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# POVERTY AMONG THE ELDERLY: A TENTATIVE ASSESSMENT OF THE ITALIAN SOCIAL POLICIES. THE CASE OF SOCIAL PENSION

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### Poverty among the Elderly: A Tentative Assessment of the Italian Social Policies. The Case of Social Pension

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#### 1. Introduction

The Italian welfare system is well-know for being centred upon insurance principles that tend to privilege individuals who participated in the labour market for sufficient time. Fewer resources are devoted to pure assistance policy tools. The most exploited instrument is money transfers, in particular pensions. A wide safety net is granted to the elderly population.<sup>1</sup>

In the past, the differentiated levels of protection recognised to different categories of citizens encouraged undesirable shifts from less generous (usually assistance) to more generous (insurance) protection schemes, resulting in a broad interweaving between insurance and assistance policy action. The intertwining was sometimes implicitly exploited by the policy authorities too, in order to guarantee some protection also to individuals who would not be able to enter the existing "workcentric" schemes.

After the pension reform of the 1990s, however, a revision of the Italian welfare state started with the explicit goal, among the others, of re-establishing a clear distinction between insurance and assistance policies. Insurance pensions are now based on notional contributory system which is going to reduce the replacement rate for the incumbent pensioners. Under such circumstances, the assistance tools are going to gain increasing prominence in the future, at least in terms of the portion of potential beneficiaries.

The motivation of this paper stems from the perception that the assessment of the current assistance instruments is fundamental in order to predict the performance of the welfare state in the years ahead. Moreover, given that the progressive aging of the population is particularly pronounced in Italy with respect to other developed countries, elderly assistance policies deserve particular attention for their financial impact.

The Italian social protection is characterised by a specific instrument aimed at the elderly *assistance*, the so-called "social pension". Social pension was introduced almost 40 years ago. It is directed at the elderly individuals who are outside the insurance pension scheme and it is subject to means-testing. A decade ago it has been replaced — for the new beneficiaries — by another similar tool, the "elderly social transfer".

Although the number of beneficiaries has always been limited (almost 5 percent of the pensioners in 2004), the analysis of the design of the social pension is particularly relevant for two reasons. The first one has already been addressed and relates to the role that this scheme is going to play in the future, given that the forms of assistance implicitly granted by the insurance pensions so far will cease after the pension reform will be fully operative. The second one is that the social pension represents one of the two minimum-income instruments provided by the Italian welfare state; social pension is particularly targeted to the elderly individuals while, the other one is – the disability pension – is related to the physical conditions of the beneficiaries. Indeed, the Italian protection system lacks a

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<sup>&</sup>lt;sup>1</sup> Since 1990, on average, the insurance expenditure has represented more than 15 percent of GDP while assistance expenditure has only accounted for less than 2 percentage points. In the same period, the share of overall cash benefits directed at old age risks protection has been higher than 50 percent.

"generalised" minimum-income guaranteed to all citizens, the only examples of minimum-income being given by local experimental schemes adopted by a limited number of Municipalities. Furthermore, the level of the benefit, the mechanisms ruling the eligibility (the means-testing criteria), and other relevant characteristics of the social pension have been taken as a benchmark for several proposals of introducing a generalised minimum-income benefit.

For all these reasons, the social pension is the most obvious case-study to start from in order to assess the Italian welfare state ability to contrast poverty among the elderly, in view of possible reforms.

### 2. Elderly assistance: the (explicit and implicit) policy design

### 2.1 The institutional features of the social pension scheme

Elderly protection in Italy has been pursued primarily by two instruments: *minimum pension*, which is formally placed inside the public *insurance* system, and *social pension*, within the public *assistance* system. These were meant to be the two pillars of the welfare state since its very early stage. *Both are directed at individuals, not at households*.

The *minimum pension* ("pensione minima") has been the most relevant tool in terms of both the extension and the level of the granted protection. It was introduced in 1958 and consists of a subminimum compensation integrating the old age insurance pensions that are below a floor set by law. The beneficiaries are those pensioners who had matured an insurance pension at their retirement age but this is considered insufficient by standards explicitly recognised for workers by a Constitutional principle, and retained higher than the sustenance level by subsequent legislation. The minimum pension is gradually reducing its weight due to the pension reform of the mid-1990s.<sup>2</sup>

The *social pension* ("pensione sociale") was introduced in 1969. The beneficiaries are all the citizens over 65 years of age who did not mature the right to an old age pension. They are mainly individuals who did not get into the labour market, or did so for insufficient periods. The objective is to guarantee sustenance, according to a general Constitutional principle applying to all citizens.

Social pension is the most important form of minimum income guarantee explicitly provided by the Italian *assistance* system. Its beneficiaries are formally recognized as poor, so that the eligibility to this benefit has often been a benchmark for many other assistance tools (for example, the exemption from the payment of the contribution on pharmaceutical products, the so-called "ticket").

Social pension is conditional on means testing. Eligibility is subject to an income ceiling that considers both the direct beneficiary's and, for married individuals, their spouse's income. The benefit is paid *in full amount* to single individuals with no income or, in case of married individuals, when *also* the couple's joint income is below a minimum threshold. It is paid *in partial amount* otherwise: to single individuals, when their income is below a threshold equal to the full social pension amount, in order to integrate their incomes up to the full pension level; to married individuals, when also the

 $<sup>^2</sup>$  The minimum pension is set to disappear due to the 1995 Pension Reform (the so-called Dini Reform), which abolished it for the pensioners under the new fully notional contributory scheme (those who were employed after December 31 1995). However, the new scheme introduced a constraint on the retirement age (at least 65 year) based on the matured level of pension, which cannot be less than 1.2 times the *elderly social benefit* (the transfer that substituted the social pension, with similar characteristics, after Dini reform). Minimum pension is still in place for those pensioners who are subject to the transitory "pro-rata" regime. For an illustration of the Dini pension reform, see Banca d'Italia (1995b).

couple's income is below a set maximum ceiling, in order to integrate the couple's overall income up to the ceiling level.

In both cases, *the pension works as a transfer designed to guarantee a minimum-income corresponding to the access income-threshold fixed by law.*<sup>3</sup> Therefore, such thresholds – rather than the actual social pension payments – represent the relevant parameters for assessing the performance of the social pension scheme against poverty. The sources of income considered for the threshold determination exclude imputed rents, capital income, and income from households' components other than the spouse.<sup>4</sup> The last exclusion presumably responds to policy design criteria, although these have not explicitly stated in the official reports.

The pension amount and the income ceilings have been modified over time due both to discretionary increases and to an automatic re-valuation mechanism based on the cost-of-living index.

Since 1985, the social pension has been supplemented by a so-called "social integration".<sup>5</sup> In 2002, the Budget Law revised the social integration discipline: all kind of pensioners who are over 70 years and have incomes below a set threshold are now entitled to a social integration guaranteeing a (higher) minimum-income.<sup>6</sup> The potential effect of this measure is to create a common level of minimum protection to all the individuals who are over 70 years of age, regardless of the kind of pension they are entitled to.

In 1976 the automatic re-valuation system switched from price-based to wage-based for most insurance pensions,<sup>7</sup> but the new mechanism excluded assistance benefits like social pensions, which continued being indexed to prices only.<sup>8</sup> The 1995 pension reform established the return to price indexation for insurance pensions as well. In the meantime, however, in the presence of a real increase in incomes, the relative position of social pensioners had worsened. The income-thresholds grew less than the actual incomes of the potential beneficiaries, making the access constraints more binding and correspondingly reducing the number of those who were entitled to the scheme. This phenomenon was reinforced by a stronger incentive to shift to other pension schemes, for which the benefit level was higher. For both reasons, the number of the social pensions has always been low (around 5 percent of the overall number of pensions).<sup>9</sup>

<sup>&</sup>lt;sup>3</sup> In the case of a couple, maximum and minimum thresholds differ exactly by the amount of the social pension, so that the minimum threshold corresponds to the zero-income condition of the individual living alone.

<sup>&</sup>lt;sup>4</sup> The sources of income considered for the threshold determination are those that are subject to the personal income tax only, excluding the imputed rent from property houses used as own residence. Returns from financial assets, which are subject to a proportional withholding tax and cannot be attributed by the tax administration to the single taxpayers, are excluded as well. The reason for excluding capital income has to do primarily with the difficulties in controlling those incomes by the tax administration.

 $<sup>^{5}</sup>$  The integration was raised in 1988 and, after more than a decade, in 2000 and 2001, when it was also differentiated by age brackets (from 65 to 75 and over 75 years).

 $<sup>^{6}</sup>$  For social pension beneficiaries, the new regime applies automatically, since by year 2000 they all reached 70 years of age. For these pensioners, the increase in the benefit is significant. The integration is also reserved to the pensioners under the insurance scheme. In this case the age requisite for the access to the benefit is reduced by 1 year for each 5 years of contribution.

<sup>&</sup>lt;sup>7</sup> The automatic revaluation of all pensions was introduced in Italy in 1969, to be effective starting from 1971. The adjustment was provided on an annual basis and it linked pensions to the trade union's cost-of living index. The switch to the wage indexation was enacted by Law 160/1975. It was subject to some other revisions (Law 177/1976, Law 730/1983, Law 41/1986, Presidential Decree 525/1988, Law 43/1992), which however maintained the linkage to wages for most pensions. For a description of pension indexation and for an evaluation of the new system at that time see, among others, Morcaldo (1977), Ceriani and Sartor (1984), Franco and Morcaldo (1988).

<sup>&</sup>lt;sup>8</sup> The exclusion of a link to real wage implicitly assumes that productivity performance must not be reflected in the dynamics of pure assistance benefits.

<sup>&</sup>lt;sup>9</sup> Since 1996, for incoming beneficiaries, the social pension has been replaced by a similar benefit called *elderly social benefit* ("assegno sociale per gli anziani"). All those who were already inside the social pension scheme continue receiving

Overall, the slower dynamics of the automatic adjustment was only partly compensated by the discretionary increases of the benefit, especially in the beginning. In real terms, if we exclude the significant discretionary increase in year 1999, the basic transfer – i.e. net of the social integration – has been stable since the late 1970s (Chart 1). The ratio between social pension and minimum pension stabilised around 60 percent little after its introduction, and it increased to around 75 percent only in recent years.

### 2.2 Social pension, minimum pension and the official poverty measures

In order to assess the performance of social pension – and, for useful comparison, the performance of minimum pension – the level of the benefit may be contrasted against some poverty indicators. Both social and minimum pension are recognised to the beneficiaries *as individuals*. Therefore, we start by considering the conditions of the individuals and ignoring other household components, which we know may affect the requirements to access the social pension scheme. Although the benefit may be paid in partial amount, in both cases we consider the full payment level, since this represents the level of the minimum income granted by the system.

The official relative poverty line used by the Italian Poverty Commission and regularly released by the Italian Statistical Office (Istat) refers to a two-individual household. It is given by the average annual per capita consumption computed on a sample of consumers.<sup>10</sup> A two-individual household is considered *poor* when consuming less than the country per capita consumption. The equivalent thresholds for households of different size can be obtained by applying an equivalence scale. The scale officially adopted by Istat is the "Carbonaro" scale, which belongs to the Engel equivalence scale family and is based on the household size only.<sup>11</sup> For one-individual households, the equivalence coefficient is equal to 0.599.<sup>12</sup>

Chart 2 presents the monthly amounts of the minimum and social pensions – the second one inclusive of the social integration enacted in 1985 – as shares of the official poverty line.<sup>13</sup> While the amount of the minimum pension has remained around the values of the poverty line for most time, the amount of the social pension has always been below. Initially, the social pension was less than half the poverty-line threshold. Afterwards this ratio rose; in the period 1975-84 it was, on average, around 70 percent. In period 1985-99 the weight of the social pension basic transfer (excluding the social integration) fell down to 60 percent of the poverty line. In this period a major role was played by the social integration,<sup>14</sup> which brought the overall ratio of the transfer above 80 percent in 1985 and raised

<sup>13</sup> Table 1 in the Statistical Annex shows the complete set of underlying data.

<sup>14</sup> This was around 42 euros a month in the period 1985-87 and something around 70 euros in period 1988-2000. It has been unchanged since then, with an increase in last two years. Since 2002 the social integration system was reformed,

the old transfer. Eligibility conditions for the elderly social benefit were substantially the same as for the social pension, but the income ceilings were different and the benefit higher.

