Conceptualising and operationalising childhood deprivation: A case study of Albania

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ABSTRACT

Using the Convention of the Right of the Child as a framework, the paper provides an example of the analysis of multidimensional aspects of child poverty. We identify education attendance, child nutritional status, access to clean water and material poverty as the four main spheres of child deprivation. Using data from the 2002 Albanian Living Standard Measurement Survey as a case study we identify pathways of interactions between different forms of deprivation. The findings confirm the key role of maternal education in determining the risk of a child suffering from multiple form of deprivation. Within the specific setting of Albania, although the likelihood of being deprived on all the different dimensions is not high, the probability that a child escapes any form of deprivation is very low.

1. Introduction

Over the last two decades there has been widespread acceptance of the view that poverty is more than a lack of material resources, although material resources are recognised as being necessary but not sufficient to escape poverty. In the words of Amartya Sen (1999) 'income is only a means to reduce poverty and not the end of it'. Sen suggests that 'poverty must be seen as the deprivation of basic capability rather merely as income based measure' and that 'basic capabilities' might include survival, nutrition, health, education and personal development. Although most analysts now agree on the multi-dimensional nature of poverty, there is less agreement on how to measure it.

Deriving a single indicator that captures the multidimensional nature of 'capability poverty' or 'deprivation' is appealing both in terms of summarizing the overall picture and for simplifying communication (Micklewright, 2001). Atkinson *et al* (2002) distinguish between two different forms of aggregation. The first approach combines aggregate indicators into a single index, whilst the second combines different elements of deprivation at the individual level which are then summed over

individuals to form an aggregate measure. A classic example of the first approach is the Human Development Index (HDI), which reflects progress on the three separate domains of Gross Domestic Product (GDP), life expectancy and educational attainment. The HDI has been successful in broadening the development debate away from a narrow focus on economic growth. However, the meaning of the index's absolute value is far from clear, and even its relative meaning in terms of a country's rank order has been complicated by the emergence in the last 15 years of a number of countries with high levels of literacy and survival combined with very low GDP. Such countries are particularly concentrated in the former communist countries of south-east Europe and the former Soviet Union. Some composite indices of children's well-being have been produced to allow cross national comparisons such as the NIQOL index (Jordan, 1993) and the Kids Count Index in the USA (Ann E Casey Foundation, 1999). However, they have not as yet found widespread acceptance (Gordon et al, 2003) and given problems in interpreting such indices, we tend to agree with Atkinson et al (2002) that 'the first form of aggregation should be avoided'.

In contrast, the second type of aggregation – at the individual level offers the possibility to study the extent of multiple-deprivation. Using Albania as a case study, this paper investigates the development of an indicator of multiple deprivation amongst young children.

The choice of Albania for the case study country was motivated by several factors. At the Council of Europe summit in Thessalonki in 2003, Albania was identified as a potential candidate country for joining the EU sometime between 2010 and 2015. However, despite major economic reforms and strong economic growth during the 1990s, Albania remains one of the poorest countries in Europe, with a per capita income of US$2,439 (or $4,978 in PPP dollars) in 2004 (UNDP, 2006). According to the recent World Bank Poverty Assessment, over a quarter of the population live below the poverty line (World Bank, 2003). Albania ranks at the bottom of the eight potential European accession countries in terms of welfare as measured by the HDI, GDP per capita and other non-income dimensions of child poverty (see Table 1). The rate of malnutrition in Albania is one of the highest in CEE/CIS, with a third of the children under 5 being stunted. The only other countries in the region with similar levels of children malnutrition are Uzbekistan and Tajikistan. Thus its poor performance on key indicators of child welfare makes Albania of interest.

Table 1: Development Indicators for Potential EU Accession Countries.

Country	HDI	GDP (PPP)	Combined gross enrolment Ratio for primary and secondary education	Children Stunting	Children Wasted	Children Underweight
Bulgaria	0.816	8,078	81	n.a	n.a	n.a
Romania	0.805	8,480	75	8	3	6
Albania	0.784	4,978	68	32	11	14
Bosnia-Herzegovina	0.800	7,032	67	10	6	4
Croatia	0.846	12,191	73	0.8	0.8	0.6
FYR Macedonia	0.796	6,610	70	7	4	6
Turkey	0.757	7,753	69	16	2	8
Serbia and Montenegro	n.a	n.a	n.a	5	4	2
OECD	0.892	25,915	89	n.a	n.a	n.a
CEE & CIS	0.802	7939	83	16	4	6

Note: Acceding Countries (part of the EU as January 2007): Bulgaria and Romania; Candidate Country: Croatia, FYR Macedonia, Turkey; Potential Candidate countries: Albania, Bosnia and Herzegovina, Serbia and Montenegro.
Source: Human Development Report 2006 for HDI, GDP per capita and combined gross enrolment Ratio. For nutrition indicators: Albania Multiple Indicator Cluster Survey 2000, Bosnia and Herzegovina Multiple Indicators Cluster Survey 2000, Croatia UNICEF Growth monitoring of pre-school children 1997, Report of Romania National Nutrition Survey 1991, Turkey 1998 Demographic and Health Survey, Serbia Multiple Indicators Cluster Survey 2000.

