Dipartimento di Scienze Economiche
Università degli Studi di Firenze

Working Paper Series

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the Case of Afghanistan

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Working Paper N. 18/2011
December 2011

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November, 2011

Abstract

This paper examines child poverty from a multidimensional perspective. The main goal is to apply a general methodology in order to measure child poverty as a deprivation of capabilities and achieved functionings. In the capability perspective, child poverty is intended as the lack of freedom to choose to do and to be what children have reason to value. Although the various approaches to conceptualising, defining and measuring poverty, several researchers underline the need for children to be separated from their adult nexus, and treated according to their own specificities. The case study is focused on Afghan children, and it is based on a survey carried out by Handicap International that took into consideration many dimensions of children's wellbeing, including concepts that are usually missing in standard surveys.

1 Introduction

Poverty is multidimensional; this is even more true for children. Several authors have underlined the need for children to be separated from their adult nexus and understood according to specificities of their situation (Feeny and Boyden, 2003). It is only then, that the true scale and character of their poverty can be determined (Mehrotra, 2006). In other words, it is essential to expand the definition and analyses of child poverty beyond traditional conceptualizations "...the child-specific requirements in terms of basic needs and the need for specific information for the formulation of child-ed policies are important reasons that call for the development of child poverty approaches." (Roelen and Gassmann 2008, p. 22). For instance, one of the main problems in the case of child poverty measurement is the "missing dimensions" that reduces the precision of indicators that attempt to capture the multiple realisability/deprivation (Biggeri and Mehrotra, 2011). This has considerable implications in terms of policy and targeting. "Policy choices are dictated by priorities. If poverty is defined solely in terms of income, then economic growth will appear to be the best poverty-reduction policy. But as soon as the policy objective is broadened to include, say, health and education, then social policy will assume a more important role" (White et al. 2009, p. 4).

In this paper we define child poverty as the deprivation of basic capability and related achieved functionings. According to Sen, "What the capability perspective does in poverty analysis is to enhance the understanding of the nature and causes of poverty and deprivation by shifting primary attention away from means to ends that people have reason to pursue, and, correspondingly, to the freedoms to be able to satisfy these ends" (Sen, 1999, p. 90). As a matter of fact, on one hand children's "entitlement" over household income and resources is extremely marginal, on the other hand, the measure of income per household does not consider intra household allocation e.g. from a child or a gender perspective[1]. Moreover, although the capability approach focuses primarily on capabilities deprivations, poverty is often analysed in terms of achieved functionings. In the case of children, especially in early childhood, the achieved functionings in basic domains are a prerequisite to survival (Biggeri and Mehrotra, 2011). Therefore, almost all the empirical applications to the measurement of deprivations in the capability approach are limited to achieved functionings. This is due to three main reasons. Firstly, achieved functionings are (at least indirectly) observable, whereas a child's capability also includes all the opportunities this child had but did not choose - counterfactuals and therefore unobservable. Secondly, whereas the achieved functionings are a vector of beings and doings, the capability set contains potential beings and doings. Yet, it is not obvious how this set should be measured let alone be evaluated. Finally, the transition from achieved functionings to capabilities involves the choice-making which is a process in itself (Robeyns 2003b).

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[1]Discussions of child poverty usually focus on income throughout equivalence scale to take into consideration the number of the children i.e. the household composition.

In this paper we examine child poverty applying the methodology developed by Alkire and Foster (2008) to Afghan children[2]. In particular, the case study in focus concerns the deprivation of Afghan children aged between 5 and 14 years. It is difficult to write about poverty in Afghanistan without considering children, which represent more than 60% of the population.

Years of conflict have increased the level of poverty in Afghanistan which has been aggravated by several severe droughts, political insecurity, bad governance, on going violence, and the building of a large illicit economy based on poppy cultivation and drug trafficking. Health indicators such as maternal mortality ratio, infant mortality rate (IMR: 165, UNICEF 2004)) and under five mortality rate (U5MR: 257, UNICEF 2004)are among the highest worldwide (Bartlett, Mawji, Whitehead, Crouse, Dalil, Ionete and Salama, 2005). The Human Development Index for Afghanistan in 2005 is presented as 0.312, which places it last on the list (UNDP, 2007). Poor access to health, education, safe drinking water and income generation was, and still is, endemic in rural and urban Afghanistan (Beall and Schutte, 2006). The condition of children and young adults is particularly preoccupying at different level. Firstly, the psychological consequences of the war and violence are primarily significant among them (Bhutta, 2002; Panter-Brick, Eggerman, Mojadidi and McDade, 2008). Secondly, their health and nutritional status is a major cause of concern (Johnecheck and Holland, 2007). Fourthly, child labour is quite well spread, and concerns mainly fieldwork and animal husbandry. More 76% of children under 14 would help in household chores (Trani, Bakhshi and Dubois, 2006). Finally, a large proportion of the under 15 population, especially girls and vulnerable children are not accessing school (Bakhshi and Trani, 2006). The existing literature has still to explore the field of multidimensional child poverty in so-called "conflict zone" in particular in Afghanistan.

Some observations are particularly relevant in the case of child's deprivations. The first, common to all countries, is that the relevance of different domains may change according to age. This is quite important in terms of indicators and proxies to be considered for analysis. Furthermore, in a low income country such as Afghanistan, the gender perspective needs to be considered alongside the distinction between children living in urban and rural areas.

The second is that usually a notable gap exists in relation to surveying children's wellbeing dimensions (Biggeri, 2004; White et al. 2009). From this point of view, the data from the Handicap International research have taken into consideration many dimensions of children's wellbeing, usually missing in standard surveys.

There are several questions that arise by considering the capabilities informational space for measuring a child's wellbeing and poverty and in selecting domains for Afghan children: what are children's basic capabilities? How do we identify these? How can we define the poverty line for each dimension (i.e. first cutoff) to

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[2]For other applications of this methodology see for instance Alkire and Seth (2008) and Santos and Ura (2008).

identify poor children? Subsequently - following Alkire-Foster's counting method (2008) - how many and which deprived dimensions should be considered in order to classify the children as poor (i.e. second cutoff)? How can we aggregate them?

In this paper, although we introduce satisfactory responses to these queries, some reservations remain and will need further research. The paper is structured into five sections. In the second section a brief literature review is presented. In the third section, the methodology of composite measure (Alkire and Foster, 2008) is presented, and the methods on how to select "relevant dimensions" for children are briefly introduced. The data set of Afghanistan is then presented and the different cutoffs for each dimension are discussed. In the fourth section the data are analysed and the main results presented. In the fifth section the main conclusions, the limits and next steps of the research are outlined.

2 Child Deprivation Measurement

The aim of this section is to present the state of the art of approaches to child deprivation. As a consequence, we focus our attention on the different domains/dimensions chosen through the operationalisation of different child poverty approaches. Although several definitions on child poverty can be found in the vast literature the common roots are clearly in the multidimensionality feature of the phenomenon. In State of the World's Children 2005 UNICEF, for instance, the following working definition is proposed: "Children living in poverty experience deprivation of the material, spiritual and emotional resources needed to survive, develop and thrive, leaving them unable to enjoy their rights, achieve their full potential or participate as full and equal members of society". This definition suggests that the poverty children experience is interrelated. Material poverty - for example, starting the day without a nutritious meal or being forced to engage in hazardous labour - hinders cognitive capacity as well as physical growth. Living in an environment that provides little stimulation or emotional support on the other hand, can undermine the positive effect of growing up in a materially rich household. By discriminating against their participation in society and inhibiting their potential, poverty not only causes suffering - it also disempowers children. The United Nations Development Programme (2000, p. 36) defines human poverty as: "Illiteracy, malnutrition, abbreviated life span, poor maternal health, illness from preventable diseases. Indirect measures are lack of access to goods, services and infrastructure - energy, sanitation, education, communication, drinking water - necessary to sustain basic human capabilities." The World Bank (2005) characterizes poverty as follows: "Poverty is hunger. Poverty is lack of shelter. Poverty is being sick and not being able to see a doctor. Poverty is not having access to school and not knowing how to read. Poverty is not having a job, is fear for the future, living one day at a time. Poverty is losing a child to illness brought about by unclean water. Poverty is powerlessness, lack of representation and freedom".

Although tackling poverty and disadvantage has been a central issue to most

Governments' social and economic programs in the last decades, the specific focus on child poverty has been relatively recent. The possibility to continue on focusing attention on child poverty and its impact requires reliable tools for capturing and measuring children's needs. In the last decade many different approaches have been developed to measure this phenomenon. According to the literature[3] (for a review see for instance Mehrotra, 2006; Roelen and Gassmann 2008; White et al. 2009 and Camfield et al. 2009) the main approaches to child poverty include: the monetary approach, the basic needs approach, the rights based approach[4], the social exclusion approach[5], the sustainable livelihoods[6] approach and the capability approach presented in the introduction. Within a scale from unidimensional to multidimensional measures, as described in Figure 1, three different type of measures can be identified: Child Poverty Count Measures (boxes in orange), Child Poverty Index Measures (in light green) and Holistic Child Poverty Measures (in light blue).

