European Population Conference

A multidimensional analysis to measure social exclusion of foreign people in Italy

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Starting from the beginning of the 1990s the term poverty, in Western countries, has often been replaced by the concept of social exclusion. It is a new type of poverty, due to both the lack of income as well as new privations which involve the main spheres of human life such as work, education, social and family ties, consumption of goods and services, participation in political life as well as leisure. Notably, in the last years, it has been proved that economic poverty is not the only source of the different types of social discomforts. Therefore, several social elements are to be pointed out at the individual level, which allow him to achieve a dignified standard of life.

The main goal of this study is to define a territorial (i.e. NUTS-2 and -3 levels) mapping of social exclusion of foreign population living and working in Italy in order to point out in what territories the foreign population is more prone to poverty and deprivation and what citizenships are more 'excluded'.

The measurement takes into account different determinants affecting social exclusion, including housing, education, and labour. For each aspect we will consider different variables that synthesize social exclusion, calculated from the last General Population and Housing Census (2001).

The variables considered are:

- percentage of foreign residents aged 14 years or more without any school degree or who have completed only elementary education;
- percentage of foreign residents aged 20 years or more not working or searching for a job and not enrolled in any education or training program;
- percentage of foreign residents living in houses lacking drinking water;
- percentage of foreign residents living in houses without kitchen;
- percentage of foreign residents living in houses lacking a bathroom.

In this study we used the Social Exclusion Indicator (SEI), according to the methodology applied by the United Nations, to built up the Human Development Index. Furthermore with this methodology we obtain three Partial Social Exclusion Indicators (^{P}SEI), based on different research areas, such as unemployment, low education and problem in housing.

The synthetic index for the jth spatial domain or the ith citizenship:

$$^P SEI_{ij} = Sx_{ij} / V_{ij} \qquad (1)$$
$$Sx_{ij} = x_{ij} - min(x_{ij}) \qquad (2)$$
$$V_{ij} = max(x_{ij}) - min(x_{ij}) \qquad (3)$$
$$k$$

For lodging, we use more variables and it is necessary to use a weighting system:

$$Wi = [\, 1 / (1 + \sum \rho\, i,s)\,] \qquad (5)$$

The spatial unit of analysis is the 103 NUTS-3 provinces considering the whole foreign population resident in Italy and the 20 NUTS-2 regions, considering the 20 citizenships accounting for the highest number of residents in Italy.

Partial and composite indicators values could be interpreted as the distance of a dimension (spatial domain or citizenship) from a reference condition, i.e. the best one among situations covered by the analysis.

The Synthetic Index (SEI), we'll be built up using a weighting system based on a Concave Average method in order to give a higher value in correspondence to a greater distance of the spatial unit to point out the most 'excluded' people.

A regional analysis of the social exclusion for foreign people at NUTS-3 level shows, apart from citizenship, where the population suffers larger deprivations as to the variables considered. We will compare social exclusion of foreign people with the autochthones (when the variables are available) by a Spearman rank correlation test. Then, we will consider the first 20 citizenships with the highest absolute frequency in terms of residents in Italy and we will show which citizenships are the most "excluded" in Italy. Finally we will examine the regional distribution of the most excluded people.

The exposed methodology allowed us to define a regional mapping of the social exclusion level of the five foreign communities considered, in order to estimate for each citizenship the territorial areas more exposed to the risk of discomforts and poverty. The synthetic index allows an immediate estimation of the spatial distribution of social exclusion risk, providing an useful instrument to adopt the adequate policies in line with the local immigration problems.

Finally, we will obtain a synthetic evaluation of the spatial patterns of SEI index - according to the different citizenships considered - by a multivariate approach based on a *Cluster* analysis procedure in order to create a map of deprivation according to the different citizenships.

The results allow to classify Italian regions or provinces according to the social exclusion level of the foreign population, and the regional/province scale provides useful *policy* information at both local and national level.

In conclusion, the exposed methodologies allow us to define a regional mapping of the social exclusion level, based on different citizenships. SEI allows an immediate estimation of the spatial distribution of social exclusion risk, providing an useful instrument to adopt the adequate policies in line with the local immigration problems.

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