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ASPECTS OF POVERTY IN GREECE

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Poverty in Greece is measured and decomposed using the primary consumption expenditure data of two Greek Household Expenditure Surveys (1974, 1981/82). Poverty is found to be associated with particular characteristics of the household or the household head. These characteristics are residence in rural areas, large household size, low educational level and old age of the household head. Poverty is also very high among members of households headed by farmers and retired persons. Both absolute and relative poverty declined substantially between 1974 and 1982. Changes in the structure of the population had a positive effect on poverty alleviation.

1. INTRODUCTION

Until the early 1980s poverty alleviation was not among the top priorities in the economic policy of Greek governments. Between 1950 and 1980 Greece was one of the fastest growing economies in the world—GDP per capita was growing at an annual rate of 5.3 percent [IMF (1987, pp. 360-361)]—and it was believed that through a "trickle-down" effect the position of the poor was improving rapidly. This picture changed dramatically in the late of 1970s and particularly during the 1980s. As the Greek economy experienced very slow growth rates (in the 1980s it, effectively, stagnated), distributional issues were brought to the forefront of the public debate and questions relating to poverty became "burning issues." However, the quantitative evidence used in this debate is mainly taken from the National and Regional Accounts, and the few existing studies on poverty in Greece do not make systematic use of any kind of poverty decomposition analysis based on "distribution-sensitive" poverty indices [for references to this debate see Tsakloglou (1988a)].

In this paper I attempt to bridge this gap by providing a profile and examining the changes in the level and structure of poverty in Greece between 1974 and 1982, using the primary data of two Household Expenditure Surveys (HESs) conducted by the National Statistical Service of Greece (NSSG) in 1974 and 1981/82.[1] In section 2 methodological issues are discussed and in Section 3 the results of measurement and decomposition of poverty for 1974 and 1982 are presented. In section 4 the measurement and decomposition of the change in poverty between 1974 and 1982 is detailed. In the final section the findings are summarized.

Note: This work is based on my Ph.D thesis. I wish to thank my supervisor Jeff Round for his constant help and encouragement. Sudhir Anand, Ravi Kanbur, Peter Moffatt, participants in the 21st General Conference of the IARIW (Lahnstein, W. Germany) and the editor, Edward Wolff, provided useful comments and suggestions. Financial support from the Greek State Scholarships Foundation (IKY) and the Alexander S. Onassis Foundation is gratefully acknowledged.

[1]The second of these surveys was conducted mainly in 1982, so we refer to it as "the 1982 HES,"

2. Methodological Issues

The economic literature on poverty measurement has grown considerably during the last decade, following the seminal article of Sen (1976a). According to Sen, the measurement of poverty can be broken down into two stages: identification and aggregation. The identification stage establishes who the poor are, whereas the aggregation stage uses the information related to a particular characteristic of the poor (usually income or consumption) to construct an aggregate poverty index. Thus, the first choice one faces is whether poverty should be measured in terms of income or consumption. It can be argued that since the very reason we are interested in measuring poverty is in order to evaluate the welfare position of the most deprived members of the society, a variable which can serve as a reasonably close approximation to an individual's (unobservable) welfare should be selected. Standard microeconomic theory suggests that, other things being equal, an individual's long-run welfare level is determined by his/her level of "life-cycle" or "permanent" income. Since current consumption is usually considered as a better approximation to life-cycle income than current income, it can be justified as a measure of current (short-run) welfare [see Sen (1976b), Deaton (1980)]. This, of course, does not mean that an individual's consumption does not fluctuate over time. It does so, and sometimes quite substantially, since needs are not evenly distributed over the life-cycle and capital markets may be far from perfect, particularly for poor households (HHs). In the latter case, poor HHs are unable to borrow and their current consumption is determined by their current and not their life-cycle income. Nevertheless, even in this case, current consumption is as good an approximation to life-cycle income as current income. It is for this reason that in the present paper poverty is measured in terms of consumption expenditure.[2] The definition of consumption expenditure used includes, apart from purchases, consumption of own production, consumption of income in kind and imputed rent for owner-occupied accommodation evaluated at market prices. Several adjustments were made to the original data before proceeding to the measurement and decomposition of poverty. Firstly, expenditures on some lumpy items whose normalization period was considered to be longer than one year (purchases of cars and home repairs and improvements) were excluded from the definition of consumption expenditure. Secondly, 20 (15) out of the 7,444 (6,035) HHs of the 1974 (1982) HES were excluded from the sample on reliability grounds. Thirdly, since both in 1974 and in 1981/82 the rate of inflation in Greece was relatively high, all expenditures were expressed in constant average 1974 and 1982 prices, respectively.[3]

[2]Unlike welfare, consumption is not unobservable. However, the data collected by the NSSG are data on consumption expenditure. Although the two concepts are closely related, they are not identical.

[3]It should be noted that *HES*s tend to exclude some of the most marginalised members of the society from their samples (homeless, persons living in institutions, etc). Therefore, the results of this paper should be qualified accordingly. However, the fact that the interview method was used for information collection instead of the record-keeping method, kept the non-response rates low in both *HES*s (13.4 percent in 1974 and 12.6 percent in 1982). Using a series of χ^2-tests with respect to a set of variables it can be demonstrated that the samples of both *HES*s are representative of the entire non-institutional Greek population reported in the Population Censuses (see Tsakloglou, 1988a).

The next choice concerns the unit of measurement. Since HHs differ in size and children and adults have different needs, it was decided to use the distribution of consumption expenditure per equivalent adult (pea). Equivalence scales for the cost of children were estimated using three different models (Engel–Rothbarth–Barten). Based on this empirical evidence, weights of 1.00, 0.40 and 0.25 were assigned to each adult, child aged 6–16 and child aged less than 6, respectively. Total consumption expenditure of each HH was, then, divided by the number of equivalent adults in it in order to obtain the consumption expenditure pea of that HH. The distribution of consumption expenditure pea was derived by assigning the value of consumption expenditure pea to each HH member.

For the purposes of the present work an individual is classified as poor if his/her consumption expenditure pea falls below a predetermined level, which is defined as the "poverty line." Four general types of poverty lines can be found in the literature [see Goedhart *et al.* (1977)]. The poverty lines of the first type aim at an "absolutist" (or "objective") definition of the poverty line. Some experts identify a minimal group of commodities necessary for the subsistence of an individual and the minimal amount of money that enables the purchase of these commodities is defined as the poverty line. The poverty lines of the second type can be called "official." They are, simply, equal to the amount of some form of transfer payment paid by the government in the framework of income maintenance programmes. The poverty lines of the third type aim at a "subjective" evaluation of the poverty line by the members of the population themselves. Using survey questionnaires, individuals are asked what they would consider to be the minimum level of command over resources either for a "representative" individual or for themselves. Then, this information is evaluated and a poverty line is constructed according to the preferences of a "representative respondent." The poverty lines of the fourth type adopt an explicitly "relativist" approach and define the poverty line as a fraction of the median or mean income in the society. Since it is plausible to assume that the members of a population know better than anybody else what they consider to be the minimum socially acceptable level of living, it can be argued that the third method may be better than the others. Unfortunately, the data required for the construction of poverty lines according to this method do not exist in the case of Greece, so it is not applicable. In addition, in Greece there is no "official" poverty line and no study has been conducted to assess the minimal needs of individuals in terms of food, housing, clothing and so on. In view of all this, we are obliged to derive the poverty line using the fourth (relativist) method. This method has the advantage that it links the poverty line to the entire income distribution and, hence, gives a "full-blooded" notion of relative deprivation. Nevertheless, it misses important aspects of absolute deprivation. For example, if the consumption of every population member is halved, intuitively one would expect that the number of the poor should increase. However, this type of poverty line would identify as poor only the same population members as before. In the third section only relativist poverty lines are used. In the fourth section, where intertemporal changes in poverty are examined, absolutist poverty lines are adopted in addition.[4] Following OECD (1976), the poverty line is, here,

[4]That is, in order to measure changes in poverty between 1974 and 1982, poverty in 1982 is measured using both the 1982 poverty line and the 1974 poverty line evaluated in 1982 prices.

defined as two thirds of the median consumption expenditure pea in the relevant year. This means that the poverty line is set at 1,980 drachmas per month in 1974 and 11,425 drachmas per month in 1982.