As reflected in the literature the monetary poverty approach is the most commonly used measure for poverty. It basically identifies poor children as those living in low-income (or low-consumption) households. This approach relies on the assumption of a relevant link between the low household income/consumption and the wellbeing of the child and his/her opportunities for development. Although having a key advantage in the simplicity of the output (i.e. a well-defined amount of money), the unidimensional nature of this approach seems inadequate in capturing all the aspects in which a child can be deprived.

Another interesting and recent approach is represented by Corak's approach (see UNICEF 2005b and Corak 2006). It recognizes that child poverty is a multi-

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[3]According to Ben-Arieh (2008) there has been an evolution in the approaches to child wellbeing and to conceptualising, defining and measuring child's deprivations. The research trends evidence a shift form survival to wellbeing, from negative to positive, from well-becoming to wellbeing, from traditional to new domains all moving towards a composite index of child wellbeing.

[4]OHCHR developed a common set of rights that apply to most countries: being adequately nourished; being able to avoid preventable morbidity and premature mortality; being adequately sheltered; having basic education; being able to appear in public without shame; being able to earn a livelihood; and taking part in the life of a community. Implicit in the definition of poverty based on the non fulfillment of rights is the assumption that governments have the legal responsibility to fulfill these rights, as the ultimate duty bearers (Minujin et al, 2006, p. 485). See also (Jonsson, 2003).

[5]The concept of social exclusion describes the processes of marginalization and deprivation that can arise even in rich countries with comprehensive welfare provisions. It is a reminder of the multiple faces of deprivation. This approach focuses intrinsically on the processes and dynamics that allow deprivation to arise and persist, structural characteristics of society and the situation of marginalised groups (Roelen and Gassmann 2008).

[6]This approach addresses issues of vulnerability, risk and insecurity. The means to combat these hardships are the assets that individuals, households and communities have. Assets, called 'capital', include material and social resources of five types: Physical, Financial, Human, Social and Natural (Moser and Norton, 2001).
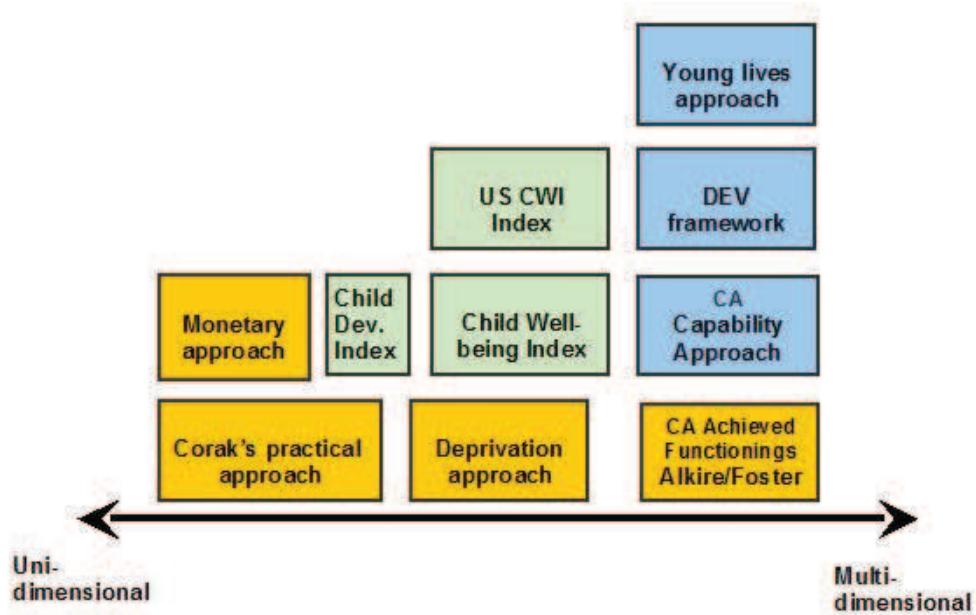
Figure 1: From unidimensional to multidimensional child poverty measures.
Source: Our elaboration on Roelen and Gassmann (2008)

faceted phenomenon, and bases the definition of poverty on the Convention on the Rights of the Children. However, Corak (2006) implies that the choice of indicators and consequent definition of poverty is partially guided by data availability and the avoidance of complexities[7]. On a practical example for OECD countries (UNICEF 2005a and UNICEF 2005b), explicitly emphasizing the practical and feasibility aspects of the approach, he transforms a multidimensional concept into a unidimensional one using a de facto income-based poverty line as the identification mechanism for child poverty (Roelen and Gassmann 2008, p. 12)[8]. In the Bristol deprivation approach (conducted by Gordon et al 2003 and reported in UNICEF 2004) the dimensions are justified by a mix of human right and basic needs approaches (Minujin and Delamonica, 2005). Five Different degree of deprivation are used (figure 2).

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[7]1) Avoidance of unnecessary complexities; 2) Income measures alone do not capture all dimensions that poverty; 3) Poverty lines should be drawn taking social norms and societal context into account; 4) Indicators should be updated regularly to allow for consistent monitoring of poverty and capture periods of high or low economic growth; 5) Employ a fixed and moving poverty line as backstop and target; 6) Building of consensus public support for poverty reduction (Corak, 2006)

[8]Only in another report for OECD countries (UNICEF, 2007) the analysis is extended to six dimensions separately: material deprivation, health and safety, education, children's relationships, behaviour and lifestyles and subjective wellbeing. Although for some dimensions the link to CRC it is not clear (Roelen and Gassmann 2008).

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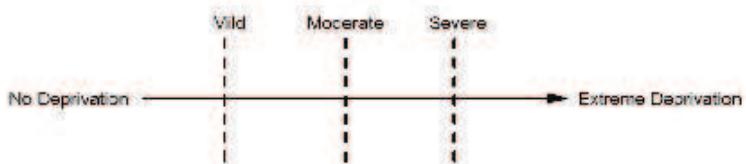
Figure 2: Continuum of deprivation. *Source: Our elaboration*

This was developed to provide a first conceptualization of multidimensional child poverty (negative aspects of children's situations) in developing countries, making international comparisons possible (figure 2).
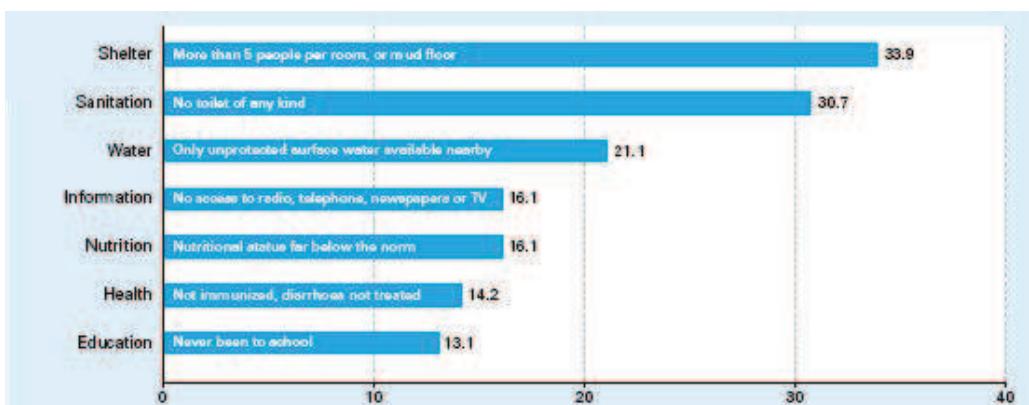

Figure 3: Severe deprivation of children in the developing world, by different deprivations. *Source: UNICEF 2004*

Children were defined as being absolutely poor if they suffered from two or more different types of severe deprivations of basic human needs: malnutrition (whose heights and weights for their age were more than 3 standard deviations below the median of the international reference population); children who only had access to surface water (e.g. rivers) for drinking or who lived in households where the nearest source of water was more than 15 minutes away; children who had no access to private or communal toilets; children who had not been immunized against any diseases or young children who had a recent illness involving diarrhoea and received no medical treatment; children in dwellings with more than five people per room or with no flooring material (e.g. a mud floor); children between 7 and 18 who had never been to school and were not currently attending school; and children between 3 and 18 with no access to radio/ TV/ telephone/ newspapers at home (Unicef, 2004).