<sup>&</sup>lt;sup>10</sup> The official methodology has changed since 1997, due to a revision of the sample, so that the poverty line presents a break in that year.

<sup>&</sup>lt;sup>11</sup> See Carbonaro (1985).

<sup>&</sup>lt;sup>12</sup> The official time series for the poverty line is available only since 1980. To compare the social and minimum pension levels to the poverty line since their introduction, some estimate of the poverty line for previous years is needed. Data used by the Italian Poverty Commission are those of the Household Consumption Survey by the Italian Institute of Statistics (Istat). For previous years we use consumption data from Istat National Accounts (NA). A comparison of the per capita consumption between the two sources for the available years shows that consumption used by the Poverty Commission is systematically lower, possibly due to the sampling procedure followed for the purposes of constructing the poverty line. Therefore, in estimating the 2-individual household poverty line from NA for the period 1969-79, we applied the average historical ratio between the data from the two different sources. To translate the resulting series into the 1-individual household poverty line, we used the corresponding coefficient of Carbonaro equivalence scale.

it up to 91 percent in 1988. However, due to the lack of an automatic revaluation of the social integration, the ratio of overall benefit rapidly declined during the nineties. It increased again to 80 percent in 2001 to slowly decline in the following years.

Summarising, *the social pension always remained below the poverty-line* so that, by using the standards of the Poverty Commission, it may not have sheltered individuals from poverty when they relied only on this source of income.

We may conclude that *the system set "implicitly" a quasi-poverty-line benchmark for the elderly individuals, leaving a poverty-gap open.* None of these characteristics of the social pension scheme have ever been explicitly addressed in official reports describing the legislative changes or appraising their financial impact. The size of the poverty-gap left by the social pension was on average around 30-40 percent of the poverty line until mid-eighties and around 20 percent during the nineties.

The reason behind this feature of social pension design, probably was to avoid disincentives to labour supply during the working life (by not guaranteeing a total protection against poverty for citizens who did not work or did not work long enough). However, the scheme was not adequately calibrated to this purpose. As a matter of fact, it produced a strong incentive to exploit insurance pension improperly, as argued before. Laxity in the law requirements for the access to the pension schemes, indeed, made it easy for many "bogus-workers"<sup>15</sup> to gain the access to a minimum pension rather than to other assistance benefits, like a social pension. Those who entered the social pension scheme were mainly individuals who had not worked, typically women.

The design changed in 2002, with the above-mentioned introduction of a common minimum level of the pension for the beneficiaries above age 70. For these pensioners only, regardless of the kind of pension they receive, the amount of the benefit was set to a level that *shifted the granted income around the poverty line*.

### 2.3 Social pension and the role of the marital status

Although the benefit is directed to individuals, the income threshold – and hence the minimum income granted to the beneficiary's household – is different for social pensioners living in a couple. While in the case of minimum pensions the role of different family structures is taken into account through the tax system,<sup>16</sup> in the case of social pensions, which are exempt from the personal income tax, the role of the family size enters through the setting of different income ceilings for the eligibility, but only for single vs. married beneficiaries.

The different ceilings imply the definition of an equivalence scale by legislators. The equivalence coefficient computable from the social pension amounts reserved to single vs. married individuals is 23-24 percent, against a value of 59 percent of the analogous coefficient in the "Carbonaro scale". This choice suggests the *lack of consideration of the economies of scales of 2-component households by the social pension scheme and, on the contrary, the intent of favouring married individuals for reasons that are not explicitly stated.* 

providing a common higher integration to all the *pensioners over 70 years of age*, raising all the benefits to a minimum floor (516.46 euros, increased to 543.79 in 2005 and to 551.35 in 2006).

<sup>&</sup>lt;sup>15</sup> The expression is used by Paci (1987), p. 276. It is meant to emphasise the fact that in many cases beneficiaries were persons who had been working for very few years (5 were enough in some cases) and could then enter the insurance pension scheme only by contributing in a very limited way.

<sup>&</sup>lt;sup>16</sup> Since 1994, after "Dini Reform", the minimum pension has been subject to an eligibility constraint dependent on the couple's income, too. The motivation seems to sit primarily in the need for financial consolidation.

Chart 3 shows how the income ceiling for the *individual living alone* is just above half the poverty threshold, pointing to an insufficient performance of social pension alone in order to avoid poverty, as stressed before. It is the social integration that brings the annuity up to 70-80 percent of the poverty line. *On the contrary, the income ceiling set for a couple potentially places these households well above the poverty line.* 

As a result, the social pension actually works as a subsistence income scheme only contingent on the individual belonging to a couple. In other words, the "formal" target of social pension being the individual, the social pension seems to consider the presence of a spouse *not* so much *under an equalising point of view* to ensure horizontal equity, but rather as an *additional poverty risk*. And, incidentally, this risk seems very highly evaluated according to the implicit equivalence scale. The lack of interest in the horizontal equity issue is confirmed by the disregard of income from the other components of the household in determining the income relevant for the access, which can obviously produce strong differences in the exposure of social pensioners to poverty risks. The problem must have been clear to legislators at some point, if they considered the presence of other relatives while setting the income ceiling for the access to the social integration.

One ex-post explanation for this legislators' choice could be traced back to the social relationships prevailing when the social pension was introduced. The phenomenon of elderly individuals living alone was not so widespread at that time, as elderly parents – once become widows/widowers – generally lived with their children, benefiting from the economies of scale offered by the household. Elderly couples, on the other hand were more likely to live by themselves, and hence were more exposed to poverty risks and deserved a more generous treatment. This social model actually prevailed in the Italian society for a long time, so that the social pension scheme worked well enough in the past, but it started to perform less well as soon as the structure of the Italian society changed.

Another possible ex-post interpretation for the very low equivalence scale coefficient implicit in the social pension income ceilings, can rely on the argument that social pension de facto has been used as a family allowance targeted to the elderly people: as such, it was linked to the presence of a spouse only, assuming no "children" were economically dependent on the beneficiaries.

Summing up, by granting to single individuals only a reduction of the poverty gap – rather than its complete offset – the social pension scheme implicitly relies on the presence of some help to these beneficiaries by other household's components. On the other hand, by granting to married individuals a couple's income above the poverty line, it may be particularly generous towards those elderly couples who already benefit from their families' support. In a *reform perspective*, it is therefore important to establish whether these implicit assumptions are actually verified once we look at the income position of the overall households of the social pensioners. The first step is to understand who the social pension beneficiaries are and what their economic and social conditions are today. More precisely, it is important *to assess those characteristics of the targeted individuals and of their households that are ignored by the access conditions to the social pension scheme and that are more correlated with poverty risks nowadays.* 

In the next paragraph we carry out some empirical analysis based on micro-data in order to address these issues and to gain some insight about the actual performance of the social pension. The data source is the Bank of Italy Survey of Households Income and Wealth (BISHIW).<sup>17</sup>

<sup>&</sup>lt;sup>17</sup> On the BISHIW see the Banca d'Italia website (*www.bancaditalia.it*), various issues of Banca d'Italia *Supplement to the Statistical Bullettin*, Brandolini and Cannari (1994) and Brandolini (1999).

### 3. Poverty among the elderly: some empirical analysis on survey data

Before illustrating the results of the empirical analysis, a preliminary clarification is needed. Since social pension is means-tested, a causality issue may arise once we want to analyse the ability of social pension to protect the beneficiaries against poverty. However, based on the previous analysis of the institutional characteristics of the scheme, the causality issue proves to be less serious than it may appear at a first sight. In particular, the level of the benefit recognised to single individuals (mostly below the poverty line), the level of the income test for married individuals (above the poverty line), the consideration for only part of the household income for the access, and the existence of the more generous minimum pension reserved to workers (so that there is little scope for a poverty trap mechanisms based on incentives to work less, in case of the social pension), all these factors make the link between poverty and the right to a social pension less strict than in a typical minimum income scheme.

The focus here is confined on the mere assessment of the poverty conditions among those who benefit from the social pension, in order to assess whether the design of social pension – even though it is not immediately directed at this goal, as we have shown – has been sufficiently capable of contrasting poverty once the overall economic position of the beneficiaries' households is considered. In other words, the relevant impact of the social pension we are interested in is not on the individuals' income position but on their household's equivalent income. The approach is somewhat more static and descriptive, although some dynamic analysis is also presented. The interest is not so much in quantifying the effects of changes in the level of the transfer on poverty incidence, but in assessing how the implementation of the social pension design has performed with respect to a theoretical scheme specifically aimed at eliminating poverty incidence among the elderly.

### 3.1 Some descriptive statistics

Although the number of social pensioners in the survey data may be low to draw strong conclusions, some facts emerge quite clearly from simple descriptive statistics,<sup>18</sup> which are consistent with the analysis carried out in paragraph 2. Social pensioners are mostly women, are more likely spouses or members of the household other than the head of the family, live in the South of Italy, the poorest area.

Contrary to the sub-sample of the elderly pensioners, the number of social pensioners in the position of spouses has been decreasing over time, while the heads of the households has increased correspondently. The prevailing of the spouses – which characterises the survey data until the late 1990s – reversed in the following years. Given the gender and the age of these individuals, it is very likely that this phenomenon is associated with an increase in the number of single social pensioners, with all the implications illustrated before in terms of the degree of protection associated to the benefits they received.

Table 1 summarises the main static indicators of poverty, from each year's survey, for all the individuals in the sample and for several sub-groups of elderly individuals.<sup>19</sup> These descriptive statistics confirm findings by other studies in terms of the incidence of poverty in Italy, which is systematically lower for elderly people, especially when beneficiaries of pensions; the only exception

<sup>&</sup>lt;sup>18</sup> Tables 2-5 in the Statistical Annex give details about each year's survey for the entire sample of the individuals and for some relevant sub-samples. For social pensioners, see Table 5.

<sup>&</sup>lt;sup>19</sup> For details about methodological issues, see Annex 1.

is given by the sub-group of the social pensioners, who are characterised by higher poverty rates in the overall period.<sup>20</sup>

The head count ratio (HC), given by the percentage of the individuals living in a poor household, is higher for social pensioners than the HC for the overall sample, except in years of cyclical economic downturns (compare Charts 4 and 5). This result may have two explanations:

- (a) the fact that we use a relative poverty line, in order to focus on the ability of social pension to protect the beneficiaries compared to the position of the others, rather than compared to an abstract reference position kept fixed over time as it would be if using an absolute poverty line. The relative poverty line is influenced by the cyclical behaviour of the economy: while in "good times" GDP growth tends to increase all incomes and to raise the relative poverty measure accordingly, in "bad times" the opposite is likely to occur. If the poverty line lowers during "bad times", and if the relative worsening of a particular group is less pronounced than the overall average, the HC index of such a group social pensioners in our case may improve;
- (b) the genuine fact that the social pension scheme is not capable of protecting the elderly individuals against the risk of falling into poverty and this shows up particularly in "bad times". This would be consistent with the fact that social pension is designed to leave a poverty gap open for part (the unmarried) of the beneficiaries.

The income poverty gap (IPG), i.e. the average distance from the poverty line, is systematically lower in the case of social pensioners compared to the overall sample (Chart 6). This result points to the social pension *actually ensuring a curb to the poverty gap*, without insulating completely the beneficiaries from poverty, as pointed to by the analysis of the institutional design of the scheme carried out in paragraph 2. The gap that is left open exceeds 20 percent on average for social pensioners only in 1993, the worst recession year, and 2000 due to the low level the benefit reached before the main discretionary increase in 2002. It compares with an average poverty gap for the overall sample that in the worst years was higher than 30 percent.

To gain some hints about the performance of social pension – once also any household's source of income other than those considered by the Law's income ceilings is taken into account – we can compare the poverty incidence measured by the HC index, including or excluding from the household's equivalent income the social pension received by the beneficiaries. Again, given the small size of the social pensioners' sub-sample, this evidence must be considered cautiously. However, it gives some flavour of how the scheme has been actually working in the last two decades.

Table 2 illustrates the computations for each year. It is a contingency table classifying the individuals receiving a social pension according to three possible situations: (a) succeeding in crossing the poverty line; (b) failing to cross the poverty line; (c) living already in a household above the poverty line.

- (a) The percentage of social pensioners in the first column is a rough measure for the "effectiveness rate". The value is on average around 25 percent until 2000, and rises above 40 percent in 2002.
- (b) The percentage in the second column gives indications about the "ineffectiveness rate" (like an  $\alpha$  statistical error). This index is on average quite high during the period (around 11 percent), signalling that the level of the benefit is presumably insufficient to avoid poverty if other conditions within the families do not help. It gives an indirect measure of the impact from the social pension design leaving a poverty gap open for single beneficiaries.

