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To Be and to Feel Poor: A Latent Dimensions Analysis of the Deprivation

Gallo F., Mastrovita S., Siciliani I.

For additional information please contact:

Author Name(s): Gallo Francesca, Mastrovita Sara, Siciliani Isabella

Author Address: Italian National Institute of Statistics – Via Ravà 150, 00143 Roma, Italy

Author E-Mail(s): gallo@istat.it, mastrovi@istat.it, sicilian@istat.it

Author FAX(es): +39- 06 - 5430660

Author Telephone(s): +39- 06- 4673.4749

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To Be and to Feel Poor: A Latent Dimensions Analysis of the Deprivation

Gallo F., Mastrovita S., Siciliani I.*

Abstract

The multidimensional nature of well-being (or, at the other extreme, of poverty) is unanimously recognised: poverty is not just “depleted wallets” but a wider concept which can be refer to as “impoverished lives” (Sen, 2000). Income, of course, is one of the most important aspects of the problem but it is not the sole outcome to take into account.

The recent literature puts emphasis on the idea of deprivation as a complementary term of the income poverty to deeply describe the marginalization processes.

Dealing with a multidimensional phenomenon the issue of aggregation is vital but at the same time troublesome: as a matter of fact, whenever we try to reduce the dimensions of the problem, we lose information.

In a recent research conducted by Eurostat on the European Community Household Panel (ECHP) for the year 1994-1997 and for the EU area, the non monetary indicators of deprivation are summarised into five dimensions which seem to have a good performance for the EU-context. However, performing the same analysis on 2000 ECHP Italian data, the results are not completely satisfactory.

The aims of this paper are:

1. to identify the relevant dimensions of deprivation, considering that the evaluation of the deprivation should take into account the values system of the society to which it refers, and to enlighten also the variation across different subgroups (i.e. young people versus adults, men versus women) of population;
2. to summarise the dimensions of deprivation in Italy using factor analysis on a larger set of indicators than the one used in Eurostat analysis. The enlarged set of variables emphasizes the personal assessment of individuals well-being;
3. to examine the relationship between being poor, as resulting from the monetary definition of poverty, and feeling poor/deprived using a fuzzy set based approach.

The ideal database for analyses of the type undertaken in this paper is the European Community Household Panel, which collects detailed information on income and on various aspects of the material and perceived situation of households and individuals. The 2000 Italian subset, enriched by additional national variables, has been used in this work.

The paper is organised in the following way: the first section illustrates the background behind this work; section 2 describes the source used in the paper. Section 3 enlightens some aspects of well-being and social integration particularly important in the Italian context. In section 4 items are selected for subsequent analysis and in section 5 the results of factor analysis to summarise the dimensions of non monetary deprivation are reported. The next step is to determine a set of indices for deprivation: this is the object of section 6. In section 7 subgroups of population are compared in order to show which group is more deprived and which non monetary dimension is prevalent. The fuzzy poverty index has also been computed (section 8) and finally monetary and non monetary deprived people are compared. Some final remarks end this paper.

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1. Background

Till a recent past the analysis of poverty has been based only on one monetary indicator (such as household expenditure or income) as proxy of this concept. This has been realized mainly using a relative definition of poverty, such as 50% mean consumption or 60% median household equivalent income.

Problems with these indicators are well known. Income is an ex-ante indicator, based on the opportunities or real resources of a household, but is subject to fluctuations (for example for self employed or people doing temporary jobs) which do not reflect true fluctuations on the economic situation or on the total resources availability of the household. Another caveat is represented by the quality of data in terms of availability and robustness (sampling errors, frame coverage, non response, underreporting and so on). On the other hand, consumption expenditure is more stable over time, more reliable than income, especially for low income households, where the saving propensity is almost zero and represents the real standard of living of the household. The caveat is that the consumption expenditure amount does not reflect only the consumption capacity, but also preferences and tastes of consumers.

In recent years it has been realised that poverty is more than an income/consumption-based phenomenon and that other dimensions have to be brought up for a complete understanding of poverty situations. Poverty is not just “depleted wallets”, but a wider concept which can be referred to as “impoverished lives” (Sen, 2000). The reality of poverty is complex: poverty is considered a latent continuum and measuring it requires a complex instrument (or a mix of different instruments) that reflects other dimensions. A genuine measure of poverty should depend on monetary indicators as well as non monetary indicators that may help in identifying aspects of welfare not captured by income/consumption.

Therefore the concept of deprivation has been introduced as the condition in which people stay “*if they lack the types of diet, clothing, housing, household facilities and fuel, environmental, educational, working and social conditions, activities and facilities which are customary, or at least wisely encouraged or approved in societies to which they belong*” (Townsend 1988, pp. 125-6).

The observation of hard living conditions is an attractive idea, but implies difficulties from an operational point of view. The research on deprivation in living conditions was widespread in the late seventies and more recently has been used by several European researchers. Nolan and Whelan, for example, claim that the poor should be identified by employing both the criteria of lack of material goods (i.e. consumption of durable and non durable goods) and the lack of income.