The final choice concerns the poverty indices which will be utilized. Several such indices have been proposed in the literature [for good surveys see Foster (1984) and Seidl (1988)] and although various authors have suggested different sets of desirable properties, following Sen (1976a), today there seems to exist a general agreement that a poverty index should satisfy the following axioms:

Focus axiom: Changes in the consumption expenditure of the non-poor which do not affect the number of poor should leave the index unaffected.

Monotonicity axiom: Ceteris paribus, a reduction in the consumption expenditure of a poor person should increase the index.

Transfer axiom: Ceteris paribus, a regressive transfer between two poor persons should increase the index.

Implicit in the poverty measurement are three further axioms derived from the measurement of inequality. The *symmetry axiom*, which requires the index to remain unaffected by a permutation of expenditures; the *mean independence axiom*, which requires the index to remain unaffected if the consumption expenditure of all the population members and the poverty line change by the same proportion; and the *population independence axiom*, which requires the index to remain unaffected if two or more identical populations are pooled.[5] For the purposes of the present paper, a particularly desirable axiom is the following:

Additive decomposability axiom: If the population is grouped into k mutually exclusive and exhaustive groups the index must be equal to the weighted sum of the k group indices.[6]

Two indices are utilised in this paper. These are the Foster et al. (1984), index (F) and an index proposed in Tsakloglou (1988b), (M)[7] They are defined as follows:

$$F = (1/n)\sum_j [(z - y_j)/z]^\varepsilon \tag{1}$$

$$M = (1/nz)\sum_j (z - y_j)(z/y_j)^\varepsilon \tag{2}$$

where z is the poverty line, n is the size of the population, q is the number of the poor, y_j is the expenditure of poor individual j ($j = 1, \ldots q, 0 < y_1 \leq \ldots y_q \leq z < y_{q+1} \cdots \leq y_n$) and ε is a "poverty aversion parameter" ($\varepsilon > 0$). Both indices satisfy the Sen axioms (focus, monotonicity and transfer), as well as the axioms of symmetry, mean independence, population independence and additive decomposability. Since Foster et al. (1984) focus mainly on the index obtained when $\varepsilon = 2$, this value of ε has been used for the estimation of F. The value of $\varepsilon = 1$,

[5]Kundu and Smith (1983) introduce the *Proportion of the poor axiom* which states that "an increase in the relative number of the poor should increase the index" and show that no index can satisfy the axioms of population-size independence, proportion of the poor and transfer simultaneously.

[6]Foster and Shorrocks (1987) introduce the *subgroup consistency axiom* which states that "Ceteris paribus, the poverty index should increase when poverty increases within a population subgroup." Hagenaars (1987) calls this axiom *decomposition axiom*. All the additively decomposable poverty indices satisfy the subgroup consistency axiom, but not vice versa.

[7]Analysis of poverty in Greece based on the indices of Clark *et al.* (1981) and Thon (1979) can be found in Tsakloglou (1988a). The results are very similar to those presented below.

which gives a "constant elasticity" poverty index, is used for the estimation of M. If the population is grouped into $k = 1 \ldots K$ mutually exclusive and exhaustive groups, F and M can be written as:

$$F = \sum_k (n_k/n)\{(1/n_k)\sum_{j\in p_k}[(z-y_j)/z]^\varepsilon\} = \sum_k (n_k/n)F_k \quad (3)$$

$$M = \sum_k (n_k/n)(1/n_k z)\sum_{j\in p_k}(z-y_j)(z/y_j)^\varepsilon = \sum_k (n_k/n)M_k \quad (4)$$

where P_k is the set of poor individuals in group k, n_k is the population of group k and F_k, M_k are the values of the respective indices for that group. The quantities $(n_k/n)F_k$, $(n_k/n)M_k$ and $100(n_k/n)(F_k/F)$, $100(n_k/n)(M_k/M)$ are, respectively, the absolute and percentage contributions of group k to aggregate poverty according to the corresponding index. Finally, estimates of the "Head count ratio" (proportion of the poor in the population), $H = q/n$, are also presented because of their very clear descriptive features. H is an additively decomposable poverty index with population share weights, but violates the axioms of monotonicity and transfer.

3. Measurement and Decomposition of Poverty

Estimates of H, F and M for the entire population are reported in bold characters in the central row of Table 1. Using the above poverty lines, 24.3 percent of the 1974 HES sample are classified as poor, while in 1982 the corresponding percentage is slightly lower (22.7 percent). Before proceeding to the measurement and decomposition of poverty for specific population groups, a warning should be given. Like most similar distributions for other countries, the distributions used here are approximately lognormally distributed and the poverty lines are close to the bottom of the distributions. Therefore, it is reasonable to expect the proportion of the population falling below the poverty line and the estimates of the poverty indices to be very sensitive to the selection of this line. This is demonstrated in Table 1 where the poverty line is set successively at 50

TABLE 1

Sensitivity of Poverty Indices to Changes in the Poverty Line

Poverty Line as Percentage of the Median Consumption Expenditure Pea	Head Count H		Foster et al Index ($\varepsilon = 2$) F		New Index ($\varepsilon = 1$) M	
	1974	1982	1974	1982	1974	1982
50%	0.126	0.106	0.012	0.009	0.056	0.041
	(−48.1)	(−53.3)	(−58.6)	(−61.9)	(−58.2)	(−62.4)
60%	0.193	0.179	0.021	0.016	0.099	0.078
	(−20.6)	(−21.1)	(−27.6)	(−29.5)	(−26.1)	(−28.4)
66.67%	**0.243**	**0.227**	**0.029**	**0.023**	**0.134**	**0.109**
70%	0.269	0.253	0.033	0.027	0.153	0.126
	(10.7)	(11.5)	(13.8)	(17.4)	(14.2)	(15.6)
75%	0.308	0.302	0.040	0.033	0.185	0.155
	(26.7)	(33.0)	(37.9)	(43.5)	(38.1)	(42.2)

percent, 60 percent, 66.67 percent, 70 percent and 75 percent of the median consumption expenditure pea. The figures reported in parentheses below the estimates of the indices are the percentage differences in the values of these indices from the values obtained when the poverty line is defined as two thirds (66.67 percent) of the median consumption expenditure pea (that is, the poverty line used in this paper). An increase in the value of the poverty line by 50 percent (from 50 percent to 75 percent of the median expenditure) is associated with a 144 percent increase in the number of the poor in 1974. The relevant figure for 1982 is even higher (185 percent). F and M are even more sensitive than H to changes in the poverty line. Nevertheless, experimentation with several poverty lines suggests that although the results of the paper which are related to the measurement of poverty depend crucially on the selection of the poverty line, the results of poverty decomposition are rather insensitive to changes in it.

The results of measurement and decomposition of poverty are reported in Table 2. The decomposition of poverty is achieved with reference to a set of factors. These factors are regional (region and locality of residence), occupational (sector of employment, type of profession, occupational status of *HH* head and number of economically active *HH* members), demographic (age and sex of *HH* head and *HH* size) and educational (educational level of *HH* head). Estimates of H, F and M are reported for all the socioeconomic groups in both survey years [columns (5), (6), (8), (9), (11) and (12)], along with the population share [columns (1) and (2)] and the arithmetic mean expenditure pea of all the *HH* members and (in parentheses) the poor members of each group [columns (3) and (4)].[8] The expenditure figures are in average 1974 and 1982 prices, respectively. The figures in parentheses below the decomposable indices are the percentage contributions of the corresponding groups to aggregate poverty, according to the relevant index.

