New Measures Of Poverty: The Absolute And Extreme Poverties

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Abstract: The paper presents two new measures of poverty that the Italian Statistical Institute (Istat) has produced and is going to produce to enrich the analytical picture about poverty in Italy. In details, the new absolute poverty measure, defined by a commission in 2009, substitutes and improves the previous measure yearly disseminated until 2002. The second measure (defined within a research project between Istat, Ministry of Health, Labour and Social Affairs, the network of homeless service providers -fio.PSD- and the Caritas Italiana) aims at defining an in-depth framework on homelessness, on the status and profiles of the homeless and their main dynamics of the territory use and on the system of services for homeless needs.

Keywords: Measuring poverty and inequality, absolute poverty, homelessness.

1 Introduction

The Italian poverty analysis carried out using the ISPL *(International Standard Poverty Line)* and the European measure of poverty refer both to relative measures. According to these approaches the condition of economic deprivation is defined in regard to an average standard (mean or median) in the reference population at the moment of the survey. Therefore, such measures are strictly correlated to the distributions of expenditure on consumption and of income that, in their turns, depend on the economic cycle and, in the first case, also on the structure of prices. This makes the comparison among indicators complex both in terms of time and of different national realities.

In order to better comprehend the poverty phenomenon it seemed suitable to add further indicators to those traditionally disseminated. The first new indicator is based on

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an absolute measure of poverty and implies the definition of a minimum basket of goods and services (it substitutes the old measure disseminated until 2002, Istat 2009a). Its money value represents the poverty reference threshold for a stated year. Over time the value of the basket is updated taking into account the variations in the prices of goods and services, so that it does not depend on the variations in the distribution of consumption or income and on the economic trends.

Nevertheless, also an absolute measure of poverty does not capture the extreme condition of poverty that refers to people not living in private households. This means that the relative and absolute estimates of poverty do not take into account the most extreme forms of poverty. Homelessness and housing deprivation are the most severe aspects of poverty and social exclusion in developed countries. However, socio-economic research about the homeless is still very limited because of the great difficulties in collecting information on this population group. Consequently, a second new indicator is being developed in order to face with the lack of reliable and up-to-date data on homelessness at the national level: the Ministry of Health, Labour and Social Affairs, the National Institute of Statistics (Istat), the network of homeless service providers (fio.PSD), and the Caritas Italiana are currently setting up a national survey on homeless services providers and homeless population in Italy. The research project aims at defining an in-depth framework on the following aspects: 1) the homelessness phenomenon in the Italian territory; 2) the status and profiles of the homeless people living in Italy and their main dynamics of the territory use; 3) the system of formal and informal services, public and private, existing in the country with specific reference to the homeless needs.

2 The absolute measure of poverty

The basket represents the whole goods and services considered essential for a household (basic needs) and is made up of a food and drink component and a housing component. However, such components do not complete the picture of individual and household needs, as health, education, transport and clothing expenses are excluded. For these, very articulated and hardly calculable, needs a lump-sum was defined (residual component).

The total of the three components, in particular their monetary definition, is a standard reference expenditure on consumption for an Italian household that guarantees for an adequate nourishment, a decent dwelling and the fulfilment of other main needs and to avoid any kind of social exclusion.

The main principle underlining the new basket in comparison with the old is that the basic needs are homogenous all over the nation (despite few differences due to external factors as the climate on determining the heating need), but their costs differ. Therefore, the basket monetary value and the poverty threshold vary by geographical area and residence municipality size. In the new approach, the poverty thresholds, previously defined only by household size, are calculated for each single household,

[2] Members of the committee for the definition of the Absolute Poverty Measure: G. C. Blangiardo, A. Brandolini, V. Buratta, L. Campiglio, A. D'Amicis, C. Declich, S. Falorsi, C. Freguja, D. Grassi, A. Lemmi, M. Livi Bacci, R. Monducci, N. Pannuzi, G. Rovati, L. L. Sabbadini, C. Saraceno, S. Toso, U. Trivellato, F. Zannella. External participants F. Polidoro for the minimum prices definition, A. Masi for all the statistical computation.

depending on number and age of its components. Finally, the basket monetary value, defined in 2005, is not updated by a single general prices index, but taking into account the single good and service price dynamics by geographical area.