<sup>&</sup>lt;sup>20</sup> See also Monacelli (2004).

(c) The percentage in the third column may be interpreted as an "inefficiency rate" (a sort of  $\beta$  statistical error). It offers an indication of the potential fraction of the beneficiaries that may be the subject of resource savings. The high value, 60 percent on average across all the surveys, points to a targeting method that could be clearly improved, if the only objective of the social pension scheme is to contrast poverty. Alternatively, it gives a measure of the weight of other "collateral" targets pursued by the scheme: the high values characterising all the surveys would confirm that a significant component of social pension has been used as family allowance to the elderly couples, independently of the poverty-contrast goal.

These indicators are static and hence are only able to give a rough image of the impact of the policy design over time. Changes in the indexes across the surveys obviously reflect the different underlying conditions of the households in each year, making any time comparison particularly difficult. However, there are some clear cases in which a correlation may be established between legislative changes in the social pension scheme and, at least, the direction of the change in the indexes. For instance, the recent improvement in the effectiveness rate may be associated to the significant increases implemented in 1999, concerning the basic transfer, and in 2002, concerning the social integration for beneficiaries over 70 years of age (more than the 70 percent of the social pensioners since the 2000s). The impact of the differentiation of the transfers by age could also be reflected in the decrease of the inefficiency rate, signalling that age should be considered among the relevant factors in view of improving the design targeting. The increase in the ineffectiveness rate in the late 1990s, however, points to the existence of other relevant factors to consider in order to address the degree of poverty risk exposure; for instance, in those years a role may have been played by the decrease in the fraction of spouses among the social pensioners and the increase in the heads of household, meaning that a relevant share of the beneficiaries has presumably become single.

### 3.2 An econometric analysis

To improve the performance of social policies in terms of their efficiency and their effectiveness in curbing *poverty incidence*, we preliminarily need to better identify the main factors associated with poverty conditions. In this paragraph we illustrate the results from the estimate of a logit model that regresses the probability of living in a poor household on a common set of variables for each year of the individuals' samples in the SHIW Historical Archive. The regressors include both households characteristics (mainly related to the family structure, the residence geographical area, as well as characteristics of the head of the household) and individual characteristics (education, professional position, whether beneficiary of pensions in general and of a social pension in particular). In order to capture the role of financial and real wealth, we also include among the regressors two variables indicating the possession by the household of deposits and of residential properties.<sup>21</sup> To avoid imposing proportional relationships among the variables, which would make the coefficients more difficult to interpret, all the variables have been transformed into dummies. The benchmark individual has at least high school education, is an employee, lives in the North-Centre of Italy, in a couple where both members perceive earnings as employees, none of them is elderly, they do not have deposits and do not pay a rent.

Table 3 summarises the findings. The first part shows the estimated coefficient and some statistics; the second part gives the corresponding estimated odd ratios. All the estimated coefficients have the expected sign and are significant in all samples, with very few exceptions. The probability of living in a poor household highly increases with the size of the family and highly decreases with the number of income recipients; it is higher in case of households living in the South (the less developed

<sup>&</sup>lt;sup>21</sup> This is measured by whether the household pays a rent or not, which is the implication that is relevant in this context.

area of Italy), and when the head of the family is not employed; it is lower when the individual lives in a household with bank deposits and higher if he lives his/her household is paying a rent. As for the individual's characteristics, the probability of living in a poor household is associated with low levels of education; this variable actually captures many other characteristics since it is typically correlated with (age, sex, professional position, for example, since older, female, low-skilled individuals tend to have, on average, a lower education). The choice to use just education aims at avoiding multicollinearity with income variables, those of major interest for our analysis, since most of the individuals characteristics mentioned above are also strongly correlated to individuals' income.

As far as the *income position of the individuals* is concerned, the data support the hypothesis that they are *less exposed to poverty if pensioners, with the relevant exception of the social pensioners*.

The coefficients for the *individuals who benefit from pensions in general*, indeed, are always negative; they are not significant, at 10 percent probability, either in 1989 or in 1991 samples, but these were high growth — low poverty — years. They become significant again since the 1993 cyclical downturn and increase in absolute value in the samples around the early 2000s negative cyclical phase.<sup>22</sup> Evidence seems consistent with the hypothesis that the pension system played a major role in the Italian social protection system, supporting the income position of households beyond the original goal prescribed by the Italian Constitution of maintaining an "adequate" standard of living to workers.

Social pensioners' coefficients are always positive and significant. Their values are relatively high. The odd ratios, shown in the second part of the table, show that the probability of being poor is are more than 100 percent higher with respect to the reference individual. From the estimated coefficients and from the probability of being poor observed in the overall sample, we can compute the marginal probability associated with the presence of social pensioners within the household.<sup>23</sup> This computation tells us how higher, on average, the probability of living in a poor household was in each year if the individual were a social pensioner. The values of such probability are shown in the last line of the table. Although the comparisons across the different surveys are affected by many factors, the impact of some major changes in the social pension legislation may be detected: the marginal probability decrease in 1989, partly reflecting the fall in the sample HC ratio, but presumably also due to the discretionary increase in social integration endorsed by the legislators in 1988; the decrease in the probability in 2000 shows up in connection with a significant increase in the basic social pension transfer, and the decrease in 2004 with the new increase in the benefit for pensioners over 70 years of age. More generally, the marginal probability associated to social pensioners tends to increase during the cyclical economic downturn, in contrast, to some extent, with the apparent improvement in the position of the other pensioners. This is exactly the same result observed before when comparing the descriptive statistics for the social pensioners to those of the overall sample, rather than to the reference individual as it is implicitly done here.

The role of *family composition by age* is more difficult to interpret:

- (a) the "only-elderly" household type is associated to a reduction in the poverty probability, presumably reflecting the predominance of the positive effect on protection from poverty by the insurance pensions;
- (b) in the case of the "not-only-elderly" type the evidence is less clear. Previous studies carried out by the author on the same data<sup>24</sup> for the years 1993 and 1995 showed that poverty rates are affected

<sup>&</sup>lt;sup>22</sup> For analyses of poverty during the 1993-95 recession carried out on BISHIW see, for example, Addabbo (2000) and Addabbo and Baldini (2000).

<sup>&</sup>lt;sup>23</sup> For an illustration of the relationships between estimated coefficients, odd ratios, and the computation of the marginal probabilities in case of a binary logit model see Allison (1990), pp. 28-30.

<sup>&</sup>lt;sup>24</sup> Monacelli (2004).

by the presence of elderly individuals within the household in different ways whether the family is living in the North-Centre or in the South. In particular, the presence of elderly individuals is associated with lower poverty rates in the North-Centre, unless the elderly are social pensioners. In the South, on the other hand, this differentiated result does not show up: the presence of social pensioners within the household characterises lower poverty rates as well, so that the social pensioners seem able to give support to other household's component, possibly due to the high unemployment rates and the worse income position of the adults residing in the South.

As a general conclusion, the co-living situation within the household seems to play a relevant role, if considered in connection with other households' characteristics. This suggests a direction for identifying new factors for targeting social transfers in general, in order to better pursue an objective of poverty contrast.

### 3.4 Social transfers and poverty dynamics

In evaluating policies against poverty, the dynamic aspects are of major importance. A proper design of public intervention requires the identification of the degree of persistence characterising poverty among the specific groups of population targeted by the different tools. The distinction between transitory and permanent components of poverty phenomena is essential, since these two aspects ask for very different policy solutions. Availability of empirical analyses on poverty dynamics suffered in Italy from the lack of a satisfactory longitudinal data set for a long time.<sup>25</sup> BISHIW, which represents the most used source of data in dynamic studies of individuals' income, assumed a split-panel design only since 1987-89.

One important issue in carrying out dynamic analyses is the choice of the poverty line. In this study we use a relative poverty line, which changes over time with the conditions of the economic system. This choice has the nice implication of avoiding the need for a time-adjustment, to take into account at least the effects of inflation (as in the case if using an absolute poverty line, which is by definition referred to a specific year). Indeed, any methodological criterion selected for the adjustment would affect the comparisons among the results of the different waves. On the other hand, the adoption of a relative poverty line has the unpleasant feature, already mentioned before, of making the poverty benchmark dependent on the cyclical behaviour of the economy. Changes in the inequality rate of the distribution would obviously matter. This has to be kept in mind in comparing data from different years' samples.

We started by comparing the poverty incidence for the individuals of the entire sample and for selected sub-groups on data from each year survey and from the 2-wave consecutive panels available from 1987 to 2004.<sup>26</sup> This exercise reveals significant differences in the exact HC ratios, especially when the sub-group size becomes smaller, as it is the case for social pensioners<sup>27</sup>. However, the dynamic patterns do not seem to diverge, so the panels should be good enough to describe the time trends. Table 4 summarises the transition matrices of poverty in two consecutive spells. The number in the south-east quadrant of the matrices, i.e. the share of those who were poor in the first sample and stayed poor in the second, gives some information about poverty *persistence*. These shares tend to increase for all the groups during the 1990s recession and to remain higher than in previous years until 2004. *This trend is less clear for the sub-sample of social pensioners, for which however the size becomes extremely small*.

<sup>&</sup>lt;sup>25</sup> See, for example, Trivellato (1998).

<sup>&</sup>lt;sup>26</sup> A unique panel would reduce the number of observations severely.

<sup>&</sup>lt;sup>27</sup> See Table 6 in the Statistical Annex.

The evidence illustrated so far is consistent with what already emerged from the static analysis of poverty intensity, i.e. that the social pension primarily curbs the poverty gap rather than avoiding poverty.<sup>28</sup> The transition matrices show that, since the mid-90's, for the overall sample of the individuals, poverty status in the second year of each panel mainly reflects a persistence phenomenon, while the opposite holds for the social pensioners sub-sample (Charts 7).

A second piece of evidence obtained from SHIW focuses the determinants of poverty dynamics. In particular, we estimated a logit model on 2-consecutive-year panels for the probability of "entering" poverty conditions, given that the individual was not poor in the previous period sample. Obviously, by confining the exercise to non-poor only, the sample size problems are further enhanced.

With respect to the specification of the static equation we introduced among the regressors a variable capturing the initial economic condition of the household. In particular we chose a measure of the relative distance from the poverty line (a sort of negative poverty gap). This is evaluated in the first year of the 2-year-panel and is the only regressor that is not translated into a dummy variable. Household characteristics are considered by some of the variables from the static model only, since part of their effect is reflected in the initial position (non-poor or poor) of the individuals conditioning the probability we are modelling. On the other hand, all the individuals' characteristics considered before enter the model. Both sets of variables are evaluated at the second year of the panel. Finally, to take care of the dynamics in the relevant variables affecting the poverty transition, a set of dummies is included describing changes, and in some cases the direction of the change in selected household characteristics.

Table 5 shows the results. The *relative distance from the poverty line* is characterised by a negative coefficient, as expected: the higher the distance from the threshold in the first year, the smaller the probability of falling into poverty the second year. From the corresponding estimated odd ratios, we can infer that a distance which is higher by 1 percentage point of the poverty threshold reduces the probability of falling into poverty by 2 percent. Also the signs of the coefficients associated to the main *household characteristics*, like family size and number of income recipients or the geographical area of residence, head of the household not-employed, are as expected. The family type variable is more complicated to interpret again: it becomes significant and negative for both the "only old" and "not only old" types during the years of cyclical economic downturn, possibly capturing the effect of the increase in the relative weight of economic support to households by pensioners together with the relative poverty line effect (being lowered by the general reduction of income). Anyway, there is no particular evidence of the fact that the presence of elderly individuals within the household may significantly affect the probability of becoming poor.

The signs of the coefficients associated to pensioners and social pensioners' individuals confirm the static model results. However, the estimates tend to be significant mostly around cyclical economic downturns. On the pensioners in general, the negative impact on poverty entry during "bad times" could reflect, again, the relative poverty line movements and the fact that insurance pensions maintain their purchasing power. In the case of social pensioners, the sign of the coefficients confirms that the social pension is not capable of a complete recovery from the poverty risk; the marginal probability of entering a poverty status was around 5 at the end of the 1980s and beginning of the 1990s, and increased extraordinarily during the early 2000s negative cycle.

