Child Poverty in Malawi

Government of Malawi

Ministry of Finance and Economic Planning

unicef

unite for children

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Preface

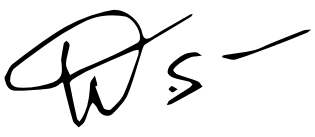
Malawi has made some notable progress towards achieving global and national targets in key areas of child well-being, particularly in health. Children account for over half of the country's population, yet their rights and needs are often seen as marginal to development efforts. Despite the progress, some challenges still remain. Poverty remains entrenched and threatens the gains made. Some growth and development issues to be taken forward were identified through national consultations on the Post 2015 Development Agenda regarding the "Malawi we want".

The production of National Multiple Overlapping Deprivation Analysis report is timely as the country is developing a new National Development Plan and re-strategizing the fight to eradicate poverty in all its forms. This report introduces a multidimensional definition and operational measure of child poverty based upon deprivation of basic needs. Indicators are measured at the level of the individual child (where relevant), follow a life-cycle approach so that indicators are age-specific, and are rooted in the Convention on the Rights of the Child (CRC). Findings show that many more Malawian children live in poverty than indicated by household-based measures of income or consumption shortfalls. The significance of these findings cannot be understated: they mean that social programs which target children who live in households with low income do miss a large number of vulnerable children in Malawi.

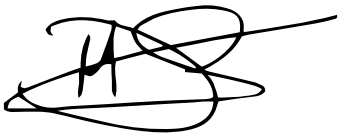
The country's medium term development plan, the Malawi Growth and Development Strategy II (MGDS II), is scheduled to conclude at the end of 2016. The country has started the process of developing a successor National Development Plan - one that will translate the long-term strategy of Malawi contained in the Vision 2020 as well as the aspirations of the Sustainable Development Goals (SDGs) for the next five years in Malawi.

The SDGs have ushered in new global development targets for the next 15 years, until 2030. Part of the unfinished business from the Millennium Development Goals (MDGs) era have been carried over. And new priorities have also emerged. For the first time, the global goals acknowledge the multidimensionality of the poverty concept. The SDG Goal 1.2 explicitly addresses child poverty and countries will be required to define multidimensional child poverty and track its evolution over the next 15 years.

It is hoped that the findings and recommendations of this report will help all sectors to fully understand the situation of children in relation to poverty, inequality and general well-being in Malawi. We hope it will trigger policymakers to develop comprehensive responses to address all forms of poverty affecting children. And that the evidence and analysis presented here will encourage a national debate about what constitutes child poverty in Malawi and how to address it holistically.



Ronald Mangani
Secretary to the Treasury



Mahimbo Mdoe
Representative UNICEF

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Abbreviations

CRC	Convention on the rights of the Child
IHPS	Integrated Household Panel Survey
IHS	Integrated Household Survey
MCPI	Multidimensional Child Poverty Indicator
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MK	Malawi Kwacha
MODA	Multiple Overlapping Deprivation Analysis
NSO	National Statistical Office
SDGs	Sustainable Development Goals
TWG	Technical Working Group

Executive Summary

The report provides comprehensive estimates of child poverty in Malawi using both income and multidimensional measures and based on the recent Integrated Household Panel Survey from 2013. We construct a unique multidimensional child poverty indicator (MCPI) for Malawi following methodology proposed by UNICEF which anchors domains of deprivation on the Convention on the Rights of the Child and measures deprivation at the individual child level.

Using the MCPI and threshold of two or more deprivations, 63 percent of children are multidimensional poor in Malawi. This is higher than the child monetary poverty rate of 43 percent. Multidimensional poverty is highest among the oldest age group of children 15-17 years old at 73 percent, while monetary poverty rates are highest among children 5-14 years old at 44 percent. Both rates are also higher in rural areas relative to urban areas.

A significant number of children, 30 percent of the total, are deprived in two or more dimensions yet live in households that are above the poverty line. This result implies that social programs that target on income, i.e. cash transfers, will miss a significant number of vulnerable children in Malawi. Virtually all deprived children who live in rural areas, are more likely to live in female-headed households, and in households where the head is less likely to be engaged in non-agricultural activity. These children are also slightly older than other children that deprived and living in households below the poverty line.

The most vulnerable children are those that experience two or more deprivations and live in households which are below the poverty line. This group represents 33 percent of all children in Malawi and suffer both severe individual deprivation and live in households that have few resources to access goods and services on their behalf. This group would be the first priority for interventions to address childhood poverty.

The relationship between household income and child deprivations is strongest among households below the poverty line, but quickly weakens in households above the poverty line, especially in urban areas. A key implication of this result is that income support through social cash transfer program (SCTP), can reduce childhood deprivations. However for deprivations that occur among children in non-poor households, increases in income will not translate into equivalent reductions in childhood deprivation. These deprivations will need to be addressed directly through sector based programs.

Aggregate child deprivation is driven by the two household level deprivation indicators of Housing and Sanitation. This result is a statistical artefact since these dimensions are defined

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for children of all ages and are household level rather than individual level measures. Nevertheless, they are explicitly mentioned as rights in the CRC, and are themselves instrumental in ensuring children can attain other rights such as health and nutrition, and have the appropriate environment to study and grow.

The relative prevalence of specific individual-level dimensional deprivation varies by age group. For children who are 15-17 years old, education is one of the most important sources of deprivation which is driven by specific indicators of grade progression and completion of primary school. For children within 5-14 years, food security deprivation is an important individual deprivation, measured by whether a child ate breakfast the day before the survey. For children age 24-59 months Nutrition is the most important individual deprivation, for this group defined by stunting and the number of meals per day.

Some individual deprivations have much stronger associations with household income than others. For example, an increase in income strongly reduce deprivation in Housing throughout the whole income distribution, while Sanitation is more strongly associated with income among households below the poverty line. On the other hand, Education deprivation among 15-17 year olds is strongly associated with household income as is Nutrition deprivation among 24-59 month olds. Despite these strong associations in specific dimensions, the overall conclusion of the analysis is that improvements in income is not sufficient to generate a general decline in child deprivations, especially for children living in households that are not income poor.

Child poverty in all its dimensions is part of the Sustainable Development Goals (SDGs) and as such, the MCPI can be used as the national measure to track child poverty over time. The SDG Goal 1.2 explicitly addresses child poverty and countries will be required to define multidimensional child poverty and track its evolution over the next 15 years. This report has constructed such an indicator for Malawi based on local conditions and norms which can serve as the SDG baseline for child multidimensional poverty for Malawi. This indicator could be incorporated into routine reporting from national surveys such as the Integrated Household Survey as part of Malawi's reporting on Goal 1.2 of the SDGs.

1. Introduction

The ability to acquire goods and services via disposable income is perhaps the most common measure of poverty used and reported and is the concept used for example in the Malawi Growth & Development Strategy II and the MDGs. However, there has been a growing consensus, in recent years, acknowledging the multidimensional nature of poverty, and critical advances have been made in its measurement over the past decade (see Atkinson 2003; Bourguignon and Chakravarty 2003; Gordon et al 2003; Alkire and Foster 2011).

Child poverty, in particular, needs to be treated as a holistic concept which comprises several different dimensions. For children, access to income at the household level may not fully capture child poverty because children are not decision-makers and so the pattern of spending may not be child-friendly, and because children's needs are unique and not necessarily addressed by income alone. Consequently the second important component of child poverty are the living conditions which directly affect their ability to develop and thrive. The absence of these essential elements of a child's living conditions are referred to as 'deprivations', and include for example availability of safe drinking water, clean sanitation facilities, age-appropriate education, and a secure home environment free from violence and other forms of abuse. Together these two dimensions, living conditions and disposable income, represent a multidimensional approach to child poverty and is the approach taken in this analysis. Indeed a fundamental premise of this report, is that for children the quantification and analysis of deprivations is more important than that of income because deprivations directly assess whether children have the means that allow them to thrive, and for children, many of the relevant means are not simply a function of income.