Additionally, the 2002 Albanian Living Standard Measurement Survey collected by the World Bank and the Albania Institute of Statistics provides an ideal source of data with which to investigate childhood multiple deprivation. The survey collected data not only on household consumption, which is commonly used to derive money metric measures of poverty, household amenities and school attendance but it has also, uncommonly, collected data on nutritional status for children under 5. This provides us with the opportunity to examine the extent of 'deprivation' experienced by children under five on a number of different dimensions of capability – including education, health, and material resources.

The paper seeks to address a number of different research questions:

- Are those children that are most at risk of being deprived in terms of education and personal development also at risk of being deprived of health and nutrition?
- How do these non-monetary dimensions of child deprivation interact with material deprivation?
- What is the extent of the overlap between these dimensions?
- What are the factors associated with being materially deprived in more than one dimension?

The paper is structured in four main sections, in Section 2 we present the conceptual framework, data and measures used to study the income and non–income dimensions of poverty for children under age five. Section 3 analyses the factors associated with being deprived on each of the different dimensions of capability poverty, and explores to what extent those factors are common across dimensions. Section 4 then goes on to investigate the extent of the overlaps between the different dimensions of deprivation, while in Section 5 we examine the factors associated with being deprived in more than one dimension. Section 6 concludes the paper.

2. Conceptual framework, data and measures.

The Convention on the Rights of the Child (UN 1989) sets out the basic human rights that children everywhere have: the right to survival; to develop to the fullest; to protection from harmful influences, abuse and exploitation; and to participate fully in family, cultural and social life. This was followed in 1995 by the Copenhagen summit where a comprehensive definition of absolute poverty was adopted: "a condition characterized by severe deprivation of basic human needs including food, safe drinking water, sanitation facilities, health, shelter, education and information. Poverty depends not only on income but also access to social services" (para 19, Chapter 2, Un 1995). The CRC and Copenhagen summit underline the need to look beyond simple income and consumption measures of poverty to include other factors. Sen (1999) suggests that 'poverty must be seen as the deprivation of basic capabilities rather merely as an income based measure' and that' basic capabilities' might include survival, nutrition, health, education and personal development. Capability poverty can be measured directly in terms of capabilities themselves: e.g. the percentage of children who are underweight; or indirectly in terms of access to opportunities, or means of capabilities, such as access to trained health personnel at birth, and access to education and other public services.

More recently Parker and Jespersen (2005) have proposed four categories of deprivation that are of particular relevance for children: material and environmental (including shelter); health and nutrition; education and knowledge and social, psychological and emotional development. This broadens out the conceptualisation of deprivation to include subjective as well as objectives measures.

The paper investigates the multi-dimensional nature of poverty amongst young children (aged under 5) in Albania using indicators which capture deprivation in four different capability spaces:

- Child nutritional Status
- Access to safe drinking water
- Pre-school attendance
- Material deprivation

The principal justification for the choice of indicators is their relevance to the CRC, their appropriateness for the stage of the life course (or the age of the child) (Falkingham, 2000), and the availability of data to calculate them[1]. As information on pre-school attendance is only available for children 3-5, analysis of multiple deprivation including this indicator are presented below both for all children under 5 and those 3-5 only.

2.1 Child nutritional status

Child nutritional status provides an indirect indicator of overall child health as well as a direct measure of access to adequate nutritious foods. Malnutrition, or hunger, is a robust indicator of the presence of severe child deprivation. Article 6 of CRC emphasises the right to 'survival and development' and further articles highlight the need to enhance children's health through adequate nutrition, clean drinking water and preventative health care (article 24). As well as a basic right in itself, sound nutrition leads to improved life chances for infants and children and increases the likelihood that children will complete primary education and benefit learning experience. Conversely poor nutritional status early in life may have long-term developmental consequences.

Table 2 presents information on three standard indices of physical growth:

- height-for –age- percentage of children severely or moderately stunted reflects chronic undernutrition;
- weight-for-height- percentage of children severely or moderately wasted reflects acute or recent malnutrition;

[1] Unfortunately, the Albanian LSMS does not collect any information that might be used to assess the psychological or emotional development of children or their subjective welfare.

- weight-for age- percentage of children severely or moderately underweight is a good indicator of a child population's nutritional health.

Table 2: Anthropometric indicators using 2002 Albania LSMS and 2000 MICS

	Stunted Below 2SD HAZ	*Wasted Below 2SD WHZ*	*Malnourished Below 2SD WAZ*
2000 MICS (<5 years old)	31.7	11.1	14.3
2002 LSMS (<5 years old)	37.8	7.0	12.6
2002 LSMS (3-5 years old)	31.7	7.8	11.4

Source: 2000 Albania Multiple Indicators Cluster Survey and 2002 Albania Living Standard Measurement Survey. The analysis of the anthropometric indicators in the 2002 Albania Living Standard Measurement Survey is based on 1022 children under 5 years old and 450 children 3-5 years old for whom we had information on the three indicators.

The weight-for-height has been calculated using the 2000 Center for Disease and Control (CDC) *Growth Reference Population* and the 'zanthro' extension of the 'egen' command in STATA 8.2SE. In the 2002 Albania LSMS, children aged below 24 months had their height measured lying down whereas for children aged above 24 months their height was measured standing up. The 2000 CDC tabulation provides a reference population for these two typologies of measures and in the syntax this option is allowed for.