Turning to the *changes in the family structure*, the increase in the family size raises the probability of entry into poverty, except in 1993-95 panel. An unexpected effect comes from the reduction of the number of income recipients in the household, which tends to decrease the entry

<sup>&</sup>lt;sup>28</sup> Here, obviously, the use of a relative poverty line could affect results, since poverty intensity is generally lower, as show above, for social pensioners.

probability. This result depends on the kind of change in the structure of the household and deserves further analysis in order to identify, through some interaction term, the income recipients leaving the household. The impact of the variable signalling a change in the role of the individual within the family and the one signalling a change in the family type is particularly difficult. It is clear that this set of variables (increase in number of family members, change in the family type, decrease in the number of income recipients, and change in the individual's role within the family) interact somehow among each other: the inclusion or the exclusion of any these variables modifies the explicative power of the others. It is also clear that the knowledge of these interactions is exactly what is needed in order to identify the social model relevant in explaining the degree of exposure to poverty risks and hence in order to reach a better targeting of the policy instruments. This is therefore the main candidate for further investigation.

As far as the performance of social pension is concerned, given all the necessary caveats due to the small size of the sub-sample, we may conclude that it is not capable of offering a complete shield against poverty. Indeed the probability of being in a poor status is statistically higher for its beneficiaries. However, the poverty intensity is on average lower among social pensioners than among the other individuals. Social pension does not protect against falling into poverty particularly during negative economic cycles, so that for its beneficiaries poverty has more a cyclical than a persistent nature.

### 4. Conclusions

The institutional characteristics of social pension lead to the conclusion that the level of the benefit was *implicitly* designed to *limit the poverty intensity of single individuals within an implicit threshold around 80 percent of the poverty line.* For *married individuals the benefit goes beyond the sustenance objective and implicitly recognises an extra-benefit for the family.* Micro data show that, taking into account the economic conditions of the overall household, social pension has succeeded in taking the households out of a poverty status on average in more than 25 percent of the cases, while it has failed in more than 10 percent; it was paid to individuals who were not living in a poor household in around 60 percent of the cases. Individuals who benefit from a social pension have a higher odd of living in a poor family, with respect to other categories of individuals, although the poverty gap has been on average lower. The probability of falling into poverty is statistically higher, but only during economic downturns. Poverty on average is more widespread – although less intense – and is characterised by more a cyclical than a persistent nature.

The analysis of poverty dynamics is essential for policy assessment. Evidence seems to point to a relevant role of the interactions among the different household's and individuals' characteristics, which need better understanding in order to attain an efficient and effective design of the assistance policies.

The agenda for further work includes: improvements in the model specification (which only allows linear relationships among the regressors); analysis of the interaction among the variables related to family composition and individuals' characteristics; parallel analysis of the poverty dynamics under alternative semi-absolute poverty lines; investigating how the cyclical position of the economy affect the assessment of poverty dynamics, considering possible asymmetries during upturns and downturns; dataset improvement in the social transfers variables, in particular integration by other data sources to identify the minimum pension beneficiaries.

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### **Chart 1: Social pension** <sup>(1)</sup> **and minimum pension** (annual benefit in euros - constant prices)

(1) Basic transfer, excluding the social integration.

### **Chart 2:** Social pension<sup>(1)</sup> and minimum pension (monthly benefit - ratio of the poverty line)



(1) Including the social integration common to all social pensioners (the integration enabled in 2002 for beneficiaries over 70 years of age is ignored). – (2) Dotted line denotes changes in the statistical methodology for the poverty line computation.

# **Chart 3: Social pension income ceilings**<sup>(1)</sup> and family size (annual amounts in euros - constant prices)



(1) Dotted line denotes changes in the statistical methodology for the poverty line computation.



### Chart 4: Real GPD in Italy (million of euros)

Chart 5: Poverty incidence (Head Count Ratios - BISHIW)



Chart 6: Poverty intensity (Income Poverty Gap Ratios - BISHIW)



# **Chart 7: Poverty incidence analysis** (2-wave panels - BISHIW)<sup>(1)</sup>



### All individuals

(1) The indexes measure the share of individuals who are poor in the second year of each 2-wave panel and were not poor in the first year (*cyclical effect*) or were poor in the first year (*persistence*).

1995-1998

1998-2000

2000-2002

2002-2004

1993-1995

0

1987-1989

1989-1991

1991-1993

# Table 1: Poverty indicators <sup>(1)</sup> (BISHIW)

	1987	1989	1991	1993	1995	1998	2000	2002	2004
Sample poverty line <sup>(2)</sup>	4,150	5,274	6,002	6,460	7,117	8,246	8,814	9,648	10,491
Official poverty line <sup>(3)</sup>	4,287	5,195	6,262	6,352	7,086	9,147	9,723	9,881	11,040
Ratio (sample/official)	0.97	1.02	0.96	1.02	1.00	0.90	0.91	0.98	0.95
All individuals in the sam	ple								
Sample size	25,092	25,151	24,931	24,013	23,924	20,901	22,268	21,148	20,582
Head Count Ratio	9.9	7.4	7.6	12.4	12.5	13.4	12.3	12.4	13.2
Relative Income Gap	32.6	23.8	25.3	33.4	35.6	37.7	35.1	33.1	28.8
Elderly individuals									
Sample size	3,009	2,891	3,244	3,747	3,807	3,087	3,855	4,318	4,425
Head Count Ratio	4.7	3.7	4.4	4.9	5.4	7.7	6.7	6.0	5.7
Relative Income Gap	19.6	17.3	13.0	23.7	23.2	26.1	24.3	24.3	22.5
Elderly pensioners									
Sample size	2,751	2,643	2,940	3,494	3,560	2,816	3,468	3,851	3,962
Head Count Ratio	3.9	3.4	4.4	4.7	5.3	7.2	5.9	5.0	4.7
Relative Income Gap	16.8	15.1	12.7	21.8	22.4	25.5	22.4	19.1	19.0
Social pensioners									
Sample size	197	207	193	328	268	188	257	196	176
Head Count Ratio	11.9	7.4	9.7	9.7	9.5	14.9	15.0	16.7	9.6
Relative Income Gap	13.9	18.1	5.6	22.3	16.9	19.3	23.9	17.6	17.0

(1) Both poverty lines are expressed in euros and refer to a 2-individual household. (2) Per capita income. (3) Per capita consumption.

### Table 2: Assessment of social pension performance (BISHIW)

Year	Effectiveness rate	Ineffectiveness rate (alfa-error)	Inefficiency rate (beta-error)
1987	22.0	11.9	66.2
1989	23.2	7.4	69.5
1991	28.2	9.7	62.1
1993	30.2	9.7	60.2
1995	27.2	9.5	63.4
1998	21.0	14.9	64.2
2000	32.4	15.0	52.6
2002	40.2	16.7	43.1
2004	34.7	9.6	55.7

### Table 3: Probability of being in a poverty status: coefficients estimates (BISHIW)

	1987	1989	1991	1993	1995	1998	2000	2002	2004
Regressors (1)	Coeff. S.E.	Coeff. S.E.	Coeff. S.E.	Coeff. S.E.	Coeff. S.E.	Coeff. S.E.	Coeff. S.E.	Coeff. S.E.	Coeff. S.E.
Intercept	-4.60 * (0.14)	-5.08 * (0.16)	-4.93 * (0.17)	-4.28 * (0.13)	-4.56 * (0.14)	-3.97 * (0.13)	-4.22 * (0.14)	-4.41 * (0.14)	-4.29 * (0.14)
1-individual household	-0.62 * (0.17)	-0.69 * (0.19)	-1.10 * (0.21)	-0.40 * (0.15)	-0.36 *** (0.16)	-0.60 * (0.14)	-0.45 * (0.14)	-0.59 * (0.14)	-1.45 * (0.15)
3-individual household	0.39 * (0.10)	0.27 *** (0.13)	0.94 * (0.13)	0.59 * (0.10)	0.65* (0.10)	0.46 * (0.10)	0.61* (0.10)	0.22 ** (0.10)	0.78 * (0.10)
More-than-3-individual	1.07* (0.09)	1.25 * (0.11)	1.73 * (0.12)	0.95 * (0.09)	1.11* (0.09)	1.00* (0.09)	1.23* (0.09)	1.37 * (0.09)	1.72 * (0.09)
1-income recipient	1.01* (0.06)	1.70 * (0.07)	1.83 * (0.07)	1.20 * (0.05)	1.24* (0.05)	1.50 <sup>*</sup> (0.06)	1.44 * (0.06)	1.72 * (0.06)	2.00* (0.06)
3-or-more income recipients	-1.92 * (0.37)	-13.94 (155.5)	-4.86 * (1.37)	-0.60 * (1.16)	-4.48 * (0.97)	-2.24 * (0.37)	-1.05 * (0.21)	-2.15 * (0.37)	-14.12 (167.2)
Living in the South	0.98 * (0.05)	1.10 * (0.07)	1.00 * (0.07)	1.67 * (0.05)	1.86 * (0.06)	1.50 * (0.06)	1.57 * (0.06)	1.46 * (0.06)	1.33 * (0.06)
Head not-employed	1.18* (0.06)	0.76* (0.07)	0.22 * (0.07)	1.08 * (0.06)	1.02* (0.06)	1.01* (0.06)	0.69* (0.06)	0.59* (0.06)	0.36* (0.06)
"Only-old" family type	-0.77 * (0.20)	-0.58 * (0.22)	0.09 (0.22)	-1.73 * (0.19)	-1.74 * (0.20)	-0.99 * (0.17)	-0.86 * (0.17)	-1.28 * (0.18)	-0.59 * (0.17)
"Not-only-old" family type	-0.51* (0.09)	0.07 (0.11)	0.66 * (0.11)	-0.63 * (0.09)	-0.53* (0.09)	-0.38 * (0.09)	-0.22 ** (0.10)	-0.04 (0.09)	-0.22 ** (0.09)
Household having deposits	-1.47 * (0.05)	-1.44 * (0.06)	-1.85 * (0.06)	-1.46 * (0.06)	-1.53 * (0.06)	-1.74 * (0.06)	-1.91 * (0.06)	-1.71 * (0.07)	-1.65 * (0.07)
Household paying rent	0.76 * (0.05)	1.08 * (0.06)	0.76* (0.06)	1.22 * (0.05)	1.31 * (0.05)	1.30 * (0.06)	1.41 * (0.06)	1.74 * (0.06)	1.49 * (0.06)
Low level of education	0.82* (0.09)	0.51 <sup>*</sup> (0.06)	0.72* (0.06)	0.35 * (0.05)	0.40 * (0.05)	0.33* (0.06)	0.49* (0.06)	0.54 * (0.06)	0.30* (0.06)
Individual not-employed	0.21* (0.09)	0.29* (0.09)	0.30* (0.09)	0.40 * (0.07)	0.49 * (0.08)	0.41 * (0.08)	0.49 * (0.08)	0.47 * (0.08)	0.33 * (0.08)
Individual pensioner	-0.45 *** (0.15)	-0.16 (0.17)	-0.04 (0.15)	-0.42 * (0.14)	-0.34 ** (0.14)	-0.44 * (0.13)	-0.59 * (0.14)	-0.73 * (0.14)	-0.27 ** (0.14)
Individual social pensioner	1.27 * (0.25)	1.06* (0.31)	1.03 * (0.27)	0.75 * (0.24)	0.72* (0.26)	0.97 * (0.24)	0.73 * (0.21)	1.26* (0.23)	0.62 **** (0.33)
- $2 \operatorname{LOG} L$ (2) Intercept only	15,692	12,639	12,701	17,544	17,386	15,301	16,023	15,896	15,902
Intercept and covariates	11,499	8,829	8,479	11,853	10,815	9,924	9,843	9,371	9,479
Score (3)	4,324	4,184	4,933	5,855	6,768	5,595	6,655	6,805	6,561
R <sup>2</sup> adj	0.33	0.36	0.39	0.41	0.47	0.44	0.47	0.50	0.50
Sensitivity (4)	79.4	79.5	78.3	88.1	89.0	88.5	87.4	85.4	87.3
Specificity (4)	76.5	72.7	70.9	72.6	/6.4	73.1	78.5	/9.8	/9.9
Sample Probability (%)	9.92	7.36	7.58	12.39	12.46	13.37	12.26	12.39	13.23
Number of obs Sum of weights	25,092 24,263	25,151 24,033	24,931 23,670	24,013 23,418	23,924 23,120	20,901 19,447	22,268 21,531	21,148 21,211	20,582 20,349

(1) Binary logit model estimates on weighted data (by variable *PESOFL*). Dependent variable: a dummy equal to 1 if individual is living in a poor household. Coefficients marked by symbol (\*) are significant at 1%, by (\*\*) at 5%, and by (\*\*\*) at 10%. Standard errors in parentheses. - (2) Model fitting statistics (Testing global Ho:  $\beta_i=0$ ). - (3)  $\chi^2$  for covariates (15 DF; p<.0001). - (4) Cut-point probability 0.1.