In a recent research, conducted on behalf of Eurostat (2002) on the European Community Household Panel (ECHP) data for the year 1994-1997 and for the EU area, the non monetary indicators of deprivation have been summarised into five dimensions, which seem to have a good performance for the EU-context.

The availability of a larger set of indicators for the Italian 2000 subset data allows to detect if other aspects considered relevant in the Italian context can enrich the analysis of multidimensional deprivation.

The aim of this paper is to explore those other aspects by a multidimensional analysis and to compare the results obtained with a monetary concept of deprivation in order to detect whether particular subgroups of population suffer differently the two kinds of deprivation (monetary and non monetary).

2. The source

The analysis of multidimensional deprivation based on both an income definition and hardness of living condition caused by lack in economic resources is realized using ECHP data.

ECHP survey was conducted for Eurostat on the same individuals from 1994 to 2001 in 15 European Union member states. Eurostat's aim in developing the ECHP was to have a survey in which questions, data collection, coding and re-weighting were harmonised to the greatest extent possible. The ECHP was designed to collect detailed information on income of each household member, on various aspects of the material and demographic situation of the household.

Data from the seventh wave of the Users Data Base (version UDB1-8) have been used in addition to some variables collected only in Italy.

The analysis has been conducted at individual level: only people aged 16 years and over have been included because the other Italian variables were only collected for that subgroup of population.

The information taken into account from the UDB are related to total disposable income¹ of the household, housing conditions, possession of durables, affordability of some goods and services, environmental problems, health conditions, social relationships, satisfaction for different aspects of life.

The variables added to the 2000 Italian subset refer to personal assessment of individuals about what is important to achieve well-being and integration in society in which people live. In particular, people are asked the degree of importance in achieving personal well-being for a set of items such as work, family, income, career, free time, health, protection against crime, protection of environment. A second question refers to the degree of importance for integration in society in which people live for a set of items such as good job, lack of chronic diseases, high level of education, a personal source of income.

A supplementary information regards the social class to which the interviewed thinks to belong.

3. Personal assessments about some aspects of well-being and social integration

The traditional concept of poverty is a relative one, depending on the standard of living of the society to which this concept refers. Based on this assumption, in the same way we have considered non monetary deprivation, as pointed out above. This means that the evaluation of the deprivation should take into account the values system of the society to which it refers. It is important to explore the personal opinions of people regarding well-being and social cohesion. That's why the Italian National Institute of Statistics decided to introduce in the 2000 wave, a set of questions concerning these themes.

The question was structured as a set of items for which the respondent had to express his personal judgement on a scale from 1 to 4, where 1 means that the aspect is 'very important', while 4 means that it is 'not important'.

Table 1 considers the share of people answering 'very important' to the selected items with a breakdown for particular subgroups of population. The characteristics we have taken into account are gender, age, level of education, main activity status, condition of poverty³ and geographic area.

[Insert table 1 above here]

¹ Total disposable income includes wages and salaries, self employed income, social transfers (included pensions), property and capital income and other private transfers after deduction of income tax and social security contributions, with the household taken as the income recipient unit. The principal accounting period for income in the ECHP is the previous calendar year: this means the income measures relate to 1999.

³ The condition of poverty is determined using as threshold the 60% median household equivalent income.

Data show that in Italy good health conditions are considered very important both for well-being (88%) and for social integration (78%), followed by family (68%) and job (65%). On the opposite, individuals thinking career or free time are very important for well-being are less than 25% of the population (16 and more). Having an income or a good job are very important for the social integration of about half of the individuals.

In detail, health is perceived very important for the well being above all in the North-Centre of Italy and by people aged 50-64 years; this last subgroup considers the absence of chronic diseases very important also for integration in the society.

Family is very important for 71% of female population against 65% of male population. The importance of family for well-being is particularly perceived by people 50-64 years and in the South of Italy, while only 64% of the unemployed considers very important this item.

Four items related to job and income follow quite the same pattern across different subgroups. As a matter of fact they result more relevant for males, not elderly people and for subgroups that lack more these items: i.e. for unemployed, poor and people living in the south of Italy.

When exploring the non monetary dimensions of deprivation, particular caution should be applied in choosing the indicators as they are mainly context-specific and influenced by the cultural aspects of the society. However from our initial descriptive analysis it comes out that some aspects such as health, family relationships and job, besides income, are particularly relevant in Italy. They are part of the Italian system of values when considering well-being and social integration.

Therefore we decided to include these issues in the analysis of deprivation besides those traditional used in the latest analysis performed by Eurostat.

4. Items selected for the analysis of non monetary deprivation

A set of items which the existing literature (Layte *et al.*, 2000; Tassinari, 2000; Eurostat, 2002) identifies as indicators of the deprivation concept has been considered. These are collected at household level, but our analysis refers to person aged 16 and over: this means that if a household can be considered deprived, also each member of the household is deprived.

The aim is to consider enforced lack of widely desired items: this means that deprivation is involuntary, independent of the person.

The format of the selected items is different. For some items each household was asked if the item was possessed and if not, a subsequent question asked if this was due to inability to afford the item or other reason. Of course the household was considered deprived only if absence of the item is because of inability to afford it. Items belonging to this first group are the following: a car or van, a colour television, a video recorder, a microwave, a dishwasher, a telephone.