Among various Child Poverty Index Measures, we report the Child Development Index, the EU Child Wellbeing Index, and the US Child and Youth Wellbeing

Index (see also Cummins et al. 2003). Save the Children UK has recently introduced a representative and multidimensional tool to monitor and compare the wellbeing of children. We have used it in more than 140 developed and developing countries across the world. The Child Development Index is made up of three indicators reflecting three areas of child wellbeing. The indicators were chosen because they are easily available, commonly understood, and clearly indicative of child wellbeing.

The three indicators are health, the under-five mortality rate (the probability of dying between birth and five years of age, expressed as a percentage on a scale of 0 to 340 deaths per 1,000 live births), nutrition: the percentage of under fives who are moderately or severely underweight and education: the percentage of primary school-age children who are not enrolled in school.

These three indicators are aggregated by simply calculating the average score between them for each period under review, meaning that they each have equal weighting in the index scores. It is important to stress that a low score is best as it represents a low level of child deprivation, whereas a high score represents a high level of child deprivation and poverty (see, Save the Children UK, 2008).

The EU Child Wellbeing Index (Bradshaw et al., 2006) was constructed to compare the 25 EU Member States. Based on the CRC and other studies on the multidimensional nature of poverty, they formulated eight different clusters in which child poverty is analyzed (Roelen and Gassmann 2008, pp. 15-16). The clusters are: 1) Material situation; 2) Housing; 3) Health; 4) Subjective wellbeing; 5) Education; 6) Children's relationships; 7) Civic participation; 8) Risk and safety. The US Child and Youth Wellbeing Index (CWI) was developed by Land et al. (2001) to determine how well children and youths are faring in America. The index is designed to consider changes in children's and youth's wellbeing over time for specific demographic and geographical groups. Although these domains were originally designed to represent quality of life areas for the entire population, they are considered to capture the majority of areas of wellbeing for children.

These dimensions include the : 1) Material wellbeing; 2) Health; 3) Safety; 4) Productive activity; 5) Place in community; 6) Intimacy; 7) Emotional wellbeing.

Finally, we report two relevant Holistic Child Poverty Measures. The first is the young lives approach. The classification of poor children is here based on a set of basic needs derived from the Convention on the Rights of the Children. The six outcomes taken into account are : 1) nutritional status; 2)physical morbidity; 3) mental morbidity; 4) life skills (literacy, numeracy, work skills etc.); 5) developmental stage for age; 6) Perceptions of wellbeing and life chances (Young Lives, 2001).

The choice of these outcomes was made with the notion that child poverty is different from adult poverty and needs a redirected focus (Camfield, 2006). The "perceptions of wellbeing and life chances" dimension underlines the significance of participatory methods in the poverty mapping process. This aspect is crucial to learn more about children's own opinion and their perception of their poverty. As

emphasized in the Convention on the Rights of the Children, the child has then the right to be heard and recognise himself as a social agent (Boyden, 2006).

The Christian Children's Fund (CCF), in a comprehensive study in 2002 on experiences and impact of poverty on children (Feeny and Boyden, 2003), identify three dimensions: deprivation, exclusion and vulnerability (i.e. DEV approach) to define child poverty in concrete terms that can guide policies to reduce child poverty. Deprivation is seen as a lack of material conditions and services generally held to be essential to the development of children's full potential. Exclusion is the result of unjust processes through which children's dignity, voice and rights are denied, or their existence threatened. Vulnerability is an inability of society to cope with existing or probable threats to children in their environment[9]. Another relevant approach for policy analysis and programming could be the Capability Approach with the aim of combining quantitative and qualitative analysis (see Biggeri and Anich, 2009) to understand the scale and causes of child's deprivation. In this paper, in particular, we apply the Alkire-Foster counting method (2008) in terms of achieved functionings.

3 Methodology

3.1 Methodology of composite measure

The method used in this paper to identify a poor person is the so-called "dual cutoff" process introduced by Alkire and Foster (2008). The term "dual" refers to the fact that it involves two different forms of cutoffs, one pertaining to single dimensions (so that many cutoffs must be selected) and the other relating to cross-cutting dimensions (where just one cutoff is required).

Considering the conventional database as a $n \times k$ matrix containing k different variables measured on a population of size n, all the the cutoffs can be represented by a vector with $(k + 1)$ elements. The first k element are cutoffs to be selected with respect to each of the variables V_j contained in the dataset. The last element is chosen with respect to the individuals included in the analysis. More specifically,

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[9]Among a few other approaches we may recall that the Childhood Poverty Research and Policy Centre (CHIP) defines child poverty as growing up in the absence of any of the factors listed below which constitutes childhood poverty: an adequate livelihood - the financial and nutritional resources needed for survival and development (economic, physical and environmental resources); opportunities for human development - including access to quality education and life skills, health and water/sanitation (social, cultural and physical resources); family and community structures that nurture and protect them - parents/guardians with time (or ability/desire) to care for them; an extended family/community that can cope if parents and guardians are not able (or not there); or a community that cares for and protects its younger generation (social and cultural resources); and opportunities for voice - powerlessness and lack of voice (political resources) often underpin other aspects of poverty (this also applies to adults) (Minujin et al 2006, p. 487)

let c_j $(j \leq k)$ be the generic element of the vector C containing the cutoffs chosen. c_j is a real number representing the poverty line that divides deprived and non-deprived person on the dimension j described by the variable V_j. The last element of vector C, c_{k+1}, is an integer positive number representing the minimum number of dimensions on which a person must be deprived to be considered poor. The two forms of cutoffs presented are the crucial point of the so-called *identification step*, which is an embedded phase of any form of poverty measurement[10]. Successively, a class of poverty measures M_α derived from the Foster, Greer and Thorbecke (1984) measure is introduced to aggregate the data obtained into a unidimensional indicator.

This methodology comprises of a series of desirable properties[11] including "decomposability", that allows overall poverty to be calculated as a weighted average of subgroups poverty levels, and "dimensional monotonicity", which allows to capture the effect of a poor person who increases his set of deprivations experienced.

3.1.1 Identification

Let Y be the $n \times k$ matrix containing the data, with generic entry y_{ij} representing the value of variable j observed on individual i. Let C be the $(k+1)$-dimensional cutoff vector defined in the section above. The first k elements of C correspond to the poverty thresholds that must be specified in order to identify a deprived individual with respect to the columns of matrix Y. A new matrix G^0 is then defined as follows:

$$g_{ij}^0 = 1 \text{ if } y_{ij} < c_j$$
$$g_{ij}^0 = 0 \text{ otherwise}$$

The generic element g_{ij}^0 represents an indicator for the status of deprivation of individual i on dimension j. More formally, $g_{ij} = \gamma(y_{ij}, c_j)$, where $\gamma : R \times R \to \{0, 1\}$ is an identification function for a single dimension which recognize if the individual i can be considered poor with respect of a specific variable V_j.

Given the matrix G^0, it then becomes straightforward to identify a poor individual using the second form of cutoffs across dimensions. Let

$$d_i = \sum_{j=1}^{k} g_{ij}^0$$

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[10] An interesting approach is the Fuzzy set theory, where the identification step allows partial belonging to a set. See Chiappero Martinetti (2000) for an application concerned with Sen's functionings approach.

[11] For a complete list of the properties satisfied by the H and $M\alpha$ indexes introduced in this section see Alkire and Foster (2008).

be the generic entry of vector D representing the number of dimension on which individual i is deprived.

An individual is then identified as "poor" if she is deprived in more than a certain number of dimension (i.e. if $d_i \geq c_{k+1}$, where c_{k+1} is the cutoff chosen as the last element of vector C defined above).

This methodology allows to preserve the information at a single dimension level. Especially from the perspective of the capability approach, a drawback of viewing multidimensional poverty through a unidimensional lens is the loss of information on dimension-specific deficits. A method that aggregates dimensions before identifying the single deprivations converts dimensional achievements into one another without regard to dimension-specific cutoffs. If dimensions are independently assessed and dimensional deprivations are inherently undesirable, then there are good reasons to look beyond a unidimensional approach to identification methods that focus on dimensional shortfalls. Using an intermediate cutoff level for the number of deprivations that can assume values between the two extremes 1 and k is the natural generalization of the common identification methods as the *union* and the *intersection* approach, that can be seen as special cases where $c_{k+1} = 1$ and $c_{k+1} = k$.