In the 2002 Albania LSMS there are 1340 children below the age of 5. For 113 children, information for their age, height or weight was missing and these cases were excluded from the analysis. Some additional cases were also excluded where measurement errors which were biologically implausible. WHO (1995) recommends excluding values of Z-score outside a certain range: HA >-5 and <3, WH>-4 and WA >-5 and <5. The analysis of children nutritional status is therefore limited to 1,022 children for which it were possible to calculate all three anthropometric indicators[2]. Table 2 compares the results from the 2002 LSMS with those from the Multiple Indicator Cluster Survey and there is reasonable consistency between the two sources.

The three measures of stunting, wasting and under weight provide indicators for different dimensions of child nutritional status. As we are interested in examining multiple dimensions of child deprivation, it is interesting to see how the nutritional

[2] The proportion of children stunted, wasted or underweight reported here differs from the 2003 World Bank Poverty Assessment as the analysis here uses the recommended from WHO fixed exclusion range for the z-score value.

indicators themselves overlap (Table 3). A 'good' nutritional outcome may be defined as not being nutritionally deprived on any of the three indicators, a position enjoyed by just 55 per cent of young children in Albania.

Table 3: Proportion of children which have at least one poor nutritional outcome, Albania 2002.

	Proportion of children less than 5 years old	*Proportion of children 3-5 years old*
Good nutritional outcome	55.3	61.1
Only one indicator is below 2 SD	32.9	28.3
Two indicators are below SD	10.7	9.1
All three indicators are below 2SD	1.0	1.5
Observation	1022	450

Source: 2002 Albania LSMS.
Note: The analysis of the anthropometric indicators in the 2002 Albania Living Standard Measurement Survey is based on 1022 children under 5 years old for whom we had information on the three indicators.

2.2 Safe drinking water

The definition of absolute poverty agreed at the Copenhagen Summit quoted at the start of this paper explicitly refers to lack of access to safe drinking water and sanitation facilities. Access to adequate water is also enshrined as basic child right under article 24 of the CRC. Access to adequate water and sanitation services has direct implication on children's health, education, well-being and social development and improved water and sanitation will speed the achievement of all eight of the MDGs (WHO/UNICEF, 2005). There is some debate regarding the definition of clean water. However, taking the definition used by the WHO, access to safe drinking water can be estimated by the percentage of children living in households using 'improved' drinking water sources such as piped household connection, public standpipe, borehole, protected dug well, protected spring and rainwater collection. Improved sanitation facilities are defined as those more likely to ensure privacy and hygienic use and include simple pit latrines and ventilated improved pit latrines.

Table 4: Access to water for children under 5 years old and for children 3-5 years old by place of residence, Albania 2002.

Access to water	*Proportion of children less 5 year living in urban area*	*Proportion of children less 5 year living in rural area*	*Total*
1.River lake	2.5	2.5	2.5
2. Spring well	3.1	35.9	25.3
3. Public/water truck	3.1	16.1	11.8
4. Running water outside the house	10.4	23.4	19.3
5. Running water inside the dwelling	80.9	22.1	41.1
Access to water	*Proportion of children 3-5 year old living urban area*	*Proportion of children 3-5 year old living rural area*	*Total*
1.River lake	2.9	3.7	3.3
2. Spring well	2.6	36.8	25.5
3. Public/water truck	4.2	17.9	13.4
4. Running water outside the house	12.0	23.9	20.0
5. Running water inside the dwelling	78.3	17.7	37.8

Source: 2002 Albania LSMS.
Note: the analysis is based on 1340 children under 5, and 578 children 3-5 years old.

From the Albania LSMS, it is not possible to distinguish protected dug well and spring water from unprotected sources. Access to safe water is therefore defined here as access to running water inside or outside the household and access to water trucks. Not surprisingly, there are marked differences between urban and rural areas, with just under two-fifths of children under age 5 living in rural area having no access to safe water compared to around just 6 percent of urban children.

2.3 Pre-school attendance

In accordance with the CRC, development should not limited to physical development but extends to ensuring the child's spiritual, moral and social development. Article 28 recognises the key role of education in ensuring such development. The 2002 Albania LSMS collected information on school attendance for children aged between 3 and 5 years old. Table 5 shows that a quarter of all Albanian children aged 3 to 5 years old attend pre-school education. Again there are clear differences between urban and rural areas, with attendance in urban areas twice than in rural (38% v 19%). As well as having educational value in its own right, attendance at kindergarten may also have a positive health benefits, both through subsidised meals and access to health care services. In addition it may free mothers to participate in paid labour and so enhance family income.

Table 5: Preschool attendance by place of residence for 3-5 years old, Albania 2002.

Preschool attendance	*Proportion of children 3-5 years old living urban area*	*Proportion of children 3-5 years old living rural area*	*Total*
Yes	*38.0*	*19.3*	*25.5*
No	*62.0*	*80.7*	*74.5*

Source: 2002 Albania LSMS.
Note: the analysis is based on 578 children 3-5 years old.

2.4 Material deprivation

Traditionally economists and policy analysts have focussed on money-metric measures of poverty, based on the assumption that a person's material standard of living largerly determines their well-being. The poor are then defined or identified as those with a material standard of living as measured by income or expenditure below a certain level – the so-called poverty line (see Atkinson, 1987, 1989 and Ravallion, 1992). Here we have defined **material deprivation** using per capita household consumption expenditure derived from the survey and the international poverty line of $2.15PPP a day. A child is considered to be materially deprived if she lives in a household with a per capita consumption expenditure below the poverty line. This measure of children deprivation has been developed by Menchini and Redmond (2005) in their regional study of child poverty. Just under a third of all young children suffer from material deprivation, with the likelihood of being deprived on this dimension again being higher in rural area.

