

Child Deprivation in Europe during the Great Recession

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Introduction

Previous studies on EU consider a child as materially deprived if he lives in a household unable to afford three of items related to basic needs, educational or leisure needs or medical needs. If the child is unable to afford four items, he is deemed to be severely deprived. This procedure treats items as perfect substitutes, as it does not care which ones in the list of items the child is unable to afford. Then, for example, a child who is not able to afford the three basic needs related to food and nutritional habits -have three meals a day; fresh fruit and vegetables once a day; one meal with meat, chicken or fish (or vegetarian equivalent) at least once a day- is considered deprived as a child living in a household, which cannot afford to meet three basic needs belonging to different domain instead of all three belonging to the same domain (food and nutritional habits in our example). Continuing our example, we suppose that the second child is not able to have one item related to food, as fresh fruit and vegetables once a day, and that he is not able to afford other two items related each to two different domains, as he doesn't have either books at home suitable of his age or some new (not second-hand) clothes. According

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the procedure mentioned above, the two children are both materially deprived. We state instead that the second child is less deprived than the first because the lack of an item is compensated by having other items belonging to the same domain. The second child, indeed, is not able to have fresh fruit and vegetables once a day, but has three meals a day and a meal with meat or an equivalent.....

1 Multidimensional deprivation: a new approach

Let us consider a population of N children. The status of each child i is described by a vector \mathbf{y}_i containing information about his deprivation on each of the $j = 1, ..K$ dimensions, such that each entry $y_{ij} \in \{0, 1\}$. The information on deprivation in the population is then summarized by a matrix \mathbf{A} with dimensions $N \times K$.

$$\mathbf{A} = \begin{bmatrix} y_{11} & \dots & \dots & y_{1K} \\ \dots & y_{ij} & \dots & \dots \\ \dots & \dots & & \dots \\ y_{N1} & \dots & \dots & y_{NK} \end{bmatrix} \quad (1)$$

We assume that the set of K dimensions can be partitioned into D subsets that we call domains. Each domain $d \in D$ is supposed to contain several dimensions, which are (to some extent) substitute. On the contrary, we assume that all the D domains are necessary for children's well-being: from the economic point of view they are considered complements.

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2 Empirical Application

We use data collected by a special module included as part of the EU-SILC survey for 2009. They provide information on 19 items relevant to children and divided in three domains (see Table A1 in Appendix). The first 5 indicators represent basic needs related to an adequate provision of clothes, footwear and food; other 10 indicators pertain to educational and leisure needs, the last four are related to medical needs.

We excluded one item related to holidays because the data were missing for 9 countries Finally, we left with 13 items ordered in 5 domains (see Table 1).¹

Notice that not all of these items are applicable to children of all ages, e.g. having a suitable place to study or do homework is only applicable to children of school age. We consider the children outside the relevant age group as non-deprived, as in Neubourg et al. (2012). We suppose that items belonging to the same domains are substitutes while attributes of different domains are complements.

3 Conclusions

References

- [1] Acemoglu, D., Johnson, S.,Robinson, J.A. (2001) "Reversal of Fortune: Geography and Institutions in the Making of the Modern World Income Distribution", *NBER Working Paper no. 8460*.
- [2] de Neubourg, C., Bradshaw, J.,Chzhen, Y., Main, G., Martorano, B. and Menchini, L. (2012) "Child Deprivation, Multidimensional Poverty and Monetary Poverty", *Innocenti Working Paper*, n. 2012-02, UNICEF Innocenti Research Centre, Florence.
- [3] Cirilli, A. and Veneri, P. (2011) "Understanding the determinants of urban growth: a study on the major italian cities", *Rivista Italiana degli Economisti*, 3, 477-506.

4 Appendix

¹The classification is taken from Neubourg et al. (2012).

Clothing and footwear	
Clothes	some new (not second-hand) clothes
Shoes	two pairs of properly fitting shoes (including a pair of all-weather shoes)
Food and nutrition habits	
Fruit	fresh fruit and vegetables once a day
Three meals	three meals a day
Meat	one meal with meat, chicken or fish (or vegetarian equivalent) at least once a day
Education and educational assets	
Books	books at home suitable for their age
Homework	suitable place to study or do homework
Leisure and games	
Leisure	regular leisure activity (swimming, playing an instrument, youth organization etc.)
Equipment	outdoor leisure equipment (bicycle, roller skates, etc.)
Games	indoor games (educational baby toys, building blocks, board games, etc.)
Social relations and participation	
Festivity	festivity on special occasions (birthdays, name days, religious events, etc.)
Friends	invite friends around to play and eat from time to time
School trips	participate in school trips and school events that cost money

Table 1: Classification into domains of child deprivation items

Basic needs	
Clothes	some new (not second-hand) clothes
Shoes	two pairs of properly fitting shoes (including a pair of all-weather shoes)
Fruit	fresh fruit and vegetables once a day
Three meals	three meals a day
Meat	one meal with meat, chicken or fish (or vegetarian equivalent) at least once a day
Educational or leisure needs	
Books	books at home suitable for their age
Leisure	regular leisure activity (swimming, playing an instrument, youth organization etc.)
Equipment	outdoor leisure equipment (bicycle, roller skates, etc.)
Outdoor	outdoor space in the neighborhood where children can play safely
Games	indoor games (educational baby toys, building blocks, board games, etc.)
Festivity	festivity on special occasions (birthdays, name days, religious events, etc.)
Friends	invite friends around to play and eat from time to time
School trips	participate in school trips and school events that cost money
Homework	suitable place to study or do homework
Holidays	go on holiday away from home at least 1 week per year
Medical needs	
GP specialist	unmet need for GP specialist
Dentist	unmet need for dentist

Table A.1: Children deprivation items in 2009 EU-SILC