For a second set of items the question is as follows: "There are some things many people cannot afford even if they would like them. Can I just check whether your household can afford these if you want them". The items refer to affordability to keeping the home adequately warm; paying for a week's annual holiday away from home; replacing any worn-out furniture; buying new, rather than second-hand clothes; eating meat, chicken or fish every second day, if the household wanted to; having friends or family for a drink or meal at least once a month.

Another item relates to different kind of arrears: a household is considered as experiencing deprivation if it was unable to pay scheduled mortgage payments, utility bills or hire purchase instalments in the twelve months preceding survey.

Three items relate to the absence of housing facilities: a separate kitchen, a bath or a shower, an indoor flushing toilet, hot running water, a place to sit outside (terrace or garden).

A further set relating to problems with accommodation and the environment includes the following items: shortage of space; too dark/not enough light; leaky roof; damp walls, floors,

foundation; noise from neighbours or outside; rot in window frames or floors; pollution, grime or other environmental problems caused by traffic or industry; vandalism or crime in the area.

Besides the classic indicators used to study deprivation, we have thought that some other factors could be part of the complex concept of deprivation, so we have considered other items contained in ECHP collected in personal questionnaire as well, which report health conditions, social relationships, satisfaction with various aspects of life, personal thinking about economic and financial situation.

In addition to these indicators, we have included other indicators which seem to be particular relevant for the Italian context from previous descriptive analysis.

In detail we considered a self perception of own health status and whether the interviewed is hampered in daily activities by any physical or mental health problem, illness or disability. An important area for the study of deprivation is interpersonal relations: particular important are contacts with other people living outside household. We considered frequency of conversation with any of the household neighbours or frequency of meeting friends or relatives not living with the household and membership to a club such as a sport or entertainment club, a local or neighbourhood group, a party.

The dimension of satisfaction with various aspects of life concerns the satisfaction with work or main activity, the financial situation, the housing situation, amount of leisure time, environmental situation and life in general⁴.

The last indicators considered are related to feelings about present economic situation, the ability to make ends meet, the judgement about the burden of housing costs and a subjective indicator concerning the self position in the social pyramid.

5. Factor analysis: the dimensions of being and feeling deprived

An initial aim of the analysis has been to get a more synthetic measure of non monetary deprivation as the number of elementary indicators was extremely high.

The first step has been to discover whether the items selected for analysis of non monetary deprivation cluster into distinct groups. The mean to identify them is factor analysis. Using SPAD, a multiple correspondence analysis has been performed, coming up to detect six factors of deprivation. The total number of variables considered is 41; each variable has been dichotomised. The factors are characterised by the following variables.

- In the first factor are more representative variables such as ability to make ends meet, the subjective indicator of the self position in the society and the ability to afford the following goods and services: keeping home adequately warm, a week's annual holiday away from home, replacing worn-out furniture, having friends or family for a drink or meal at least once a month, buying new, rather than second-hand clothes.
- The second factor is characterised by variables related to the concept of satisfaction for various aspects: work or main activity, financial situation, housing situation, amount of spare time, environmental situation and life in general.
- The third factor shows problems on life environment: pollution, grime or other environmental problems, vandalism or crime in the area, noise from neighbours, shortage of space and not enough light.
- The fourth factor is connected to lack of health and social relationship: as a matter of fact the most representative variables are the self evaluation of own health status and whether hampered in daily activities by any health problem, frequency of conversation to neighbours and frequency of meeting friends or relatives not living with the household.

⁴ The last two items are contained only in the Italian data.

- The fifth factor denotes problems with accommodation such as leaky roof, damp walls, floors or foundation and rot in window frames or floors.
- Finally the last factor is related to possession of durables: microwave, dishwasher and video recorder.

Given the associations among the items and the six factors, the dimensions of deprivation have been labelled in the following way:

- I - Basic lifestyle deprivation;
- II - Lack of satisfaction;
- III - Environmental problems;
- IV – Shortage of health and social relationship;
- V - Housing problems;
- VI - Durables deprivation.

6. Methodology to calculate indices of deprivation

Having identified the factors, each elementary indicator has been associated to the dimension of deprivation to which it is more correlated. Within each dimension of deprivation a synthetic index of deprivation has been constructed.

A fuzzy set approach (Zadeh, 1965; Zimmermann, 1996) has been adopted in order to come to the construction of the six indices. The membership function μ for each elementary indicator is defined taking into account the individual's position in the deprivation distribution (Cheli, Lemmi, 1995): in the specific case of a dichotomic indicator, the membership function assumes only its extremes values (0, 1), zero representing absence of symptom of deprivation and one representing the presence of deprivation. Indicators (for each individual i) within each of the dimensions listed above are combined to obtain a single index describing the degree of deprivation for the dimension considered. The following formula applies (Eurostat, 2002):

$$\mu_i(x_d) = \frac{\sum_{j=1}^k \mu_i(x_{jd}) w_{jd}}{\sum_{j=1}^k w_{jd}} \quad i = 1, \dots, N$$

k is the number of indicators within each dimension d and w_{jd} is the weight constructed for item j belonging to dimension d . This weight is calculated taking into account two factors: the first one is the coefficient of variation; the second one is the correlation with the other items of the same dimension. This means that the weights are inversely proportional to the square root of the proportion of deprived in the population; therefore items whose deprivation affects only small share of population – and can be considered more significant – weight more.