3.1.2 Aggregation

The identification step described in subsection 3.1.1 is then implemented into a class of multidimensional poverty measure. A first, intuitive, measure can be easily derived from the number of poor people recognized in the dataset. Let Q be a n-dimensional vector with generic entry

$q_i = 1$ if $d_i \geq c_{k+1}$
$q_i = 0$ otherwise

then, the quantity

$$H = \sum_{i=1}^{n} q_i / n$$

represents the proportion of poor people identified in the data. Although an easily understandable indicator, H does not satisfy an essential property, the *dimensional monotonicity*: for a poor person i, H remains unchanged as d_i increases. To reflect this concern, a new matrix $G^{0*}(c_{k+1})$ is defined with generic entry[12]

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[12]The matrix is dependent on the vector Q, that is a function of the cutoff across dimensions. For simplicity of notation, in the rest of the paper the bracket (c_{k+1}) will be omitted for G^{0*} and all its generalization.

$g_{ij}^{0*} = g_{ij}^0$ if $q_i = 1$

$g_{ij}^{0*} = 0$ otherwise

and a new indicator, the (dimension) *adjusted headcount ratio*

$$M_0 = \sum_{i=1}^n \sum_{j=1}^k g_{ij}^{0*}/nk$$

is introduced. Note that $M_0 \in [0,1]$ can be seen as the number of all the dimensions on which poor people (and only these) are deprived, divided into its maximum possible value. This adjusted ratio satisfies the property of dimensional monotonicity mentioned above as it increases according to any increase in the number of deprived dimension of a poor person. It is also *poverty focused* as it is invariant to changes in the value of d_i for a non-poor person (who remains non-poor). In other words, if a non-poor individual becomes more (or less) deprived on some dimension but still remains identified as a non-poor, then the M_0 index does not change.

If the variables considered in Y are cardinal[13], then the additional information can be utilized introducing a new matrix G^α of normalized gaps with generic entry $g_{ij}^\alpha = \max\{0, (1 - y_{ij}/c_j)\}^\alpha$. Let $G^{\alpha*}$ be then defined as having generic entry

$g_{ij}^{\alpha*} = g_{ij}^\alpha$ if $q_i = 1$

$g_{ij}^{\alpha*} = 0$ otherwise

then the index M_0 introduced above can be easily generalized to M_α replacing the matrix G^0 and G^{0*} with their correspondent G^α and $G^{\alpha*}$. Note that M_α has the same properties of M_0, that can be seen as a particular case when $\alpha = 0$[14].

By increasing the value of α (usually it is assumed $\alpha = 1$ or $\alpha = 2$) the impact on M_α is higher for poorest people. For example, using higher value of α means that the same increasing in a deprived dimension for a poor person has an effect on M_α that depends on the level of deprivation experimented. The more deprived the individual on the given dimension, the larger the effect on the aggregate index and vice-versa.

3.2   Selecting relevant capabilities for children

In any approach to poverty measure the selection of domains is particularly relevant to analyse the "multi deprivation" of a human being. Therefore, if identifying the

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[13]We assume $V_j \geq 0 \ \forall j$ without loss of generality.

[14]Considering $0^\alpha = 0 \ \forall \alpha$ in the expression of g_{ij}^α

poor is prior to aggregation, choosing/selecting domains/dimensions[15] is clearly prior to identification. As underlined by Alkire (2008), however, researchers often do not make their reason for choosing the domains explicit. Biggeri and Mehrotra (2011), propose a review of studies to select relevant domains/dimensions for children. Following Alkire (2008) they suggest five different modes: existing data or convention; list based on consensus (public 'consensus'); participatory processes (ongoing); assumptions; and empirical evidence regarding people's values - (or expert analysis). Clearly, as Alkire underlines "there is no straightforward way to choose dimensions of human wellbeing. What is very clear, immediately, is that these processes overlap and are often used in tandem" (Alkire, 2008, section 6.6) and that generally the selection method depends on research objectives and/or operational processes, practical constraints and has to be rooted in a solid knowledge of the context.

Typically, in child poverty research, the selection method is based on the use of existing secondary data and the dimensions are chosen by researchers according to pre-designed questions - although in practice the domains/dimensions are often chosen according to data availability. As Biggeri and Mehrotra (2011) point out "Indeed, the main concern of the researcher is often the data availability, which has the effect of excluding important dimensions of child wellbeing, or paying little attention to what these proxies/variables actually represent in terms of values. This last implication, although less relevant, can bias on the results and policy implications in many circumstances." Amartya Sen states that the problem does not lie with listing important capabilities in themselves, but with endorsing a predetermined list of capabilities[16] (Sen, 2005). Indeed, according to Sen, the selection

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[15]As in Alkire (2008), here "domain" and "dimension" are used interchangeably.

[16]Nussbaum has developed her list as part of 'political liberalism' that involved 'years of cross cultural discussions' (Nussbaum 2000, 2003). Nussbaum presented the following list of central Human capabilities (Nussbaum 2003, p. 41-42): 1. Life; 2. Body Health; 3. Body Integrity; 4. Sense, Imagination and Thought; 5. Emotions; 6. Practical Reasons; 7. Affiliation; 8. Other species; 9. Play; 10. Control Over One's Environment. Nussbaum's list is intentionally broadly universal and it is intended to reflect common human values and experiences. She also has stressed that her list could be made more specific by the local people (Clark 2003). The question of whether there should be one universal list of dimensions or not or lists put forth from diverse human contexts is a long-standing debate in the CA literature (Alkire 2005, Robeyns 2003b). This debate might be caricaturized 'having a list' vs 'making lists for every occasion' (Alkire, 2008, section 6.5). As other authors, we reached the conclusion that the two extremes of this debate can be reconciled. As Alkire writes "Nussbaum argues, as do others, that specification of one 'list' of domains or central capabilities is necessary to make sure that the content of the capability approach carries critical force. If the approach is too open-ended then there is a real, practical possibility that the wrong freedoms will be prioritized and expanded. She writes, "Capabilities can help us to construct a normative conception of social justice, with critical potential for gender issues, only if we specify a definite set of capabilities as the most important ones to protect. Sen's "perspective of freedom" is too vague. Some freedoms limit others; some freedoms are important, some trivial, some good, and some

of capabilities is the responsibility of a democratic process including processes of public scrutiny and debate[17] (Sen 2004a, 2004b) and it has to be reconciled with a theory of justice (Sen, 2006). Furthermore, capability dimensions can be selected on the basis of two criteria (Sen 2004b). First, they are of special importance (that is, they were judged to be basic capabilities). Second, they are directly or indirectly socially influenceable. This opens space to consider neglected dimensions for children. As Biggeri and Mehrotra (2011) argue "The main idea, therefore, is to understand child poverty through the capability approach, - that is, to create the space for children in the conceptualisation of the wellbeing and the prioritisation of different dimensions. If these actions are difficult or even impossible to imagine for very young children, as their agency and autonomy increases - according to the age and maturity of the child - child participation becomes not only possible but central to the analysis of their wellbeing and deprivation." This is clearly in contrast to traditional/orthodox poverty analysis where children are seen only as passive actors dependent on others (see also Ben-Arieh 2008 and 2005). On the other side basic capabilities and achieved functionings (and corresponding fundamental human rights, see Sen 2007) cannot be ignored (especially for young children). This implies that the dimension of material deprivation is a relevant aspect in child poverty. Moreover, as suggested by Sen (2007) and Ballet et al (2011) in the case of children, there are several freedoms that depend on the assistance and actions of others (parents and/or caregivers) and, of course, on the nature of social arrangements. This means that material deprivation of the household is relevant as well.

In order to give researchers and practitioners a full and concrete overview of the operationalisation of the approach, in this section we present two procedures - which complement each other - that have emerged in the literature of the capability approach. The first, suggested by Ingrid Robeyns, and the second, developed by the Thematic group on Children's Capabilities of the HDCA at Florence University. The procedure suggested by Robeyns (2003a, 2003b) helps researchers in thinking and identifying domains and capabilities both theoretically and pragmatically. It is based on four criteria (Robeyns 2006, p. 356): explicit formulation, methodological justification, different level of generalities, exhaustion and non-reduction. These criteria are a sort of "check and balance" for the fact that every policy maker or researcher is situated in a personal context and therefore needs to

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positively bad. Before the approach can offer a valuable normative gender perspective, we must make commitments about substance" (Nussbaum 2003)

[17]To our knowledge no lists of relevant capabilities for children were reported in literature before 2003. These were presented for the first time at the conference of the Human Development and Capability Association (HDCA) at Pavia by Biggeri (2003 and 2004 and Biggeri et al. 2006) and by Di Tommaso (2006) (see also Saito 2003). Maria Laura Di Tommaso uses Nussbaum's list of central capabilities and selects 7 out of 10 of them by considering children as subjects of capabilities. Similar route has been followed by some of the authors of this book see chapter 8, 11, 13 and 14. New entries can be found at the HDCA web site.

pay special attention to avoid biases that are introduced by their (personal and disciplinary) background (Robeyns 2006, p. 356). The second procedure has been developed by the Thematic group on Children's Capabilities of the HDCA at Florence University. The procedure is based on four main stages which constitute the core of the process of thinking, reflecting and participating, and should support stakeholders in their attempts to identify the dimensions of their wellbeing. Therefore this process can potentially turn into an instrument of public reasoning and allows for a first ranking of dimensions for practical uses. "Technically, the core of the process is based on a progressive focalisation of the subject from his/her general opinions on values and wellbeing (conceptualisation), passing to his/her personal experience regarding specific domains/capabilities/achieved functionings, to a more general view on the value of a set of capabilities for the concerned community (or group of people), and finally back to a restricted set of capabilities which may be considered of the highest relevance for the wellbeing of the subject and his community." (see Biggeri and Libanora, 2011). The four steps followed are, thus, the following. Let stakeholders: conceptualise capability dimensions; focus on achieved functionings for each dimension; focus on community capabilities to form a consensus on the relevance of each dimension; start prioritising the different dimensions chosen. The procedure is usually delivered through a questionnaire although participatory tools have been used as well. Different rules, e.g. in terms of sharing 'consensus', can be used to validate the identification and the relevance of each dimension for the children. In table 1 we report an example of this analysis carried out with the children delegates of the Global March Against Child Labor and for Education.