The first two panels of Table 2 present the results of measurement and decomposition of poverty by regional factors. The clear conclusion of this part of the table is that poverty is a predominantly rural phenomenon in Greece. In 1974 (1982) the mean expenditure pea of the rural population was only 66.4 percent (70.4 percent) of the mean expenditure pea of the urban population, and although only 43.2 percent (40.9 percent) of the total population was residing in rural areas, 66.5 percent (61.4 percent) of all poor were located there. As a result, the incidence of poverty was 2.60 (2.30) times higher in the rural than in the urban areas of the country. Further, F and M suggest that poverty was more than three times higher in the rural than in the urban areas and that rural areas were accounting for slightly less than three quarters (more than two thirds) of aggregate poverty in 1974 (1982). This finding (poverty higher in rural than in urban areas) is in line with the findings of several empirical studies for other countries [see the relevant results of Fishlow (1972) and Thomas (1987) for Brazil, Alamgir (1975) for Bangladesh, Anand (1977) for Malaysia, van Ginneken (1980) for Iran, de Kruijk and van Leewen (1985) for Pakistan; Kakwani (1986) for Sri Lanka and Altimir (1982) for several Latin American countries]. Naturally,

[8]Using the information of Table 2 another frequently used poverty index can be constructed: the normalised poverty gap $N = H\sum_j [(z - y_j)/zq] = (q/n)[(z - \mu_p)/z]$, where μ_p is the mean income of the poor. N satisfies the axioms of focus and monotonicity, but violates the transfer axiom.

TABLE 2

MEASUREMENT, DECOMPOSITION AND CHANGE IN THE LEVEL OF (RELATIVE) POVERTY IN GREECE: 1974 AND 1982

Characteristic of Household Member or Household Head	Population Share		Group Mean Expenditure (Mean Expend. of the poor) $\mu_j(\mu_{jp})$		Head Count Ratio H			Foster et al Index ($\varepsilon = 2$) F			New Index ($\varepsilon = 1$) M		
	1974 (1)	1982 (2)	1974 (3)	1982 (4)	1974 (5)	1982 (6)	Change (7)	1974 (8)	1982 (9)	Change (10)	1974 (11)	1982 (12)	Change (13)
REGION													
Greater Athens	0.317	0.319	4,682	24,696	0.094	0.116	0.010	0.007	0.007	0.00	0.035	0.035	0.000
			(1,541)	(9,144)	(12.3)	(15.5)	(17.0)	(7.7)	(9.7)	(0.0)	(8.3)	(10.3)	(0.0)
East Mainland and Islands	0.108	0.126	3,729	18,296	0.206	0.268	0.062	0.022	0.032	0.010	0.098	0.148	0.050
			(1,465)	(8,126)	(9.1)	(14.9)	(30.1)	(8.3)	(17.4)	(45.5)	(7.9)	(17.2)	(51.0)
Greater Salonica	0.073	0.072	3,887	20,874	0.183	0.139	−0.044	0.013	0.009	−0.004	0.062	0.046	−0.016
			(1,566)	(8,970)	(5.5)	(4.4)	(−24.0)	(3.3)	(2.8)	(−30.8)	(3.4)	(3.0)	(−25.8)
Central and West Macedonia	0.097	0.096	2,859	16,686	0.338	0.322	−0.016	0.045	0.032	−0.013	0.206	0.152	−0.054
			(1,361)	(8,436)	(13.5)	(13.6)	(−4.7)	(15.2)	(13.3)	(−28.9)	(14.9)	(13.4)	(−26.2)
Peloponnese and West Mainland	0.131	0.136	3,269	18,167	0.276	0.287	0.011	0.028	0.028	0.000	0.135	0.130	−0.005
			(1,451)	(8,459)	(14.9)	(17.2)	(4.0)	(12.8)	(16.5)	(0.0)	(13.2)	(16.3)	(−3.7)
Thessaly	0.098	0.081	2,991	16,668	0.378	0.303	−0.075	0.050	0.036	−0.014	0.233	0.163	−0.070
			(1,376)	(8,116)	(15.2)	(10.8)	(−19.8)	(17.1)	(12.6)	(−28.0)	(17.1)	(12.1)	(−30.0)
Crete	0.051	0.050	2,914	19,136	0.353	0.197	−0.156	0.041	0.026	−0.015	0.195	0.127	−0.068
			(1,433)	(8,040)	(7.4)	(4.3)	(−44.2)	(7.3)	(5.6)	(−36.6)	(7.4)	(5.8)	(−34.9)
Epirus	0.048	0.042	2,811	16,024	0.388	0.366	−0.022	0.058	0.051	−0.007	0.274	0.236	−0.038
			(1,321)	(7,768)	(7.7)	(6.8)	(−5.7)	(9.7)	(9.3)	(−12.1)	(9.8)	(9.1)	(−13.9)
East Macedonia and Thrace	0.078	0.078	2,488	17,253	0.456	0.357	−0.099	0.068	0.038	−0.030	0.311	0.178	−0.133
			(1,314)	(8,231)	(14.6)	(12.3)	(−21.7)	(18.5)	(12.8)	(−44.1)	(18.1)	(12.8)	(−42.8)
LOCALITY													
Urban (more than 10,000)	0.568	0.591	4,266	22,854	0.144	0.148	0.004	0.013	0.012	−0.001	0.063	0.058	−0.005
			(1,499)	(8,786)	(33.5)	(38.6)	(2.8)	(25.7)	(30.8)	(−7.8)	(26.7)	(31.7)	(−7.9)
Rural (less than 10,000)	0.432	0.409	2,834	16,087	0.374	0.340	−0.034	0.049	0.039	−0.010	0.227	0.181	−0.46
			(1,373)	(8,164)	(66.5)	(61.4)	(−9.1)	(74.3)	(69.2)	(−20.4)	(73.3)	(68.3)	(−20.3)

TABLE 2—continued

MEASUREMENT, DECOMPOSITION AND CHANGE IN THE LEVEL OF (RELATIVE) POVERTY IN GREECE: 1974 AND 1982

Characteristic of Household Member or Household Head	Population Share		Group Mean Expenditure (Mean Expend. of the poor) μ_j (μ_{jp})		Head Count Ratio H			Foster et al Index ($\varepsilon = 2$) F			New Index ($\varepsilon = 1$) M		
	1974 (1)	1982 (2)	1974 (3)	1982 (4)	1974 (5)	1982 (6)	Change (7)	1974 (8)	1982 (9)	Change (10)	1974 (11)	1982 (12)	Change (13)
SECTOR OF EMPLOYMENT OF HOUSEHOLD HEAD													
Agriculture	0.225	0.185	2,505	15,193	0.438	0.377	−0.061	0.056	0.044	−0.012	0.258	0.203	−0.055
			(1,372)	(8,147)	(40.5)	(30.8)	(−13.9)	(43.8)	(35.3)	(−21.4)	(43.4)	(34.5)	(−21.3)
Manufacturing, handicraft	0.149	0.151	3,820	20,787	0.182	0.147	−0.035	0.015	0.011	−0.004	0.070	0.054	−0.016
			(1,527)	(8,933)	(11.1)	(9.8)	(−19.2)	(7.8)	(7.2)	(−26.7)	(7.8)	(7.5)	(−22.9)
Mining, etc*	0.100	0.106	3,659	19,237	0.177	0.227	0.050	0.018	0.023	0.005	0.085	0.108	0.023
			(1,461)	(8,404)	(7.3)	(10.6)	(28.2)	(6.3)	(10.6)	(27.8)	(6.3)	(10.5)	(27.1)
Commerce, hotels, restaurants	0.119	0.118	4,153	22,843	0.161	0.163	0.002	0.015	0.014	−0.001	0.067	0.069	0.002
			(1,502)	(8,567)	(7.9)	(8.5)	(1.2)	(6.2)	(7.1)	(−6.7)	(6.0)	(7.5)	(3.0)
Transport, communications	0.075	0.071	4,028	21,612	0.127	0.141	0.014	0.008	0.006	−0.002	0.038	0.034	−0.004
			(1,600)	(9,418)	(3.9)	(4.4)	(11.0)	(2.1)	(1.8)	(−25.0)	(2.1)	(2.2)	(−10.5)
Banks, insurances	0.022	0.025	6,156	31,357	0.041	0.014	−0.027	0.003	0.002	−0.001	0.014	0.007	−0.007
			(1,513)	(7,773)	(0.4)	(0.2)	(−65.9)	(0.2)	(0.2)	(−33.3)	(0.2)	(0.2)	(−50.0)
Services	0.109	0.111	4,739	25,532	0.084	0.104	0.020	0.006	0.006	0.000	0.030	0.032	0.002
			(1,571)	(9,184)	(3.8)	(5.1)	(23.8)	(2.3)	(2.9)	(0.0)	(2.4)	(3.3)	(6.7)
Retired	0.130	0.156	3,214	16,798	0.327	0.345	0.018	0.049	0.039	−0.010	0.227	0.182	−0.045
			(1,335)	(8,219)	(17.5)	(23.8)	(5.5)	(22.2)	(26.3)	(−20.4)	(22.0)	(26.1)	(−19.8)
Other	0.070	0.077	3,959	21,077	0.265	0.204	−0.061	0.038	0.025	−0.013	0.186	0.116	−0.070
			(1,350)	(8,032)	(7.6)	(6.9)	(−23.0)	(9.3)	(8.4)	(−34.2)	(9.7)	(8.2)	(−37.6)
TYPE OR PROFESSION OF HOUSEHOLD HEAD													
Professional or technical	0.048	0.070	6,503	30,818	0.034	0.060	0.026	0.001	0.006	0.005	0.008	0.027	0.019
			(1,635)	(8,699)	(0.7)	(1.4)	(76.5)	(0.2)	(1.8)	(500.0)	(0.3)	(1.7)	(237.5)
Executive or manager	0.014	0.018	7,374	32,000	0.000	0.056	0.056	0.000	0.006	0.006	0.000	0.028	0.028
			(−)	(8,716)	(0.0)	(0.4)		(0.0)	(0.5)		(0.0)	(0.5)	
Clerical worker	0.063	0.059	4,618	24,457	0.059	0.093	0.034	0.003	0.004	0.001	0.017	0.024	0.007
			(1,577)	(9,226)	(1.5)	(2.4)	(57.6)	(0.7)	(1.0)	(33.3)	(0.8)	(1.3)	(41.2)

