, the mean poverty gap in 1993 which is computed at 481,28.669 Slovene SIT (or 721,930.03 Yugoslav DIN) is higher than the mean poverty gap in 1988 which is computed at 610,344.4 Yugoslav DIN.

Table 1 - Statistical poverty indexes in Slovenia

Years Indexes	1988 (DIN) All Households	1993 (SIT) All Households
No. of HH	3,027	3,113
No. of Poor	358	456
% of Poor	11.826	14.648
Total Poverty Gap	218,503,294	21,946,673
Mean Poverty Gap	610,344.4	48,128.669
I	0.213	0.222
I_1	0.106	0.111
I_2	0.000037009	0.00003791
P	0.025	0.032
M	0.012	0.016
F	0.013	0.017
P_1	0.022	0.028
M_1	0.011	0.014
F_1	0.011	0.015
Mean Income	5,713,818	432,417.6
Gini Index	0.280	0.307

The distance between the mean income of the poor people and the poverty line, if it is divided by the corresponding poverty gap, gives the percentage poverty gap (I) which measures the intensity of poverty. In 1993 the value of the percentage poverty gap turns out to be 0.222 or equivalent to 22.2% while in 1988 it turns out to be 0.213 or equivalent to 21.3%, almost 1% lower than in 1993. These amounts show that the mean income of the poor households in 1993 is 22.2% lower than the corresponding poverty line, while in 1988 it is 21.3% lower.

Table 1 also presents the poverty gap as the proportion of the total income of the sample (I_1). Once again the value that the poverty gap I_1 takes in 1993 (I_1=0.111), is higher than the corresponding one in 1988 (I_1=0.106). The poverty gap as a percentage of the income of the non-poor population, I_2, is also estimated in this table. The estimates of the poverty gap I_2 lead to the same conclusion as before, meaning that the value taken by I_2 is a little higher in 1993 than the corresponding one in 1988.

Table 1 also contains some other statistical indexes, most of them components of Sen's approach to measuring poverty. Firstly, Sen-type indexes are calculated when the income gap of each household assumes unity weights and secondly when it assumes rank-order weights. The first estimations are

made because Sen's measurement of poverty is capable of much more straightforward interpretation than the rank-order weighing case. One of these indexes is the normalized poverty index of Sen P, defined as the product of the incidence of poverty and the percentage poverty gap. It shows the poverty gap as a fraction of the total income that is needed in order for poverty to be alleviated.

For the year 1993 this index takes the value 0.032 which means that, in order for the poverty gap of these households to be eliminated, 3.2% of total income is necessary so that every poor household can be brought to the poverty line. In 1988 this index provides a lower value, given by P=0.025, which implies that 2.5% of total income is needed in order for the income of everyone to be equal to the poverty level.

The next row of Table 1 illustrates the index M, which presents the poverty gap as a percentage of the total income of the sample. For 1993, the index M = 0.016 means that in order for the poverty of these households to disappear, 1.6% of the total income is needed. In 1988 the index M=0.012, which means that the poverty gap is equal to 1.2% of the total income.

The poverty index F presents the poverty gap as a percentage of the income of the non-poor population of the sample. For 1993, the poverty index F = 0.017288 means that in order for poverty to be eliminated, the income distribution from the non poor to the poor is necessary, and specifically 1.17% of the income of the non-poor is needed. With regard to the year 1988, if poverty were to be eradicated by transfers from the non-poor households to the poor, the former would have to give up 1.3% of their income according to the value of the index F. The indexes M and F take higher values in 1993 compared to those for 1988. The drawback of these two indexes is that they do not satisfy some of the poverty properties of Sen's approach (violation of the focus axiom), as they decrease when the income of the non-poor rises. These measurements more likely show the difficulty of alleviating poverty, and cannot be considered as poverty indexes.

The next three indexes that are presented in Table 1 refer to Sen-type indexes where the income gap of each household assumes rank-order weights. The poverty index P_1 differs from the poverty index P, and takes into account the income inequality among the poor households using the Gini coefficient of the income distribution of the poor as a weight. The difference between these two indexes shows the magnitude of correction that has to be made if, instead of weighting the position of every poor person in the income distribution with unity, we take into account the inequality among the poor. The indexes M_1 and F_1 are almost the same as the poverty indexes M and F. Their only difference is that they account for the poverty gap as a percentage of the total income of all households and the income of the non-poor respectively. According to these poverty indexes, poverty in Slovenia increased over the six- year period.