3.3   Data base and data collection

The data utilised in the analysis are based on the National Disability Survey in Afghanistan (NDSA) carried out by Handicap International (Bakhshi et al 2006). The NDSA was an ad-hoc survey that used the capability approach as a framework. To collect data on livelihoods of Afghans with disabilities, a national cross-sectional multistage cluster sampling was undertaken. The fieldwork was conducted between 21st of December 2004 and 20th of August 2005. A three stage cluster sampling corresponding to the division of Afghanistan in 34 provinces, 397 districts and more than 30,000 villages was used for the survey. To calculate the sample size, the limit of statistical significance ($\alpha = 0.05$) was set with 95% confidence intervals, assumed a prevalence of disability of 8%, 10% precision and an estimated design effect of 2. Based on these assumptions, a sample size of 3926 households was calculated as acceptable. 175 clusters which would yield 5250 households were selected. At the first stage of sampling, 121 districts were systematically selected with a population proportional to size method, on the basis of the figures available from the 2003-2004 population pre-census, and projections of the 1979 census for the 4 provinces that had not been covered by the pre-census due to security issues.

	Table 1: Childrens selected dimensions
No.	Dimensions
1	Life and physical health
2	Love and care
3	Mental wellbeing
4	Bodily integrity and safety
5	Social relations
6	Participation / information
7	Education
8	Freedom from economic and non-economic exploitation
9	Shelter and environment
10	Leisure activities
11	Respect
12	Religion and identity
13	Personal autonomy
14	Mobility

Source: Biggeri et al. (2006)

At the second stage, all sections of towns and villages in a district were listed and then one or more were randomly selected with a population proportional to size method for a total of 175 clusters. At the third stage of sampling, 30 households per cluster were randomly selected with the same method. Four clusters could not be assessed due to security constraints and therefore a total of 5130 households were surveyed. At the centre of the cluster indicated by the Mullah or other authority, a street was randomly chosen, houses were numbered and a start household was randomly selected. All 30 adjacent households were surveyed. Empty houses or those that refused to participate were recorded and passed over in every cluster. All 5130 head of households considered as proxy respondents for all the 38320 residents, as well as 958 respondents identified with physical or sensory disability, mental illness or intellectual disability and 1738 non-disabled respondents (match and control respondents) were informed and invited to participate. They could decline participation and provided written or verbal consent in case of illiteracy. The rate of refusal was very low (0.1%). A few non-responses, mainly in urban areas, were due to non-availability of a respondent after several visits (0.3%).

Face to face interviews were carried out with all persons identified with disability over 4 years of age, or with a caretaker as a proxy respondent, as well as with a control group of non disabled people. Disability was assessed with an original screening questionnaire comprised of 27 questions referring to activity limitations, adapted to the cultural context, avoiding stigma and negative stereotypes (Bakhshi, Trani and Rolland, 2006). This questionnaire was based on the International Classification of Functioning, Disability and Health (ICF) (WHO, 2001) as

well as the Capability Approach (Sen, 1999). The head of household answered the household questionnaire and the screening questions on behalf of all the members of the household. Interviews with non-disabled respondents from the control group were undertaken to compare the living conditions and coping strategies of persons identified as having a physical or sensory disability, mental illness or intellectual disability with those of people without disabilities. All respondents, disabled and non-disabled, were asked about health conditions and accessibility to existing services, education, employment, income, livelihood conditions, self perception, and social participation using the same instrument. A shorter questionnaire was designed for children under age 15. They were all translated into Farsi and Pashto with iterative back-translation methods and tested with a pilot survey carried out between November 19th and November 30th, 2004. For the purpose of this paper, we have considered only responses of children. The training of the 15 trainers and monitors, the 24 supervisors as well as the 112 interviewers took place in 6 major cities. Trainers and monitors were medical doctors from the Ministry of Public Health with previous experience of large-scale surveys. Interviewers, who were recruited locally for security purposes, were educated at high school level and were trained on survey concepts and goals, disability issues and awareness, interview techniques, mine risk awareness, and security information followed by review, test and debriefing. The study received ethical approval from the Committee on Human Research of the Johns Hopkins Bloomberg School of Public Health and from the Ministry of Public Health of Afghanistan.

3.4 Dimensions and cutoffs

In this sub-section, we provide an outline of the choice of dimensions of deprivation used for our analysis of multidimensional deprivation in the case of Afghan children. We selected variables as proxies for ten dimensions of deprivation as summarized in table 2. The selection process was guided by the following principles. Firstly, we identified a sufficient variety of dimensions to move away from unidimensional analysis of income deprivation and at the same time cover major basic capabilities starting from the list reported in section 3.2 and table 1. Secondly, we were careful that the variables used in the analysis were significant in the Afghan context. Finally, we avoided any overlapping between dimensions to allow for equal weights. We however explore several weighting structures to assess the robustness of our findings. In some cases we decided to unify in the same domain some of the dimensions reported in table 1. In the case of religion we decided not to insert it since in Afghanistan all the children are Muslim.

The first dimension is health and we used access to clean water as a proxy. As argued in previous papers (Trani, Bakhshi and Dubois, 2006), shortage of clean water is a major issue in Afghanistan where children are often tasked with getting water for the family. This task can easily take twenty minutes everyday on a regular basis but up to a day of walk for a return trip during the dry season. The use of

Table 2: Dimensions of children's deprivation

Dimensions	Questions	cutoffs	Dimensions from table 1
1) Health	Access to good water source	no access	1
2) Care	Who is taking care of you	no mother	2
3) Family assets: material deprivation of the family	Assets possessed by household	≤ 5 assets	-
4) Food security: material deprivation of the children	Access to food	Often not enough food	1
5) Social inclusion	Based on 3 questions	Any sign of strong exclusion	4,5,6,11
6) Education	Did you go to school	No access	7
7) Freedom from economic and non-economic exploitation and leisure activities	hours worked per day	> 2 hours of work	8,10
8) Shelter and environment	Persons per room	> 3 per room	9
9) Personal autonomy	Based on 5 questions	Moderate difficulty	13
10) Mobility	Based on 5 questions	Moderate difficulty	14

water in hygiene is essential as contaminated water remains an important cause of diarrhoea and related ailments such as cholera and dysentery that can be life threatening especially when it comes to very young children who get dehydrated at a very quick pace.

The second dimension regards material deprivation and is constituted of possession of assets by the family. It is well documented in the literature that possessing fewer assets is often linked to a worse economic situation (Booysen, Van Der Berg, Burger, Von Maltitz and Du Rand 2008; Filmer and Pritchett, 2001). High levels of material possession is a relative indicator of well being of the household. Durable goods such as a house, a car, a tractor or a TV can be considered as assets for the household since they can be used to increase capability and therefore, reduce vulnerability.

Food security is measured through the quantity and quality of the daily food intake of the child. The overall lack of food and widespread access to poor quality nutrition are major concerns in Afghanistan. In fact, the main coping strategy identified in case of shock was a reduction in diet quality or quantity (Trani et al., 2006, WFP and MRRD, 2004). Afghans also took loans to cope with shortage of food.

Care and love is considered through the existence of caretakers for the child. The level of care is defined by the type of link between the child and the adult. Due to the war, many children have been displaced (Bhutta, 2002). Many were made orphans, were victims of violence, experiencing and witnessing loss and mistreatment as well as lack of security.

Social inclusion is understood as the presence of respect, social participation as well as absence of violence and mistreatment. Social acceptance is paramount in determining the quality of life of individuals, especially children. This is very much the case in a traditional society such as Afghanistan where family and community are closely knit. The consideration the family first and then the community give to the children influence other factors, such as self-esteem, access to education and receiving proper health care in case of need (Trani and Bakhshi, 2006).