(continue)

	1987	1989	1991	1993	1995	1998	2000	2002	2004
Regressors									
Intercept	-99.0 *	-99.4 *	-99.3 *	-98.6*	-98.9 *	-98.1 *	-98.5 *	-98.8 *	-98.6 *
1-individual household	-46.1 *	-49.8 *	-66.6 *	-32.9 *	-29.9 **	-45.2 *	-35.9 *	-44.5 *	-76.7 *
3-individual household	47.4 *	30.6 **	155.9 *	80.8 *	92.3 *	57.8 *	84.2 *	24.6**	118.2 *
More-than-3-individual	190.4 *	250.7 *	462.9 *	159.0 *	204.0 *	172.1 *	243.8 *	294.4 *	455.8 *
1-income recipient	174.8 *	448.7 *	523.8 *	230.9 *	246.0 *	349.2 *	323.7 *	457.6 *	641.3 *
3-or-more income recipients	-85.3 *	-100.0	-99.2 *	-45.2 *	-98.9 *	-89.4 *	-65.0 *	-88.3 *	-100.0
Living in the South	166.7 *	200.7 *	171.4 *	429.3 *	543.1 *	346.2 *	378.9 *	331.8 *	276.9 *
Head not-employed	225.5 *	114.4 *	24.0 *	194.9 *	176.2 *	174.0 *	99.7 *	79.7 *	43.9 *
"Only-old" family type	-53.6 *	-44.0 *	9.5	-82.3 *	-82.5 *	-62.8 *	-57.8 *	-72.1 *	-44.5 *
"Not-only-old" family type	-40.0 *	6.9	94.2 *	-46.9 *	-41.1 *	-31.8 *	-20.1 **	-3.8	-20.0 **
Household having deposits	-77.0 *	-76.3 *	-84.2 *	-76.8 *	-78.3 *	-82.4 *	-85.1 *	-82.0 *	-80.8 *
Household paying rent	112.9 *	194.9 *	114.6 *	237.3 *	269.4 *	267.0 *	308.1 *	469.3 *	342.0 *
Low level of education	126.6 *	67.0 *	105.1 *	42.1 *	48.6*	39.1 *	63.3 *	72.0 *	35.5 *
Individual not-employed	23.6 *	33.0 *	35.1 *	48.7 *	62.7 *	51.3 *	63.9 *	59.5 *	39.6 *
Individual pensioner	-36.1 **	-14.5	-3.5	-34.2 *	-28.8 **	-35.3 *	-44.3 *	-51.8 *	-23.7 **
Individual social pensioner	255.4 *	187.8 *	180.0 *	111.4 *	105.5 *	163.2 *	106.8 *	251.0*	86.5 ***
Marginal probabilities (6)									
Elderly pensioners	-4.01	-1.07	-0.25	-4.54	-3.70	-5.05	-6.30	-7.91	-3.10
Social pensioners	11.33	7.21	7.21	8.13	7.86	11.21	7.82	13.63	7.16
Memory Item: Sample probability	9.92	7.36	7.58	12.39	12.46	13.37	12.26	12.39	13.23

(cont'nd) **Table 3: Probability of being in a poverty status: estimated odd ratios**<sup>(5)</sup> (BISHIW)</sup>

(5) Estimated odd ratios expressed as the percentage of how higher or lower the odd of being poor is given the presence of the characteristics indicated by the corresponding independent variable, controlling for the other variables in the model. The value is computed as  $(e^{\beta}-1)*100$ , where  $\beta$  is the corresponding coefficient in the first part of Table 3. Symbol (\*), (\*\*), and by (\*\*\*) recall the significance level associated to the underlying coefficients (footnote 1). (6) Change in the probabilities of being poor, given the overall sample probability (for instance, on average in 1995 the probability of being poor was 3.7% lower or 7.9% higher if individuals were elderly pensioners or social pensioners, respectively). For details see Allison (1999), p. 30.

All Individu	ials		Elderly			Elderly per	nsioners		Social pens	ioners	
	Poor in	1989		Poor in	1989		Poor in	1989		Poor ir	ı 1989
<b>Poor in 198</b> 7	0	1	<b>Poor in 198</b> 7	0	1	<b>Poor in 198</b> 7	0	1	<b>Poor in 198</b> 7	0	1
0	83.24	4.00	0	90.65	1.60	0	90.86	1.72	0	91.12	0.00
1	8.16	4.61	1	7.01	0.73	1	6.63	0.78	1	0.00	8.88
	Poor in	1991		Poor in	1991		Poor in	1991		Poor ii	ı 1991
Poor in 1989	0	1	Poor in 1989	0	1	Poor in 1989	0	1	Poor in 1989	0	1
0	87.83	3.51	0	94.03	2.78	0	93.84	2.86	0	70.38	10.11
1	4.55	4.11	1	2.46	0.74	1	2.51	0.79	1	7.58	11.94
	Poor in	1993		Poor in	1993		Poor in	1993		Poor ir	ı 1993
Poor in 1991	0	1	Poor in 1991	0	1	Poor in 1991	0	1	Poor in 1991	0	1
0	88.23	5.56	0	93.17	2.25	0	93.08	2.32	0	77.89	7.02
1	2.96	3.25	1	4.06	0.52	1	4.06	0.54	1	13.54	1.55
	Poor in	1995		Poor in	1995		Poor in	1995		Poor ir	ı 1995
Poor in 1993	0	1	Poor in 1993	0	1	Poor in 1993	0	1	Poor in 1993	0	1
0	85.01	3.85	0	93.72	2.21	0	93.92	2.05	0	86.19	5.74
1	4.66	6.48	1	2.00	2.06	1	1.85	2.18	1	3.30	4.77
	Poor in	1998		Poor in	1998		Poor in	1998		Poor ir	ı 1998
Poor in 1995	0	1	Poor in 1995	0	1	Poor in 1995	0	1	Poor in 1995	0	1
0	82.84	5.15	0	90.82	4.02	0	90.78	3.59	0	94.39	3.11
1	3.91	8.09	1	2.14	3.02	1	2.33	3.30	1	0.00	2.51
	Poor in	2000		Poor in	2000		Poor in	2000		Poor ir	ı 2000
Poor in 1998	0	1	Poor in 1998	0	1	Poor in 1998	0	1	Poor in 1998	0	1
0	82.85	3.53	0	88.03	3.11	0	89.38	2.75	0	95.18	0.00
1	6.16	7.46	1	6.02	2.83	1	5.12	2.76	1	1.46	3.26
	Poor in	2002		Poor in	2002		Poor in	2002		Poor ir	1 2002
Poor in 2000	0	1	Poor in 2000	0	1	Poor in 2000	0	1	Poor in 2000	0	1
0	83.8	4.86	0	90.24	3.39	0	91.34	2.82	0	59.28	18.67
1	4.60	6.73	1	3.61	2.76	1	3.62	2.22	1	15.30	6.76
	Poor in	2004		Poor in	2004		Poor in	2004		Poor ir	ı 2004
Poor in 2002	0	1	Poor in 2002	0	1	Poor in 2002	0	1	Poor in 2002	0	1
0	83.82	4.58	0	92.47	3.09	0	92.89	3.01	0	74.06	12.09
1	5.33	6.27	1	2.69	1.75	1	2.34	1.76	1	12.05	1.81

 Table 4: Transition matrices of poverty for selected subgroups (2-wave panels - BISHIW)

	1987-89	)	1989-91	L	1991-9	93	1993-9	95	1995-:	98	1998-2	000	2000-	02	2002-	04
Regressors (1)	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff	S.E.	Coeff.	S.E.
Intercept	-4.04 *	(0.54)	-3.42 *	(0.39)	-4.23 *	(0.21)	-3.16 *	(0.24)	-3.24 *	(0.28)	-4.19 *	(0.25)	-3.46 *	(0.22)	-4.86 *	(0.25)
Relative distance from poverty line	-0.02 *	(0.26)	-0.02 *	(0.22)	-0.01 *	(0.07)	-0.02 *	(0.12)	-0.01 *	(0.12)	-0.01 *	(0.12)	-0.01 *	(0.10)	-0.01 *	(0.11)
More-than-3-individual	1.11 *	(0.28)	0.76 *	(0.21)	0.21 **	(0.10)	-0.07	(0.12)	0.11	(0.15)	0.24 **	* (0.14)	0.10	(0.11)	1.26 *	(0.13)
1-income recipient	0.93 *	(0.29)	0.40 **	(0.20)	0.59 *	(0.10)	0.57 *	(0.13)	1.14 *	(0.15)	1.13 *	(0.14)	0.58 *	(0.11)	2.31 *	(0.16)
Living in the South	1.20 *	(0.24)	1.25 *	(0.19)	1.59 *	(0.10)	1.17 *	(0.12)	1.02 *	(0.14)	1.66 *	(0.14)	1.36 *	(0.12)	0.59 *	(0.11)
Head not-employed	0.63 *	(0.22)	-0.13	(0.18)	1.68 *	(0.11)	0.80 *	(0.12)	0.73 *	(0.15)	0.79 *	(0.14)	0.79 *	(0.12)	0.66 *	(0.12)
"Only-old" family type	-1.87 **	(0.84)	-0.63	(0.51)	-1.88 *	(0.34)	-1.15 *	(0.31)	-1.60 *	(0.32)	-0.96 *	(0.32)	-1.42 *	(0.29)	-0.78 *	(0.30)
"Not-only-old" family type	-0.44	(0.49)	0.51 **	(0.24)	-0.53 *	(0.15)	-0.69 *	(0.18)	-0.12	(0.20)	-0.29	(0.21)	-0.32 *	* (0.16)	0.09	(0.17)
Low level of education	0.24	(0.20)	0.28 ***	(0.16)	0.16 ***	(0.09)	-0.10	(0.11)	0.36 *	(0.13)	-0.17	(0.13)	-0.07	(0.11)	0.09	(0.12)
Individual not-employed	0.10	(0.29)	0.18	(0.23)	0.61 *	(0.15)	0.53 *	(0.16)	0.08	(0.19)	0.29 **	* (0.17)	0.67 *	(0.15)	0.53 *	(0.16)
Individual pensioner	0.34	(0.67)	-0.22	(0.35)	-0.73 *	(0.24)	-0.30	(0.26)	0.17	(0.26)	-0.09	(0.29)	-0.75 *	(0.25)	-0.49 ***	(0.26)
Individual social pensioner	1.26	(1.21)	1.44 **	(0.69)	0.90 **	(0.43)	0.77 **	(0.39)	0.14	(0.59)	-0.36	(0.45)	1.33 *	(0.36)	0.44	(0.61)
Increase in number of family members	0.26	(0.34)	0.43 ***	(0.26)	0.38 *	(0.13)	-0.87 *	(0.25)	0.50 *	(0.17)	0.79 *	(0.16)	0.75 *	(0.16)	0.48 *	(0.19)
Change in family type	-0.27	(0.44)	0.28	(0.20)	-0.56 *	(0.15)	0.58 *	(0.14)	0.09	(0.16)	0.70 *	(0.16)	0.15	(0.16)	0.54 *	(0.17)
Decrease in number of income recipients	-2.64 *	(0.74)	-1.51 *	(0.35)	-0.29 **	(0.14)	0.07	(0.16)	-0.44 *	(0.22)	-2.04 *	(0.38)	-1.03 *	(0.24)	0.36 ***	(0.22)
Change in individual's role within family	0.80	(0.79)	0.46	(0.53)	0.67 *	(0.27)	-0.75	(0.78)	0.81 *	(0.34) 	0.07	(0.50)	0.29	(0.35)	0.51	(0.37)
- 2 LOG L (2) Intercept only	1,201		1,870		5,517		3,827		2,715		3,348		4,315		3,806	
Intercept and covariates	800 309		1,323		3,932 1 374		2,873		2,032		2,346 888		3,089		2,603	
R <sup>2</sup> adj	0.37		0.33		0.35		0.29		0.29		0.34		0.34		0.37	
Number of obs Sum of weights	3,197 3,323		6,021 7,457		9,512 10,442		9,490 10,017		6,847 6,193		9,594 9,483		8,737 9,970		8,348 9,146	

### Table 5: Probability of "entry into poverty status": coefficients estimates (2-wave panels - BISHIW)<sup>(1)</sup>

(1) Binary logit model estimates on weighted data (by variable *PESOFL*). Dependent variable: a dummy equal to 1 if individual is living in a poor household in the second year of the panel given that he was not in the first year. Coefficients marked by symbol (\*) are significant at 1%, by (\*\*) at 5%, and by (\*\*\*) at 10%. Standard errors in parentheses. - (2) Model fitting statistics (Testing global Ho:  $\beta_i=0$ ). - (3)  $\chi^2$  for covariates (15 DF; p<.0001). - (4) Cut-point probability 0.1.