At the same time, to reduce the effects of items correlated with others of the same dimensions, the second component w'_{jd} of the weight for item j is obtained in the following way (Betti, Verma, 1998, p. 10):

$$w'_{jd} = \left(\frac{1}{1 + \sum_{j'=1}^k \rho_{j,j'} \mid \rho_{j,j'} < \rho_h} \right) \times \left(\frac{1}{\sum_{j'=1}^k \rho_{j,j'} \mid \rho_{j,j'} \geq \rho_h} \right)$$

where $\rho_{j,j'}$ is the correlation between the fuzzy membership function for item j and j' . Such a construction of this component of weights means that items having small correlation with item j slightly influence the weight w'_{jd} , while items highly correlated reduce it more intensively.

The final weight w_{jd} is obtained as a product of the two components described above. Moreover the weights are re-scaled in such a way that their sum within the dimension d equals one. That implies the fuzzy membership function on dimension d varies between 0 (when there is not deprivation for all the items in the dimension) and 1 (when there is deprivation for all the items in the dimension).

In a way similar to that described above, a global non-monetary index $\mu(x)$ has been constructed, combining the six non-monetary indicators. The global non-monetary index is calculated as a weighted average of the deprivation indices for the six dimensions where the weights are proportional to a weighted average of coefficients of variation of items in the dimension. Also in this case, the weights are re-scaled in such a way that their sum for all dimensions equals one.

7. Who is non monetary deprived? A comparison among groups

At this step each individuals is characterised by six deprivation indices for the dimensions identified, plus a global non monetary deprivation index. The average over all individuals for each dimension supplies the fuzzy proportion of deprived people in that dimension.

In the table 2 the fuzzy proportion has been computed for different subgroups of population in order to compare the degree of deprivation for different groups and understand which are the more deprived and for which dimension. To make easy the interpretation of the information, the proportions are reported as ratio to the population mean for the dimension.

[Insert table 2 above here]

As regards gender, there are no incisive differences between males and females: the stronger ones are for health and social relationship and satisfaction, for which women are more deprived than men (respectively +6% and +5% on the two dimensions).

In general the elderly people represent the category more deprived from the non monetary point of view (+16%). The dimensions contributing more to these results are above all the health and social relationship one (+106%), followed by basic lifestyle deprivation (+25%) and housing problems (+18%) while they are less deprived on the durables dimension (-31%) as they do not desire this kind of goods even if they do not possess them. On the contrary the groups most deprived for durables are the individuals aged 16-49 year (about +10%). The youngest (aged 16-24) also suffer for housing problems.

People with less than second stage of secondary education have a degree of deprivation +15% greater than the total. The dimensions where they are more deprived are basic lifestyle deprivation and health and social relationships (about +25%): this is connected to low educational level of elderly people.

Unemployed are more deprived on all dimensions, except on for health and social relationships, reaching the strongest level of deprivation for durables (+88%) and basic lifestyle

deprivation (+70) and the weakest level for health and social relationships (-37%): this last aspect is not surprising if we consider that they are likely to be young people. On the contrary, the inactives (including retired from job) show the highest level of deprivation for health and social relationships (+38%).

Individuals living in the South of Italy are more deprived than the rest of the population (+28 compared to the average) and for all the dimensions: in particular the higher contribution is given by the durables (+50%), basic lifestyle deprivation (+45%) and housing problems (+33%).

Considering household labour status, individuals living in household with neither workers nor retired are in general +71% more deprived than the mean. The deprivation is greater than the rest of population for each dimension of non monetary deprivation, above all for basic lifestyle deprivation (+124%) and housing (+99%). Even people in households where there is at least a retired, are deprived in particular for health and social relationships (+59%) and basic lifestyle deprivation (+30%). However the presence of one worker in the household doesn't remove the risk of deprivation: the deprivation is more than 1,1 times the population mean for housing, durables and environment. Only households with 2 or more workers are removed from the risk of non monetary deprivation.

Taking into account the working intensity⁵, another indicator of household working situation, individuals in households in which the working intensity is less or equal than a half, result more deprived than the total; of course the risk of non monetary deprivation decreases if working intensity increases: it is maximum when working intensity is zero.

Another aspect influencing the non monetary deprivation is the level of education of the household. Among people living in household where the higher level is less than second stage of secondary education, the deprivation proportion is 25% higher than the average. Basic lifestyle deprivation and health and social relationships are relevant for this subgroup (more than 40%).

8. Methodology to calculate index of monetary poverty

At this stage it seems interesting comparing the results shown for the non monetary deprivation with those obtained using a monetary approach. In order to analyze monetary poverty, the household income per adult-equivalent has been used⁶. Also in this case a fuzzy-set approach has been adopted. We believe that the condition of poverty is not a simple attribute characterising individuals in terms of presence or absence on the base of a poverty threshold arbitrarily defined, but it is examined as a characteristic assuming different degrees (Cheli, Lemmi, 1995). In other words, a membership function to a fuzzy-set of monetary poor is defined in such a way that the higher is the value, the stronger is the degree of poverty.