There are several reasons for an exclusive analysis of child poverty. Children are consistently found to be the most vulnerable group in society. It is widely acknowledged that poverty harms children not only at the time it is experienced (Brooks-Gunn and Duncan 1997), but it also often has consequences later in life (Corak 2006; Esping-Andersen and Myles 2009; Gregg and Machin 2001). Thus, monitoring the levels of child poverty and analysing its determinants is crucial for designing and implementing effective policies for improving children's current living conditions and ensuring long-term dividends for society. Finally, beyond the immediate needs to measure and quantify child poverty, from a long-term development perspective children represent the future work force and citizenry of a nation; their development has implications for the future well-being of a country.

As mentioned above, monetary poverty alone is not enough to draw a clear picture of child poverty. Meanwhile deprivation analysis measures individual well-being by capturing the deprivation status of individuals, and since the needs of children are different from those of adult household members, a dedicated study on child poverty is merited to define child specific needs and to quantify and analyse them.

The preparation of this report is quite timely in that for the first time, the Sustainable Development Goals (SDGs) now include a specific goal related to child poverty (Goal 1.2). The work produced for this report can thus be considered for adoption as the SDG baseline for Malawi for this specific goal.

2. Data and Methodology

The study uses secondary data from the Integrated Household Panel Survey (IHPS). This is a panel sub-sample derived from the third edition of the Malawi Integrated Household Survey (IHS3). The IHS3 was fielded in 2010 while a sub-sample was re-interviewed in 2013. The key advantage of using the IHPS is that it allows us to assess child monetary poverty as well as deprivations: a household is defined as poor if its per capita consumption is less than the national poverty line as defined by the Malawi Central Statistics Office. All individuals living in a household whose consumption is below the poverty line are classified as 'poor'. This allows us to look at deprivation and poverty at the same time.

An alternative to the IHPS is the MICS 2013-14 which provides more detail in certain areas of child deprivation, particularly around young child health, but the MICS does not provide any information on monetary poverty. On the other hand the IHPS has more detailed information on child work which allows for a better characterization of the child protection dimension. A further advantage of the IHPS is its panel nature which allows an analysis of the dynamics of child poverty. The sample size in the IHPS 2013 consists of 4000 households and 20,220 individuals of which 10,326 are children below the age of 18 years.

The deprivation measure used in this report follows the core methodology pioneered by UNICEF since 2006 (the 'Bristol Method') and recently refined by the UNICEF Office of Research ('MODA') (de Neubourg et al 2012). Key elements of the methodology is that indicators are measured at the level of the individual child (where relevant), follow a life-cycle approach so that indicators are age-specific, and are rooted in the Convention on the Rights of the Child (CRC). In other words, all the dimensions over which deprivation is defined have been selected using the CRC as the guiding principle (United Nations, 1989). Specific decisions on age groups, dimensions, indicators and thresholds have been recommended by a Technical Working Group (TWG) convened by the Ministry of Finance and Economic Planning and UNICEF-Malawi and composed of key government ministries, academic institutions and other development partners (see Annex A) and reflect both international and national standards—the resulting indicator is referred to as the Multidimensional Child Poverty Indicator (MCPI). A more detailed technical description can be found in annex B. The MCPI adopts a life-cycle approach and the TWG recommended that the deprivation dimensions and analysis be broken down into four age groups in order to capture the varying needs of children across their lives (see Table 1). For infants (0 to 23 months) and young children (24 to 59 months) the measure includes age-appropriate indicators on nutrition and health. For children of school-age (5 to 14 years), and adolescence (15 to 17 years) the MCPI includes age-appropriate indicators education and protection.

Box 1 Definition of Terms

The term Child Poverty refers to the general well-being of children, including both monetary well-being and deprivation. In this report, for simplicity we will use the term 'poverty' to refer to monetary poverty (children living in households below the official monetary poverty line) and deprivation to refer to multidimensional poverty.

Due to data contraints and difficulties mapping existing data to a defensible concept of a 'health right' among older children, the health dimension has been eliminated for the older age groups. All age groups include household level-dimensions of water, sanitation and housing to enable the measurement of deprivation in the direct environment in which a child grows up.

The specifics of each indicators and dimensions, including the cut-offs, where discussed and agreed on by the TWG at a national workshop in May 2015. The decision behind these indicators involved a compromise between the best measure possible of what it means to be deprived for a child in a specific age group, and the availability of data. In general, a deprivation corresponds to a violation of a child's basic rights. In this regards deprivations are different from predictors or correlates of deprivation. For example, being an orphan might make a child more vulnerable to deprivation, but it is not a deprivation in itself since it is not a violation of a right (de Neubourg et al, 2014). Some indicators used in the MCPI are unique to Malawi though the majority of indicators are common to other similar exercises. Table A1 in Annex A gives the specific indicators used for each dimension by age group, and their cut-off point.

Table 1: Age Groups and Dimensions for Child Deprivation Analysis in Malawi

0-23 Months	24-59 Months	5-14 years	15-17 Years
Nutrition	Nutrition	Food Security	
Health	Health		
		Protection	Protection
		Education	Education
		Information	Information
Sanitation	Sanitation	Sanitation	Sanitation
Water	Water	Water	Water
Housing	Housing	Housing	Housing

The UNICEF methodology for constructing the MCPI consists of defining dimensions as done in Table 1, and then specific indicators to capture deprivation in each dimension. A child is considered deprived in a dimension if s/he is deprived in at least one indicators within that dimension. This approach, also known as the 'union approach', has an important implication–the method is insensitive to the depth of deprivation within a given dimension. A child deprived in two indicators within a dimension is treated the same as a child deprived in only one indicator—both are deprived in the dimension. For example, a child is deprived in housing if he or she lives in a house made of natural materials, or in over-crowded conditions, or both. The logic behind this approach is that one cannot trade one 'right' for another—this is a fundamental pillar of the rights based approach to programming and policy analysis.

Most of the analysis below is concentrated on deprivation by dimension or multiple dimensions. Multiple deprivations are measured by a simple deprivation count, in which each of the dimensions has an equal weight. While it is possible to weight dimensions to indicate a relative value difference between them, no weighting scheme is applied in this analysis. Each of the selected dimensions reflects a basic right and all of them are therefore considered of equal importance (see de Neubourg et al., 2014 for further details on weighting).