Table 1 also presents measures of income inequality. More precisely, the two last rows of this table show the mean income and the Gini index of the whole population. The comparison of the mean income of the whole population between the years before and after transition shows that households in 1988 earn lower income, while households in 1993 earn higher income even though they are more prone to poverty. Thus in 1993 the mean income is 4,324,176 Slovene SIT (or 6,486,264 Yugoslav DIN) while in 1988 it is 5,713,818 Yugoslav DIN.

The value of the Gini index of the income distribution of all households is 0.30 and 0.28 in 1993 and 1988 respectively. The relatively lower value of the Gini index in 1988 indicates less inequality in the distribution of income among the households when compared with the higher value of the index in 1993. The greater economic deprivation of the households in 1993 is shown in Table 1 by the greater values of all estimated indices of poverty compared to those of 1988.

Characteristics of the poor households

The above poverty indices do not show the contribution of a particular group to overall poverty. However, for the purpose of formulating an anti-poverty policy it is essential to know the extent to

which a particular group accounts for overall poverty. This is shown in Table 2, giving the profile of poverty in 1988 and 1993 which identifies the poor in terms of socioeconomic variables such as household size, type of households, education level and age distribution of the household head.

Columns 2 and 3 of Table 2 simply show the number of households while columns 4 and 5 show the number of poor households among the values of each variable studied in 1988 and 1993 respectively. The percentage distribution of total population of the two samples and the percentage distribution of poor households among the values of each variable are presented in columns 6 to 9 for the two years. Columns 10 and 11 of this table present the percentage of poor households in each category and the incidence of poverty, indicating the groups in which there is a relatively higher probability of poverty for 1988 and 1993 respectively. A combination of columns 8 (9) and 10 (11) provides information referring to categories of the population that present a low percentage of poverty among the total distribution of poor people for the year 1988 (1993). The division of column 8 (9) by column 6 (7) generates column 12 (13), which shows the relative incidence of poverty of each category among the whole population for the year 1988 (1993).

The first characteristic of households is based on their size. With reference to this, the incidence of poverty increases as the household size increases for both 1988 and 1993. For 1988, 11.82% of the households are characterized as poor while the corresponding figure for 1993 is 14.64%, showing that the poverty level increased in Slovenia after transition. In 1988, the incidence of poverty for households with one member turns out to be 7.34%, while for households with eight and more members it is 48.38%. In 1993 the incidence of poverty for households with one and eight or more members is higher compared to that of 1988, amounting to 10.84% and 54.54% respectively. This increasing trend in the incidence of poverty as the household size increases does not mean that most poor people are to be found in households of larger size. On the contrary, the highest concentration of poor households appears among those with two members in 1988 (21.50%) and among those with four members in 1993 (26.09%).

It is of interest to study the relationship between the levels of education of the household and poverty. Unfortunately, this variable can only be examined for 1993, since the data set for 1988 does not provide this kind of information. It is clear that there is some close relationship between the level of education and the incidence of poverty. A relatively higher incidence and concentration of poverty is observed among households with a lower level of education. According to estimations in Table 2, 70.61% of poor household heads have completed primary school, 21.27% high school and only 8.11% of poor household heads hold university degrees. Household heads with a low level of education have the highest incidence of poverty, amounting to 26.61%, while household heads with university education have a much lower one, amounting to 9.97%. Both household heads with primary school education and those who have had university education reported a lower incidence of poverty than the mean.

It is obvious from the results of Table 2 that the agricultural type of household is more prone to poverty compared to the non-agricultural type; they also indicate a higher percentage of distribution of poor households and a higher value in the incidence of poverty for 1993 than for 1988. Poor agricultural-type households, which in 1988 constitute 53.07% of all households, have the highest incidence of poverty amounting to 24.11%. On the other hand, non-agricultural households reported a lower incidence of poverty, amounting to 7.50% which is much lower than the mean incidence of poverty (11.82%). The same is true for 1993. The highest incidence of poverty is found in agricultural households (27.98%), and this value is higher than the 14.64% mean incidence of poverty.