Table 6: Proportion of children materially deprived by place of residence for children under 5 years old and for children 3-5 years old, Albania 2002.

	Proportion of children less than 5 years old living urban area	*Proportion of children less than years old living rural area*	*Total*	*Proportion of children 3-5 years old living urban area*	*Proportion of children 3-5 years old living rural area*	*Total*
Non-Poor	73.5	64.9	67.7	71.1	59.6	63.4
Poor	26.5	35.1	32.3	28.8	40.9	36.6
Total	100	100	100	100	100	100

Source: 2002 Albania LSMS.
Note: the analysis is based on 1340 children under 5, and 578 children 3-5 years old.

3. The correlates of child deprivation

What are the factors associated with being deprived on each of the different dimensions of capability poverty? To what extent can common factors be identified across the different dimensions? Table 7 shows the percentage of Albanian children aged between 3 and 5 who experience deprivation in each of the four dimensions, taking into account the child's background characteristics. AS we saw earlier, it is clear that place of residence has a strong influence in all the 4 selected dimensions of deprivation.

Table 7: Percentage of children 3-5 years old experiencing a form of deprivation by background characteristics.

	Poor	*NOT attending pre-school education*	*Poor health outcomes (at least one negative nutritional outcomes=1)*	*Without access to safe water*	*N*
Place of residence					
Tirana	30.8 [16.2-50.7]	88.0 [73.6-95.1]	52.9 [35.2-69.8	0	25
Other urban	22.8 [15.5-32.4]	53.7 [44.1-63.1]	33.7 [25.4-43.2]	5.7 [2.3-13.8]	121
Rural	42.4 [35.2-50.0]	80.7 [74.4-85.8]	39.8 [32.6-47.5]	41.8 [34.5-49.4]	304
Gender (Ref. male)					
Female	39.4 [31.2-48.2]	73.3 [66.1-79.5]	39.2 [30.9-48.1]	26.7 [19.5-35.4]	233
Male	33.8 [26.7-41.7]	74.5 [66.8-80.9]	38.7 [31.5-46.4]	32.7 [25.5-40.8]	217
Mother's education (ref. primary)					
Primary	44.3 [37.0-51.8]	82.4 [76.1-87.2]	43.7 [36.5-51.3]	35.9 [29.0-43.4]	300
Secondary or higher	19.3 [12.6-28.3]	55.5 [46.4-64.2]	29.7 [22.2-38.6]	17.6 [10.8-27.3]	143
Mother info missing or not in hh	57.8 [18.4-89.3]	88.3 [44.6-98.6	17.3 [3.2-57.9]	15.3 [2.8-52.6]	6
Father working status					
Not working	51.9 [38.8-64.7]	74.3 [68.4-79.5]	40.2 [33.9-46.8]	12.09 [5.3-25.5]	68
Father working	34.1 [27.9-40.8]	61.6 [48.2-73.5]	32.9 [22.0-46.0]	31.3 [25.3-37.9]	342
Father info missing or not in hh	31.0 [13.9-55.6]	91.2 [76.0-97.1]	37.9 [17.4-63.9]	47.5 [25.1-70.8]	40
Observations	450	450	450	450	

Source: 2002 Albania LSMS.
Note: The analysis is restricted to children 3-5 years old for which we have information on all three anthropological indicators (Total 450).

There are no gender differences in the probability of a child being deprived in any of the four dimensions. Children of mothers with secondary or higher education appear to be less likely to experience any form of deprivation than children of mothers with primary education only. Only 20 per cent of children of mothers with secondary and higher education are materially poor compared to 44 per cent of children of higher educated mothers, whereas 55 per cent of children of children of mothers with secondary or higher education do not attend pre-school education compared with 82 per cent of children of mothers who have only primary or less education. The effect of mother's education appears also to be associated with the probability that a child has a bad health outcome, but the effect is not statistically significant. Children with a father who is working are less likely to experience a form of deprivation, however again this effect is not significant.

These background characteristics may be correlated with one another, for example women, living in rural areas may be more likely to have primary education only. Therefore it is important to carry our multi-variate analysis that takes these factors into account. Table 8 shows the results of the probit models for the probability that a child is deprived on each dimension separately (with the exception of access to safe water), controlling for selected demographic and socio-economic background characteristics. The first model (column 1) looks at the probability that a child 3-5 years old is materially deprived, the second model (column 2) estimates the probability that a child is NOT attending pre-school education and the third model (column 3) estimates the probability that a child has a poor health outcome (i.e. has at least one negative nutritional outcome).

Once other factors are controlled for, place of residence has no significant effect on the likelihood of the child being materially deprived or having poor nutritional status, but there remains a strong effect on the probability that a child does not attend pre-school education, with urban children being more likely to attend pre-school education than rural children.

The results again highlight the strong role played by mother's education in all three processes. Household size has a positive effect on the probability that a child is materially poor but surprisingly it has no effect on nutritional outcome and on the probability that a child attend pre-school education. Father's working status appears to have a strong negative effect on the probability that a child is materially poor, but

does not appear to influence the other two processes children being more likely to attend pre-school education than rural children.

Table 7: Probit regression (separate) with weight.