3. Monetary poverty and deprivation among children 0-17 years

Figure 1: Number of deprivations - National

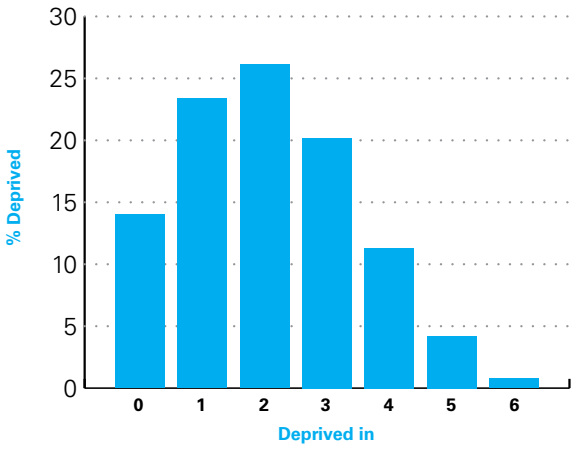


Figure 1.1: Number of deprivations by area

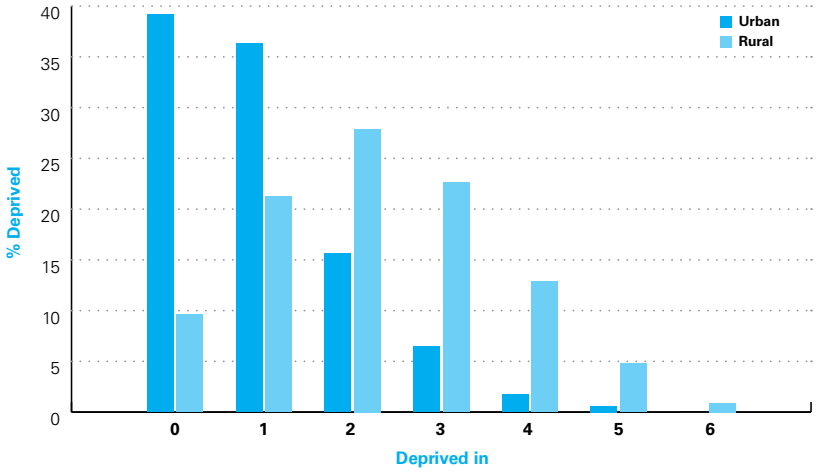


Figure 1 describes the distribution of deprivations in Malawi. The majority (86 percent) of children are deprived in at least one dimension, 63 percent are deprived in 2+ dimensions and 36 percent are deprived in 3+ dimensions. Children in rural areas are considerably more deprived than children in urban areas–the average number of deprivations in urban areas is 1, while in rural areas is 2. In rural areas, 70 percent of children suffer from 2+ deprivations and 40 percent suffer from 3+ deprivations; in urban areas the corresponding numbers are 25 and 9 percent respectively. Overall, children in rural areas are more deprived in all dimensions, and differences are especially high in household level dimensions: Housing, Sanitation, and Water. For example while only 20 percent of urban children are deprived in Housing, almost 70 percent of children living in rural areas are deprived in the same dimension. In particular, rural children are much more likely to live in houses with both floor and roof of natural material. However, results for all children can hide age-specific differences that will be addressed in the dedicated chapters.

If we break down the number of deprivations by region (Figure 1.2), we can see that children in the northern region are slightly better off, with higher headcounts for zero, one and two deprivations. Children in the south, on the contrary, are worse off.

Note however that there are no statistically significant[1] gender differences in deprivation (Figure 1.3). However there is a noticeable increase in the proportion of children with 2+ deprivations with age, with 45 percent of all children in the oldest age group suffering from 2+ deprivations (Figure 2). To some extent this is a statistical artefact since there are more dimensions among the older age groups.

1 Throughout the report, we refer to 'statistically significant' as significant to at least a 5% confidence level.

Figure 1.2: Number of deprivations by region

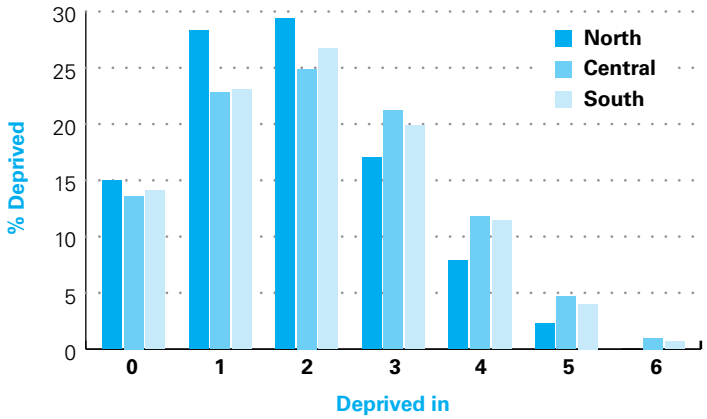


Figure 1.3: Number of deprivations by gender

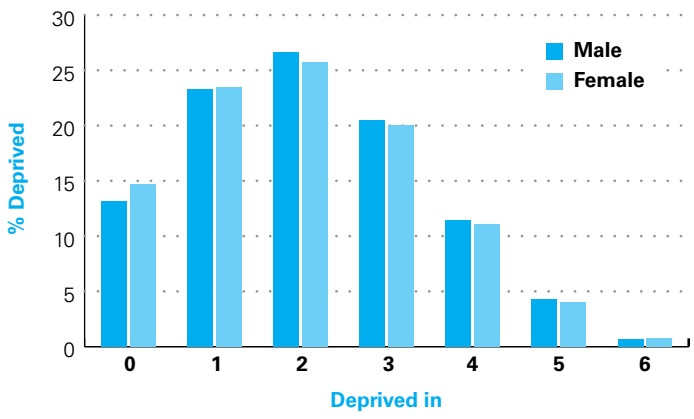


Figure 2: Percent with 2+ deprivations by age group

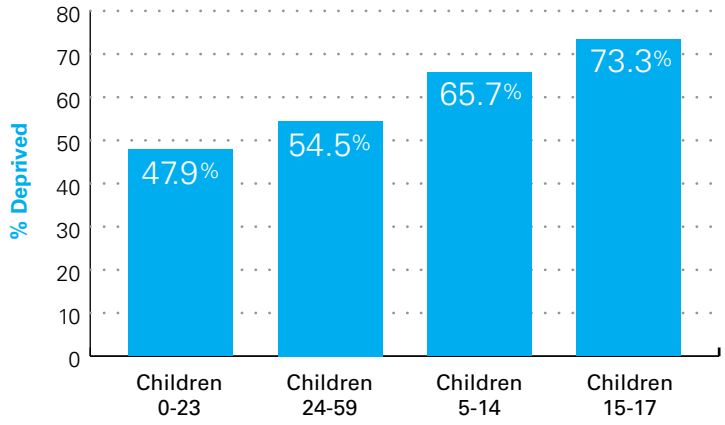


Table 2: Adjusted headcount results

	Headcount (H)	Intensity (A)	Adjusted headcount ratio(M0)
Deprived in 1+	86.0	40.1	0.35
Deprived in 2+	62.6	48.9	0.31
Deprived in 3+	36.5	60.1	0.22
Deprived in 4+	16.3	72.7	0.12
Deprived in 5+	5.0	86.2	0.04

The adjusted headcount measure 'adjusts' the headcount by the average number of deprivations that a child suffers. In Table 2, 63 percent of children suffer from 2+ deprivations. On average these children suffer from 49 percent of the possible deprivations (2.9/6=0.489). Multiplying these two numbers gives the adjusted headcount[2] (M0) which is 0.41, or 43 percent. This indicator is similar to the poverty gap measure used when describing monetary poverty—it accounts for the intensity of poverty or deprivation among those who are poor.

Children in rural areas are more deprived at each cut-off (Table 3), and they also have a higher deprivation intensity. This results in a higher adjusted headcount ratio at each cut-off; for example at a cut-off of 2, the adjusted headcount is 10 percent in urban areas compared to 34 percent in rural areas; at a cut-off of 3 deprivations, the differences are even more pronounced, 5 versus 25 percent in urban and rural areas respectively.

2 See Annex B.

Table 3: Adjusted headcount ratios by area of residence

	Headcount (H)		Intensity (A)		Adjusted headcount ratio (M0)	
	Urban	Rural	Urban	Rural	Urban	Rural
Deprived in 1+	60.8	90.4	26.6	41.7	0.16	0.38
Deprived in 2+	24.5	69.1	41.4	49.4	0.10	0.34
Deprived in 3+	8.8	41.2	55.7	60.3	0.05	0.25
Deprived in 4+	2.4	18.6	71.5	72.7	0.02	0.14
Deprived in 5+	0.6	5.7	84.6	86.3	0.01	0.05

Table 4: Adjusted headcount ratios by region

	H			A			M0		
	North	Central	South	North	Central	South	North	Central	South
Deprived in 1+	85.0	86.4	85.9	35.7	41.1	40.1	0.30	0.36	0.34
Deprived in 2+	56.7	63.6	62.8	45.2	49.8	48.7	0.26	0.32	0.31
Deprived in 3+	27.3	38.7	36.1	57.9	60.4	60.1	0.16	0.23	0.22
Deprived in 4+	10.3	17.5	16.2	70.8	73.0	72.5	0.07	0.13	0.12
Deprived in 5+	2.5	5.7	4.8	84.2	86.2	86.5	0.02	0.05	0.04

In Table 4 we present the same results by region. Children in the northern region show systematically lower adjusted headcount ratios, for every cut-offs. This confirms that children in the North are both less likely to be deprived and less deprived, on average, than their central and southern counterparts.