2.1 *The food and drink component*

The food and drink component was defined in order to consider the individual calories needed to carry out the usual daily activity; such need is supposed as invariable over time and independent from the preferences of single individuals for various foods and drinks. In order to establish nutritional levels correctly, a nutritional model defined by the National Nutritional Institute was referred to, proposing daily individual diets distinguished on the basis of the sex and the age of individuals. Such model consists in translating the Italian Recommended Daily Allowances into combinations of average daily food quantities. The monetary evaluation of the food basket so defined was made on the basis of the lowest consumer prices available for each household in Italy. Using the elementary prices collected by Istat, for each single good a weighted average of the prices charged in three different distribution canals (hard discount, modern and traditional distribution) is obtained for each geographical area.

At this stage, the food and drink component value is computed without taking into account the effect of possible saving actions, since it is calculated only on the basis of the individual caloric need. Larger/smaller households can save/not save money on purchasing bigger quantities of food or on being obliged to buy the minimum packaging. Even if these do not represent real economies of scale, they have to be considered on evaluating the minimum amount of money needed by the single household to buy the defined basket.

Therefore, specific "saving coefficients" have been estimated by a specific regression model on Household Budget Survey (HBS) data:

$$\ln(sa) = \alpha + \beta \cdot \ln(st) + \gamma \cdot \ln(nc) + \delta \cdot ds + \varepsilon \tag{1}$$

where *sa* is the household food expenditure, *st* is the total consumption expenditure, *nc* the household size and *ds* a dummy for the geographical area (equal to 1 if the household resides in the South, 0 otherwise). The saving coefficients have been multiply by the additive food basket value calculated at the household level[3] to obtain the minimum amount of money needed by each single household to buy the food basket. For a household of three components the coefficient value is equal to 1, under the hypothesis (strongly supported by the empirical evidences) that for such a household the saving opportunities are nil[4].

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3 By summing up i) the monetary value of each food quantity for each individual and ii) the food basket value of each individual within the household.

4 The saving coefficient by household size result: 1 component-1.30, 2 components -1.10, 3 components -1.00, 4 components -0.93, 5 components-0.88, 6 components-0.85, 7 components-0.82.

2.2 The housing component

As regards housing component a distinction is to be made between two aspects i) the availability of the place and ii) the facilities it must be equipped with. According to the availability, expenditure on rents was used adopting the national regulation (Decreto Ministeriale 5 July 1975) that associates specific household sizes to minimum adequate surface classes. This allowed creating a correspondence between surface and number of household members, necessary for the monetary evaluation of the housing segment through the HBS and the following regression model:

$$cm^{kc} = b_0^c \cdot \exp\left(-sp^{b_1^c + b_2^c ds}\right) \tag{2}$$

where cm^{kc} is the rent square metre consumption expenditure for a household residing in a municipality of type c in the *k-th* geographical area, sp is the housing surface and s is a dummy for the geographical area (equal to 1 if the household resides in the South, 0 otherwise). The rent expenditure has been calculated taking into account the size of the municipality where the household resides, considering the fact that in bigger cities the housing rent market is usually more expensive than in smaller towns.

Among housing expenditures, electric power and heating were considered. For the electric power the monetary evaluation (at current prices) was made under the hypothesis of minimum consumption, obtained using the estimation of the "Autorità per l'energia elettrica e il gas" (2003), provided by household size and electrical durable goods availability. In this case TV, refrigerator and washing machine are the electrical durable goods included in the basket as basic needs. Also the availability of a non electrical cooker is included because it is widely owned even by households with strong economic constraints. For these goods the monthly depreciation quotas were taken into account. These values were calculated for each good on the basis of the average duration (estimated by the insurances) and of the relative consumer prices; such values were then attributed to all households independently on their size and typology.

The heating value estimation has been obtained by housing size, geographical area (as a proxy for the climate area) and household typology (under the hypotheses that old people more frequently spend their time in the house, increasing the heating need), using a specific regression model on HBS data:

$$cr = \alpha \cdot sp + \sum_{k=1}^{3} \beta_k \cdot d_k + \sum_{j=1}^{6} \gamma_j \cdot nc_j \tag{3}$$

where cr is the expenditure for heating fuel (including also the expenditure for cooking gas and hot water), sp the housing surface, d_k the three dummies for the geographical areas of residence (d_k is equal to 1 if the household resides in the *k-th* geographical area, 0 otherwise), and nc_j is the number of components in the *j-th* age class.

2.3 The residual component

As the residual expenditures strongly depend on individual characteristics and less on scale economies in respect with housing expenditure, it has been hypothesized that this component depends on the household typology similarly to the food and drink component. Moreover, since the elementary items considered within that component cannot be analytically quantified (i.e. how many and what kind of clothes an individual needs), the residual component has been obtained as a percentage of expenditure on food and drink. Residual coefficients have been estimated on the HBS data with a regression model:

$$\ln(re) = \alpha \cdot \ln(sap) + \sum_{j=1}^{6} \beta_j \cdot nc_j \tag{4}$$

where *re* is the residual expenditure, *sap* is the food and drink expenditure and nc_j is the number of component in the *j-th* age class. The coefficients have been multiplied by the food basket value for each household.