Having accessed school is the proxy for the sixth dimension, education. Education for all is based on the strong belief that having access to school is a major component of fighting poverty and inequality in the long term. Access to education in Afghanistan is a lot higher for the new generation of children of school age (Bakhshi and Trani, 2006). This may be explained by the considerable primary school enrollment effort that has been made by the Government since 2002. But this effort, as it also was the case for former cohorts, is significantly different for girls and boys, for children with disabilities or those who have to work to contribute to the family income.

The freedom from economic and non-economic exploitation, measured as the intensity of work represents the seventh dimension of exploitation. Child work is widespread in Afghanistan, even among children going to school. Many children help in household chores. They help in the farm or take care of animals in rural

areas where more than two third of the population lives. "The incidence of child labour in Afghanistan is thus above the regional average of 18.8%" (Trani et al., 2006, p. 28). This is considered to be strongly related to leisure as children who do not work or do not carry out household chores are more free to play.

To stand for shelter and environment, we chose the number of people per room. This variable is a good proxy of material wealth as increasing the size, building or acquiring a new house constitutes a significant expense for a household.

The ninth dimension is autonomy measured by the basic ability to take care of oneself on a day-to-day basis. It is related to the feeling of autonomy and self-reliance as well as mental capabilities. This first dimension looks at the individual's ability to function on a daily basis with regards to taking care of oneself and is based on several abilities asked in the survey: bathing or ablutions, getting dressed, preparing meals for yourself, going to the toilet, eating and drinking and moving around.

The last dimension is mobility. It is assessed through the level of capacity to move out of the house without the help of someone. This dimension relates to the chores that need to be carried out outside the house and sometimes in the fields. This dimension is based on the combination of several queries in the survey: capacity to climb stairs (or a incline path), to go to the bazaar/shop on one's own, to carry heavy things (like water), to work in the field and to ride a bicycle/animal.

4   Results

In the first place we present in Table 3 some basic raw headcount ratios of deprivation in each of the ten considered dimensions by age group, and in Table 5 we break them down by gender and disability status. Table 5 suggests that girls are more deprived than boys in terms of school exclusion. Lack of access to drinkable water, shortage of assets, constraint to work or exclusion from school affect between 40% and 75% of all Afghans children. In rural Afghanistan, boys often help in the field and take care of animals. Girls help in looking after smaller children and doing other household tasks. NRVA (VAU & CSO, 2007) corroborates these results. The survey found that 13% of children aged 6-17 years old were involved in child labour damaging for their health and development. 18% of girls and 47% of boys were also involved in agricultural work. Respectively 73% of girls and 25% of boys did some sort of household chores. Child labour has been found to be associated with poverty in the NRVA. Disabled children exhibit higher deprivation rates in half of the considered dimensions, namely assets, social inclusion, education, autonomy and mobility. On the other hand, they exhibit less deprivation in care than non-disabled children showing that family support is essential to ensure their well-being (Trani et al. 2009). Existence of stigma and prejudice in the Afghan society are reflected by the high level of deprivation in terms of exclusion of disabled children from school and society in general. Lack of autonomy and mobility reflect the inadaptation of the environment to the needs of disabled chil-

dren: inexistence of infrastructure especially in rural areas and unavailability of devices such as crutches, wheelchairs, hearing aid are major barriers to inclusion into society. Our results demonstrate that these barriers are a constraint for all children but affect more widely disabled children.

Table 3: Fraction of children deprived in each dimension

Dimensions	depriv. all ages	depriv. age 5-7	depriv. age 8-11	depriv. age 12-14
1) Health	.651	.624	.662	.652
2) Care	.382	.318	.377	.418
3) Family assets: material deprivation of the family	.661	.664	.676	.643
4) Food security: material deprivation of the children	.347	.389	.381	.290
5) Social inclusion	.069	.070	.075	.062
6) Education	.347*	N/A	.342	.352
7) Freedom from economic and non-economic exploitation and leisure activities	.457	.110	.439	.639
8) Shelter and environment	.275	.296	.299	.286
9) Personal autonomy	.007*	N/A	.011	.003
10) Mobility	.312*	N/A	.398	.220

Values with the * are calculated without children aged 5-7

In Table 5 we present the multidimensional headcount ratio (H), the adjusted headcount ratio (M_0) and the average deprivation share accross the poor (A) for all the possible different cut-offs across dimensions (k=1 to 10), for children 8 to

Table 4: Fraction of children deprived in each dimension by gender and disability

Dimensions	depriv. Male	depriv. Female	depriv. Non disabled	depriv. Disabled
1) Health	.680	.614	.651	.654
2) Care	.369	.399	.383	.315
3) Family assets: material deprivation of the family	.662	.660	.660	.746
4) Food security: material deprivation of the children	.336	.361	.347	.346
5) Social inclusion	.066	.074	.065	.408
6) Education	.234*	.492*	.344*	.629*
7) Freedom from economic and non-economic exploitation and leisure activities	.402	.529	.460	.221
8) Shelter and environment	.308	.232	.276	.251
9) Personal autonomy	.010*	.004*	.003*	.317*
10) Mobility	.168*	.497*	.307*	.744*

Values with the * are calculated without children aged 5-7

14 years of age. By definition, the level of deprivation measured by (H) diminishes as the cutoff accross dimensions increases; and by construction, (A) increases as the multidimensional cut-off increases. In the table, it can be seen that virtually all Afghan children are deprived in at least one dimension, and as indicated by (A), they are deprived - on average - in 3.8 dimensions. When one requires to be deprived in two or more dimensions simultaneously, the proportion of poor children is still above 90%, and if one requires four or more simultaneous deprivations, almost 50% of the children are poor experiencing -on average- five deprivations. However, virtually no child is deprived in eight dimensions simultaneously.

Table 5: Level and breadth of poverty for age 8-14

Cutoff (k)	H	A	$M_0 = A \times H$
1	.987	.366	.362
2	.935	.381	.356
3	.759	.423	.321
4	.493	.489	.241
5	.264	.567	.150
6	.133	.634	.084
7	.036	.725	.026
8	.009	.804	.007
9	.000	.900	.000
10	.000	N/A	.000

Table 6: Level and breadth of poverty according to age group

Cutoff (k)	Age 5-7		Age 8-11		Age 12-14	
	H	M_0	H	M_0	H	M_0
1	.924	.338	.986	.366	.989	.357
2	.747	.313	.924	.360	.947	.353
3	.468	.234	.771	.329	.745	.312
4	.160	.101	.502	.249	.484	.234
5	.055	.042	.272	.157	.254	.142
6	.015	.013	.144	.093	.120	.075
7	.000	.000	.051	.037	.020	.015
8	-	-	.010	.008	.008	.006
9	-	-	.001	.001	.000	.000
10	-	-	.000	.000	.000	.000

In table 6, we present results by age group. Note that autonomy and mobility are non-applicable for children below 8, so the results for the youngest group

are not strictly comparable with the results for the other two groups. It can be seen that 47% of children aged 5-7 years experience three or more simultaneous deprivations (out of eight) and - on average - they are deprived in 4 dimensions. When comparing the two older groups, we can see that for a cut-off of 1 or 2, children 8-11 are poorer than children 12-14, as for the (M_0) measure. Interestingly, although a smaller proportion of them is poorer than the proportion among the older children, the intensity of their deprivation is higher, so that (M_0) is higher. This result is stronger for higher cut-offs: when one requires a higher number of simultaneous deprivations to be considered poor, the younger group is poorer now both with a higher proportion of poor children and a higher intensity.

In table 7, we explore levels of deprivation between urban and rural areas of Afghanistan for children 8-14. We find that no children are deprived in more than 7 dimensions regardless of whether they live in villages or towns. However, for all k-values both (H) and (M_0) are significantly higher in rural areas than in urban ones suggesting that not only the proportion of poor children is higher in rural areas but also that they suffer a higher number of coupled deprivations. It is worth noting that 71.6% of the population in Afghanistan live in rural areas. Thus rural areas concentrate not just a higher proportion but a higher number of poor children. Higher poverty in rural areas than in urban ones is recurrent result in the poverty measurement literature. People in towns usually have the advantage of better access to water and other basic services, sometimes they access a more diverse diet, more goods and equipment and larger size of houses (Trani et al., 2006; VAU & CSO, 2007). In the rural areas of Afghanistan, children often have to walk long distances to access school or a health facility, boys help in the field while girls are in charge of household chores. Some results on the deprivation of Afghan children disaggregated using data on gender and disability can be found in Trani et al. (2009).