3.1 Monetary poverty

The next tables show the rates of monetary poverty[3] for different age groups and areas. Poverty is higher among children (43 percent) compared to the population as a whole (38 percent), in both rural and urban areas and for both poverty lines. The highest sub-group poverty rates are among children 5-14 (44 percent nationally) followed by children 0-23 months of age (43 percent nationally).

The rate of poverty is similar across regions (Table 5a), but children in the southern and central region are less likely to be monetary poor, while at the same time more likely to be deprived.

Also of interest is the fact that children account for the largest share of the poor and extremely poor populations. Children represent 60 percent of all poor people and 63 percent of all extremely poor people—Figure 3. These numbers suggest that it is difficult to talk about poverty in Malawi without specifically talking about the situation of children.

3 According to the national poverty lines defined by the NSO.

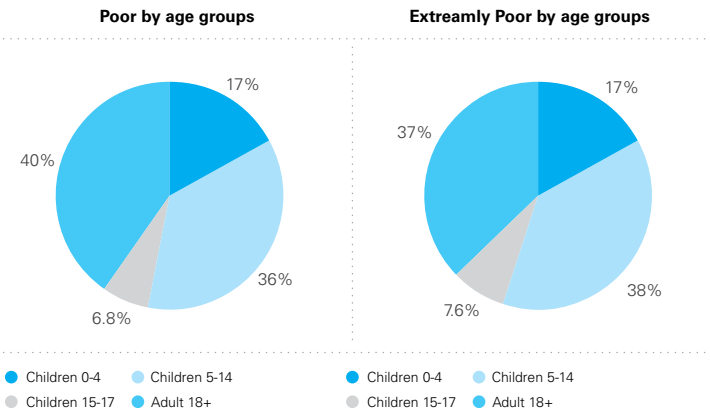
Table 5: Child monetary poverty rates by area of residence

	National		Urban		Rural	
	Poor	Extremely poor	Poor	Extremely poor	Poor	Extremely poor
Children 0-23 months	42.6	13.5	30.7	9.8	44.7	14.2
Children 24-59 months	40.8	12.2	33.3	7.9	42.3	13.0
Children 5-14	44.0	14.0	32.0	9.0	46.0	14.8
Children 15-17	37.8	12.7	18.2	4.6	40.7	13.9
Adult 18-25	29.9	8.2	17.0	4.7	32.7	9.0
Adult 26-35	32.8	9.0	20.2	4.5	36.4	10.3
Adult 35-50	35.9	10.1	24.8	7.1	38.3	10.7
Adult 51-60	30.7	7.9	14.8	3.7	32.9	8.5
Over 60	34.1	9.4	22.5	3.7	35.1	9.9
All children 0-17	42.5	13.4	30.5	8.4	44.5	14.3
All population	**37.9**	**11.3**	**25.1**	**6.7**	**40.3**	**12.2**

Table 5a: Child monetary poverty rates by region

	North		Center		South	
	Poor	Extremely poor	Poor	Extremely poor	Poor	Extremely poor
Children 0-23	42.8	15.8	42.3	13.4	42.7	13.2
Children 24-59	46.2	17.9	40.6	12.1	40.0	11.1
Children 5-14	46.2	17.7	44.9	13.9	42.6	13.3
Children 15-17	46.5	16.5	36.7	11.4	36.9	13.2
Adult 18-25	36.3	9.7	30.7	8.8	27.6	7.3
Adult 26-35	33.8	12.8	33.9	9.2	31.5	8.1
Adult 35-50	46.0	15.6	36.4	9.8	33.0	9.0
Adult 51-60	30.7	7.2	31.5	8.4	30.0	7.6
Over 60	29.2	8.6	34.0	8.7	35.3	10.3
All children 0-17	45.9	17.4	42.8	13.2	41.5	12.9
All population	**41.5**	**14.6**	**38.3**	**11.3**	**36.6**	**10.7**

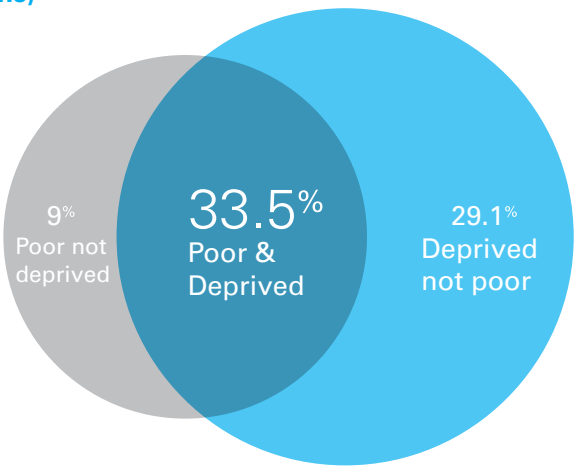
Figure 3: Distribution of the poor population by age group



3.2 The overlap of deprivation and monetary poverty

Figure 3.1 shows graphically the overlap between children who are multi-dimensional deprived using a cut-off of 2+ and children who live in households that are monetarily poor. A key phenomenon is that almost one third (29 percent) of all children in Malawi are deprived (2+ dimensions) and yet do not live in households classified as poor. The straightforward implication for policy, is that interventions that target exclusively monetary poverty will miss these children, who remain vulnerable due to absence of basic needs.

Figure 3.1: Overlap between monetary poverty and deprivation (2+ dimensions)



Not poor and not deprived (in 2+): **28.4%**

A crucial point in the analysis of the relation between poverty and deprivation, is the understanding of the characteristics of the children who are both poor and deprived, and of those who are deprived without living in poverty.

Table 6 summarizes the four groups of children we identify in this report in terms of their poverty status. The most vulnerable group are children who are deprived (2+) and living in households below the poverty line, 34 percent of all children fall in this group (37 percent in rural areas) and these children would be the first priority in terms of child focused social policy. Also of particular interest however is the 29 percent of all children (32 percent in rural areas) who are deprived (2+) and yet do not live in households below the poverty lie. These children require direct sector interventions that address their deprivations; income-based programs would probably not have a large effect on their deprivations and income-based targeting would miss these children completely.

Table 6: Children poor and deprived in 2+ by area and region

	National	Urban	Rural	North	Central	South
Neither	28.4	59.7	23.1	29.9	28.1	28.4
Deprived only	29.1	9.8	32.4	24.2	29.1	30.1
Poor only	9	15.8	7.8	13.4	8.3	8.8
Poor and deprived	33.5	14.7	36.7	32.5	34.5	32.7
Total	62.6	24.5	69.1	56.7	63.6	62.8
Deprived	42.5	30.5	44.5	45.9	42.8	41.5
Poor	28.4	59.7	23.1	29.9	28.1	28.4

Figure 3.2 shows the deprivation rates in each dimensions, of children who are deprived in two or more dimensions, but are not poor. The largest prevalence of deprivations are in housing and sanitation—these are household level indicators. Among individual indicators, the highest prevalence is education deprivation followed by nutritional deprivation. A regional analysis (Figure 3.3) shows a very similar picture.