	Poor (poor=1)	*Pre-school attendance (NO=1)*	*Poor health outcomes (at least one negative nutritional outcomes=1)*
	(1)	(2)	(3)
Age in months	-0.003	-0.044	0.044
	(0.23)	(3.29)***	(0.37)
Place of residence (Ref. Tirana)			
Other urban	-0.387	-1.103	-0.538
	(1.31)	(3.79) ***	(1.90)
Rural	-0.007	-0.767	-0.532
	(0.03)	(2.51) **	(1.84)
Gender (Ref. male)			
Female	0.171	-0.026	-0.034
	(1.02)	(0.16)	(0.22)
Mother's education(ref. primary)			
Secondary or higher	-0.610	-0.538	-0.471
	(3.02)***	(3.01)***	(2.54)**
Mother info missing or not in hh	0.262	-0.405	-0.976
	(0.52)	(0.62)	(1.75) *
Household size	0.126	0.068	0.057
	(2.22) **	(1.56)	(1.32)
Father working status(ref. not working)			
Father working	-0.733	0.414	0.105
	(3.66) ***	(1.81) *	(0.53)
Father info missing or not in hh	-1.206	0.965	-0.111
	(2.87) ***	(2.74) ***	(0.32)
Sanitation (ref. access to clean water)			
Without access to clean water			-0.233
			(1.22)
Poor health outcome		0.109	
		(0.62)	
Poor (materially)		0.694	-0.299
		(3.27) ***	(1.69) *
Missing out pre-school education			0.162
			(0.88)
Constant	-0.119	2.838	-0.187
	(0.17)	(3.43)***	(0.27)
Observations	450	450	450

Note: the analysis is limited to children 3-5 years old for which we have information on pre-school attendance and complete information on children anthropometric measure.
Absolute value of t statistics in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

There appears to be no relationship between no access to clean water and poor nutritional outcomes. Similarly nutritional status appears not to be associated with pre-school attendance. However there is evidence of an association between material deprivation and other dimensions of deprivation; a child who is materially poor is up to 17 per cent more likely not to be attending pre-school education.

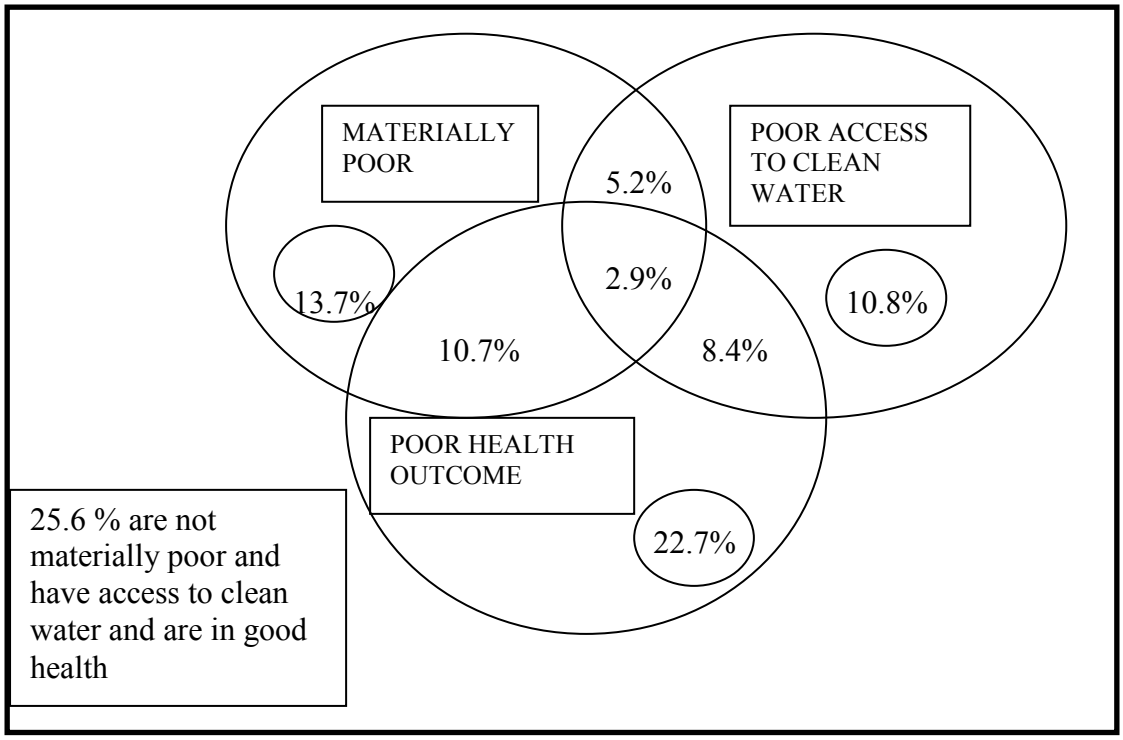
4. To extent of multiple deprivation

Confirming previous research on the topic, we found several common socio economic factors which affect the probability that a child experiences a form of deprivation and we also found that also there are a number of unobserved factors which acts on those probabilities. In this section we will test to what extend these different dimensions overlap and how these non-income dimensions of child deprivation interact with material deprivation. In the next section, we will explore to what extend the factors which we have found to influence the probability that a child is deprived on each dimension separately also influence the probability that a child experience more than one form of deprivation.