Table 7: Level and breadth of poverty for urban and rural children 8-14

Cutoff (k)	Urban		Rural	
	H	M_0	H	M_0
1	.953	.298	.999	.383
2	.877	.290	.955	.379
3	.604	.236	.811	.350
4	.355	.161	.540	.269
5	.135	.073	.307	.176
6	.053	.032	.159	.102
7	.002	.001	.048	.035
8	.000	.000	.000	.000
9	.000	.000	.000	.000
10	.000	.000	.000	.000

5 Concluding remarks and implications for public policies

In this paper we have argued the importance of adopting a multidimensional perspective specifically tailored for children, for poverty evaluation in this group. We have revised the child poverty indices available in the literature and argued that the capability approach can be helpful for framing and understanding child poverty. Within this approach, we have used a list of ten dimensions which is in line from the results of the participatory study done among the children delegates of the Global March Against Child Labor and for Education,and estimated multidimensional poverty using the Alkire and Foster's methodology.

As expected we found poverty levels in Afghanistan to be strikingly high, with virtually all children (both in urban and rural areas and of all age groups) being deprived in at least one of the ten dimensions. Among children, we find the younger ones (5-7 years) to be less poor but the trend is reversed after 8.

More research is needed to explore differences in deprivation according to gender and disability status.

Further research is also needed to investigate the weighting system that should be defined depending on how a society and/or children prioritise different capabilities' domains. Another field of research to be developed regards the determination of the cutoffs and how they influence the level of poverty.

Appendix

Following is a description of dimensions of wellbeing used for the purpose of this paper. The choices made to determine the cutoff on each dimension are based on the literature as well as on observations made by one of the author during the fieldwork. Obviously, the subjectivity of these choices indicating the level of poverty can be questioned. More research is needed to ensure a more objective method of selection of the cutoffs.

1) Health
What are the main sources of drinking water for your household?
1 = piped into residence/compound/plot
2 = public tap
3 = hand pump in residence/coumpound/ plot
4 = public hand-pump
5 = well in residence/compound/ plot
6 = covered well
7 = open well and kariz
8 = spring
9 = river/ stream
10 = pond / lake
11 = still water
12 = rain water
13 = tanker/ truck
14 = other (specify)
The child is deprived on this dimension if the answer is 7, 9, 10, 11, 12 13 or 14.

2) Care
Who takes care of your child besides yourself?
1 = mother
2 = father
3 = sister/brother
4 = he/she herself or himself
5 = other children
6 = other member of the family
7 = mullah
8 = other leader of the community
9 = other member of the community
10 = no one
11 = other (specify)
The child is deprived on this dimension if the mother is not taking care of him/her

3) Family assets
Does any member of your household own any of the following?
I = radio, tape recorder
II = television
III = pressure cooker
IV = oven, hotplate
V = refrigerator
VI = traditional stove/bukhari
VII = bicycle
VIII = motorbike
IX = car
X = tractor
XI = generator
XII = kerosene lamp
XIII = sewing machine
The child is deprived on this dimension if the family has less than six assets.
If the family owns a tractor or a car the child is automatically set as non-deprived

4) Food Security: Material deprivation of the children
How often does your household get enough to eat?
1 = always enough
2 = sometimes not enough
3 = frequently not enough
4 = always not enough
5 = enough but with poor quality
The child is deprived on this dimension if the answer is 3 or 4

5) Social inclusion
Has anyone ever ill-treated your child?
Did you and your child take part in any ceremony during the past year?
Is your child engaged or married?
The child is deprived on this dimension if the answer is yes on at least one of
the questions

6) Education
Has the person received some education?
The child is deprived on this dimension if he has received no education

7) Freedom from economic and non-economic exploitation and Leisure activities
How many hours per day does your child spend on household tasks?
How many hours per day does your child spend on fieldwork during the season
of work?

How many hours per day does your child spend on work outside the house?

The child is deprived on this dimension if he/she works more than two and a half hour per day

8) Shelter and environment

How many people per room are there in your household?

The child is deprived on this dimension if he/she lives in a house with three or more people per room

Dimensions 9 and 10 consist of a set of items that help establish a score on the given dimension. These dimensions are respectively constituted of 6 and 5 items to which the respondents had the choice between three possibilities. Each of these answers was given a certain score: 0 for "yes I can do it", 1 for "yes, I can do it but with difficulty", and 2 for "no, I cannot do it". As a result, the higher the score on each dimension, the higher the level of difficulties the child face on the given dimension.

A score indicator is constructed adding up the answers. A score between 1 and 3 is considered as "'Mild Difficulty"', a score between 4 and 6 is considered as "'Moderate Difficulty"'.a score between 7 and 9 is considered as "'Severe Difficulty"' and finally, a score between 10 and 12 is considered as "'Very Severe Difficulty"'.

9) Personal autonomy

Is your child able to do the following?

I = bathing/ablutions

II = getting dressed

III = preparing meals for yourself

IV = going to the toilet

V = eating/drinking

VI = moving around

The child is deprived on this dimension if he/she has at least moderate difficulty (which corresponds to a score between 3 and 5).

10) Mobility

What is he/she able to do outside the house/compound? (N.B.: Ask this question if the child is over 8)

I = climbing stairs

II = going to the bazar/shop

III = carrying water

IV = working in the field

V = riding a bicycle/or animal

The child is deprived on this dimension if he/she has at least moderate difficulty (which corresponds to a score between 3 and 5).

Acknowledgments

References

Alkire S. (2005), "Why the Capability Approach", *Journal of Human Development*, 6(1), pp. 115-133.

Alkire S. (2008), "Choosing Dimensions: the Capability Approach and Multi-dimensional Poverty", in N. Kakwani and J. Silber (eds), *The Many Dimensions of Poverty*, New York: Palgrave/MacMillan.

Alkire S. and Seth S. (2008), "Multidimensional Poverty and BPL Measures in India: A Comparison of Methods" Oxford Poverty and Human Development Initiative, *OPHI working paper* n. 14.

Alkire S. and Foster J.E. (2008), "Counting and Multidimensional Poverty Measurement", Oxford Poverty and Human Development Initiative, *OPHI working paper* n. 7.

Bakhshi P., Trani J.F. and Rolland C. (2006), Conducting surveys on disability a comprehensive toolkit, Handicap-International, Lyon. www.ucl.ac.uk/silva/lc-ccr/lccstaff/jean-francois-trani/lccstaff/jean-francois-trani/TOOLKITREPORT1.pdf (Accessed May 5, 2009).

Bakhshi P. and Trani J.F. (2006), Towards inclusion and equality in education? from: Assumptions to facts, Handicap-International, Lyon.

Ballet J., Comim F. and Biggeri M. (2011), Children and the Capability Approach: Conceptual Framework, Chap. 1 in Biggeri M., Ballet J. and Comim F.(Eds) (2011), *Children and the Capability Approach.*

Bartlett L.A., Mawji S., Whitehead S., Crouse C., Dalil S., Ionete D. and Salama P. (2005), "Where giving birth is a forecast of death: maternal mortality in four districts of Afghanistan", 1999-2002, *Lancet*, 365, pp. 864-70.

Beall J. and Schutte S. (2006), "Urban Livelihood in Afghanistan, Synthesis Paper Series", Afghanistan Research and Evaluation Unit, AREU, 2006. www.areu.-org.af/index.p-hp?&task=view&id=30&Itemid=35 (Accessed May 25, 2009).

Ben-Arieh A. (2005), "Where are the Children? Children's Role in Measuring and Monitoring Their Wellbeing", *Social Indicators Research*, 74, pp. 573-596.

Ben-Arieh A. (2008), "The Child Indicators Movement: Past, Present, and Future", *Child Indicators Research*, 1, pp. 3-16

Bhutta Z. A. (2002), "Children of War: the real casualties of the Afghan Conflict", *British Medical Journal*, pp. 324-350.

Biggeri M. (2003), "Children, Child Labour and the Human Capability Approach", paper presented at the 3rd Conference on the Capability Approach: from

Sustainable Development to Sustainable Freedom, 7-9 Sept. 2003, Pavia.

Biggeri M. (2004), "Capability Approach and Child Well-being", Studi e discussioni, n. 141, Dipartimento di Scienze Economiche, Università degli Studi di Firenze, Firenze.