Figure 3.3: Children deprived only (2+) by region

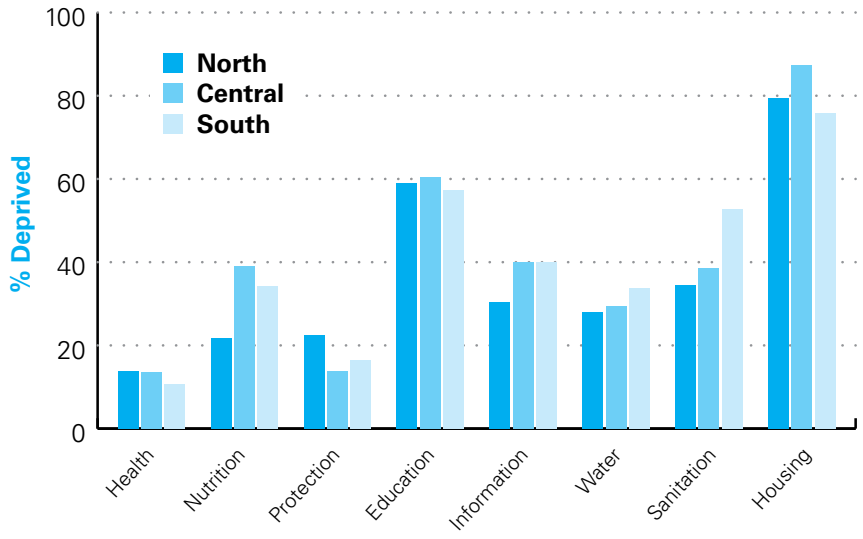


Figure 3.2: Children deprived only (2+)

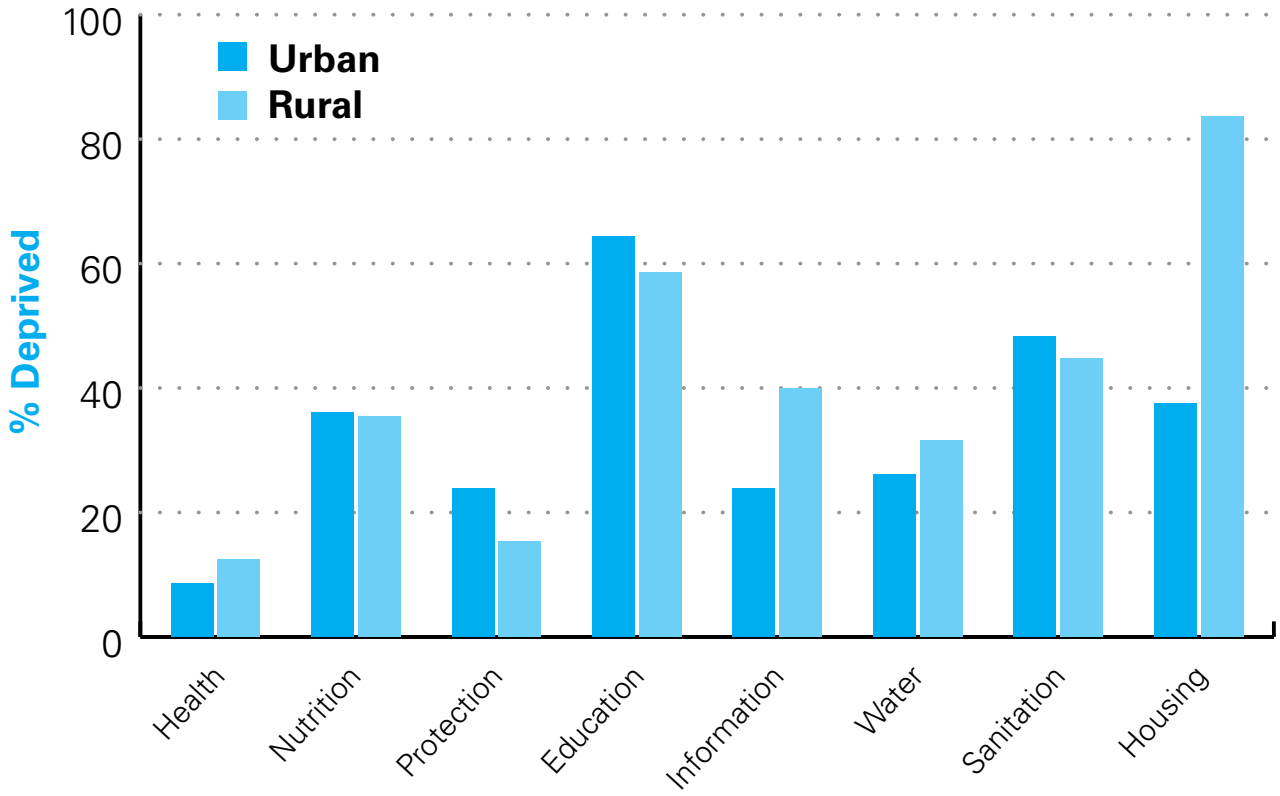


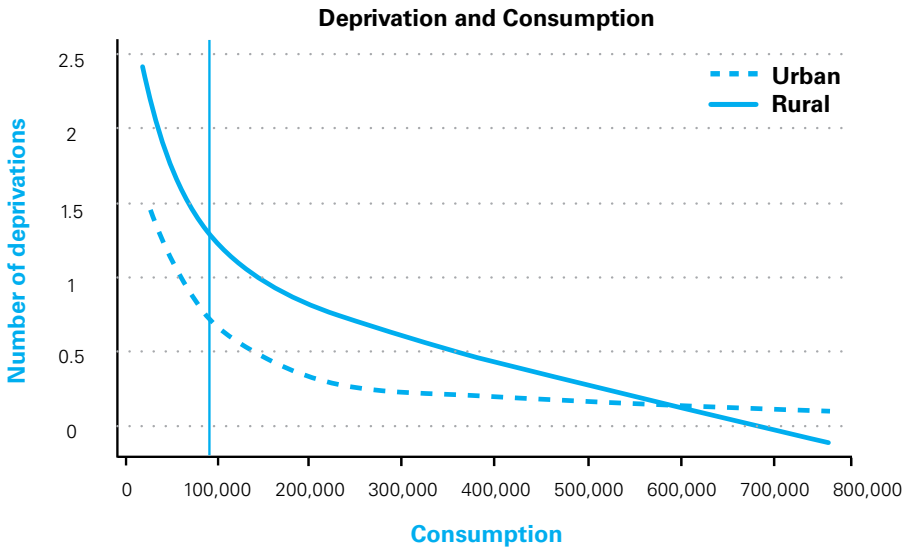
Table 7 presents background characteristics of children who are deprived only and those who are both poor and deprived. A key distinguishing feature of children who are deprived only is that they are slightly older than then average (8.7 years versus 8), live with a lower educated head of household (46 percent) who is more likely to work on farm (57 percent), and perhaps most telling, a very large majority live in rural areas (95 percent). This latter fact explains to some extent why these children are deprived and yet not in income poor households—the absence of supply of essential services such as water, sanitation or education. Less than 70 percent of children who are not poor nor deprived (in 2+ dimensions) live in rural areas. For comparison the table also reports the characteristics of children who are deprived in 5+ dimensions. These children also virtually all live in rural areas (98 percent) and are more likely to live in a female-headed household (35 percent), with an unmarried, lower educated head of household.

Table 7: Background characteristics by deprivation and poverty status for all children

	Poor and deprived	Deprived only	Not poor and not deprived	Deprived in 5+	All
Male	0.51	0.50	0.48	0.50	0.50
Age	8.45	8.66	7.35	10.44	8.00
HH size	6.69	5.49	5.97	5.77	6.18
Orphan	0.03	0.02	0.01	0.05	0.02
Parents alive but absent	0.08	0.10	0.09	0.11	0.09
Age of the head	42.39	41.00	39.82	42.03	41.26
Head is Married	0.75	0.79	0.85	0.64	0.79
Head is Separated/Divorced	0.16	0.12	0.09	0.22	0.12
Head is Widowed	0.10	0.09	0.07	0.14	0.09
Head ed.: no school	0.51	0.39	0.20	0.60	0.38
Head ed.: some primary	0.39	0.46	0.35	0.37	0.40
Head ed.: completed primary	0.06	0.07	0.12	0.03	0.08
Head ed.: completed JCE	0.03	0.06	0.13	0.01	0.07
Head ed.: secondary +	0.01	0.02	0.20	0.00	0.07
Head activity: no work	0.22	0.18	0.12	0.23	0.18
Head activity: household farm	0.53	0.57	0.36	0.58	0.49
Head activity: ganyu	0.14	0.09	0.05	0.13	0.09
Head activity: HH business (non agr.)	0.07	0.12	0.23	0.03	0.14
Wage employment	0.04	0.04	0.23	0.03	0.10
Female head	0.24	0.24	0.14	0.35	0.21
Rural	0.94	0.95	0.69	0.98	0.85
North	0.09	0.08	0.10	0.05	0.09
Center	0.47	0.45	0.45	0.52	0.45
South	0.44	0.47	0.46	0.44	0.46
No. Children 0-5	1.12	0.81	0.93	0.87	1.00
No. Children 5-14	2.66	1.99	2.02	2.34	2.28
No. Children 15-17	0.51	0.48	0.46	0.42	0.48
No. Adults 18-25	0.36	0.41	0.51	0.31	0.43
No. Adults 26-35	0.67	0.59	0.82	0.60	0.69
No. Adults 36-50	0.65	0.60	0.61	0.57	0.63
No. Adults 51-60	0.13	0.14	0.12	0.12	0.14
No. Adults over 60	0.16	0.12	0.09	0.15	0.13