2.4 Absolute thresholds and absolute poor households

The value of the total basket was calculated summing up the different components for each household and it differs by i) household size, ii) household age composition, iii) size of the residence municipality and iv) geographical area. In general, given the other characteristics, the absolute poverty threshold is lower in the South, in smaller town and for elderly people households. To inflate or deflate the poverty threshold over time, the consumer price analytical indexes for the whole community have been used. Under the hypothesis that the prices dynamics can geographically differ, the deflation/inflation has been done by geographical area. In 2008 (Istat; 2009b), households living below the absolute poverty line were about 1,126,000 with an incidence (head count ratio) accounting for 4.6 per cent. The incidence is the highest for large households (9.4 per cent) and for one-member-households (5.2 per cent). Economic distress emerges among couples with three or more children (8.7 per cent) and among those where the head of the household is elderly (6.9 per cent).

3 The measure of extreme poverty

Up to now, only few countries have developed methodologies to regularly produce statistics on homelessness. The main experiences are currently conducted in the United States (every two years by the US Department of Housing and Urban Development, together with some estimation through the Population Census) and in Australia, where a homeless census is conducted every five years (Chamberlain, MacKenzie, 2006).

In the European context, Netherlands and Sweden disseminate official country-wide data based on services providers' registers. In 2001, the French National Institute of Statistics (INSEE) conducted a homelessness country-wide survey to estimate the users of shelters and hot meal distribution services (Ardilly, Le Blanc , 2001).

In Italy so far, the previous attempt to carry out a country-wide data collection on homeless people has been conducted by the Commission on Social Exclusion together with the Zancan Foundation of Padua. The survey refers to the night of the 14th March 2000 and it is based on a representative sample of different municipalities and on the S-night approach[5]. The operation enumerated about 5,000 people, conducting to an estimate of around 17,000 homeless people at national level. Among relevant Italian researches conducted at local level, the 2004 homeless survey of the Veneto Region and University of Padua is worthwhile to be mentioned (Regione Veneto, Assessorato alle Politiche Sociali, 2005). It was carried out in seven main cities of the region, with the involvement of street units and homeless accommodations.

Starting from the past experiences, four kinds of approaches can be identified to estimate homeless population: i) indirect estimation, ii) point-in-time censuses, iii) respondent snowball sampling and iv) capture and recapture methods (Brent, 2007).

Indirect estimations use information collected at the services providers and they represent the most common, less expensive and successful approach. The main problematic aspect is the risk of multiple counting, to be dealt with appropriate statistical methodologies.

The point-in-time homeless censuses, that is the counting during a very short period of time (usually one night), ensures minimal multiple counting risk. Nevertheless, it can underestimate the homeless population if some people move away from public spaces to some more hidden places and it requires a great number of enumerators.

The snowball sampling (based on the progressive enumeration of homeless people starting from the already surveyed ones) relies very much on the homeless social network with a high risk of underestimation, given the usual spatial clustered and age stratified nature of the network itself.

The capture and recapture method is usually applied for "hidden" population -as the homeless one can be considered- and it estimates the homeless population summing up the observed population and the estimation of the unobserved one. This approach requires more than one observation under the strong assumption that there is no change in the interest population during the observation period.

3.1 The research project about homelessness

The already mentioned homelessness research aims at providing reliable estimates of the homeless services and of the people who, in any way, enter in contact with them. In this way, homeless not using services during the reference period are not included in the survey; however, on the basis of other countries experience, they represent a very small share of the homeless population if the reference period is not very short.

This study, commissioned by a public authority, is the first Italian experience involving the statistical institute, with the aims of providing a wide knowledge of the homelessness phenomenon at national level. The research results, not only referred to the number of homeless people but also to their profiles and life-histories, could be used on designing socio-economic public policies and reduce, or even eliminate, homelessness phenomenon.

A first-step, almost ended, was a census of the centres providing services for the homeless, in order to draw a map (all over the country and for the main cities) of them and of the services they supply. The second step will be an in-depth survey on the services providers in order to collect information, both quantitative and qualitative,

[5] The approach is substantially based on the simultaneous (in the same night) enumeration of homeless people staying in emergency shelters and on the street at visible locations (selected by local officials) in order to avoid multiple-counting.

about their users. The third and final step will be the survey of the homeless addressing to a selected sample of the services enumerated in the second phase. An appropriate random sample of the services users will be selected to conduct detailed interviews and acquire information on homeless socio-demographic characteristics, needs and homelessness main causes.