The monetary poverty membership function used in the present work - associated to each individual i - is related to the person's rank and share in the equivalised income distribution. Let y be the equivalised income in the ascending income distribution, the membership function to the fuzzy set of monetary deprived is the following (Betti, Verma, 1998):

$$\mu_i(y) = (V_i)^\alpha = \left(\frac{\sum_{j=i+1}^n y_j}{\sum_{r=1}^n y_r} \right)^\alpha \quad \text{con } i = 1, \dots, (n-1); \quad V_n = 0$$

⁵ This is calculated as the ratio between the number of months spent in working condition for each member of the household and number of workable months.

⁶ The equivalence scale used is the OECD modified one. This scale assigns a weight of 1 to the first adult of the household, a weight of 0.5 to any additional adult (aged 15 or more) and a weight of 0.3 for each child (aged 14 or less).

the parameter α is constructed in such a way that for the population, the proportion of fuzzy monetary poor, is equal to the proportion deriving from traditional European approach to the study of monetary poverty (60 percent of the median of the equivalised income).

The membership function is therefore represented by the share of equivalised income perceived by all the individuals less poor, corrected with the parameter α . For low shares of income, the higher is α , the greater is the membership function value. Using an iterative method, the value of α has been determined equal to 10.23 for the Italian 2000 data.

Such a formulation implies that, even though the relative position of an individual in the income distribution does not change over time but the share of income perceived by people less poor increases, his degree of poverty (here considered as a relative concept) arises consistently.

9. Monetary and non monetary deprived: comparison among groups

As done for the non monetary deprivation, also for the monetary deprivation the fuzzy proportion for different subgroups of population has been determined in order to compare this value with that resulting from the previous analysis. Also in this case, to make easy the interpretation of the data, the proportions are expressed as ratio to the population mean (table 3).

[Insert table 3 above here]

The first result is that the two kinds of indicators show the same pattern across subgroups of population except when considering age. A second consideration is that the range of variability for the monetary index is greater than non monetary one.

Considering individual variables, no relevant differences are observed for male and females: females are more deprived than males on both indicators.

Age is a personal characteristic for which we observe an inversion in trend between the non monetary deprivation and the monetary one. As a matter of fact, while the elderly are the more deprived from a non monetary point of view, they result less poor than the other groups. This result can be explained because the older people are particularly affected by health problems, as point out in previous analysis. On the other hand, the youngest are 34% poorer than the mean. That is because monetary poverty in Italy affects in particular households with two or more children.

Both the non monetary indicator and the monetary one increase as individual level of education decreases: as a matter of fact, individuals with higher education (at least ISCED 5) are 60% less poor than the average, while the gap on the non monetary indicator is 37%.

Considering the activity status, it is relevant pointing out that the unemployed are 132% poorer than the average, while their non monetary deprivation is +41% than the average. As they are likely not to be elderly people, their low level of health deprivation contributes to reduce the degree of non monetary deprivation.

The place where individuals live also affects the degree of poverty. Individuals in households in the South of Italy are 82% poorer than the mean of the Country, while those in the North are 57% less poor than the average. The range of the ratios considered for non monetary deprivation is more limited. This is connected to the different cost of living across the Country (being higher in the North) and to demographic reasons: i.e. the presence of less old people in the South and therefore less deprived above all on the health and relationship dimension.

Depending on household labour situation, the condition of poverty change deeply. If there are neither workers nor retired, the monetary indicator is the highest among the value observed if we split the population according the various characteristics considered. As a matter of fact the value is 3,3 times the average, while the non monetary deprivation index is only 1,7 times the mean.

In households with at least 2 workers, the poverty is less than the average (-62%), but the non monetary deprivation is only -19% than the mean.

As the number of months spent in work increases, considering the number of months workable, the risk of poverty decreases severely. Compared to the mean, the risk of poverty ranges from +96% (when the working intensity of the household is zero) to -72% (when the working intensity of the household is one).

Looking at the highest level of family education, the subgroup of population more deprived on both monetary and non monetary indicator is the one in which the highest level of education is maximum ISCED 2.

In summary, to bring out a comparison on which subgroups are more disadvantaged and on which dimension, we consider the ratio between non monetary and monetary index. If the value is above 1, it means that the non monetary deprivation is more serious than poverty; on the contrary, a value less than 1 means that monetary deprivation is more severe than the non monetary one. Figure 1 shows that for males, people aged 50-64 years, persons with a degree of education higher than ISCED 3 and the employed, even if comparing with the mean situation they are at minor risk of non monetary deprivation, the non monetary dimension is prevalent on the monetary one: the ratio is greater than 1.

People aged 65 and more have a ratio greater than 1 as well, but for them, differently from the previous groups, the non monetary deprivation is greater than the average.

On the contrary for the inactive and unemployed, the youngest, the low educated people and the females, the poverty dimension exceeds the non monetary one.