The last demographic characteristic which is expected to influence the poverty profile is the age of the household head. The higher incidence of poverty, 19.33% and 22.01% in 1988 and 1993 respectively (higher than the mean), appeared in households where the household head is over 66 years of age, and possibly a retired person who receives a low pension. For 1988, the highest distribution of poor households is concentrated among those whose head is between the ages of 56

and 65 (23.46%), and for 1993 among those whose head is between the ages of 36 and 45 (23.90%). The lowest incidence of poverty and percentage distribution of poor household heads appears among households whose head is aged up to 25 years, amounting to 5.55% and 1.11% respectively in 1988, and 16.66% and 3.72% respectively in 1993. Young people with no family obligations have adequate income.

An examination of the characteristics of the poor reveals that the incidence of poverty is related to all the demographic variables examined and affects certain groups more deeply than others. Numerous other sources point out that discrepancies in the levels of socioeconomic standards emerging across different strata in Slovene society are increasing steadily, affecting higher shares of the population (Erjavec *et al.*, 1996).

Table 2 - Characteristics of households in Slovenia

Character-istics	No. of all households		No. of poor households		% Distribution of total households		% Distribution among poor households		Incidence of poverty		Relative incidence of poverty	
Years	1988	1993	1988	1993	1988	1993	1988	1993	1988	1993	1988	1993
Household size												
1 member	313	249	23	27	10.34	7.99	6.42	5.92	7.34	10.84	0.62	0.74
2 members	601	639	77	79	19.85	20.52	21.50	17.32	12.81	12.36	1.08	0.84
3 members	679	783	58	69	22.43	25.15	16.20	15.13	8.54	8.81	0.72	0.60
4 members	891	890	66	119	29.43	28.58	18.43	26.09	7.40	13.37	0.62	0.91
5 members	319	321	58	81	10.53	10.31	16.20	17.76	18.18	25.23	1.53	1.72
6 members	129	144	32	42	4.26	4.62	8.93	9.21	24.80	29.16	2.09	1.99
7 members	64	54	29	21	2.11	1.73	8.10	4.60	45.31	38.88	3.83	2.65
8 members	31	33	15	18	1.02	1.06	4.18	3.94	48.38	54.54	4.09	3.72
Total	3027	3113	358	456	100	100	100	100	11.82	14.64	1.00	1.00
Education level of the household head												
Primary School		1210		322		38.86		70.61		26.61		1.81
High School		1532		97		49.21		21.27		6.33		0.43
University degrees		371		37		11.91		8.11		9.97		0.68
Total		3113		456		100		100		14.64		1.00
Type of household												
Agricul-tural	788	922	190	258	26.03	2.96	53.07	56.57	24.11	27.98	2.03	1.91
Non-agricultural	2239	2191	168	198	73.96	70.38	46.92	43.42	7.50	9.03	0.63	0.61
Total	3027	3113	358	456	100	100	100	100	11.82	14.64	1.00	1.00
Age distribution of the household heads												
Up to 25	72	102	4	17	2.37	3.27	1.11	3.72	5.55	16.66	0.46	1.13
26 - 35	591	485	51	65	19.52	15.57	14.24	14.25	8.62	13.40	0.72	0.91
36 - 45	655	728	73	109	21.63	23.38	20.39	23.90	11.14	14.97	0.94	1.02
46 -55	681	724	70	74	22.49	23.25	19.55	16.22	10.27	10.22	0.86	0.69
56 - 65	635	597	84	86	20.97	19.17	23.46	18.85	13.22	14.40	1.11	0.98
Over 66	393	477	76	105	12.98	15.32	21.22	23.02	19.33	22.01	1.63	1.50
Total	3027	3113	358	456	100	100	100	100	11.82	14.64	1.00	1.00

Distribution of Income

The distribution of income among all households, both agricultural and non-agricultural, for the years 1988 and 1993 is presented with the help of a Lorenz curve by the calculation of the cumulative percentages of income and the number of households which fall into each of the eight pre-defined income groups. Table 3 presents the income groups within which individual households are ranked. The income groups are referred to by category (I to VIII), ranging from the lowest to the highest group. The distribution of households over the income groups is not proportional and is assigned on the basis of annual income.