Sales worker	0.086	0.083	4,259	23,711	0.164	0.146	−0.018	0.015	0.010	−0.005	0.067	0.051	−0.016
			(1,508)	(8,862)	(5.8)	(5.3)	(−11.0)	(4.5)	(3.6)	(−33.3)	(4.3)	(3.9)	(−23.9)
Service worker	0.063	0.053	3,601	20,551	0.164	0.184	0.020	0.014	0.015	0.001	0.006	0.072	0.006
			(1,532)	(8,716)	(4.2)	(4.3)	(12.2)	(3.1)	(3.4)	(7.1)	(3.1)	(3.5)	(9.1)
Farmer	0.224	0.183	2,499	15,084	0.439	0.378	−0.061	0.057	0.044	−0.013	0.259	0.203	−0.056
			(1,372)	(8,150)	(40.4)	(30.5)	(−13.9)	(44.2)	(34.8)	(−22.8)	(43.3)	(34.2)	(−21.6)
Production or transport worker	0.294	0.296	3,551	19,190	0.183	0.187	0.004	0.016	0.016	0.000	0.074	0.076	0.002
			(1,513)	(8,743)	(22.1)	(24.4)	(2.2)	(16.2)	(20.4)	(0.0)	(16.3)	(20.7)	(2.7)
Retired	0.130	0.156	3,214	16,798	0.327	0.345	0.018	0.049	0.039	−0.010	0.227	0.182	−0.045
			(1,335)	(8,219)	(17.5)	(23.8)	(5.5)	(22.2)	(26.3)	(−20.4)	(22.0)	(26.1)	(−19.8)
Other	0.078	0.082	4,188	21,859	0.240	0.189	−0.051	0.034	0.024	−0.010	0.169	0.108	−0.061
			(1,350)	(8,032)	(7.7)	(6.8)	(−21.3)	(9.1)	(8.4)	(−29.4)	(9.8)	(8.1)	(−36.1)
OCCUPATIONAL STATUS OF HOUSEHOLD HEAD													
Employer	0.060	0.069	5,692	27,694	0.069	0.071	0.002	0.004	0.005	0.001	0.022	0.023	0.001
			(1,607)	(9,132)	(1.7)	(2.2)	(2.9)	(0.8)	(1.4)	(25.0)	(1.0)	(1.5)	(4.5)
Self-employed (agricultural sector)	0.201	0.161	2,441	14,614	0.445	0.396	−0.049	0.057	0.045	−0.012	0.263	0.208	−0.055
			(1,370)	(8,175)	(36.8)	(28.1)	(−11.0)	(39.9)	(31.3)	(−21.1)	(39.5)	(30.8)	(−20.9)
Self-employed (non-agricultural sector)	0.178	0.151	3,876	20,256	0.184	0.199	0.015	0.019	0.018	−0.001	0.086	0.084	−0.002
			(1,472)	(8,586)	(13.5)	(13.3)	(8.2)	(11.8)	(11.5)	(−5.3)	(11.4)	(11.7)	(−2.3)
Employee	0.359	0.382	3,964	22,063	0.153	0.151	−0.002	0.013	0.013	0.000	0.060	0.060	0.000
			(1,523)	(8,774)	(22.6)	(25.5)	(−1.3)	(16.3)	(21.0)	(0.0)	(16.1)	(21.6)	(0.0)
Retired	0.130	0.156	3,214	16,798	0.327	0.345	0.018	0.049	0.039	−0.010	0.227	0.182	−0.045
			(1,335)	(8,219)	(17.5)	(23.8)	(5.5)	(22.2)	(26.3)	(−20.4)	(22.0)	(26.1)	(−19.8)
Other	0.072	0.081	3,965	21,207	0.264	0.202	−0.062	0.037	0.025	−0.012	0.184	0.116	−0.068
			(1,354)	(8,062)	(7.7)	(7.2)	(−23.5)	(9.1)	(8.7)	(−32.4)	(9.8)	(8.6)	(−37.0)
NUMBER OF ECONOMICALLY ACTIVE HOUSEHOLD MEMBERS													
None	0.106	0.133	3,689	18,732	0.321	0.305	−0.016	0.050	0.038	−0.012	0.241	0.179	−0.062
			(1,329)	(8,030)	(14.0)	(17.9)	(−5.0)	(18.8)	(21.6)	(−24.0)	(19.1)	(21.8)	(−25.7)
1	0.508	0.500	3,903	20,723	0.191	0.196	0.005	0.020	0.018	−0.002	0.094	0.083	−0.011
			(1,457)	(8,621)	(40.0)	(43.2)	(2.6)	(35.5)	(38.5)	(−10.0)	(35.7)	(38.1)	(−11.7)
2	0.268	0.278	3,446	20,530	0.264	0.233	−0.031	0.030	0.024	−0.006	0.139	0.110	−0.029
			(1,418)	(8,391)	(29.1)	(28.5)	(−11.7)	(27.7)	(28.2)	(−20.0)	(27.8)	(28.1)	(−20.9)
3 or more	0.118	0.089	2,963	17,148	0.350	0.260	−0.090	0.043	0.031	−0.012	0.197	0.146	−0.051
			(1,382)	(8,189)	(17.0)	(10.2)	(−25.7)	(17.6)	(11.8)	(−27.9)	(17.3)	(11.9)	(−25.9)