Figure 1 shows the extent of overlap between the different dimensions of child deprivation in the spheres of material poverty, access to water and nutrition for all children under 5 year old for which we have all those information. Only 26 per cent of young children are not deprived on any of these three dimensions and 3 per cent are deprived on all three. Again there are some interesting anomalies. Of those with poor health outcomes, two-thirds are *not* materially poor and a third are not poor and have access to clean water.

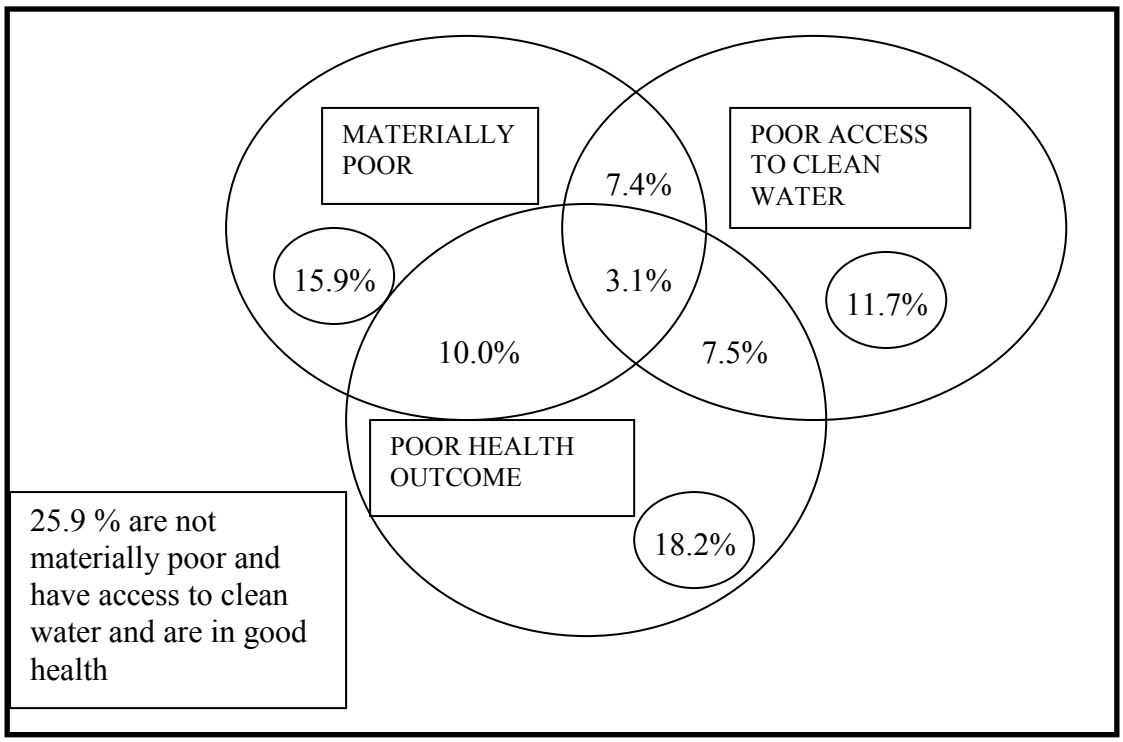
For children aged 3-5 it is also possible to add in a fourth dimension - that of attendance at pre-school. Figures 2-4 illustrate the overlaps between the different dimensions. Unfortunately it was not possible to graphically represent all four dimensions on the same Venn diagram, and so Table 6 provides a summary of the different combinations of multiple deprivation experienced by young children in Albania. Just 3 per cent are deprived on all four dimensions and 12 per cent are not deprived on any (see Table 9). However nearly one child in five is deprived in three dimensions.

Figure 1: Proportion of children under 5 years old materially poor with poor nutritional outcomes and poor access to safe water.



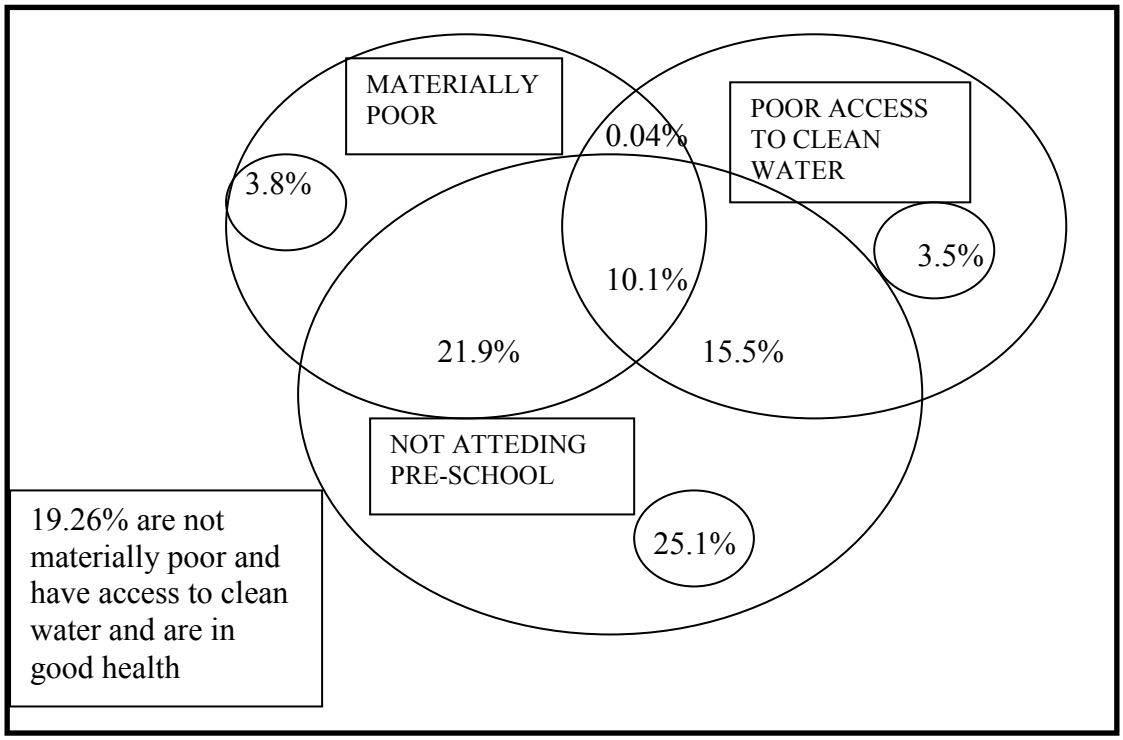
Source: 2002 LSMS, Note: Total number of children 1022.