Biggeri M. and Anich R. (2009), "The Deprivation of Street Children in Kampala: Can the Capability Approach and Participatory Methods Unlock a New Perspective in Research and Decision Making?", *Mondes en Developpement*, Vol.37-2009/2-n.146

Biggeri M. and Libanora R. (2011), "From valuing to evaluating: tools and procedures to operationalise the Capability Approach", chap. 4, in Biggeri M., Ballet J. and Comim F. (Eds) (2011), *Children and the Capability Approach.*

Biggeri M. and Mehrotra R. (2011), "Child Poverty as Capability Deprivation: How to Choose Dimensions of Child Wellbeing and Poverty?", chap. 3, in Biggeri M., Ballet J. and Comim F.(Eds) (2011), *Children and the Capability Approach.*

Biggeri M., Libanora R., Mariani S. and Menchini L. (2006), "Children Conceptualizing Their Capabilities: Results of the Survey During the First Children's World Congress on Child Labour", *Journal of Human Development*, vol. 7, n. 1, March, pp. 59-83.

Booysen F., Van Der Berg S., Burger R., Von Maltitz M. and Du Rand G. (2008), "Using an Asset Index to Assess Trends in Poverty in Seven Sub-Saharan African Countries", *World Development*, Vol. 36, No. 6, pp. 1113-1130.

Boyden J. (2006), "Young Lives Project: Concepts and Analytical Framework", Young Lives, UK.

Bradshaw J.P, Hoelscher et al. (2006), "An Index of Child Well-being in the European Union", *Social Indicators Research*, 80(1), pp. 133-177.

Camfield L. (2006), "Why and How of Understanding 'Subjective' Well-being: Exploratory work by the WeD group in four developing countries", *WeD Working Paper* 26.

Camfield L., Streuli N. and Woodhead M. (2009), "What's the Use of 'Well-Being' in Contexts of Child Poverty? Approaches to Research, Monitoring and Children's Participation", *International Journal of Children's Rights*, 17.

Clark D.A. (2003), "Concepts and Perceptions of Human Well-being: Some Evidence from South Africa", *Oxford Development Studies*, 31(2).

Corak M. (2006), "Principles and practicalities for measuring child poverty", *International Social Security Review*, vol 29(2).

Cummins R. A., Heckesley R., Pallant J., Van Vugt J. and Misajon R. (2003). "Developing a national index of subjective wellbeing", *The Australian Unity Wellbeing Index*, Social Indicator Research, 64, 159 190.

Di Tommaso M. (2006), "Measuring the well being of children using a capability approach: An application to Indian data", *Child working papers*, Child n.5.

Donini, A. (2007), "Local Perceptions of Assistance to Afghanistan", *International Peacekeeping*, 14, 1, pp. 158-172.

Feeny T. and Boyden J. (2003), *Children and Poverty: A Review of Contemporary Literature and Thought on Children and Poverty*, Christian Children's Fund, Richmond.

Filmer D. and Pritchett L.H. (2001), "Estimating wealth effects without expenditure data-or tears: an application to educational enrolments in states of India", *Demography*, 38, pp. 115-32.

Foster J., Greer J. and Thorbeche E. (1984), "A Class of Decomposable Poverty Measures", *Econometrica*, 52 (3), pp. 761-766.

Gordon D., Nandy S., Pantazis C., Pemberton S. and Townsend P. (2003), *Child Poverty in the Developing World*, UNICEF, New York.

Johnecheck A. and Holland D.E. (2007), "Nutritional status in postconflict Afghanistan: Evidence from the National Surveillance System Pilot and National Risk and Vulnerability Assessment". *Food and Nutrition Bulletin*, Vol. 28, n. 1, pp. 3-17.

Land K.C., Lamb V.L., Meadows S.O. and Taylor A. (2007), "Measuring Trends in Child Well-Being: An Evidence-Based Approach", *Social Indicators Research*, 80 (1), pp. 105-132.

Land K.C., Lamb V.L. and Mustillo S.K. (2001) "Child and Youth Well-Being in the United States, 1975-1998: some findings from a new index", *Social Indicators Research*, n. 56, pp. 241-320.

Mehrotra S. (2006), "Child Poverty", in David Alexander Clark, The Elgar Companion to Development Studies, Edward Elgar Publishing Limited, Cheltenham.

Minujin A. and Delamonica E.E. (2005), "Incidence, Depth and Severity of Children in Poverty", Working paper, Division of Policy and Planning, UNICEF, New York.

Minujin A., Delamonica, E.E. Davidziuk A. and Gonzalez E.D. (2006), "The definition of child poverty: a discussion of concepts and measurements", *Environment & Urbanization*, International Institute for Environment and Development (IIED), Vol 18 (2), pp. 481-500.

Moser C. and Norton A. (2001), *To Claim our Rights: livelihoods security, human rights and sustainable development*, ODI, London.

Nussbaum M. (2000), *Women and Human Development: The Capabilities Approach*, Cambridge University Press, Cambridge.

Nussbaum M. (2003), "Capabilities as Fundamental Entitlements: Sen and Social Justice", *Feminist Economics*, 9(2-3), pp.33-59.

Panter-Brick C., Eggerman M., Mojadidi A. and Mcdade T.W. (2008), "Social Stressors, Mental Health, and Physiological Stress in an Urban Elite of Young Afghans in Kabul", *American Journal of Human Biology*, 20, pp. 627-641.

Robeyns I. (2003a), "Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities", *Feminist Economics*, 9(2-3).

Robeyns I. (2003b), *The Capability Approach: An Interdisciplinary Introduction*, University of Amsterdam, Amsterdam.

Robeyns I. (2006), "The Capability Approach in Practice", *The Journal of Political Philosophy*, Vol. 14, n. 3, pp. 351-376.

Roelen K. and Gassmann F. (2008), "Measuring Child Poverty and Well-Being: a literature review", *MPRA Paper*, n. 8981.

Saito M. (2003), "Amartya Sen's Capability Approach to Education: A Critical Exploration", *Journal of Philosophy of Education*, 37(1), pp.17-33.

Santos M.E. and Ura K. (2008), "Multidimensional Poverty in Bhutan: Estimates and Policy Implications", Oxford Poverty and Human Development Initiative, *OPHI working paper* n. 14.

Save the Children (2008), The Child Development Index: Holding governments to account for children's wellbeing, Save the Children, London.

Sen A.K. (1999), *Development as Freedom*, Oxford University Press, Oxford.

Sen A.K. (2004a), "Capabilities, lists, and public reason: continuing the conversation", *Feminist Economics*, 10, pp. 77-80.

Sen A.K. (2004b), "Elements of a Theory of Human Rights", *Philosophy and Public Affairs*, Volume 32 Issue 4, October, pp. 315-356.

Sen A.K. (2006), "What do we want from a theory of justice", *The Journal of Philosophy*, Vol. CIII, n.5, pp. 215-238.

Sen A.K. (2007), "Children and Human Rights", *Indian Journal of Human Development*, Vol. 2(1).

Trani J.F. and Bakhshi P. (2006), Understanding the Challenge Ahead. The National Disability Survey in Afghanistan Executive Summary, Handicap International, Lyon.

Trani J.F., Bakhshi P., Noor A. and Mashkoor A. (2009), "Building a disability strategy in Afghanistan: a capabilities approach to research challenges and policy implications", *European Journal of Development Research*, 21(2), pp. 297-319.

Trani J.F., Bakhshi, P. and Dubois J.L. (2006), Understanding Vulnerability

of Afghans with Disability Livelihoods, Employment, Income, Handicap International, Lyon.

UNDP (2000), Human Development Report, Human Rights and Human Development, United Nations Publications, New York. www.hdr.undp.org/en/media/HDR-_2000_EN.pdf.

UNDP (2007), Human Development Report, Fighting climate change: Human solidarity in a divided world, United Nations Publications, New York. www.hdr.undp.-org/en/media/hd-r_20072008_en_complete.pdf.

UNICEF (2004), State of the World Children 2005, Childhood Under Threat, UNICEF, New York.

UNICEF (2005a), "Child Poverty in Rich Countries", *Innocenti Report Card* n.6, UNICEF Innocenti Research Centre, Florence.

UNICEF (2005b), "The proportion of children living in poverty has risen in a majority of the world's developed economies", *Innocenti report on Child Poverty in Rich Countries Card* n.6, UNICEF Innocenti Research Centre, Florence.

UNICEF (2007), "Child poverty in perspective: An overview of child well-being in rich countries", *Innocenti Report Card* n.7, UNICEF Innocenti Research Centre, Florence.

White H., Leavy J. and Masters A. (2009), "Comparative Perspectives on Child Poverty: A review of Poverty Measures", *Working paper*, n. 1, Young Lives, Oxford.

World Bank (2005), World Bank web site - characterization of poverty www.world-bank.org. (Accessed Dec 11, 2005)

World Food Programme and Ministry of Rural Rehabilitation and Development (2004), Reports on Findings from the 2003 National Risk and Vulnerability Assessment (NRVA) in Rural Afghanistan, December 2004, p. 123 , www.mrrd.gov.af-/vau

Young Lives (2001), Summary of the Young Lives Conceptual Framework, from www.younglives.org.uk