Table 3 - Income Groups

Income Groups	Income Intervals	
	1988 (DIN)	1993 (SIT)
I	less than 3,000,000	less than 200,000
II	3,000,001 - 4,500,000	200,001 - 300,000
III	4,500,001 - 6,000,000	300,001 - 400,000
IV	6,000,001 - 7,500,000	400,001 - 500,000
V	7,500,000 - 9,000,000	500,001 - 600,000
VI	9,000,001 - 10,500,000	600,001 - 700,000
VII	10,500,001 - 12,000,000	700,001 - 800,000
VIII	more than 12,000,000	more than 800,000

Source: SURS

Table 4 - Distribution of total income, all households, 1988

Income Groups	Total Income	Number of households	% of total income	% of households	Cumulative % of total income	Cumulative % of households
I	3,949,517,321	432	7.166	14.271	7.166	14.271
II	11,128,772,127	813	20.192	26.858	27.358	41.129
III	13,471,224,644	782	24.442	25.834	51.800	66.963
IV	8,960,837,376	426	16.258	14.073	68.059	81.037
V	6,047,815,783	242	10.973	7.994	79.033	89.032
VI	3,244,108,397	121	5.886	3.997	84.919	93.029
VII	2,829,796,038	80	5.134	2.642	90.053	95.672
VIII	5,481,810,626	131	9.946	4.327	100	100
TOTAL	55,113,882,312	3,027	100	100	100	100

Table 5 - Distribution of total income, agricultural households, 1988

Income Groups	Total income	Number of households	% of total income	% of households	Cumulative % of total income	Cumulative % of households
I	2,061,022,571	212	13.741	26.903	13.741	26.903
II	3,772,699,811	233	25.153	29.568	38.894	56.472
III	3,439,399,090	162	22.931	20.558	61.826	77.030
IV	2,221,941,184	86	14.814	10.913	76.640	87.944
V	1,391,749,897	47	9.279	5.964	85.919	93.908
VI	377,157,942	14	2.514	1.776	88.434	95.685
VII	594,367,207	13	3.962	1.649	92.397	97.335
VIII	1,140,327,614	21	7.602	2.664	100	100
TOTAL	14,998,665,316	788	100	100	100	100

Table 6 - Distribution of total income, non-agricultural households, 1988

Income Groups	Total income	Number of households	% of total income	% of households	Cumulative % of total income	Cumulative % of households
I	1,888,494,750	220	4.707	9.825	4.707	9.825
II	735,072,316	580	18.337	25.904	23.045	35.730
III	10,031,825,554	620	25.007	27.690	48.052	63.421
IV	6,738,896,192	340	16.798	15.185	64.851	78.606
V	4,656,065,886	195	11.606	8.709	76.458	87.315
VI	2,866,950,455	107	7.146	4.778	83.604	92.094
VII	2,235,428,831	67	5.572	2.992	89.177	95.087
VIII	4,341,483,012	110	10.822	4.912	100	100
TOTAL	40,115,216,996	2,239	100	100	100	100

Tables 4 to 6 and Figures 1 to 3 define the distribution of income and the Lorenz curves for all households, agricultural and non-agricultural respectively for 1988. Around 66.8% of all households belong to the three lowest income groups and have 51.8% of total income, while only 10.9% of all households belong to the three highest income groups and have almost 49% of total income.