(continue)

	1987-89		1989-91		1991-93	_	1993-95		1995-98		1998-2000	)	2000-02		2002-04	
Regressors																_
Intercept	0.018	*	0.033	*	0.015	*	0.042	*	0.039	*	0.015	*	0.031	*	0.008	*
Relative distance from poverty line	0.982	*	0.976	*	0.990	*	0.984	*	0.986	*	0.988	*	0.986	*	0.988	*
More-than-3-individual	3.040	*	2.136	*	1.234	**	0.932		1.114		1.265	***	1.106		3.524	*
1-income recipient	2.528	*	1.489	**	1.805	*	1.775	*	3.115	*	3.086	*	1.777	*	10.066	*
Living in the South	3.311	*	3.494	*	4.904	*	3.228	*	2.770	*	5.239	*	3.900	*	1.809	*
Head not-employed	1.872	*	0.878		5.354	*	2.236	*	2.079	*	2.206	*	2.194	*	1.926	*
"Only-old" family type	0.155	**	0.535		0.152	*	0.317	*	0.202	*	0.385	*	0.241	*	0.459	*
"Not-only-old" family type	0.645		1.662	**	0.588	*	0.500	*	0.887		0.751		0.729	**	1.097	
Low level of education	1.272		1.329	***	1.169	***	0.908		1.435	*	0.845		0.932		1.089	
Individual not-employed	1.104		1.202		1.841	*	1.701	*	1.082		1.342	**	1.954	*	1.704	*
Individual pensioner	1.408		0.804		0.483	*	0.744		1.190		0.917		0.471	*	0.614	***
Individual social pensioner	3.511		4.211	**	2.465	**	2.160	**	1.153		0.695		3.796	*	1.556	
Increase in number of family members	1.292		1.530	***	1.458	*	0.417	*	1.641	*	2.213	*	2.122	*	1.620	*
Change in family type	0.765		1.323		0.574	*	1.780	*	1.096		2.020	*	1.161		1.723	*
Decrease in number of income recipients	0.071	*	0.222	*	0.745	**	1.067		0.645	**	0.131	*	0.358	*	1.435	***
Change in individual's role within family	2.226		1.580		1.945	*	0.472		2.247	**	1.072		1.332		1.658	
Marginal probabilities (5)																
Elderly pensioners	1.31		-0.74		-3.82		-1.10		0.85		-0.29		-3.48		-2.13	
Social pensioners	4.82		4.87		4.74		2.85		0.70		-1.24		6.17		1.93	
Memory Item: Sample probability	4.00		3.51		5.56		3.85		5.15		3.53		4.86		4.58	

### (cont'nd) Table 5: Probability of "entry into poverty status": estimated odd ratios (2-wave panels - BISHIW)

(5) Marginal probabilities of becoming poor, given the sample probability of entering poverty (for instance, on average between 1991 and 1993 the probability of becoming poor was 3.8% lower or 4.7% higher if individuals were elderly pensioners or social pensioners, respectively).

# - Annex 1: Data and methodological choices -

The BISHIW was run annually from 1965 to 1987, with the exception of 1985, every other year until 1995 and from 1998 to 2002. The Survey collects data from more than 20,000 individuals belonging to about 8,000 households. Information touches on socio-demographic characteristics of the individuals, their incomes, wealth and, since 1980, the households' consumption expenditure.

In this paper we use data from the Historical Archive of the survey for years 1987, 1989, 1991, 1993, 1995, 1998, 2000, 2002, and 2004. We compute the *incidence* and the *intensity* of poverty by the Head Count ratios (HC) and the Income Poverty Gap ratio (IPG), respectively.<sup>29</sup> Results are obviously very sensitive to the methodological choices.<sup>30</sup> Here the poverty line refers to a 2-individual household, like the official poverty line of the Italian Poverty Commission, but it is computed as the per capita net income from the sample rather than as the per capita consumption.<sup>31</sup> The poverty line is a relative one, so it changes each year according to the dynamics of the overall economy.

Similarly to Eurostat methodology, the unit of analysis is the individual rather than the household. The HC is therefore computed as the percentage of individuals living in poor households, where a household is defined as "poor" when its equivalent income is below the poverty line. We use the official equivalence scale (Carbonaro scale). Compared to indicators computed on households as the relevant unit, HC on individuals tends to weigh the incidence of poverty for the household size. Since the number of components is highly correlated with poverty probability, poverty rates may differ significantly.<sup>32</sup>

For each individual, we keep track of personal as well as of his/her households' sociodemographical characteristics. As far as economic variables are concerned, we consider personal and household incomes both in actual and in equivalent terms.<sup>33</sup> Particular attention is given to the income position of the elderly; specifically to the public transfers they receive. Data are organised so as to associate to each individual all the different kind of pensions or social transfers he/she receives. In particular, we are able to keep track of social pensions but not of the minimum pensions, which cannot be distinguished from the other insurance pensions. Among the socio-demographical factors that could influence the poverty probabilities, at the households level we consider the geographical area of residence and a specific variable created to describe the composition of the family by the co-living situation (called "family type"). For the individual we consider gender, age, education and the role he/she plays within the family.

HC = 
$$p/N$$
; IPG =  $\frac{1}{p} \sum_{i=1}^{p} \left( \frac{PL - y_i}{PL} \right)$ 

<sup>&</sup>lt;sup>29</sup> In particular, the *Head Count* ratio (HC) and the *Income Poverty Gap* ratio (IPG) are computed according to the following expressions:

where p is the number of poor individuals and N the total number of individuals, PL the poverty line and  $y_i$  the household's equivalent income of the poor individual i.

<sup>&</sup>lt;sup>30</sup> For a summary of the influence of the methodological choices and of the data quality issues involved in poverty analyses see, for example, Trivellato (1998) and the references given in his paper.

<sup>&</sup>lt;sup>31</sup> After computing a poverty line on both income and consumption, we chose to use income instead of consumption favouring the higher quality of income data available in the BISHIW. The levels of the indexes change, but conclusions in terms of the relative position of different categories of individuals do not.

 $<sup>^{32}</sup>$  While the HC index computed on households would attach the same weight to any poor unit, in case of HC computed on individuals the bigger is the size of the poor households relative to non-poor, the higher is the HC.

<sup>&</sup>lt;sup>33</sup> All the statistics weigh up the individuals by modified sampling weights provided by the BISHIW (variable PESOFL) for the corresponding households in order to correct for the estimate distortions in longitudinal analyses (see SHIW documentation in Banca d'Italia website).

## - Statistical Annex -

### Annex Table 1: Social and minimum pension compared to poverty line (euros)

	Povertr	line for	Monthly		Powertz line hast	- estimated htt (D)	Monthiz	ermournt (S)	Rotio h	etiveen
Vear	2-individual	1_individual	ner canita	അശാ	2-individuel	1_individual	minimum	social	minimum nension	social nension
Icar	bougebold (1)	household (7)	congumption (3)	(D)/(C)	2-marviada boucebold	household	nancion (6)	nencion (7)	and noverty line	and noverty line
	11043611014(1)	11043611014 (2)	consumption (5)	Tamo	11043611014	11043611014	pension (0)	pension()	and poverty mie	and poverty mie (HD/GD)
					_	_			(0)(1)	(1)/(1)
	(A)	<b>(B)</b>	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)
1969			29.18		23.10	13.84	13.99	6.71	1.01	0.49
1970			32.25		25.53	15.29	13.99	6.71	0.91	0.44
1971			35.02		27.72	16.61	14.66	6.71	0.88	0.40
1972			38.19		30.23	18.11	16.46	8.52	0.91	0.47
1973			46.16		36.54	21.89	18.51	10.63	0.85	0.49
1974			57.60		45.59	27.31	24.03	14.46	0.88	0.53
1975			66.92		52.98	31.73	31.30	21.74	0.99	0.68
1976			82.33		65.17	39.04	37.46	26.18	0.96	0.67
1977			98.84		78.24	46.87	44.56	29.82	0.95	0.64
1978			114.45		90.60	54.27	57.35	35.64	1.06	0.66
1979			140.97		111.60	66.85	68.43	40.42	1.02	0.60
1980	138.03	82.68	180.38	0.77	138.03	82.68	87.35	59.61	1.06	0.72
1981	162.38	97.26	215.69	0.75	162.38	97.26	111.80	71.17	1.15	0.73
1982	190.03	113.83	242.22	0.78	190.03	113.83	135.09	83.64	1.19	0.73
1983	218.08	130.63	278.58	0.78	218.08	130.63	164.10	98.42	1.26	0.75
1984	242.95	145.53	319.62	0.76	242.95	145.53	185.33	111.26	1.27	0.76
1985	283.67	169.92	358.16	0.79	283.67	169.92	203.75	137.98	1.20	0.81
1986	322.21	193.00	396.16	0.81	322.21	193.00	215.16	168.89	1.11	0.88
1987	357.28	214.01	432.26	0.83	357.28	214.01	227.72	175.75	1.06	0.82
1988	387.03	231.83	475.50	0.81	387.03	231.83	239.73	210.79	1.03	0.91
1989	432.93	259.32	525.80	0.82	432.93	259.32	261.66	219.63	1.01	0.85
1990	472.18	282.84	569.96	0.83	472.18	282.84	280.24	228.42	0.99	0.81
1991	521.79	312.56	625.33	0.83	521.79	312.56	301.79	242.58	0.97	0.78
1992	537.97	322.24	686.34	0.78	537.97	322.24	320.73	252.69	1.00	0.78
1993	529.35	317.08	698.95	0.76	529.35	317.08	327.69	256.66	1.03	0.81
1994	565.16	338.53	747.98	0.76	565.16	338.53	339.74	263.76	1.00	0.78
1995	590.49	353.71	807.34	0.73	590.49	353.71	350.50	269.68	0.99	0.76
1996	614.73	368.22	850.06	0.72	614.73	368.22	369.43	280.47	1.00	0.76
1997	738.70	442.48	895.20	0.83	738.70	442.48	383.84	288.48	0.87	0.65
1998	762.29	456.61	940.36	0.81	762.29	456.61	390.36	292.42	0.85	0.64
1999	770.72	461.66	982.25	0.78	770.72	461.66	397.38	352.37	0.86	0.76
2000	810.21	485.32	1,039.01	0.78	810.21	485.32	403.73	366.67	0.83	0.76
2001	804.22	481.73	1,072.20	0.75	804.22	481.73	414.22	388.09	0.86	0.81
2002	823.45	493.25	1,103.91	0.75	823.45	493.25	425.41	396.91	(8) 0.86	0.80
2003	874.74	523.97	1,144.56	0.76	874.74	523.97	435.63	404.43	0.83	0.77
2004	919.98	551.07	1,180.07	0.78	919.98	551.07	446.53	418.05	0.81	0.76
2005			·				455.02	424.30		

Dotted lines denote changes in the statistical methodologies.

(1) For a 2-individual household, the poverty line is equal to the average per capita monthly consumption.

- (2) For a 1-individual household, the poverty line is computed applying to (A) the coefficient of the Carbonaro equivalence scale 0.599.
- (3) Istat per capita consumption expenditure of households from the National Accounts. Data differ from values implicit in the poverty line due to a different methodology.
- (4) Estimates for 1969-79 based on the average value of (D) during the period 1980-99.

(5) Annual amount, paid for 13 months, divided by 12 months.

(6) For the period 1969-73 the amount corresponds to the minimum old age pension for a former employed-worker over age 65: at that time the minimum pension was differentiated by the kind of benefit (old age, disability or survivors), by the activity (employed or self-employed work) and by the age (under or above 65). Since 1985 the monthly benefit also includes the "social integration" for individuals over age 65 whose income is below a set amount (Law 140/1985 and Law 544/1988).