TABLE 2—continued

MEASUREMENT, DECOMPOSITION AND CHANGE IN THE LEVEL OF (RELATIVE) POVERTY IN GREECE: 1974 AND 1982

Characteristic of Household Member or Household Head	Population Share		Group Mean Expenditure (Mean Expend. of the poor) μ_j (μ_{jp})		Head Count Ratio H			Foster et al Index ($\varepsilon = 2$) F			New Index ($\varepsilon = 1$) M		
	1974 (1)	1982 (2)	1974 (3)	1982 (4)	1974 (5)	1982 (6)	Change (7)	1974 (8)	1982 (9)	Change (10)	1974 (11)	1982 (12)	Change (13)
AGE OF HOUSEHOLD HEAD													
Less than 25	0.013	0.014	4,802	24,076	0.109	0.052	−0.057	0.005	0.002	−0.003	0.026	0.012	−0.014
			(1,649)	(9,560)	(0.6)	(0.3)	(−52.3)	(0.2)	(0.1)	(−60.0)	(0.3)	(0.2)	(−53.8)
25–34	0.135	0.161	4,266	23,106	0.151	0.151	0.000	0.014	0.015	0.001	0.063	0.070	0.007
			(1,499)	(8,583)	(8.4)	(10.7)	(0.0)	(6.6)	(10.5)	(7.1)	(6.4)	(10.4)	(11.1)
35–44	0.292	0.262	3,847	21,421	0.202	0.184	−0.018	0.023	0.015	−0.008	0.106	0.073	−0.033
			(1,431)	(8,770)	(24.2)	(21.3)	(−8.9)	(23.2)	(17.0)	(−34.8)	(23.1)	(17.6)	(−31.1)
45–54	0.248	0.258	3,582	19,800	0.243	0.220	−0.023	0.026	0.024	−0.002	0.118	0.113	−0.005
			(1,450)	(8,263)	(24.8)	(25.1)	(−9.5)	(22.2)	(26.8)	(−7.7)	(21.9)	(26.8)	(−4.2)
55–64	0.167	0.157	3,349	18,678	0.283	0.261	−0.022	0.034	0.024	−0.010	0.161	0.111	−0.050
			(1,401)	(8,506)	(19.4)	(18.1)	(−7.8)	(19.7)	(16.3)	(−29.4)	(20.1)	(16.0)	(−31.1)
65–74	0.108	0.104	3,150	16,905	0.344	0.332	−0.012	0.047	0.035	−0.012	0.220	0.163	−0.057
			(1,362)	(8,293)	(15.3)	(15.2)	(−3.5)	(17.6)	(15.8)	(−25.5)	(17.7)	(15.6)	(−25.9)
More than 74	0.037	0.044	2,648	14,012	0.478	0.479	0.001	0.083	0.072	−0.011	0.381	0.336	−0.045
			(1,274)	(7,694)	(7.3)	(9.3)	(0.2)	(10.7)	(13.7)	(−13.3)	(10.5)	(13.6)	(−11.8)
HOUSEHOLD SIZE													
1	0.025	0.030	5,080	27,009	0.229	0.184	−0.045	0.034	0.030	−0.004	0.169	0.154	−0.015
			(1,380)	(7,531)	(2.4)	(2.4)	−19.7)	(3.0)	(3.9)	(−11.8)	(3.2)	(4.3)	(−8.9)
2	0.130	0.147	3,939	20,659	0.265	0.268	0.003	0.036	0.031	−0.005	0.171	0.142	−0.029
			(1,370)	(8,219)	(14.2)	(17.4)	(1.1)	(16.3)	(19.6)	(−13.9)	(16.6)	(19.2)	(−17.0)
3	0.189	0.195	4,160	21,698	0.181	0.189	0.008	0.021	0.017	−0.004	0.098	0.082	−0.016
			(1,424)	(8,648)	(14.1)	(16.3)	(4.4)	(13.8)	(14.3)	(−19.0)	(13.8)	(14.7)	(−16.3)
4	0.317	0.314	3,775	21,627	0.187	0.153	−0.034	0.019	0.013	−0.006	0.087	0.060	−0.027
			(1,463)	(8,667)	(24.3)	(21.2)	(−18.2)	(21.0)	(17.7)	(−31.6)	(20.6)	(17.3)	(−31.0)

5	0.190	0.179	3,335	17,966	0.266	0.244	−0.022	0.029	0.023	−0.006	0.137	0.107	−0.030
			(1,431)	(8,518)	(20.9)	(19.3)	(−8.3)	(19.3)	(17.8)	(−20.7)	(19.5)	(17.6)	(−21.9)
6	0.095	0.088	2,821	15,478	0.359	0.375	0.016	0.041	0.039	−0.002	0.187	0.192	0.005
			(1,405)	(8,405)	(14.0)	(14.3)	(4.5)	(13.6)	(14.9)	(−4.9)	(13.3)	(15.5)	(2.7)
More than 6	0.054	0.047	2,283	13,575	0.466	0.425	−0.041	0.070	0.060	−0.010	0.328	0.267	−0.061
			(1,348)	(7,686)	(10.3)	(8.8)	(−8.8)	(13.2)	(12.0)	(−14.3)	(13.2)	(11.5)	(−18.6)
SEX OF HOUSEHOLD HEAD													
Male	0.916	0.918	3,622	19,907	0.241	0.228	−0.013	0.028	0.023	−0.005	0.129	0.106	−0.023
			(1,421)	(8,451)	(90.8)	(92.2)	(−5.4)	(88.7)	(90.7)	(−17.9)	(88.2)	(89.5)	(−17.8)
Female	0.084	0.082	3,923	22,081	0.269	0.209	−0.060	0.038	0.026	−0.012	0.188	0.139	−0.049
			(1,358)	(7,831)	(9.2)	(7.7)	(−22.3)	(11.3)	(9.3)	(−31.6)	(11.8)	(10.5)	(−26.1)
EDUCATIONAL LEVEL OF HOUSEHOLD HEAD													
University	0.064	0.091	7,050	31,854	0.016	0.036	0.020	0.0004	0.001	0.001	0.003	0.008	0.005
graduate			(1,715)	(9,573)	(0.4)	(1.4)	(125.0)	(0.1)	(0.4)	(222.0)	(0.1)	(0.7)	(166.7)
Secondary educ.	0.128	0.165	5,336	26,081	0.048	0.085	0.037	0.003	0.005	0.002	0.015	0.024	0.009
completed			(1,576)	(9,227)	(2.5)	(6.2)	(77.1)	(1.3)	(3.7)	(66.7)	(1.4)	(3.6)	(60.0)
Primary educ.	0.547	0.556	3,372	18,179	0.235	0.244	0.009	0.022	0.022	0.000	0.103	0.106	0.003
completed			(1,480)	(8,584)	(52.8)	(59.9)	(3.8)	(41.9)	(53.2)	(0.0)	(42.1)	(54.2)	(2.9)
Primary educ.	0.262	0.187	2,566	14,707	0.411	0.392	−0.019	0.062	0.052	−0.010	0.288	0.241	−0.047)
not completed			(1,326)	(7,862)	(44.3)	(32.4)	(−4.6)	(56.6)	(42.4)	(−16.1)	(56.4)	(41.5)	(−16.3)
or no educ.													
GREECE	1.000	1.000	3647	20084	0.243	0.227	−0.016	0.029	0.023	−0.0056	0.134	0.109	−0.025
			(1415)	(8405)			(−6.6)			(−19.5)			(−18.7)

*Mining/Electricity/Gas/Water/Construction/Public Utilities.

poverty is particularly acute in those regions where a large part of the population resides in rural areas (Epirus, East Macedonia and Thrace, Thessaly). Furthermore, in both surveys poverty is found to be relatively low in regions with little or no rural population (Greater Athens and Greater Salonica).[9]

In the next three panels of Table 2 the population is grouped by sector of employment, type of profession and occupational status of the *HH* head. Since a large proportion of the rural population is employed in agriculture, it is not surprising to find that poverty is particularly high among members of *HH*s headed by persons engaged in primary production (sector of employment "Agriculture," type of profession: "Farmer" and occupational status' "Self-employed in the agricultural sector," respectively). Poverty was also very acute among members of *HH*s headed by retired persons. Taking into account that in 1974 (1982) 64.4 percent (63.7 percent) of the poor members of the latter group were living in rural areas, it can be speculated that a large proportion of them were living in *HH*s headed by retired farmers. Although in 1974 (1982) the population share of the groups of members of *HH*s headed by farmers and retired persons was only 35.4 percent (33.9 percent), 57.9 percent (54.3 percent) of all the poor were members of these groups and their combined contribution to aggregate poverty was 66.4 percent (61.1 percent) and 65.3 percent (60.3 percent) by F and M, respectively. Poverty was also relatively high among the members of the heterogeneous group "Other" (members of *HH*s headed by housewives, students, unemployed, unpaid family workers, etc). Even though in both surveys the contribution to aggregate poverty of the group of members of *HH*s headed by farmers was higher than that of the group of members of *HH*s headed by retired persons, the fact that the population share of the former group is declining rapidly while that of the latter group is rising may suggest that in the near future the latter may be the single most important group in poverty.[10] At the other end, low levels of poverty were linked with particular occupational characteristics of the *HH* head. These characteristics are employment in the sectors "Banks and Insurances," "Services" and "Transport and Communications," type of profession "Executive and Manager," "Professional and Technical worker," and "Clerical worker" and occupational status "Employer."