Figure 3.4 shows this relationship between monetary well-being (measured by per capita consumption) and deprivation counts of children, by urban and rural areas separately (the vertical line is drawn at the poverty line). The steeper is the slope of these lines the stronger the relationship between consumption and deprivations. The lines are steepest below the poverty line indicating that child deprivations improves (decline) as households below the poverty line increase its income and asset levels. However beyond the poverty line the relationship becomes weaker (the lines become flatter), particularly in urban areas where beyond MK 180,000 per year, further increases in consumption have virtually no effect on child deprivation. This graph underscores the fact that the relationship between income-based well-being and child deprivations is far from linear, and that direct approaches to addressing child deprivation are typically necessary to reduce multidimensional poverty.

Figure 3.4: Relationship between monetary well-being and deprivations



4. Younger Children

In the following chapters we provide additional details on specific indicators and deprivation dimensions by age group in order to understand how deprivation patterns differ across these age groups, and what the key indicators are that drive deprivation, as these would be the target for policy action. The overall national multidimensional child poverty (MCPI) distribution shown in Chapter 3 is derived from an aggregation of the age-specific deprivation measurements presented in the subsequent chapters.

4.1 Children 0-23 months

Children 0-23 months have the highest dimensional deprivation rates in housing sanitation, and water (Figure 4.1). Deprivation in housing is mainly driven by the floor and roof materials--66 percent of children live in households with floor and roof made of natural materials (Figure 4).

Separate analysis by area is shown in Figures 4.3 and 4.4 and shows that children in rural areas are more deprived in almost all indicators, especially in floor and roof material, unimproved sanitation and water source. These differences are reflected in dimensional deprivation rates that are significantly higher for children in rural areas in sanitation, housing and

Figure 4: Indicators

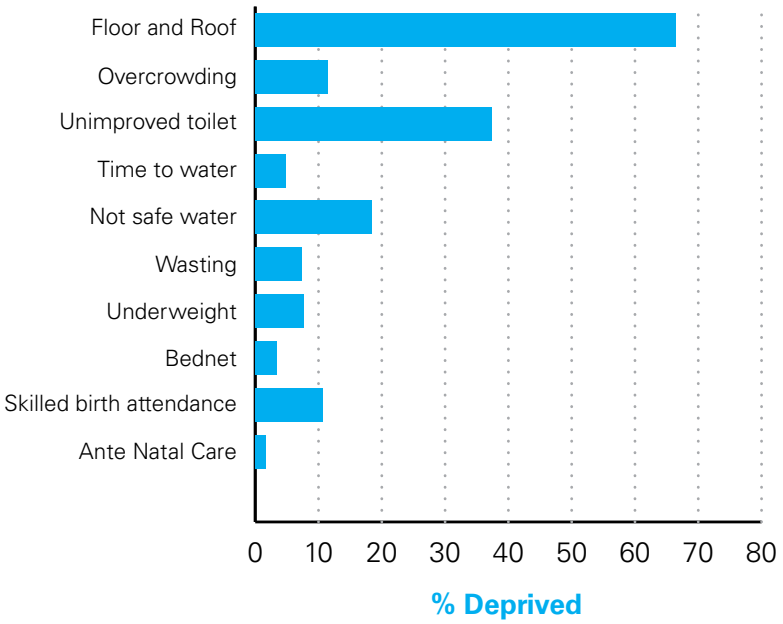
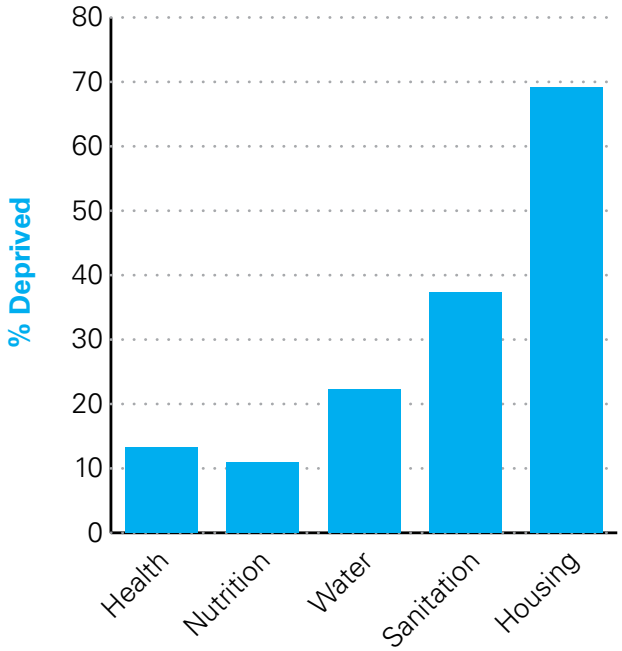


Figure 4.1: Dimensions



to a lesser extent water. On the other hand health and nutrition deprivation does not differ much between rural and urban.

Table 7.1 shows dimensional deprivation rates by background characteristics. There are no significant differences in deprivation in Nutrition for any household or individual characteristic. Children living with a more educated head of household are less deprived in all dimensions (except Nutrition), as well as children living in rural areas.

Figure 4.4: Overlap of dimensions

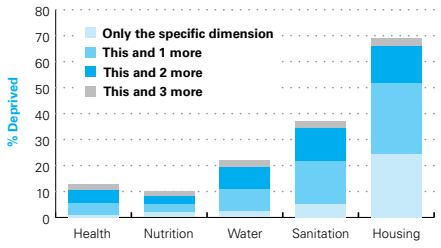


Figure 4.4 shows the overlap of deprivations. Most children are not deprived in just one dimension: less than 1 percent of children are deprived in Health or Nutrition experience only that specific deprivation for example. Most children suffer simultaneous deprivations, often 1 or 2 other dimensional deprivations. Household level deprivations tend to overlap more than others—two-fifths of children experience some degree of overlap between household dimensions, and one in ten children are deprived in all three. About one in five are deprived in Sanitation and Housing. Only one in five children are not deprived in any of these household level dimensions (Figure 4.5).

Table 7.1: Deprivation by background characteristics

	Health	Nutrition	Water	Sanitation	Housing
Female	11.6	10.9	21.7	33.5*	72.8
Male	14.6	11.2	22.8	40.8*	65.9
3 children or less	12.0	9.2	18.7*	35.6	70.1
More than 3 children	14.6	13.3	26.7*	39.4	68.1
HH head is less than 60	13.5	10.8	22.3	36.5	69.9
HH head is over 60	10.4	11.4	21.4	40.1	57.1
HH head is single	12.8	10.3	20.8	33.8	67.8
HH head is married	13.4	10.9	22.5	37.3	69.6
HH head has less than primary	15.6*	10.1	24.4*	42.4*	78.2*
HH head has completed primary	6.6*	13.4	16.6*	23.7*	45.2*
HH head works	13.1	10.8	21.9	35.9	69.0
HH head doesn't work	17.4	10.9	28.6	49.7	73.9
Male HH head	13.3	11.2	22.5	36.4	69.2
Female HH head	13.6	9.0	21.3	37.9	70.0
Urban	6.0*	8.7	12.3*	21.7*	23.4*
Rural	14.5*	11.4	24.1*	40.1*	77.6*

The star (*) in the table means that the difference is statistically significant at the 5% confidence level.