[Insert figure 1 above here]

Considering household characteristics, figure 2 illustrates that the ratio is greater than 1 for people living in households with medium-high level of education, with working intensity greater than a half, where there are at least two workers and living in the North-Centre area of the Country. This means that for these groups the non monetary deprivation is stronger than the other one.

[Insert figure 2 above here]

10. Some final remarks

The multidimensional nature of well-being is unanimously recognised: income, of course, is one of the most important aspects of the problem, but it is not the sole outcome to take into account.

Previous analyses concentrate their attention particularly on living conditions deprivation, but the adoption of a multi-dimensional perspective could imply considering variables such as subjective well-being, satisfaction, health conditions and social relations as well. However, when examining such aspects, it is relevant to take into account the cultural context to which they apply.

A descriptive analysis on Italian 2000 data showed that these variables are particularly important in the context of our Country and we believed to go beyond the indicators included in the previous studies on ECHP.

Factor analysis performed on a larger set of variables than that used by Eurostat, detected six dimensions of deprivation: basic lifestyle; satisfaction; environmental problems; health and social relationship; housing problems; durables lack. Respect to previous studies related to the European context, two new dimensions have been identified: satisfaction and health/social relationship.

In order to get synthetic measures of deprivation, both for the non monetary and the monetary one, a fuzzy approach has been adopted, considering deprivation a matter of degree. Six

indices of non monetary deprivation have been detected, one for each dimension emerged from the previous factor analysis, and to one global non monetary deprivation. At the same time, a fuzzy monetary poverty index has been constructed.

The comparison of fuzzy proportion across subgroups of population identified by personal and household characteristics, has allowed to enlighten the groups more at risk of deprivation on one of two dimensions (monetary and non monetary) or on both, and the prevalence of one type of deprivation on the other. In addition, the analysis has shown which dimensions of non monetary deprivation contributes more to the global non monetary deprivation for each subgroup.

Compared to the population mean, the categories more at risk of deprivation, both monetary and non monetary, are low-educated individuals and living in household with a low level of education, excluded from the labour market (unemployed and inactive people) and where household participation to the labour market is low (the household work intensity is below 0.5), plus individuals living in the South of Italy. Gender differentials are not so strong. As regards age, the youngest are more at risk of monetary deprivation. On the opposite, the elderly are more at risk of non monetary deprivation and the strongest deprivation for this subgroup is on health/social relationship dimension (+106%).

A relative comparison between the non monetary and the monetary dimensions shows that some groups, in favourable situation in term of monetary poverty, present a not so favourable situation in term of non monetary deprivation: employed, medium-high educated individuals and 50-64 years old, males, living in the North-Centre and with a good household labour situation. This more unfavourable condition on the non monetary aspect affects also people aged 65 and over.

Taking into account the results obtained on Europe as a whole for 1997 data (Eurostat, 2002), the outcome follow the same pattern for gender and working situation; however there some differences for age. The Italian youngest (16-24 years old) are at minor risk of non monetary deprivation compared to the mean, while the oldest (65 and over) display a higher degree of non monetary deprivation and are less at risk on the monetary component.

The findings suggest that particular subpopulations at risk of deprivation could be target of specific social policies and the appropriate areas for the political commitment (such as employment, education and training).

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Table 1 - Individuals 16 years and more considering 'very important' the following items - Italy 2000 (percentages)

	Well-being					Social integration							
	Job	Family	Income	Career	Free time	Health	environment	Protection of environment	Protection against crime	Good job	Not having chronic illness	Having high level of education	Having a personal income
GENDER													
Male	67.2	64.6	54.4	23.3	25.6	86.9	40.2	53.2	51.0	76.8	32.7	53.1	
Female	62.8	71.3	50.4	19.3	22.3	88.0	39.8	55.0	48.6	78.6	34.3	48.9	
AGE													
16-24	65.9	58.6	57.3	31.4	32.9	86.0	41.5	53.3	52.6	76.1	38.3	55.9	
25-49	66.3	69.2	54.8	22.7	27.1	86.7	41.6	54.9	51.3	77.4	33.5	52.6	
50-64	66.1	70.4	51.5	18.0	20.4	89.5	40.5	54.5	49.9	79.4	34.2	50.9	
>=65	59.8	68.7	44.9	15.9	15.7	87.7	35.0	52.7	44.5	77.4	29.9	44.2	
INDIVIDUAL LEVEL OF EDUCATION													
Third level education (ISCED 5-7)	65.7	70.2	44.5	27.0	31.5	88.1	48.8	56.4	50.2	75.9	45.8	53.6	
Second level education (ISCED 3) Less than second stage of secondary education (ISCED 0-2)	65.4	68.1	51.1	23.2	27.9	87.3	43.2	55.3	50.1	76.7	36.1	50.4	
64.5	67.8	54.0	19.3	20.7	87.5	37.1	53.2	49.5	78.5	30.5	50.8		
ILO MAIN ACTIVITY STATUS													
Employed	65.1	68.5	52.4	21.0	26.0	87.6	41.8	54.4	49.3	77.5	31.9	52.0	
Unemployed	76.4	63.9	66.2	32.8	29.2	87.3	42.5	54.4	60.9	78.6	37.3	62.9	
Inactive	63.2	68.3	50.4	19.9	21.3	87.4	38.0	53.9	48.7	77.7	34.5	48.3	
CONDITION OF POVERTY													
Not poor	62.9	68.0	49.9	19.5	23.3	87.6	39.6	54.0	47.6	76.9	32.0	48.7	
Poor	74.2	68.6	63.4	29.1	26.5	86.6	41.5	54.9	59.9	81.5	40.9	61.2	
GEOGRAPHICAL AREA													
North	55.9	67.0	43.3	13.7	23.0	88.0	38.3	52.2	41.2	76.8	28.3	42.8	
Centre	65.5	67.4	51.6	19.2	25.1	89.3	40.1	54.5	42.4	79.2	31.5	49.5	
South	75.6	69.6	63.8	31.3	24.0	85.7	41.6	55.9	64.5	77.8	40.6	61.7	
TOTAL	64.9	68.1	52.3	21.2	23.9	87.5	40.0	54.1	49.7	77.7	33.5	50.9	