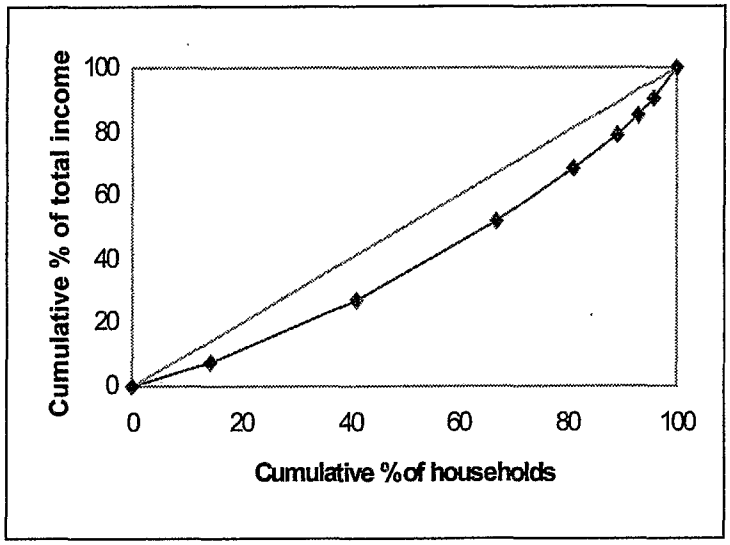

Figure 1: Lorenz Curve - total income, all households, 1988

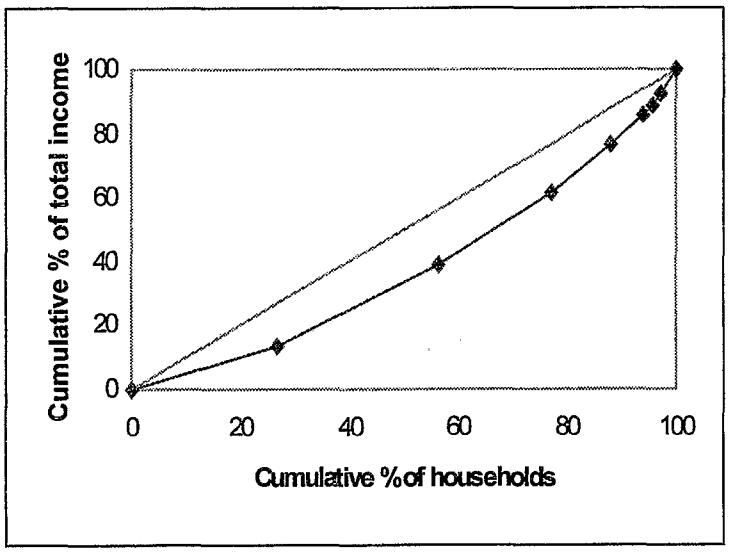

Figure 2: Lorenz Curve - total income, agricultural households, 1988

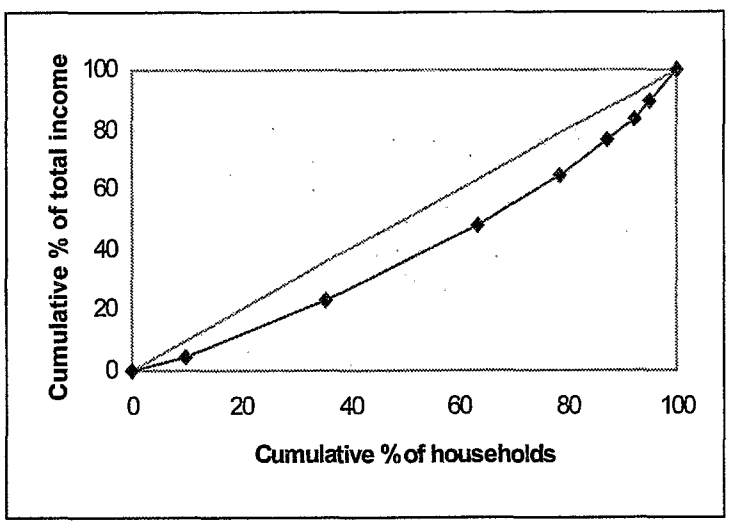

Figure 3: Lorenz Curve - total income, non-agricultural households, 1988

Furthermore, around 56% of all agricultural households belong to the two lowest income groups and have 39% of total income, while only 6% of all agricultural households can be characterized as relatively rich since they belong to the three highest income groups and have 14% of total income. On the other hand, a significantly lower percentage of all non-agricultural households (36%), compared to that of agricultural households belongs to the two lowest income groups and have 23% of total income, while a higher percentage of non-agricultural households (12%), compared to that of agricultural households, belongs to the three highest income groups and have 24% of total income. In addition, more than 50% of all non-agricultural households are ranked amongst those with middle income (III - V); this is a proportionally much higher percentage than that for agricultural households (37.5%).