Figure 4.2: Indicators by area

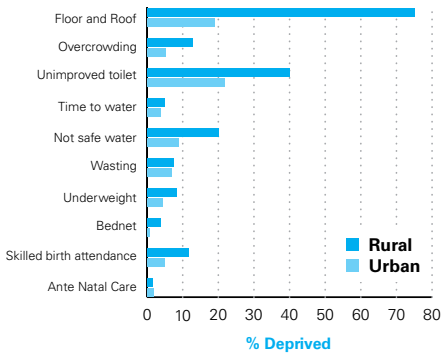


Figure 4.3: Dimensions by area

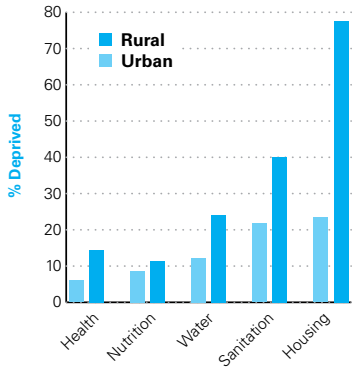
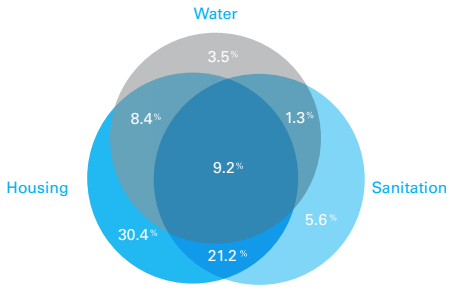


Figure 4.5: Overlap among household level deprivations



Not deprived in any: **20.4%**

The overall deprivation distribution are shown by area in Figure 4.6. Similar to the national distribution, the rural distribution for this age group is also shifted to the right, indicating higher deprivation counts in rural areas. For example 54 percent of rural children this age are deprived in 2+ dimensions compared to only 14 percent in urban areas. The national headcount at 2+ deprivations is 48 percent for children 0-23 months.

Figure 4.6: Number of deprivations by area

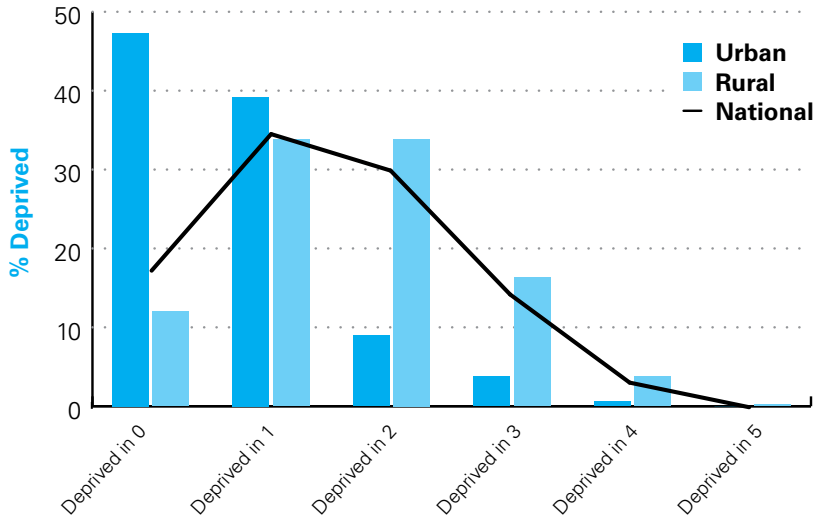


Table 7.2: Adjusted Headcount deprivation rates

	Headcount (H)		Intensity (A)		Adjusted Headcount (M0)	
	Urban	Rural	Urban	Rural	Urban	Rural
Deprived in 1+	52.7	88.0	27.1	37.9	0.14	0.33
Deprived in 2+	13.5	54.3	47.6	49.1	0.06	0.27
Deprived in 3+	4.5	20.4	62.9	64.2	0.03	0.13
Deprived in 4+	0.6	4.0	80.0	81.1	0.01	0.03

The vast majority of children in rural areas are deprived in at least one dimension (88 percent--Table 7.2), and they are deprived on average in 1.8 dimension (38 percent of a total of five). On the other hand, children living in urban areas are less deprived, both in headcount (53 percent) and intensity (27 percent of 5 dimensions). This results in a lower adjusted headcount for children in urban areas (0.14) than children in rural areas (0.33) using a cut-off of 1+. Using a cut-off of 2+ the adjusted headcounts are 6 and 27 percent in urban and rural areas respectively.

The next figure shows the effect of different household and individual characteristics on the probability for a child being deprived in 3 or more dimensions. These effects are derived from a multivariate regression predicting the probability of a child being deprived in 2+ dimensions and the effects are interpreted as percentage point changes in the probability of being deprived in 2+ dimensions associated with each characteristic. The effect of an increase in consumption of 10,000 MWK per year per capita is relatively small: 1 percentage point, while the education of the head of household has much larger effects.

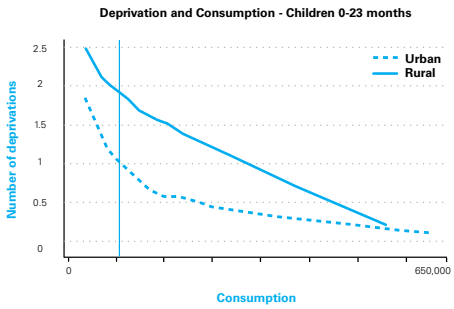
Children living with a head of household who has at least completed primary are 18 percentage points less likely to be deprived. The same is true for children of wage employees. On the other hand, living in rural areas increases the probability of being deprived by 23 percentage points.

Figures 4.9 and 4.10 allow us to focus more sharply on the relationship between consumption and child deprivations. Figure 4.8 shows this relationship for each individual deprivation. The lines are almost flat for nutrition, health, and water meaning that an increase in consumption doesn't do much to decrease deprivation rates in these dimensions. On the other hand, the line is quite steep for Housing and Sanitation, especially in rural areas. Here, an increase in consumption has a stronger effect on the probability of being deprived.

The relationship between number of deprivations and consumption is

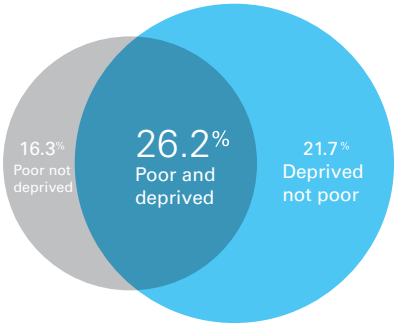
presented in Figure 4.9. For both rural and urban areas the line is steeper under the poverty line, becomes flatter above it, and is steeper in rural areas than in urban ones. Thus for this age group, improvements in income in rural areas would seem to also reduce deprivation while for urban areas this is true only for households below the poverty line.

Figure 4.9: Relationship between deprivation counts and consumption



If we look at the overlap between monetary poverty and deprivation (Figure 4.19) we see that one-quarter (26 percent) of children are both poor and deprived in 2 or more dimensions, while 22 percent of children are deprived in 2+ dimensions yet do not live in income poor households.