Since in both surveys over 30 percent of the aggregate poverty is accounted by two groups where the *HH* head is not an employed person ("Retired" and "Other"), it may be reasonable to expect that in Greece—as in many European countries [see Hagenaars (1986)]—poverty is associated with lack of economically active (employed) persons in the *HH*. A partial test for this hypothesis is provided in the sixth panel of Table 2, where the population is grouped by the number of economically active *HH* members, and gives only partial support to it. Although the values of F and M for the group of members of *HH*s with no economically active members are higher than the corresponding values of any other group, the

[9]These results could be different if different price indices were used for the various regions and/or for urban and rural areas. Such price indices are not available in Greece but since Greece is a relatively small country, regional price differentials are not expected to be substantial.

[10]Between 1974 and 1982 the population share of the group of members of *HH*s headed by farmers declined by 4.1 percent, whilst that of the group of members of *HH*s headed by retired persons rose by 2.6 percent.

contribution of this group to aggregate poverty in 1974 (1982) was only 18.8 percent (21.6 percent) by F and 19.1 percent (21.8 percent) by M. In addition, poverty among members of *HH*s with only one employed member was considerably lower than among members of *HH*s with two or more than two employed members. Further, apart from *HHs* with no economically active members, the only other group with poverty levels substantially higher than the national average is the group of members of *HH*s with more than two employed members. Hence, these results may suggest that, in addition to lack of employment, low pay is an important factor associated with poverty.

In the next three panels of Table 2, poverty is measured and decomposed by demographic factors. The evidence of the seventh panel shows a marked positive association between poverty and age of *HH* head. Poverty appears to be extremely severe in the small group of *HH* members headed by persons aged over 74. In both surveys almost half of this group's members were below the poverty line and F and M show that this group's level of poverty was between two and three times higher than the national average. High levels of poverty can also be observed among members of *HH*s headed by persons in the age bracket 65-74. F and M suggest that in both surveys these groups taken together accounted for almost 30 percent of aggregate poverty, although their combined population share was less than 15 percent.

The evidence of several countries regarding the relationship between *HH* size and poverty is not clear. Beckman and Clark (1982) report that poverty in the U.K. is more severe in small *HH*s, whereas Fishlow (1972) and Anand (1977) found a strong positive association between incidence of poverty and *HH* size in Brazil and Malaysia, respectively. The evidence of the eight panel of Table 2 suggests that in Greece this relationship is U-shaped. The estimates of the poverty indices for the group of members of *HH*s with more than six members are between two and two and half times higher than the national average. High levels of poverty can also be observed in *HH*s with one, two, and six members.

Several authors point out that in recent years many industrial countries have experienced a feminization of poverty; that is, poverty affecting more *HH*s headed by women than *HH*s headed by men [see Bane (1986), Fuchs (1986) and Hagenaars (1986); for similar evidence for LDCs see Fishlow (1972) and Anand (1977)]. The validity of this hypothesis for Greece is tested in the ninth panel of Table 2. Some interesting results are reported there. Although the mean expenditure pea of members of *HH*s headed by females in 1974 (1982) was 8.3 percent (10.9 percent) higher than that of members of *HH*s headed by males, F and M show that poverty was more severe in the former group. This is due to the fact that inequality within the group of members of *HH*s headed by females was substantially higher than inequality within the group of members of *HH*s headed by males [see Tsakloglou (1988a)]. Nevertheless, since only a relatively small fraction of the population was living in *HH*s headed by females, the decomposable indices show that the bulk of poverty was contributed by members of *HH*s headed by males.

It should be emphasized that the results of the measurement and decomposition of poverty by demographic factors depend, to some extent, on the particular values of equivalence scales. Most of the children live in *HH*s with 3-5 members

and heads in the age bracket 25-54. Hence, if the analysis was performed in per capita rather than in per equivalent adult terms or the values of the equivalence scales for the cost of children were higher (lower), poverty in these low-poverty groups would, probably, appear to be higher (lower) than in Table 2. On the other hand, some authors assign lower values to equivalences scales for females and old males than to those for working-age adult males [see Buce and Salathe (1978), Iyengar and Gobalakrishna (1985) and Tedford et al (1986)]. If this method was adopted, it is likely that poverty among members of *HH*s headed by old persons or women would appear to be lower than in Table 2. Finally, our equivalence scales do not take explicit account of economies of scale in consumption. If a different treatment of these economies of scale was adopted [see OECD (1976), Buhmann *et al.* (1988)] it is likely that the estimates of the poverty indices for large HHS would be lower than those of the eight panel of Table 2.

The results of measurement and decomposition of poverty by educational factors are presented in the final panel of Table 2. They reveal a very strong negative association between poverty and educational level of *HH* head. This finding is in line with the findings of similar studies for other countries [see, for example, Fishlow (1972), Anand (1977) and van Ginneken (1980)]. In both years poverty was almost unknown to members of *HH*s headed by university graduates, very low among members of *HH*s headed by persons with secondary education completed and extremely high among persons living in *HH*s headed by persons with primary education not completed or no education. In both surveys approximately 40 percent of the latter group's members were living in poverty. Further, although in 1974 (1982) the population share of this group was only 26.2 percent (18.7 percent), its contribution to aggregate poverty was 56.6 percent (42.4 percent) by F and 56.4 percent (41.5 percent) by M.

For a better diagnosis of the problem of poverty, smaller and more homogeneous poverty groups can be identified by cross-classifying the variables used in the one-way measurement and decomposition of poverty, so that a multi-dimensional profile of the poor and their poverty burden can be obtained. Estimates of two-way measurement and decomposition of poverty which are not reported here demonstrate that when several of the characteristics associated with high levels of poverty are taken together, the chances of being poor become extremely high [see Tsakloglou (1988a)]. For instance, in 1974, 59.0 percent of the members of farmer-headed *HH*s with more than six members were living in poverty and even though the population share of this subgroup was only 1.97 percent, its contribution to aggregate poverty was as high as 6.73 percent.

4. Intertemporal Changes in Poverty

The poverty lines used for the calculation of the poverty indices in the last section were chosen to be equal to two thirds of the median consumption expenditure pea of the entire population in the year under examination. As a result, differences in the values of the indices reported in the last section for 1974 and 1982 reflect changes in relative poverty. However, it is also interesting to consider the question of what would be the change in the level of poverty if the same poverty line was used in both years. This question implicitly assumes an

"absolutist" approach to the measurement of poverty. In order to answer it, the 1974 poverty line was revalued at 1982 prices and the indices used in our analysis were recalculated. Between 1974 and 1982 the general Retail Price Index in Greece rose by a factor of 3.629 [NSSG (1984, p. 417)]. Hence, the purchasing power of 1,980 drachmas in 1974 (1974 poverty line) was equivalent to 7,185 drachmas in 1982. However, it could be argued that the 1974 poverty line should be inflated not by the change in the general Retail Price Index, but by the change in the prices of the basket of commodities consumed by the poor.[11] Using the information of NSSG (1984) it is calculated that between 1974 and 1982 the Retail Price Index for the basket of goods and services consumed by the poor in 1982 rose by a factor of 3.720 and, hence, the "absolutist" poverty line in 1982 should be equal to 7,366 drachmas. The values of H, F and M for 1982 using the above "relativist" and "absolutist" poverty lines are reported in the last three columns of Table 3. The figures reported in the first column are the values of

TABLE 3

CHANGES IN THE LEVEL OF AGGREGATE POVERTY BETWEEN 1974 AND 1982 USING DIFFERENT POVERTY LINES

Year Type of Poverty Line		1974[a]	1982[b] "Relativist"	1982[c] "Absolutist"	1982[d] "Absolutist"
Poverty Index					
Head count ratio	H	0.243	0.227 (−6.6)	0.059 (−75.7)	0.064 (−73.7)
Foster et al. index	F	0.029	0.023 (−19.5)	0.0045 (−84.5)	0.0049 (−83.1)
New index	M	0.134	0.109 (−18.7)	0.022 (−83.6)	0.024 (−82.1)

Note: figures in parentheses are the percentage changes in poverty between 1974 and 1982 according to the relevant index and poverty line.

[a]The 1974 poverty line is defined as 2/3 of the 1974 median consumption expenditure pea.

[b]The 1982 "relativist" poverty line is defined as 2/3 of the 1982 median consumption expenditure pea.

[c]The first 1982 "absolutist poverty line is equal to the 1974 poverty line evaluated in 1982 prices using the general Retail Price Index.