Figure 2: Proportion of children 3-5 years old materially poor with poor nutritional outcomes and poor access to safe water.



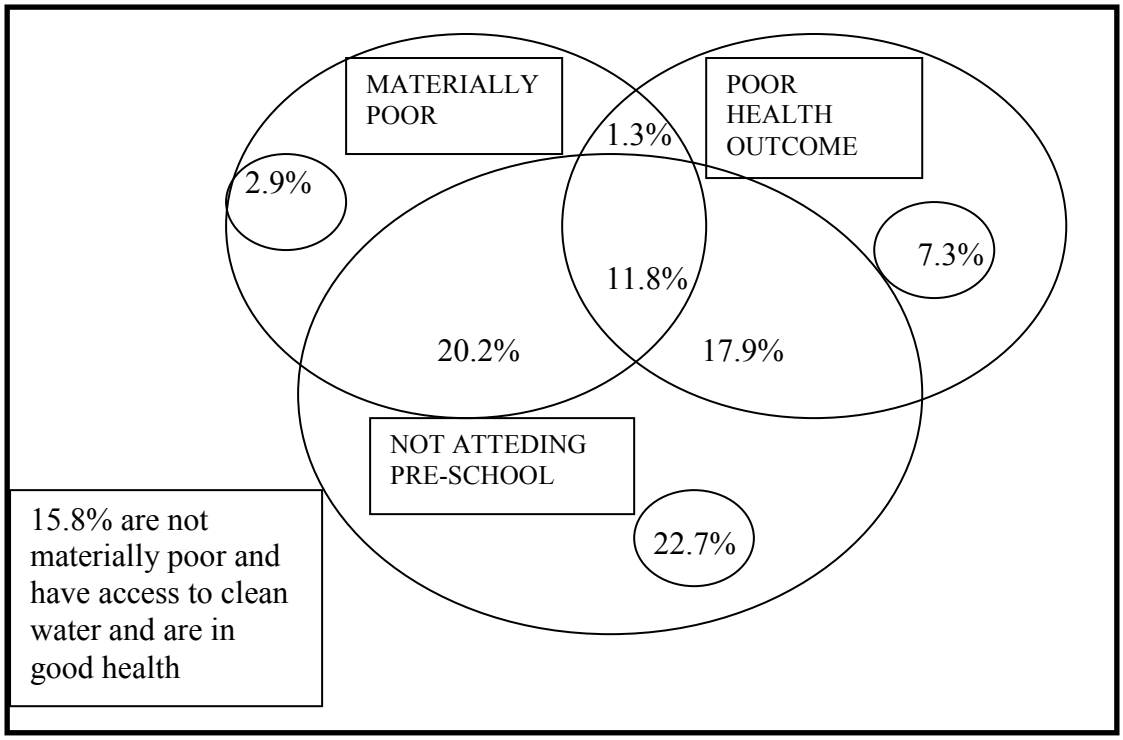
Source: 2002 LSMS
Note: Total number of children 450.

Figure 3: Proportion of children 3-5 years old materially poor with poor access to safe water and attending pre-school education.



Source: 2002 LSMS
Note: Total number of children 450.

Figure 4: Proportion of children 3-5 years old materially poor with poor nutritional outcomes and not attending pre-school.



Source: 2002 LSMS
Note: Total number of children 450.

Table 9: Summary of four dimension of deprivation for children 3-5 years old, 2002 Albania

	Percentage	*Dimensions of deprivation*
Deprived in FOUR dimensions	3.1%	E, P, S, H
Deprived in THREE dimensions	22.9%	7.1 % E, S, H
		8.8 % E,P, H
		7.0 % P, E, S
Deprived in TWO dimensions	35.6%	1.3 % P, H
		0.4 % S, H
		0.4 % P, S
		8.7 % S, E
		11.4 % H, E
		13.4 % P, E
Deprived in ONE dimension	26.9 %	3.0 % S
		2.5 % P
		6.9 % H
		14.5 % E
NOT Deprived in ANY dimension	11.5 %	

E=education; P=material poverty, S= access to water, H = health

Another way to read the extent of the overlaps is to look at the probability that a child who experiences a form of deprivation also experiences another. For example, Table 9 shows that 35 per cent of children who are materially deprived are also experiencing a poor health outcome and 43 per cent of those are not attending pre-school education. Almost 90 per cent of children who miss out pre-school education are also materially poor and 80 per cent have poor nutritional status.