Table 2 - Mean degree of fuzzy non monetary deprivation for the six and the global dimensions - Italy 2000

	Basic lifestyle deprivation (base total=100)	Lack of satisfaction (base total=100)	Environmental problems (base total=100)	Shortage of health and social relationship (base total=100)	Housing problems (base total=100)	Durables deprivation (base total=100)	Non monetary deprivation (base total=100)
GENDER							
Male	96.4	94.7	99.2	93.8	100.4	99.9	97.0
Female	103.4	105.0	100.7	106.0	99.4	100.1	102.8
AGE							
16-24	102.1	101.3	101.0	62.7	110.0	108.7	98.3
25-49	89.8	101.4	100.7	60.5	91.0	110.4	93.5
50-64	96.9	98.6	99.8	102.5	95.7	102.0	99.1
>=65	124.8	97.8	97.9	205.7	118.2	69.4	116.4
INDIVIDUAL LEVEL OF EDUCATION							
Third level education (ISCED 5-7)	45.2	74.9	78.1	62.3	57.2	59.1	62.9
Second level education (ISCED 3)	70.3	88.9	96.5	64.7	82.0	86.3	81.6
Less than second stage of secondary education (ISCED 0-2)	123.6	109.4	104.6	124.7	115.4	112.8	115.0
ILO MAIN ACTIVITY STATUS							
Employed	73.2	93.0	96.5	64.7	83.6	96.6	84.9
Unemployed	170.1	135.5	120.3	62.6	155.9	187.5	140.7
Inactive	115.6	101.9	100.6	137.5	107.6	91.8	108.6
GEOGRAPHICAL AREA							
North	68.5	79.3	97.3	93.8	73.4	75.4	80.6
Centre	92.1	102.1	99.9	103.0	101.8	70.0	94.9
South	144.6	125.2	103.9	107.3	133.0	149.7	128.0
HOUSEHOLD LABOUR SITUATION							
At least 2 workers	64.3	91.2	92.7	73.6	71.3	92.3	81.2
1 worker	107.8	103.6	110.1	87.6	118.2	114.7	106.6
No worker, 1+ retired	130.2	99.9	91.0	158.7	103.1	78.5	110.4
No worker, No retired	223.6	152.8	127.7	169.1	199.0	152.3	171.4
HOUSEHOLD WORK INTENSITY							
Nmonths worked/Nmonths workable=0	148.9	112.4	105.2	115.0	106.8	128.8	121.6
0<Nmonths worked/Nmonths workable<=0.5	113.4	107.7	109.5	83.0	116.2	123.2	109.1
0.5<Nmonths worked/Nmonths workable<1	75.3	94.6	96.7	83.0	96.5	109.2	91.4
Nmonths worked/Nmonths workable=1	56.4	86.0	90.8	74.6	66.8	74.0	74.9
HOUSEHOLD HIGHEST LEVEL OF EDUCATION							
Third level education (ISCED 5-7)	52.8	80.6	77.6	81.0	65.6	66.0	70.2
Second level education (ISCED 3)	82.4	94.5	101.6	76.0	95.3	100.7	91.4
Less than second stage of secondary education (ISCED 0-2)	145.0	116.1	107.5	142.0	121.1	113.5	124.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3 - Mean degree of fuzzy non monetary deprivation and monetary poverty - Italy 2000