[d]The second 1982 "absolutist" poverty line is equal to the 1974 poverty line evaluated in 1982 prices using the expenditure shares of the poor as weights for the Retail Price Index.

these indices for 1974. The figures in parentheses are the percentage changes in the level of aggregate poverty between 1974 and 1982 according to the relevant index and poverty line.

The main conclusion that can be drawn from the results of Table 3 is that between 1974 and 1982 there was an unambiguous decline in the level of poverty in Greece, irrespective of whether "relativist" or "absolutist" poverty lines are

[11]This argument implicitly assumes that the commodities consumed by the poor are necessities with limited substitution possibilities. Otherwise it can be argued that the poor can substitute commodities whose prices rise relatively slowly for commodities with rapidly rising prices and, therefore, the effect of changes in the Retail Price Index for them would be more or less the same as for the rest of the population.

used.[12] However, it does make a great difference to the percentage of poverty reduction if "absolutist" poverty lines are used instead of the "relativist" poverty line of the last section. Using the latter, H declined by 6.6 percent while F and M indicate a decline in the level of poverty between 18 percent and 20 percent.[13] Using either of the two "absolutist" poverty lines suggested above, the reduction in H is 73 to 76 percent and the reduction in F and M is between 82 and 85 percent. These results are hardly surprising since between 1974 and 1982 the mean consumption expenditure pea in Greece rose by 51.7 percent in real terms (5.3 percent per annum) accompanied by a decline in inequality [see Tsakloglou (1988a)]. Therefore, if the "absolute" approach is adopted and it is assumed that the 1974 poverty line represents the purchasing power which allows an adult to buy all the "necessities of life" but no "luxuries" at all, it must be concluded that by 1982 poverty was dramatically reduced. Further detailed results which are not reported here suggest that if this approach is adopted, by 1982 poverty was apparently eliminated completely among the members of many socioeconomic groups. Therefore, an analysis of changes in the level of absolute poverty for particular socioeconomic groups would not be especially interesting and, accordingly, the rest of this section is confined to changes in the level of relative poverty. A minor finding of Table 3 is that the results of poverty measurement are affected very little if the Retail Price Index of the basket of commodities consumed by the poor is used instead of the general Retail Price Index. Although during the period under examination the former index rose slightly faster than the latter, the difference was not large enough to yield qualitatively different results.

In columns (7), (10) and (13) of Table 2 we report the changes in relative poverty for specific socioeconomic groups. The figures in parentheses below the estimates of absolute change are the percentage changes in the level of poverty according to the relevant indices.[14] The conclusion that emerges clearly is that between 1974 and 1982 poverty declined more in the high-poverty groups. The highest reductions were recorded among members of *HH*s with "None" or "More than 2" economically active members, with "more than 6" members and with heads aged "Over 54," "Females," with "Primary education not completed or no education" or belonging to one of the occupational groups "Farmer," "Retired" or "Other."[15] At the other end, relative poverty rose mainly among members of low-poverty groups; see, for example, the increases in poverty among members of *HH*s headed by "Professional and Technical workers," "Executives

[12]Further, the evidence of Table 1 suggests that in 1982 the level of relative poverty was unambiguously lower than in 1974 for the range of poverty lines and poverty indices used there.

[13]The indices of Thon and Clark et al. record a slightly lower decline: 14.0 percent and 16.9 percent.

[14]Nevertheless, these percentage changes could be slightly misleading since in some cases the value of a poverty index in the base year was extremely low and, hence, even a modest change in the value of the index in absolute terms produces an enormous proportional change. Note also that in the case of members of *HH*s headed by "Executives and Managers" no proportional change is reported because no member of this group was living in poverty in 1974.

[15]Between 1974 and 1982 poverty declined substantially within some regions, as well (especially in Thessaly). However, the fact that the regional grouping of the population in 1974 and in 1982 is not identical (in the 1974 HES some Aegean Islands were grouped with Thessaly, whereas in the 1982 HES they were grouped with East Mainland and Islands), precludes a discussion of intertemporal changes in regional poverty.

and Managers," "University graduates" and persons with "Secondary education completed." Relative poverty also rose modestly in the medium-poverty groups of members of *HH*s with heads in the age bracket "25–34" or in one of the occupational groups "Mining etc.," "Clerical worker," and "Service worker." Marginal increases in relative poverty were experienced by a few other socioeconomic groups.

This particular pattern of poverty changes can be attributed to two principal factors. Firstly, between 1974 and 1982 there was a substantial reduction in the differences between the mean consumption expenditures pea of the socioeconomic groups. In other words, the mean consumption expenditure pea of the poorer groups grew faster than that of the relatively better-off groups.[16] Hence, ceteris paribus, one could expect a larger reduction in the relative poverty of the poorer groups and a lower reduction (or even an increase) in that of the better-off groups. Secondly, most of the 1974 high-poverty groups were among the high-inequality groups and, during the period under examination, inequality declined proportionally more in high-inequality than in low-inequality groups [see Tsakloglou (1988a)]. Therefore, it is not unreasonable to expect that the former groups would experience a higher decline in relative poverty.

A more general conclusion drawn from these results is that the Head count ratio, H, which is the most widely used index of poverty, is a rather unattractive index. In many of those instances where the indices which satisfy the Sen axioms indicate a decline in poverty, H indicates a poverty increase and vice versa. Consider, for instance, the group of members of *HH*s headed by "Retired" persons. F and M suggest that the relative poverty in this group declined by 20.4 percent and 19.8 percent respectively, whereas H suggests that it rose by 5.5 percent. This discrepancy can be attributed to the fact that between 1974 and 1982 this group's mean consumption expenditure pea grew more slowly than the national mean, but at the same time there was a spectacular decline in inequality within the group. As a result of using a "relativist" poverty line, in 1982 a larger proportion of the group's members were classified as poor. However, the distribution of consumption expenditure pea among them was more equal than in 1974. H is completely insensitive to the degree of poverty among the poor and, therefore, registers an increase in poverty. On the other hand, in F and M the positive effect of the increase in the proportion of the poor is counter-balanced by the negative effect due to improved intra-poor distribution of consumption expenditure. Hence, they register a decline in poverty.

Between 1974 and 1982 there were several changes in the structure of the population in Greece. In our samples these changes are reflected in the changes in the size of the population shares of the various socioeconomic groups. It is interesting, then, to examine to what extent the observed changes in aggregate poverty can be attributed to these changes, rather than to changes in the level of

[16]For example, the mean consumption expenditure pea of members of *HH*s headed by "Farmers" grew by 6.6 percent per annum whereas the relevant growth rates for the members of *HH*s headed by "Executives and Managers" and "Professional and Technical workers" were only 2.3 percent and 3.4 percent respectively. However, the growth rate of the other large high-poverty group, that is the members of *HH*s headed by "Retired" persons (4.7 percent) was higher than that of low-poverty groups, but lower than the national average (5.35 percent).

poverty within specific socioeconomic groups. Assuming that the poverty line, z, is exogenously determined, this can be achieved using F and M[17] Defining $v_k = n_k/n$ and applying the difference operator on both sides of (3) and (4) gives:

$$\Delta F = \sum_k v_k \Delta F_k + \sum_k F_k \Delta v_k \tag{5}$$

$$\Delta M = \sum_k v_k \Delta M_k + \sum_k M_k \Delta v_k \tag{6}$$

Equations (5) and (6) are exact decompositions of F and M. The first and the second terms on the right hand side of these equations can be interpreted, respectively, as the effects of changes in "within-groups" poverty and in population shares on the relevant index. The aggregation weights used in the application of (5) and (6) to the data are the arithmetic mean value of the base and the final period weights (that is for each variable X, $\Delta X = (X_{1974} - X_{1982})/[(X_{1974} + X_{1982})/2]$).

The results of decomposing changes in relative poverty are reported in Table 4. The original values of some terms are very small and, for expositional purposes, the true figures have been multiplied by 1,000. These results show that when the population is grouped according to nine out of the ten-criteria used in our analysis, over 84 percent of the recorded decline in relative poverty is attributable to changes in poverty "within-groups." The picture is completely different when the population is grouped according to the educational level of *HH* head. In the latter case, F and M respectively suggest that 67.4 percent and 71.2 percent of the decline is due to changes in population shares. Indeed, the evidence of Table 2 suggests that between 1974 and 1982 there was a substantial decline in the population share of the high-poverty group of members of *HH*s headed by persons with "Primary education not completed or no education" and an increase in the share of individuals living in *HH*s headed by "University graduates" or persons with "Secondary education completed." Therefore, the improvement in the educational level of *HH* heads had a strong positive effect on poverty alleviation.