(7) Since 1985, the social pension includes the "social integration" prescribed by Law 140/1985 and Law 544/1988. Since 2001 the "social integration" is differentiated by age (Law 388/2000); here only the amount for individuals between 65 and 75 years of age is considered (due to the eligibility requirements, the youngest social pension beneficiaries in 1995 had to be 65).

(8) In 2002 the integration has been raised for all categories of over-70 years old pensioners (2002 Budget Law). The integration is designed in order to guarantee a minimum benefit of 516.46 € a month, increased to 543.79 in 2005 and 551.35 in 2006).

	<b>198</b> 7	1989	1991	1993	1995	1998	2000	2002	2004
Sample size	25,092	25,151	24,931	24,013	23,924	20,901	22,268	21,148	20,582
Sum of weights	24,263	24,033	23,670	23,418	23,120	19,447	21,531	21,211	20,439
Head count ratio	9.92	7.36	7.58	12.39	12.46	13.37	12.26	12.39	13.23
Income poverty gap	32.57	23.76	25.26	33.44	35.56	37.75	35.14	33.08	28.82
Poverty related variables									
Poverty line	4 1 5 0	5 274	6.002	6 460	7 117	8 247	8 814	9 648	10 491
- ISTAT Poverty line	4.287	5,195	6.262	6.352	7.086	9,147	9.723	9,881	11.040
Average income	1,207	0,100	0,202	0,002	,,000	-,,	,, <b>_</b> 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	11,010
- equivalent	10.312	13.143	14,966	16.021	17.537	20.313	21.636	23,660	25,872
- household	15,135	18,715	21.214	22,803	24,705	27,599	29,223	31,740	33,469
- personal	8,190	9,942	10,977	11,497	12,333	14,448	15,473	16,414	17,851
- personal/household (%)	54.11	53.12	51.75	50.42	49.92	52.35	52.95	51.71	53.34
Povery gap									
- mean	1,352	1,253	1,516	2,160	2,531	3,113	3,097	3,192	3,024
- median (Q2)	923	909	1,137	1,802	2,064	2,644	2,485	2,378	2,342
- Q1	355	394	461	675	950	1,163	1,104	1,303	907
- Q3	1,990	1,614	2,452	3,270	3,611	4,400	4,626	4,746	4,413
- (Q3-Q1)/Q2	1.77	1.34	1.75	1.44	1.29	1.22	1.42	1.45	1.50
Households characteristics									
Average family size	3.65	3.55	3.53	3.53	3.47	3.35	3.31	3.28	3.19
Geographical area									
- North	44.48	44.31	44.62	44.57	44.42	44.52	44.61	44.72	45.12
- Centre	19.10	19.10	19.20	19.18	19.20	19.20	19.21	19.30	19.21
- South	36.42	36.58	36.17	36.24	36.38	36.28	36.18	35.98	35.68
Family type									
- Adults only	25.93	29.29	30.07	28.64	30.54	30.13	30.00	30.90	32.23
- Elderly only	8.44	8.80	9.27	10.18	10.56	12.11	12.28	12.12	13.66
- Adults and minors	47.91	45.16	43.02	44.19	40.55	40.57	41.07	39.63	38.01
- Elderly and minors	0.03	0.05	0.02	0.05		0.02		0.02	0.02
- Adults and elderly	12.85	12.30	12.92	12.37	14.49	13.62	13.82	14.57	13.80
- Adults, minors and elderly	4.85	4.40	4.70	4.57	3.86	3.56	2.83	2.77	2.29
Individuals characteristics									
Age									
- 0 - 30	41.90	40.96	39.72	39.87	37.98	35.85	34.19	32.88	31.61
- 31 - 40	13.56	12.81	13.27	14.38	14.67	15.07	15.99	15.91	15.75
- 41 - 40	13.73	14.34	13.85	13.40	13.20	13.74	13.78	15.27	15.35
- 51 - 65	17.41	17.81	18.38	16.60	17.79	17.69	18.11	17.82	18.14
- 65 - over	13.41	14.08	14.78	15.75	16.37	17.66	17.93	18.11	19.14
Gender									
- Male	48.75	48.61	48.66	48.61	48.59	48.52	48.54	48.62	48.51
- Female	51.25	51.39	51.34	51.39	51.41	51.48	51.46	51.38	51.49
Role within the household									
- Head of household	33.08	34.43	34.60	34.54	35.19	36.75	37.16	37.77	39.37
- Spouse or partner	24.80	25.02	24.87	24.34	24.56	24.91	24.95	24.82	24.73
- Daughter or Son	37.59	35.92	36.15	36.19	35.61	34.24	33.17	32.92	31.15
- Otner	4.53	4.62	4.38	4.93	4.64	4.10	4.72	4.49	4.75
Eaucation V	10.47	15 50	15.00	15.00	16.61	16.00	11.74	12.00	12.24
- INOILE	12.47	15.59	15.23	17.80	10.01	10.08	15.70	13.90	13.34
- Finally school	54.07 25.74	29.59 27.79	29.00	20.98	20.17	23.90	23.90	23.71	22.52
- Secondary school	25.74	27.78	27.41	29.11	26.97	20.89	27.02	27.84	20.33
- rigii school	21.14	22.41	23.44	21.48	25.14	20.76	20.69	28.03	28.41
- Oraduate	0.03	4.45	4.75	4.48	4.99	0.20	0.48	0.34	7.04
- Fost-graduate	0.55	0.19	0.16	0.14	0.12	0.12	0.09	0.11	0.16

### Annex Table 2: Overall sample (BISHIW - Data weighted by survey coefficient PESOFL) All Individuals in the sample (weighted by PESOFL)

(\*) For 1987 sample education refers only to the 13,304 income recipients.

Annex Table 3: Elderly sub-group (BISHIW - Data weighted by survey coefficient PESOFL)

	<b>198</b> 7	1989	1991	1993	1995	1998	2000	2002	2004
Sample size	3,009	2,891	3,244	3,747	3,807	3,087	3,855	4,318	4,425
Sum of weights	3,602	3,617	3,764	3,914	4,062	3,658	4,116	4,087	4,144
Head count ratio	4.69	3.66	4.41	4.91	5.37	7.67	6.66	5.97	5.69
Income poverty gap	19.56	17.27	13.01	23.73	23.23	26.06	24.26	24.30	22.47
Poverty related variables									
Poverty line	4 1 5 0	5 274	6 002	6 460	7 117	8 246	8 814	9 648	10 491
Average income	4,150	J,2/4	0,002	0,400	/,11/	0,240	0,014	2,040	10,421
- equivalent	10.087	12.765	14.575	15.939	17.775	21.062	22.382	24.034	26.138
- household	11.494	13.833	16.053	17,520	19.263	21.611	22.952	24,792	26.114
- personal	5,637	7,178	8,119	8,766	10,164	12.270	12,955	13.929	15.277
- personal/household (%)	49.04	51.89	50.58	50.03	52.76	56.78	56.45	56.18	58.50
Povery gap									
- mean	812	911	781	1,533	1,653	2,149	2,139	2,344	2,357
- median	663	577	435	1,192	1,410	1,353	1,884	1,730	2,178
- Q1	199	277	114	409	420	494	757	863	670
- Q3	1,138	1,246	1,302	2,426	2,550	3,138	3,086	3,139	3,541
- (Q3-Q1)/Q2	1.42	1.68	2.73	1.69	1.51	1.95	1.24	1.32	1.32
Households characteristics									
Geographical area									
- North	45.40	45.54	46.02	47.98	47.48	46.68	44.45	43.11	44.90
- Centre	21.05	20.52	22.00	18.80	18.29	17.45	18.03	20.42	20.70
- South	33.55	33.94	31.99	33.22	34.23	35.87	37.52	36.46	34.40
Family type									
- Adults only									
- Elderly only	56.86	58.47	58.31	60.89	60.08	64.39	64.24	62.90	67.07
- Adults and minors									
- Elderly and minors	0.10	0.15	0.06	0.15		0.06		0.05	0.06
- Adults and elderly	35.43	34.59	34.66	32.32	34.92	31.28	32.26	33.89	30.24
- Adults, minors and elderly	7.61	6.78	6.96	6.64	5.00	4.28	3.50	3.15	2.63
Individuals characteristics									
Age									
- 65 - 67	23.66	25.20	22.50	19.80	20.29	19.32	18.74	18.78	18.58
- 68 - 69	12.73	16.77	15.49	13.05	13.05	13.11	11.97	12.75	12.16
- 70 - 74	24.83	21.87	23.74	30.68	29.89	27.83	26.58	26.19	27.65
- 75 - 79	21.69	19.97	20.32	17.56	14.52	20.84	22.59	20.61	20.66
- 80 - over	17.69	16.19	17.95	18.92	22.25	18.90	20.13	21.67	20.95
Gender									
- Male	43.59	42.94	40.94	40.14	40.18	42.41	42.28	42.81	42.03
- Female	56.41	57.06	59.06	59.86	59.82	57.59	57.72	57.19	57.97
Role within the household									
- Head of household	61.35	63.30	63.86	61.14	62.26	63.74	63.12	64.19	63.79
- Spouse or partner	20.61	21.37	23.07	23.82	22.90	23.52	24.73	25.03	25.93
- Daughter or Son	0.14	0.34	0.11	0.15	0.04	0.03	0.02		0.13
- Other	17.90	14.98	12.96	14.89	14.81	12.71	12.13	10.78	10.14
Education ()				~~~~			<b></b>	~~	
- None	35.11	25.53	23.39	28.87	28.00	25.70	24.57	20.44	18.32
- Fillinary school	47.20	55.30	55.59	51.35	48.59	49.21	50.82	54.59	53.88
- Secondary school	9.88	10.26	10.14	9.91	12.70	12.15	12.68	11.08	14.55
- riigii scilool - Graduate	5.72	0.00	δ.70 1.00	7.70	δ.42 2.26	9.55	9.19	10.04	9.87
- Oraduate	1.92	2.22	1.99	2.12	2.20	3.33	2.08	3.18	3.33
- rost-graduate	0.17	0.09	0.13	0.04	0.03	0.07	0.00	0.00	0.04

<sup>(\*)</sup> For 1987 sample education refers only to the 3,402 income recipients.

Annex Table 4: Elderly Pensioners (BISHIW - Data weighted by survey coefficient PESOFL)