Tables 7 to 9 and Figures 4 to 6 present the distribution of income and the Lorenz curves for all households, both agricultural and non-agricultural respectively for the year 1993. Data for 1993 show that a higher percentage of households (66%) belongs to the three lower income groups compared to that in 1988 (58%), indicating that poverty increased between 1988 and 1993. Around 17% of all households belong to the three highest income groups in 1993.

Table 7 - Distribution of total income, all households, 1993

Income Groups	Total income	Number of households	% of total income	% of households	Cumulative % of total income	Cumulative % of households
I	217,535,293	347	5.045	11.1468	5.045	11.146
II	683,678,713	733	15.857	23.54642	20.903	34.693
III	830,276,668	722	19.258	23.19306	40.161	57.886
IV	708,940,506	500	16.443	16.06168	56.605	73.947
V	483,969,298	272	11.225	8.737552	67.831	82.685
VI	362,938,524	184	8.418	5.910697	76.249	88.596
VII	238,002,474	106	5.520	3.405075	81.769	92.001
VIII	785,950,463	249	18.230	7.998715	100	100
TOTAL	4,311,291,939	3,113	100	100	100	100

Table 8 - Distribution of total income, agricultural households, 1993

Income Groups	Total income	Number of households	% of total income	% of households	Cumulative % of total income	Cumulative % of households
I	133,466,602	206	10.981	22.342	10.981	22.342
II	299,583,912	282	24.650	30.585	35.632	52.928
III	231,425,229	179	19.042	19.414	54.674	72.342
IV	160,204,441	101	13.181	10.954	67.855	83.297
V	122,338,095	63	10.066	6.832	77.922	90.130
VI	72,680,260	32	5.980	3.470	83.902	93.600
VII	57,032,818	22	4.692	2.386	88.594	95.986
VIII	138,609,734	37	11.405	4.013	100	100
TOTAL	1,215,341,091	922	100	100	100	100

Table 9 - Distribution of total income, non-agricultural households, 1993

Income Groups	Total income	Number of households	% of total income	% of households	Cumulative % of total income	Cumulative % of households
I	84,068,691	141	2.718329	6.435	2.718	6.435
II	384,094,801	451	12.41956	20.584	15.137	27.019
III	595,561,046.5	543	19.25724	24.783	34.395	51.802
IV	548,736,065	399	17.74317	18.210	52.138	70.013
V	361,631,203	209	11.69321	9.539	63.831	79.552
VI	290,258,264	152	9.385391	6.937	73.216	86.490
VII	180,969,656	84	5.851585	3.833	79.068	90.324
VIII	647,340,729	212	20.93152	9.675	100	100
TOTAL	3,092,660,455	2,191	100	100	100	100