The last column of Table 4 represents the "ceteris paribus" impact of changes in population shares on poverty. In other words, the figures reported in that column answer the question "What would have been the reduction in the value of the poverty index if the population shares had changed as they did, but the level of relative poverty within each group in 1982 was exactly the same as in 1947?" Even excluding the situation where the population is grouped according to the educational level of *HH* head, it can be noted that during the period under consideration the population shifts were mainly from high-poverty groups. Only when the population is grouped according to number of economically active *HH* members or age of *HH* head do the changes in the population shares have a weak negative impact on poverty reduction (between 1974 and 1982 there was a substantial increase in the population share of members of *HH*s living in the high-poverty groups of *HH*s headed by persons aged over 74 and in *HH*s with no economically active members).

[17] H can also be used for the decomposition of changes in poverty. However, as the example of the group of members of *HH*s headed by "Retired" persons demonstrates, the results can be misleading.

TABLE 4

DECOMPOSITION OF THE CHANGE IN AGGREGATE POVERTY (1974-1982)

Characteristic of Household Member of Household Head	Index of Poverty		Contribution to changes in poverty due to changes in*	
			Within groups poverty	Population shares
Region	Foster et al. index	F	−5.13 (91.8)	−0.46 (8.2)
	New index	M	−22.92 (91.6)	−2.09 (8.4)
Locality	Foster et al. index	F	−4.78 (86.9)	−0.72 (13.1)
	New index	M	−22.22 (87.1)	−3.30 (12.9)
Sector of employment of household head	Foster et al. index	F	−5.11 (89.8)	−0.58 (10.2)
	New index	M	−22.77 (89.7)	−2.61 (10.3)
Type of profession of household head	Foster et al. index	F	−4.79 (84.3)	−0.89 (15.7)
	New index	M	−21.14 (84.2)	−3.96 (15.8)
Occupational status of household head	Foster et al. index	F	−4.72 (85.6)	−0.79 (14.4)
	New index	M	−21.85) (86.2)	−3.50 (13.8)
Number of economically active household members	Foster et al. index	F	−5.81 (105.1)	+0.28 (−5.1)
	New index	M	−26.27 (105.4)	−1.35 (−5.4)
Age of household head	Foster et al. index	F	−5.87 (102.9)	+0.17 (−2.9)
	New index	M	−25.63 (102.8)	+0.70 (−2.8)
Household size	Foster et al. index	F	−5.33 (96.3)	−0.20 (3.7)
	New index	M	−24.18 (96.6)	−0.86 (3.4)
Sex of household head	Foster et al. index	F	−5.58 (99.6)	−0.02 (0.4)
	New index	M	−25.16 (99.5)	−0.13 (0.5)
Educational level of household head	Foster et al. index	F	−1.85 (32.6)	−3.84 (67.4)
	New index	M	−7.19 (28.8)	−17.79 (71.2)

*Absolute changes in poverty indices multiplied by 1,000.

5. Conclusions

The twin objectives of this paper were to establish who are the poor and to document the trend in poverty in Greece between 1974 and 1982. The principal finding with respect to the first objective is that poverty in Greece is a predominantly rural phenomenon. Rural poverty contributed between two-thirds and three-quarters of aggregate poverty in both surveys. Further, more than half of the poor were living in *HH*s headed either by farmers or by retired persons. These two groups taken together accounted for over 60 percent of aggregate poverty (around 68 percent in 1974 and 61 percent in 1982). Poverty was also found to be associated with large *HH* size, low educational level and old age of the *HH* head. At the other end, low levels of poverty were associated with residence in urban areas, young age and, particularly, high educational level of the *HH* head as well as with specific occupational characteristics of the *HH* head (employment in "Banks and Insurances," "Services" or "Transport and Communications," profession "Executive and Manager," "Professional and Technical worker," or "Clerical worker" and occupational status "Employer").

Regarding the second of the above objectives, it was found that between 1974 and 1982 absolute poverty declined dramatically (over 80 percent) and that relative poverty declined considerably too (18 percent–20 percent). As a general pattern, relative poverty declined proportionately more in those socioeconomic groups where it was very high in 1974. The structure of the population (reflected in the population shares of the socioeconomic groups) did not change dramatically between 1974 and 1982. As a consequence, the impact of changes in the structure of the population on the overall level of poverty was rather limited, with one exception. The improvement in the average educational level of *HH* heads had a strong positive effect on poverty reduction. Apart from this, the bulk of the observed decline in poverty should be attributed to changes in poverty "within" socioeconomic groups, rather than to changes in the composition of the population.

Using the information of Table 2 it can be calculated that in 1982 the aggregate poverty gap, $q(z-\mu_p)/n\mu$, was equal to 3.41 percent of the total consumption expenditure and its elimination would require the transfer of 3.77 percent of the consumption expenditure of the non-poor to the poor [the corresponding percentages for 1974 were 3.76 percent and 4.15 percent]. Elimination of this gap using a mildly progressive redistribution—that is by proportional "taxation" of the part of the expenditure of the non-poor above the poverty line—would have a very significant effect on inequality, as well [see Tsakloglou (1988a)]. The indices of Gini (G), Atkinson (A, for $\varepsilon = 2$), Theil (T and L) and the variance of logarithms (V) would decline by 16.2 percent (G), 37.4 percent (A), 26.4 percent (T), 34.0 percent (L) and 41.2 percent (V).[18] Further, it should be noted that the 1982 HES coincided with the election of a socialist government which embarked on a massive redistribution programme. Real average and minimum salaries, wages and pensions rose and the social security system was extended

[18]Nevertheless, this simulation was performed under the very unrealistic assumptions of no changes in the labour supply, no administrative costs and no leakages to the non-poor.

to cover segments of the population which were not covered until then.[19] A partial examination of the impact of these policies on poverty can be provided by comparing the estimates of H, F and M for the subgroups of members of the 1982 HES interviewed in the first (November 1981-January 1982) and the last (August-October 1982) quarters of the survey. It can be argued that since there is a time lag between the announcement and the full implementation of policy measures, the difference in the two sets of estimates, probably, reflects the impact of these policies. Although the incidence of poverty (H) rose by 9.3 percent (from 0.216 to 0.236) between these quarters, aggregate poverty declined substantially. F and M declined by 29.6 percent (from 0.027 to 0.019) and 20.7 percent (from 0.121 to 0.096), respectively.[20] It is likely that these percentages understate the "real" decline in poverty between the first and last quarters of the survey, because the first quarter includes the Christmas period which is, normally, associated with higher consumption expenditure. Nevertheless, these results may also imply that during that period some redistribution took place from the relatively better-off poor to the vary poor. It can, therefore, be claimed that the above policies had a positive impact on poverty alleviation. However, it can also be claimed that these policies might have had a detrimental effect on the growth prospects of the economy. Between 1981 and 1985 the average annual growth rate of GDP per capita was only 1.0 percent, the central government deficit as percentage of the GDP rose from 8.6 percent to 11.0 percent and the current account deficit as proportion of the GDP rose from 6.5 percent to 9.8 percent [IMF (1987, p. 361)].[21] It is for this reason that after their 1985 election victory, the socialists adopted a macroeconomic stabilization programme. It is still too early to evaluate fully the effects of this programme on the poor. Nevertheless, the experience of other countries which adopted similar programmes seems to suggest that, at least in the short-run, they result in rises in the level of aggregate poverty.

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[19]Real hourly wages rose by 10.4 percent between 1981 and 1982 (IMF, 1987, p. 104) and the share of Social Security expenditure in the GDP rose from 15.1 percent in 1980 to 21.7 percent in 1983 (NSSG 1985, p. 104).

[20]The indices of Thon and Clark *et al.* declined by 15.0 percent and 18.5 percent, respectively.

[21]If the deficit of the nationalized industries is included in the central government deficit, the increase would be substantially higher.

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