	Non monetary deprivation (<i>base total=100</i>)	Monetary poverty (<i>base total=100</i>)
GENDER		
Male	97.0	95.4
Female	102.8	104.3
AGE		
16-24	98.3	134.1
25-49	93.5	101.6
50-64	99.1	91.3
>=65	116.4	86.8
INDIVIDUAL LEVEL OF EDUCATION		
Third level education (ISCED 5-7)	62.9	41.1
Second level education (ISCED 3)	81.6	73.0
Less than second stage of secondary education (ISCED 0-2)	115.0	122.8
ILO MAIN ACTIVITY STATUS		
Employed	84.9	66.8
Unemployed	140.7	232.3
Inactive	108.6	113.4
GEOGRAPHICAL AREA		
North	80.6	42.7
Centre	94.9	79.3
South	128.0	182.3
HOUSEHOLD LABOUR SITUATION		
At least 2 workers	81.2	37.8
1 worker	106.6	130.6
No worker, 1+ retired	110.4	120.7
No worker, No retired	171.4	325.6
HOUSEHOLD WORK INTENSITY		
Nmonths worked/Nmonths workable=0	121.6	196.0
0<Nmonths worked/Nmonths workable<=0.5	109.1	147.0
0.5<Nmonths worked/Nmonths workable<1	91.4	46.6
Nmonths worked/Nmonths workable=1	74.9	28.4
HOUSEHOLD HIGHEST LEVEL OF EDUCATION		
Third level education (ISCED 5-7)	70.2	54.1
Second level education (ISCED 3)	91.4	88.7
Less than second stage of secondary education (ISCED 0-2)	124.8	136.1
TOTAL	100.0	100.0

Figure 1 - Ratio non monetary/monetary fuzzy proportion according individual characteristics
 - Italy 2000

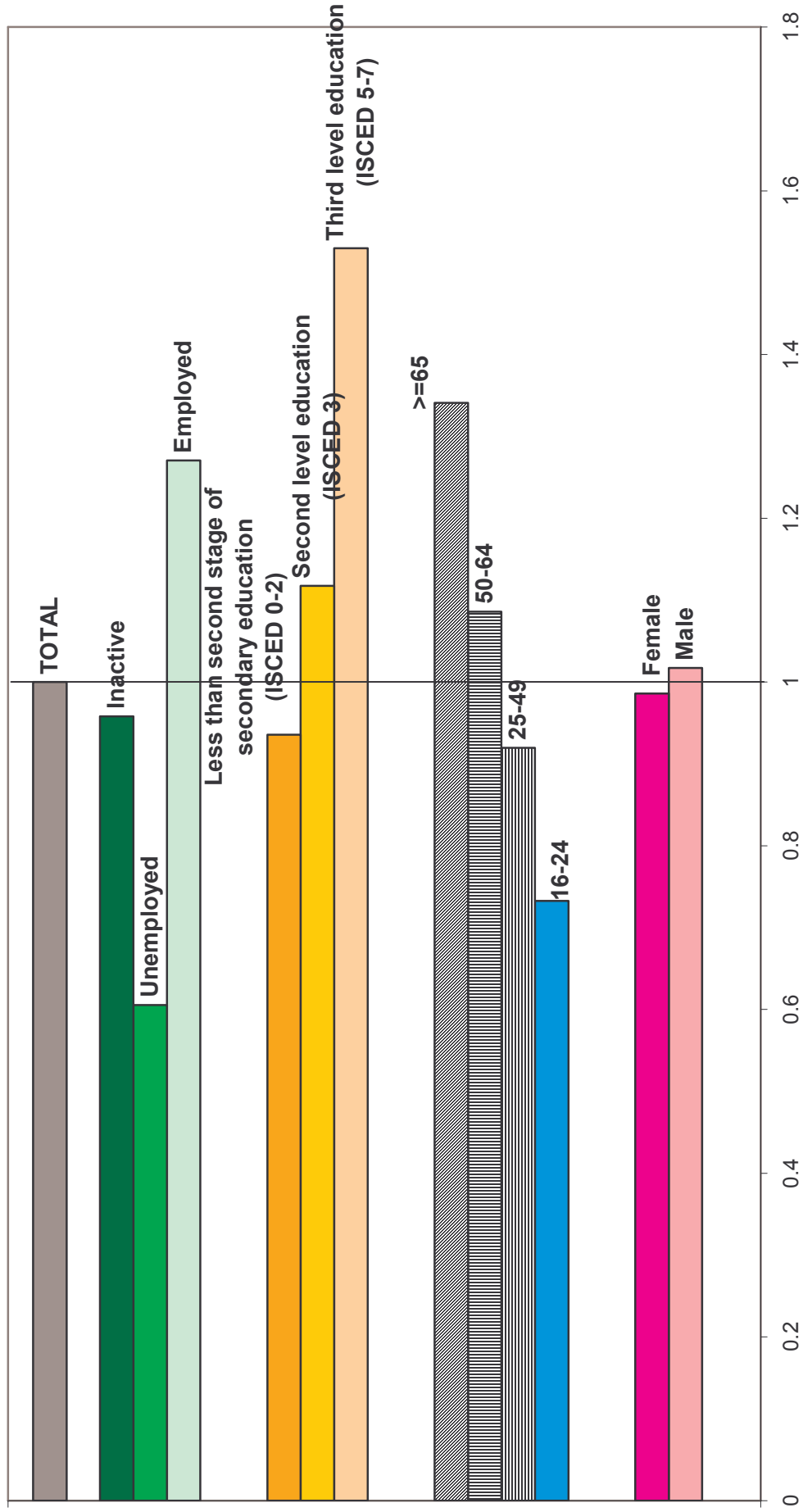


Figure 2 - Ratio non monetary/monetary fuzzy proportion according household characteristics - Italy 2000