One of main problems in collecting data about homelessness is the definition and identification of homeless people. The terms used (homeless, roofless, clochard, etc.) refer to different and specific scientific or political context, so that the meaning and the implications are not always overlapping. In order to face with this problem, the Feantsa[6] organization adopted an European Typology on Homelessness and Housing Exclusion (Ethos classification) to define homelessness in an operational way[7].

Consistently with these European guidelines, the definition of homeless here adopted includes each person suffering a condition of depth housing hardship, referred to the impossibility/incapacity of independently finding or maintaining a house in strict meaning. It includes people living: i) in public spaces (streets, barracks, abandoned cars, caravans, warehouses); ii) in a night shelter and/or obliged to spend several hours during the day in a public space; iii) in hostels for homeless without any temporary house or accommodation; iv) in accommodation provided by the social support system (for singles, couples or groups of people). On the other side, it excludes people living in overcrowding, in illegally occupied accommodation or in structured camps and people receiving hospitality from friends or relatives.

The census is being conducted on a sample of Italian municipalities, selected on the base of their demographic size. Actually they are 158 municipalities, including all the municipalities with over 70,000 inhabitants, the provincial capitals with more than 30,000 inhabitants, and the municipalities bordering on the municipality with more than 250,000 inhabitants. In those 158 municipalities, the census collects information on all the services which provide homeless people supports (for primary needs, night and day shelter, social secretariat, social support measures) with the purpose of building a database which, for each detected service, contains all the necessary information (service typology, service details[8], supplier organisation denomination, address, phone, possible organisations on behalf of the service is provided, organization representative, organisation type). That information is being obtained by a CATI survey, through interviewers selected by fio.PSD and trained by Istat.

Starting from the information contained in the pre-existing Istat, Caritas and fio.PSD databases, the survey will update and complete the picture by adding new organisations, reported by the already interviewed organisations. The added organisations are being interviewed in the same way, with a snowball technique in order to catch the maximum number of centres, even informal, supplying services to the homeless.

Once the database is complete, the services and, hence, the organizations will be surveyed by a CAPI interview. A deep reference frame on the situation of the active

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[6] FEANTSA is the European Federation of National Organisations working with the Homeless.

[7] The ETHOS typology contains the following categories of people living: ROOFLESS: 1. rough, 2. in a night shelter; HOUSELESS: 3. in accommodation for the homeless, 4. in Women's shelters, 5. in accommodation for immigrants, 6. in institutions due to be released, 7. receiving support due to homelessness; INSECURE: 8. in insecure accommodation, 9. under threat of eviction 10. under threat of violence; INADEGUATE: 11. in temporary/non standard structure, 12. in unfit housing, 13. in extreme overcrowding.

[8] The detailed information varies according to the service: number of bed spaces, average number of meals provided per day, average number of clients per day.

services and organisations on the territory for the homeless will be drawn. The information mainly regards: the basic organisational and service details (contact details and location); the type of organisation (whether municipal or other public bodies, private, NGO, etc.); the geographical area served; the target and client groups (by age, gender, citizenship, household type, presence of any physical or mental restrictions); the service access criteria; the provision of any support to exit from the homelessness; the collection of data by the organisation or the service; the funding sources and the share of resources for the homeless; the staff information; the cooperation among the services and the interactions with other organizations, especially with social and health units; the participation of the organisation in workshops, seminars about the homeless problems; the client participation in the organisational activities.

A random sample of the centres surveyed in the second step will be selected and, for each of them, a systematic random sample of the users will be selected (from a list, if available, randomly selecting people in queue or according to the order in which users will pass a specific point, as the entrance or the exit). The probability of being selected for a single person is directly proportional to the time spent in services, so the weighting system will take into account the number of times the person uses the services during the reference period.

The information to be collected about the homeless should be as much as possible harmonised with those of other countries. According to the European guidelines about the measurement of homelessness (Edgar et al, 2007), the core variables to be collected are: i) homeless person age, gender, nationality, migration background, household situation; ii) previous accommodation during the night before entering service or sleeping rough ; iii) the accommodation situation at date of counting; iv) reasons for homelessness, v) duration of homelessness. Among the non-core proposed variables, the main activity, the source of income, the highest educational attainment and the support needs/problems (disabilities, addiction problems etc.) are included.

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