	<b>198</b> 7	1989	1991	1993	1995	1998	2000	2002	2004
Sample size	2,751	2,643	2,940	3,494	3,560	2,816	3,468	3,851	3,962
Sum of weights	3,355	3,372	3,453	3,695	3,819	3,350	3,755	3,634	3,693
Head count ratio	3.93	3.42	4.44	4.65	5.30	7.19	5.92	5.02	4.69
Income poverty gap	16.79	15.10	12.73	21.83	22.39	25.51	22.41	19.14	18.99
Poverty related variables									
Poverty line	4 1 5 0	5 274	6.002	6 460	7 1 1 7	8 246	8 814	9 648	10 401
Average income	4,150	5,274	0,002	0,400	/,11/	0,240	0,014	2,040	10,421
- equivalent	10.050	12.816	14.389	15.852	17.615	20.816	22.221	23.616	25.979
- household	11.353	13.800	15,759	17,381	18.962	21,300	24.083	24.004	25.659
- personal	5,466	7,099	7,941	8,747	9,968	12.026	12,737	13.649	15.179
- personal/household (%)	48.14	51.44	50.39	50.33	52.57	56.46	52.89	56.86	59.16
Povery gap									
- mean	697	796	764	1,410	1,593	2,104	1,975	1,847	1,992
- median	516	574	430	1,114	1,260	1,163	1,812	1,387	1,729
- Q1	142	232	78	390	394	494	634	648	611
- Q3	1,058	1,218	1,302	2,173	2,492	2,721	2,675	2,648	2,976
- (Q3-Q1)/Q2	1.78	1.72	2.85	1.60	1.66	1.91	1.13	1.44	1.37
Households characteristics									
Geographical area									
- North	46.77	46.04	45.61	48.35	47.31	46.62	44.38	43.60	45.79
- Centre	20.17	20.53	22.01	18.61	18.32	16.92	18.31	20.41	20.77
- South	33.06	33.44	32.39	33.04	34.36	36.46	37.31	35.99	33.44
Family type									
- Adults only									
- Elderly only	57.47	58.37	58.88	60.61	59.94	64.27	64.13	63.47	67.21
- Adults and minors									
- Elderly and minors	0.11	0.16	0.07	0.16		0.06		0.06	0.07
- Adults and elderly	34.78	34.62	33.98	32.44	34.95	31.31	32.36	33.31	29.98
- Adults, minors and elderly	7.65	6.85	7.07	6.79	5.10	4.37	3.51	3.16	2.74
Individuals characteristics									
Age									
- 65 - 67	22.38	23.59	20.82	18.87	18.79	17.55	17.63	16.75	16.95
- 68 - 69	12.52	16.69	15.41	12.90	12.82	12.30	11.64	12.47	12.11
- 70 - 74	25.07	22.23	23.87	30.85	30.21	28.86	26.45	26.45	26.98
- 75 - 79	22.26	20.52	21.41	17.82	15.01	21.69	23.16	21.54	21.40
- 80 - over	17.78	16.97	18.49	19.56	23.17	19.60	21.12	22.80	22.56
Gender									
- Male	45.33	44.98	42.89	42.10	41.90	44.70	45.16	46.21	45.90
- Female	54.67	55.02	57.11	57.90	58.10	55.30	54.84	53.79	54.10
Role within the household									
- Head of household	64.47	67.02	67.80	63.56	65.03	67.10	66.70	68.90	68.55
- Spouse or partner	17.50	17.36	18.66	20.81	19.57	19.39	20.76	20.16	20.90
- Daughter or Son		0.28	0.10	0.16	0.04	0.04	0.02		0.13
- Other	18.03	15.33	13.44	15.47	15.36	13.48	12.51	10.94	10.42
Education <sup>(*)</sup>									
- None	35.60	25.79	24.22	29.78	28.94	26.81	25.22	20.88	18.21
- Primary school	47.30	56.20	55.88	51.18	48.41	49.21	50.98	55.78	54.63
- Secondary school	9.79	9.20	9.95	9.51	12.43	11.36	12.04	10.72	14.44
- High school	5.46	6.45	8.13	7.40	8.07	9.07	0.38	9.63	9.50
- Graduate	1.72	2.31	1.70	2.09	2.12	3.48	2.70	2.92	3.17
- Post-graduate	0.13	0.05	0.13	0.04	0.03	0.07	0.06	0.07	0.05

(\*) For 1987 sample education refers only for to 3,343 income recipients.

Annex Table 5: Social Pensione	s (BISHIW - Data weighted by	survey coefficient PESOFL)
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	<b>198</b> 7	1989	1991	1993	1995	1998	2000	2002	2004
Sample size	197	207	193	328	268	188	257	196	176
Sum of weights	230	221	234	317	258	228	323	235	167
Head count ratio (%)	11.89	7,39	9,72	9,66	9,46	14.88	14.98	16,74	9,59
Income poverty gap (%)	13,94	18,09	5,58	22,26	16,95	19,34	23,91	17,64	16,99
Poverty related variables									
Poverty line	4.150	5.274	6.002	6.460	7.117	8.246	8.814	9.648	10.491
Average income									
- equivalent	8.000	10.650	12.075	12.627	14.564	16.152	15.637	17.787	20.069
- household	9.303	12.918	13.822	14.996	17.777	18.600	16.211	18.227	20.642
- personal	2.759	3.509	4.129	4.463	4.794	5.993	6.256	7.742	8.355
- personal/householld (%)	29,65	27,16	29,87	29,76	26,97	32,22	38,59	42,48	40,47
Povery gap									
- mean	578	954	335	1.438	1.206	1.594	2.107	1.702	1.782
- median	495	577	78	1.254	920	1.203	1.397	1.856	754
- Q1	105	316	42	610	537	816	623	648	611
- Q3	564	1.325	427	2.538	1.957	2.578	3.185	2.051	2.821
- (Q3-Q1)/Q2	0,93	1,75	4,94	1,54	1,54	1,46	1,83	0,76	2,93
Households characteristics									
Geographical area									
- North	35,19	35,13	40,77	31,84	39,48	44,00	18,97	29,51	34,54
- Centre	26,19	30,45	29,73	17,89	16,78	11,29	16,20	12,56	21,20
- South	38,61	34,42	29,50	50,28	43,74	44,70	64,83	57,92	44,26
Family type									
- Adults only									
- Elderly only	63,35	62,08	69,32	64,82	59,69	63,12	67,82	66,92	70,51
- Adults and minors									
- Elderly and minors	0,22					0,44			
- Adults and elderly	28,07	30,03	25,09	26,31	32,44	28,50	29,21	31,92	27,91
- Adults, minors and elderly	8,35	7,89	5,56	8,87	7,87	7,94	2,97	1,16	1,58
Individuals characteristics									
Age									
- 65 - 67	20,43	24,90	24,77	15,61	18,22	14,19	12,40	8,24	15,98
- 68 - 69	10,31	15,74	12, 11	15,64	13,25	12,59	9,91	4,47	11,70
- 70 - 74	15,98	18,84	20,12	27,33	30,42	32,31	26,02	29,80	23,66
- 75 - 79	29,80	16,46	19,22	14,04	15,34	16,20	22,75	23,92	21,75
- 80 - over	23,47	24,06	23,78	27,38	22,76	24,71	28,93	33,57	26,90
Gender									
- Male	6,03	9,29	8,68	12,79	7,59	6,90	$11,\!60$	5,45	13,13
- Female	93,97	90,71	91,32	87,21	92,41	93,10	88,40	94,55	86,87
Role within the household									
- Head of household	25,46	26,44	33,89	32,01	27,73	31,74	44,47	56,62	48,92
<ul> <li>Spouse or partner</li> </ul>	47,25	52,85	48,94	46,06	46,90	43,44	33,72	24,72	30,37
- Daughter or Son				$0,\!10$					
- Other	27,29	20,71	17,17	21,83	25,37	24,82	21,81	18,66	20,71
Education (*)									
- None	48,92	35,28	35,31	46,28	43,95	43,32	51,66	44,38	24,73
- Primary school	45,55	54,12	53,11	43,65	53,59	49,03	42,48	50,14	62,75
- Secondary school	5,21	10,08	9,38	7,96	8,41	4,74	2,47	3,35	9,43
- High school	0,32	0,22	1,70	1,59	3,28	2,00	3,39	2,13	3,09
- Graduate		0,29	0,50	0,52	0,78	0,91			

(\*) For 1987 sample education refers only to the 229 income recipients.

YEAR	ALL	INDIVIDU.	ALS	ELDERLY			ELDEF	RLY PENSI	ONERS	SOCIAL PENSIONERS			
	Survey	Par	iels	Survey	Panels		Survey	Panels		Survey	Panels		
<b>1987</b> Size Sum weights <i>Poor</i>	<b>1987 sample</b> 25,092 24,263 9.92		( <b>1987-89</b> ) 3,682 3,999 12.77	<b>1987 sample</b> 3,009 3,602 4.69		( <b>198</b> 7- <b>89</b> ) 385 464 7.74	<b>1987 sample</b> 2,751 3,355 3.93		( <b>1987-89</b> ) 351 434 7.41	<b>1987 sample</b> 197 230 11.89		(1987-89) 17 12 8.88	
1989	1989 sample	(1987-89)	(1989-91)	1989 sample	(1987-89)	(1989-91)	1989 sample	(1987-89)	(1989-91)	1989 sample	(1987-89)	(1989-91)	
Size Sum weights	25,151 24,033	3,682 3,999	6,673 6,247	2,891 3,617	385 464	669 816	2,643 3,372	351 434	611 763	207 221	17 12	28 31	
Poor	7.36	8.66	8.61	3.66	3.2	2.33	3.42	3.3	2.50	7.39	19.52	8.88	
<b>1991</b> Size Sum weights	1991 sample 24,931 23,670	( <b>1989-91</b> ) 6,673 6,247	( <b>1991-93</b> ) 10,388 10,521	<b>1991 sample</b> 3,244 3,764	( <b>1989-91</b> ) 669 816	( <b>1991-93</b> ) 1,149 1,490	<b>1991 sample</b> 2,940 3,453	( <b>1989-91</b> ) 611 763	( <b>1991-93</b> ) 1,034 1,360	<b>1991 sample</b> 193 234	( <b>1989-91</b> ) 28 31	( <b>1991-93</b> ) 30 28	
Poor	7.58	6.21	7.62	4.41	4.58	3.52	4.44	4.6	3.65	9.72	15.09	22.05	
1993 Size Sum weights	1993 sample 24,013 23,418	( <b>1991-93</b> ) 10,388 10,521	( <b>1993-95</b> ) 10,771 11,158	<b>1993 sample</b> 3,747 3,914	( <b>1991-93</b> ) 1,149 1,490	( <b>1993-95</b> ) 1,444 1,645	<b>1993 sample</b> 3,494 3,695	( <b>1991-93</b> ) 1,034 1,360	( <b>1993-95</b> ) 1,343 1,551	<b>1993 sample</b> 328 317	( <b>1991-93</b> ) 30 28	( <b>1993-95</b> ) 69 66	
Poor	12.39	11.14	8.81	4.91	4.06	2.77	4.65	4.03	2.86	9.66	8.07	8.57	
<b>1995</b> Size Sum weights	<b>1995 sample</b> 23,924 23,120	( <b>1993-95</b> ) 10,771 11,158	( <b>1995-98</b> ) 7,820 8,137	<b>1995 sample</b> 3,807	( <b>1993-95</b> ) 1,444 1,645	( <b>1995-98</b> ) 987 1,152	<b>1995 sample</b> 3,560 3,819	( <b>1993-95</b> ) 1,343 1,551	( <b>1995-98</b> ) 894 1,056	<b>1995 sample</b> 268 258	( <b>1993-95</b> ) 69 66	( <b>1995-98</b> ) 25 29	
Poor	12.46	12	10.33	5.37	5.16	4.27	5.3	5.63	4.23	9.46	2.51	10.51	
1998 Size Sum weights Poor	1998 sample 20,901 19,447 13,37	( <b>1995-98</b> ) 7,820 8,137 <b>13</b> 62	( <b>1998-2000</b> ) 10,997 10,115 <b>13</b> 24	<b>1998 sample</b> 3,087 4,062 7,67	( <b>1995-98</b> ) 987 1,152 8,85	( <b>1998-2000</b> ) 1,560 1,863 7,04	<b>1998 sample</b> 2,816 3,350 7 19	( <b>1995-98</b> ) <sup>894</sup> 1,056 7,88	( <b>1998-2000</b> ) 1,383 1,672 6,89	1998 sample 188 228 14 88	( <b>1995-98</b> ) 25 29 <b>4 7</b> 2	( <b>1998-2000</b> ) 27 37 5.62	
2000	2000 sample	(1998-2000)	(2000-02)	2000 sample	(1998-2000)	(2000-02)	2000 sample	(1998-2000)	(2000-02)	2000 sample	(1998-2000)	(2000-02)	
Size Sum weights	22,268 21,531	10,997 10,115	9,814 9,374	3,855 4,116	1,560 1,863	1,609 1,789	3,468 3,755	1,383 1,672	1,417 1,591	257 323	27 37	28 57	
Poor	12.26	11.33	10.99	6.66	6.37	5.94	5.92	5.84	5.51	14.98	22.06	3.26	
2002 Size Sum weights	2002 sample 21,148 21,211	( <b>2000-02</b> ) 9,814 9,374	( <b>2002-04</b> ) 9,382 9,597	<b>2002 sample</b> 4,318 4,087	( <b>2000-02</b> ) 1,609 1,789	( <b>2002-04</b> ) 1,801 1,796	2002 sample 3,851 3,634	( <b>2000-02</b> ) 1,417 1,591	( <b>2002-04</b> ) 1,574 1,599	2002 sample 196 235	(2000-02) 28 57	(2002-04) 38 38	
Poor	12.39	11.59	11.60	5.97	6.15	4.44	5.02	5.04	4.10	16.74	25.43	13.86	
2004 Size Sum weights	2004 sample 20,582 20,439	( <b>2002-04</b> ) 9,382 9,597		<b>2004 sample</b> 4,425 4,144	( <b>2002-04</b> ) 1,801 1,796		2004 sample 3,962 3,693	( <b>2002-04</b> ) 1,574 1,599		2004 sample 176 167	(2002-04) 38 38		
Poor	13.23	10.85		5.685	4.84		4.69	4.77		9.588	13.90		

# Annex Table 6: Poverty incidence (each year's survey and corresponding 2-wave panels - BISHIW)