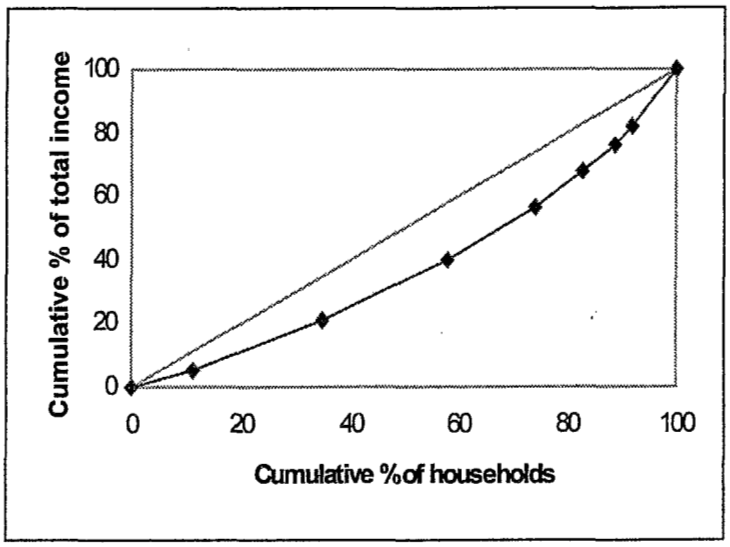

Figure 4: Lorenz Curve - total income, all households, 1993

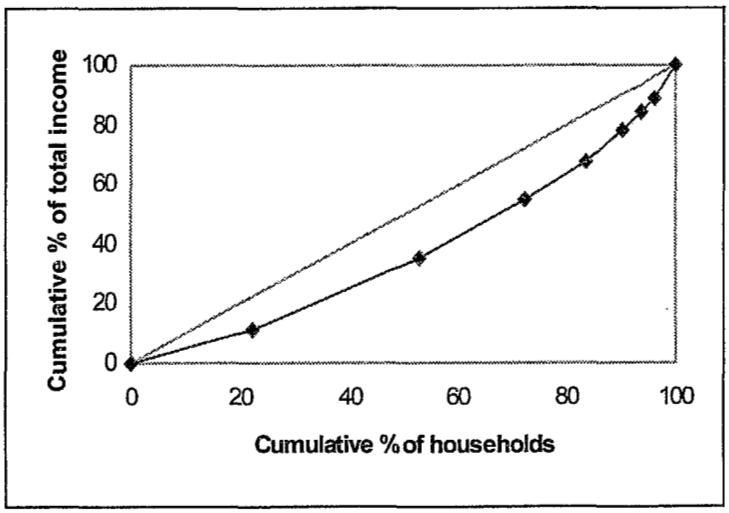

Figure 5: Lorenz Curve - total income, agricultural households, 1993

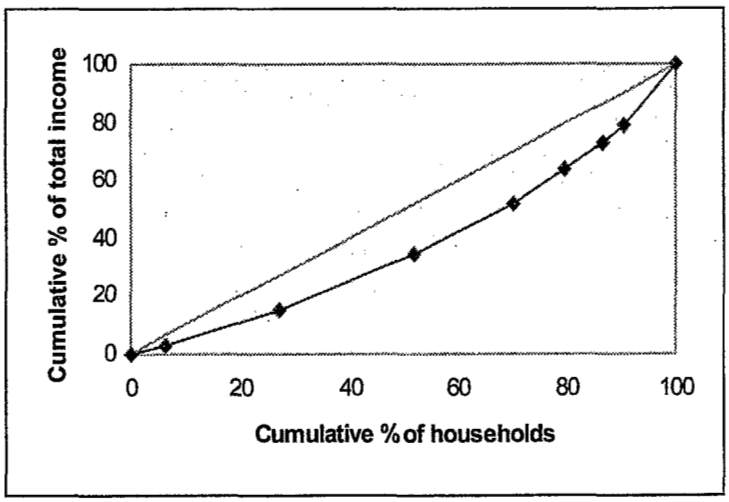

Figure 6: Lorenz Curve - total income, non-agricultural households, 1993

The main difference between the two types of households appears in the case of the lowest income

group, where the corresponding share of agricultural households is significantly higher than that of non -agricultural households. Specifically, 53% of agricultural households belong to the two lowest income groups and have 35% of total income while 27% of non-agricultural households belong to the three highest income groups and have 15% of total income. Also, a higher percentage of non-agricultural households (21%) belong to the three highest income groups compared to that of agricultural households (10%) and have 36% and 22% of total income respectively. In addition, 52% of all non-agricultural households belong to middle income groups; proportionally, this is a much higher percentage than that for agricultural households (35%). In general, agricultural households remained within the lower income groups in the two years examined, 1988 and 1993.

4. Conclusions

This paper examines income distribution and poverty in Slovenia before and after transition. A poverty line representing half of the average per capita income was used in order to define households as poor or non-poor. Several poverty indexes were estimated and socioeconomic characteristics of the poor households examined. However it should be admitted that the results of the study and their interpretation depend critically upon the accuracy of the data, the methodology used and the sample size.

According to all the dimensions examined, income inequalities and poverty increased between 1988 and 1993. Specifically, the percentage of households that are characterized as poor (head count ratio) increased from 11.82% in 1988 to 14.64% in 1993. The income distribution of the whole population is a relatively good one for 1993 (Gini coefficient=0.30). The Gini index for 1988 was 0.28, which indicates relatively less inequality in income distribution among households compared to that in 1993. An examination of the characteristics of the poor reveals that the incidence of poverty is related to all the demographic variables examined. Households of larger size, agricultural households, households whose head has had a lower level of education and those with older heads are more prone to poverty. The income distribution presented by the Lorenz curves shows that agricultural households belong to lower income groups for both of the years examined.

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