

Policy brief

A New Tool for Monitoring (Child) Poverty: Measures of Cumulative Deprivation By Geranda Notten and Keetie Roelen

To monitor poverty and to identify vulnerable groups, governments have traditionally relied on indicators measuring household's resources such as income but it is now widely acknowledged that poverty is a multidimensional phenomenon. Monitoring poverty thus requires tracking information on multiple dimensions.

In addition to income poverty, governments' poverty indicator portfolios have now expanded also covering information on living conditions such as material deprivation, social exclusion and problems in housing, health and education. For instance, under the umbrella of the Open Method of Coordination (OMC), the European Union (EU) annually publishes a set of commonly defined social exclusion indicators including indicators such as the percentage of people that cannot afford meat every second day and the percentage of people living in overcrowded housing.

A missed opportunity: cumulative deprivation

While such deprivation indicators give insight into the diversity of poverty experiences, they do not tell us about cumulative deprivation, i.e. whether a person is simultaneously affected by several conditions. This is illustrated in the figure on the right: while the first person does not experience any deprivation, the second person is deprived in the second indicator and the third person is deprived in the second and third indicators. All other things equal, the third person is worse off than the other persons because she has multiple deprivations.

Cumulative deprivation, however, is not the same as depth of deprivation. Cumulative deprivation refers to whether a person experiences different deprivations at the same time while the depth of

deprivation refers to the intensity of the experience. Information on cumulative deprivation is often available, but rarely used. Information about the depth of deprivation is more scarce because indicators are often binominal (i.e. capturing whether someone experiences poor housing conditions or not) and thus cannot provide information on the intensity of deprivation.

	Indicator 1	Indicator 2	Indicator 3
Person 1	0	0	0
Person 2	0	1	0
Person 3	0	1	1

This study reviewed and tested various indicators that capture differences in the breadth of deprivation of persons. Such information is relevant for policymaking in three ways. Firstly, it provides new information on one aspect of poverty i.e. which groups are at a higher risk to suffer from multiple deprivations. Secondly, because they are worse off, the cumulatively deprived deserve a higher priority. Thirdly, improving the conditions of such groups may also call for a more comprehensive policy response.

Test case: child poverty in the United Kingdom, France, Germany and Netherlands

This study focused on children because monitoring cumulative disadvantage is even more pertinent for

this group: children’s current well-being is a key determinant of their future well-being as adults; their well-being in one domain (i.e. health) could influence that in another domain (i.e. education); and children have little control over, or responsibility for, the factors determining their well-being. The cumulative deprivation indicators were EU member states: the United Kingdom (UK), France (FR), Germany (DE) and Netherlands (NL). Child poverty is high on the policy agenda in this region: the EU is searching to add child specific indicators to its social indicator portfolio and reducing child poverty has been a key policy objective in the UK for the past decade.

This study used the European Union statistics on Income and Living Conditions (EU-SILC) which provides representative and comparable information for EU member states. Moreover, the EU-SILC holds household level information on a range of deprivation indicators, a prerequisite for studying the breadth of deprivation. The table below lists the percentage of children that are deprived in each of the 13 indicators selected for this study. According to the Eurobarometer opinion survey, many EU citizens perceive these conditions as problematic.

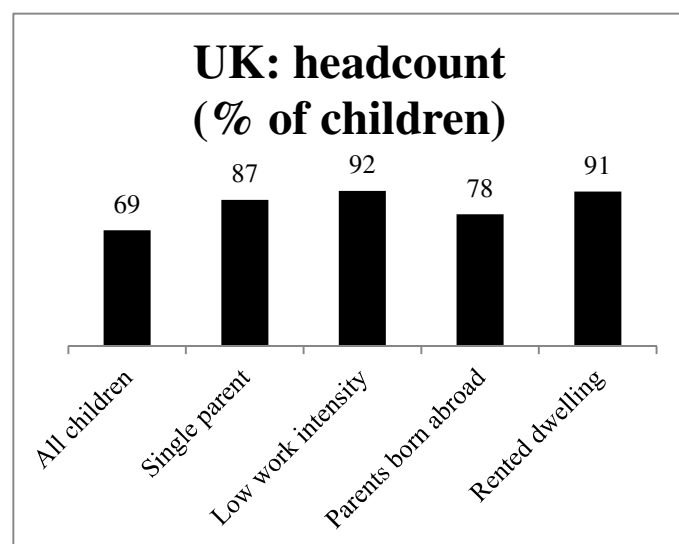
Indicators (% of deprived children, 2007)

Housing	DE	FR	NL	UK
Leaking roof, damp/rot in walls, window frames or floor	16	16	20	17
Dwelling is not comfortably warm during winter	6	5	2	5
Dwelling is overcrowded	9	15	5	12
Neighbourhood				
Pollution, grime or other environmental problems	21	15	13	13
Crime, violence or vandalism	12	16	18	28
Difficult access to basic services				
Primary health care services	13	8	9	5
Compulsory school	16	7	7	8
Financial strain				
Payment arrears	8	13	5	14
Cannot afford:				
- meal with meat every 2 nd day	30	33	14	30
- 1 week annual holiday away	11	6	1	5
- a computer for financial reasons	2	7	1	6
- a car for financial reasons	4	4	5	7
Difficult to make ends meet	7	20	12	20

A good cumulative deprivation indicator should meet the following criteria: it is sensitive to changes in the number of deprivations experienced by a person; it is relatively easy to interpret by a broad audience and it is not oversensitive to small changes in the method of measurement. Given these criteria, this study tested two types of cumulative deprivation indicators:

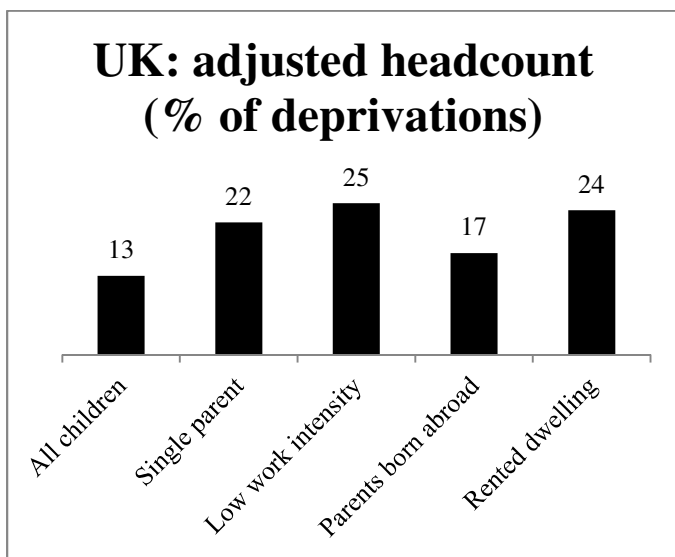
- Headcounts, counting the percentage of deprived children;
- Adjusted headcounts, counting the average percentage of deprivations experienced by children.

The bar graphs below illustrate the difference between the two indicators for cumulative deprivation among children in the UK. Here we used a cumulative deprivation threshold of one deprivation: any child who experiences one or more deprivations is considered to be deprived. The headcount graph shows that 69 percent of the children in the UK experience at least one deprivation. Some children, however, experience an even higher risk of deprivation: 92 percent of the children living in households with low work intensity (time spent on work by adult household members) have at least one deprivation.



Moreover, children living in rented dwellings, in single parent households and having parents born abroad also have an increased risk. While these characteristics do not necessarily explain why children experience deprivation, they provide a profile of the characteristics of those children most at risk of deprivation.

Rather than counting the number of deprived children, the adjusted headcount counts the number of deprivations: the adjusted headcount expresses the average percentage of deprivations that children experience. As this study uses 13 deprivation indicators, a number of 7.7 percent would mean that children have, on average, one deprivation (1 divided by 13 equals 0.077). However, the adjusted headcount graph below shows that the average percentage of deprivations in the UK is 13 percent. This means that children in the UK experience, on average, nearly two deprivations. Children living in single parent households, low work intensity households or living in a rented dwelling have scores up to 25 percent meaning that they suffer, on average, from three deprivations.



Thus, both cumulative deprivation indicators add insight into understanding the degree of cumulative disadvantage in a population and between different population groups. However, a key difference between the indicators is that only the adjusted

headcount is sensitive to changes in the breadth of deprivation. For example, if the number of deprivations experienced by a child is reduced from three to two, the adjusted headcount will show an improvement (i.e. a reduction) while the headcount will stay the same. If policymakers would only use a headcount, it would appear that policies that improve the living conditions of the most disadvantaged groups have no effect. By (also) using an adjusted headcount, efforts to improve the situation of the worst off can thus be observed.

While it is important that the cumulative deprivation indicators are responsive to changes in well-being, be they the result of policy or other factors, they should not be over-responsive to small changes in the method of calculation. This is because large swings in estimates introduce uncertainty about the scope of the problem (how much cumulative deprivation is there?), identification of vulnerable groups (which groups need priority?), the required budget (how much funds are needed?) and the scope for international learning (which country performs better and why?). This study tested the cumulative deprivation indicators under a number of realistic alternative decision scenarios and found that the adjusted headcount index is less sensitive to changes in the methodology than the headcount index.

One of the tested methodological decisions was the cumulative deprivation threshold; the cut off determining whether a child would be considered cumulatively deprived or not. In the above example for the UK, the threshold was set at one deprivation. Setting the threshold at two or more deprivations would mean that children with fewer deprivations are not considered cumulatively deprived even though they experience some degree of disadvantage.

The cumulative deprivation threshold can be set by using an absolute or a relative benchmark. An absolute threshold can be motivated by basic needs,

rights or some other universal standard. For instance, an argument in favour of setting the threshold at one deprivation would be that, according to the international Convention of the Rights of the Child, any deprivation constitutes a violation of a child's rights and should thus be counted as such.

A relative threshold, on the other hand, is based on what is considered an above "normal" level of deprivations in a particular society. A common practise to determine what is normal, is to firstly assess the situation of the median or average citizen and secondly how much a person's situation must deviate from that of the normal person to be considered not normal. For instance, a person is could be deemed cumulatively deprived if she has 50% more deprivations than that of the median citizen. In the case of the UK, where the median child experiences one deprivation, the threshold would be set at 1.5 deprivations. (In practice this means that only children with two or more deprivations are counted as cumulatively deprived). The advantage of a relative approach is that, by taking into account what conditions are typical in that society, the indicators will focus on those groups that are doing much worse than the normal citizen. It thereby aids the policymaker to focus

their attention and resources on the least well off. Our tests, however, show that using a relative threshold will lead to extreme sensitivity of the estimates to even seemingly small changes in the method or the living conditions.

Recommendations

- The adjusted headcount with a cumulative threshold of one deprivation is the most attractive indicator: it provides a new insight into children's living conditions; it has an intuitive interpretation, it is inclusive, it is sensitive to the breadth of deprivations but not oversensitive to changes in the methodology.
- A headcount with a cumulative threshold set at a higher number of deprivations can be a complement because it focuses on children experiencing an extremely wide breadth of deprivations. The EU, for example, recently adopted a headcount of material deprivation with a threshold set at three deprivations.
- Setting a relative cumulative deprivation threshold at a fraction of the median or average number of deprivations is not recommended because small changes in method or living conditions can lead to disproportionately large jumps in the estimates.

References:

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