Table 10: Proportion of children 3-5 with one form of deprivation who also experience and other type of deprivation.

	Poor	*Without access to water*	*Poor health outcomes (at least one negative nutritional outcomes=1)*	*Not attending pre-school education*
Material Poverty				
Poor	**	35.4	33.9	43
Sanitation				
Non access safe water	28.8	**	27.2	35.1
Health				
Poor health	36.1	41.0	**	35.1
Pre-school education				
Not attending Pre-school	88.3	86 [	77.8	**

Source: 2002 Albania LSMS.

5. The correlates of multiple deprivation

Section 4 highlights the complexity of the interaction between different form of child deprivation. In Table 11 shows the results of a multinomial logistics regression for the probability that a child is deprived in one, two or more then three dimensions, controlling for the fact that more than one child may live in the same household. Children who are not deprived in any dimension provide the reference category. The results confirm the strong effect of mothers' education on the probability that a child experiences any form of deprivation. Children of higher educated mothers are up to 50 per cent less likely to experience three or four forms of deprivation, or up to 40 per cent less likely to experience two forms of deprivation, and up to 20 per cent less likely to experience one form of deprivation than children of mothers with primary or less education. The relationship between mothers' education and the probability that a child experiences one, two or three or four forms of deprivation is stronger and it increases with the number of types of deprivation being considered.

Gender of the child and father's working status on the other hand do not appear to affect the probability that a child is deprived in one or more form of deprivation. Household size have a positive effect on the probability that a child experience two or more form of deprivation, but it does not have an effect on the probability that a child experiences only one form of deprivation. Place of residence appears to have a strong effect on the probability that a child experiences at least one form of deprivation, with children living in urban areas (excluding the capita Tirana) being less likely to experience a form of deprivation.

Table 11: Multinomial logistics regression for the probability that a child is deprived in one, two, three or four dimensions of deprivation, Albania 2002.

Reference category= non deprived in any dimension	*Deprived in only one dimension*	*Deprived in two dimensions*	*Deprived in three or four dimensions*
	(1)	(2)	(3)
Age in months	-0.049	-0.065	-0.072
	(1.61)	(1.97)**	(1.99)**
Place of residence (Ref. Tirana)			
Other urban	-2.797	-3.365	-3.328
	(2.62)***	(3.08)***	(2.74)***
Rural	-1.986	-1.851	-1.424
	(1.81)*	(1.66)*	(1.19)
Gender (Ref. male)			
Female	-0.162	-0.120	-0.096
	(0.40)	(0.29)	(0.21)
Mother's education(ref. primary)			
Secondary or higher	-0.863	-1.731	-2.119
	(2.07)**	(3.93)***	(4.07)***
Mother info missing or not in hh	20.878	20.711	18.433
	(14.63)***	(15.72)***	(.)
Household size	-0.071	0.256	0.276
	(0.65)	(2.27)**	(2.41)**
Father working status(ref. not working)			
Father working	0.151	-0.516	0.064
	(0.30)	(1.02)	(0.11)
Father info missing or not in hh	1.502	1.258	1.445
	(1.31)	(1.14)	(1.17)
Constant	6.431	6.404	5.532
	(3.16)***	(2.92)***	(2.45)**
Observation	450	450	450

Source: 2002 Albania LSMS.
Robust z statistics in parentheses.

- significant at 10%; ** significant at 5%; *** significant at 1%
-

6. Conclusion

In this paper we seek to answer some of the questions that arise when study children multiple deprivation. Are those children that are most at risk of being deprived in terms of education and personal development also at risk of being deprived of health and nutrition? How do these non-monetary dimensions of child deprivation interact with material deprivation? What is the extent of the overlap between these dimensions? What are the factors associated with being materially

deprived and what are the factors associated with being deprived in more than one dimension?

We found that several socio-economic factors affect the probability for a child to be poor in one or another dimension in the same direction with higher mother education for example reducing the probability of a child experiencing both material deprivation and missing out school education. Although the likelihood of being deprived on all the different dimensions is not high, the probability that a child escapes any form of deprivation is very low. Moreover it is possible to identify several pathways of interaction between forms of deprivation, and the strength of those interactions varies according the pair of interactions considered. This highlights the complexity of the interaction between different forms of deprivation

Although there is a significant overlap between different dimensions of child well-being not all children who are nutritionally or educationally deprived are materially deprived. This reinforces the view that being poor does not simply mean not having enough money.

A key finding for policy is the critical role that maternal education plays in determining the risk of a child suffering from multiple deprivation. It appears that better educated parents are better placed to protect their children from a range of risks, including inadequate nutrition, as well as ensuring that they continue in school. The link between maternal education and child survival in developing countries is well known (Hobcraft, 1993). Work in the US and the UK has focussed on intergenerational transmission of educational disadvantage (Hobcraft, 1998), highlighting the need for active policies that focus on breaking the intergenerational transmission of poverty (Harper, Marcus and Moore, 2003). Ensuring universal access to affordable and good quality education and health services must remain a priority. There is now a growing body of evidence that out of pocket payments for health care and education are threatening children's rights to survival and development.

Policies on improved access to education and strengthened public health systems feature highly on the both the agenda of the international donor and the national Poverty Reduction Strategies. It is time for national governments to prioritise child centred policies before it is too late for another generation - the children of today's children.

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