Figure 4.19: Overlap between monetary poverty and deprivation (2+)



Not poor and not deprived (in 2+): **35.8%**

Figure 4.7: Probability of being deprived (2+) associated with background characteristics

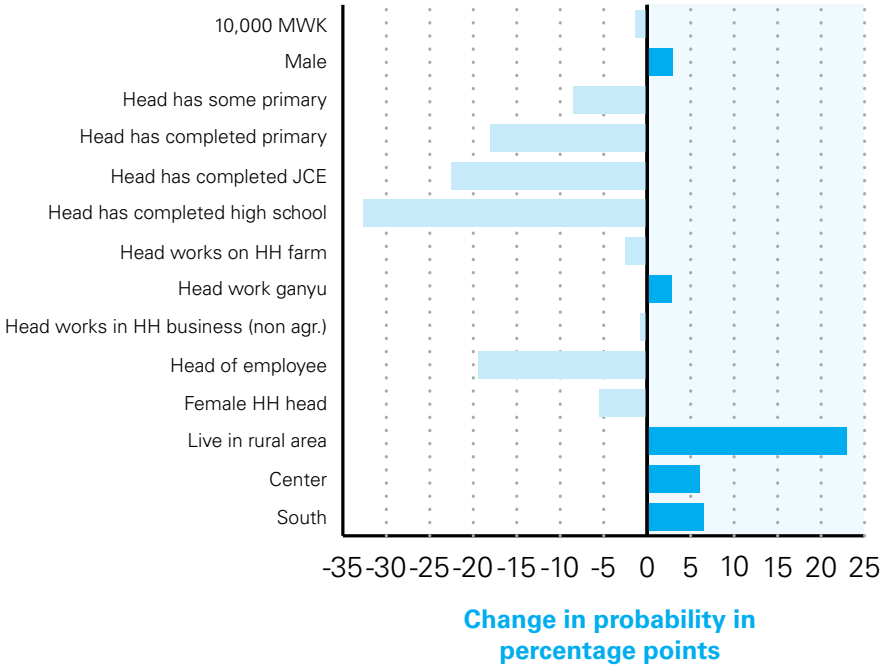
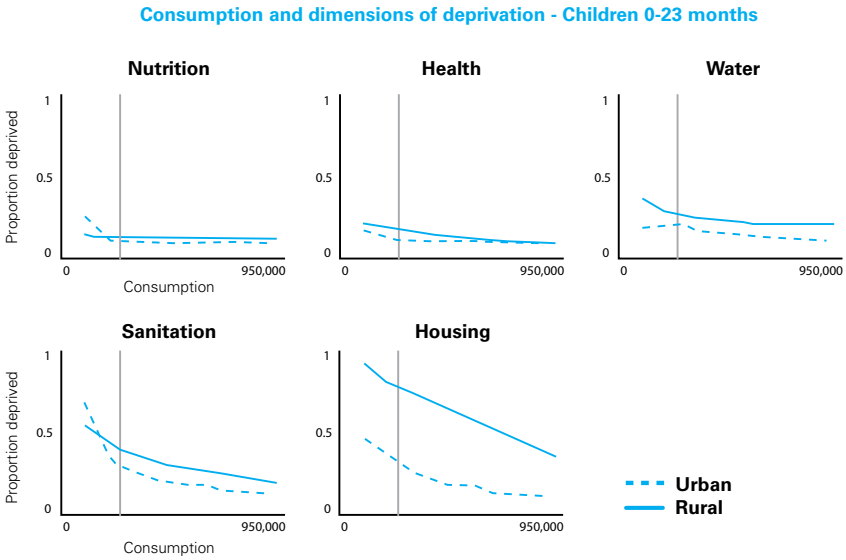


Figure 4.8: Relationship between individual deprivations and consumption



4.2 Children 24-59 months

The highest deprivations rates for the 24-59 month age group are similar to those found for the youngest age group, namely in Housing (Figure 4.21) and are driven by the same indicators of floor and roof and unimproved sanitation (Figure 4.20). This age group, however, shows a higher rate of deprivation in nutrition (47 percent) due in part to the difference in the underlying indicators used at this age level, which are stunting and meals per day, rather than wasting and underweight.

Children living in rural areas are worse off in almost all indicators and dimensions. They are especially more deprived in floor and roof, unimproved sanitation and meals per day. The latter results in higher rates of deprivation in Nutrition in rural areas, while there is almost no difference in the specific indicator of stunting.

Table 7.3 presents deprivation rates by background charactersitics. Children living in rural areas and with less educated head of houshold are more likely to be deprived in all dimensions, except for health. Children with more than three siblings are more deprived in health, and boys are more deprived in sanitation, which is somewhat surprising since this is a household level indicator.[4] Finally, children with a older head of household are less deprived in housing.

4 This gender difference is not statistically significant in a multivariate context, controlling for other factors.

Figure 4.20: Indicators - National

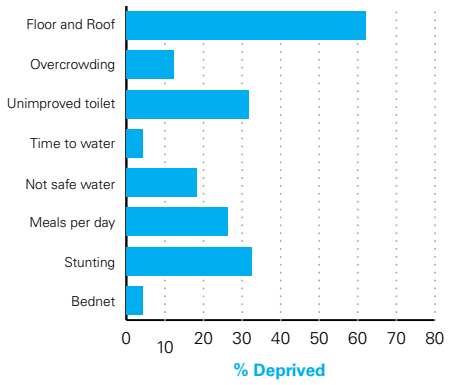


Figure 4.21: Dimensions - National

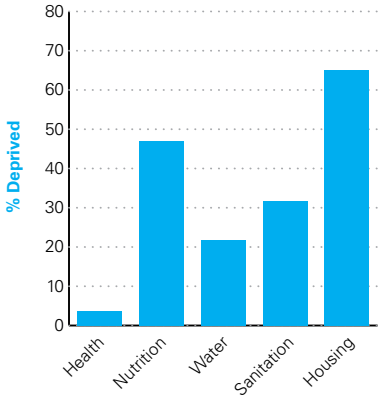


Table 7.3: Deprivation rates by background characteristics children 24-59 months

	Health	Nutrition	Water	Sanitation	Housing
Female	3.3	46.4	22.6	30.0*	62.7
Male	3.1	45.6	20.7	35.4*	66.6
3 children or less	1.3*	43.8	19.8	31.8	65.6
More than 3 children	5.4*	48.7	23.8	33.6	63.4
HH head is less than 60	3.0	45.6	21.7	33.9	66.1*
HH head is over 60	4.9	44.7	16.3	21.2	49.4*
HH head is single	3.3	51.2	20.6	32.7	66.2
HH head is married	3.0	44.4	21.6	33.4	65.2
HH head has less than primary	3.5	49.5*	24.4*	37.2*	74.1*
HH head has completed primary	2.5	37.4*	15.0*	21.5*	41.0*
HH head works	2.9	45.9	21.6	33.2	64.9
HH head doesn't work	5.1	38.9	19.2	35.8	75.5
Male HH head	3.0	44.0*	21.7	32.4	64.1
Female HH head	3.5	53.3*	20.6	37.7	71.6
Urban	1.7	38.0*	10.6*	16.1*	22.8*
Rural	3.5	47.6*	23.8*	35.9*	72.7*

The star (*) in the table means that the difference is statistically significant at the 5% confidence level.

Figure 4.13: Indicators by area

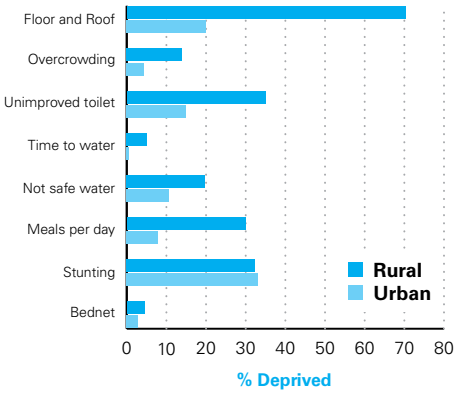


Figure 4.14: Dimensions by area

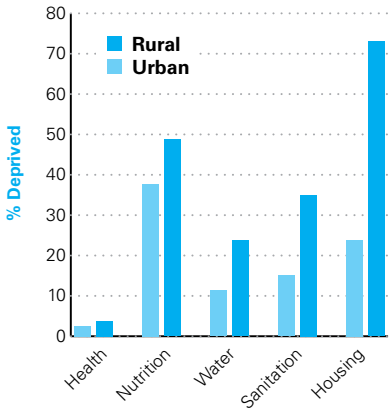
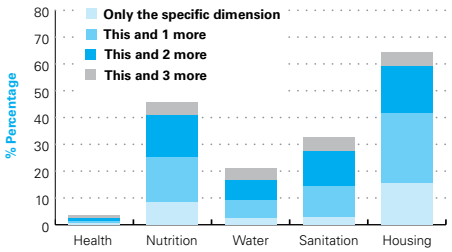


Figure 4.15: Overlap of dimensions



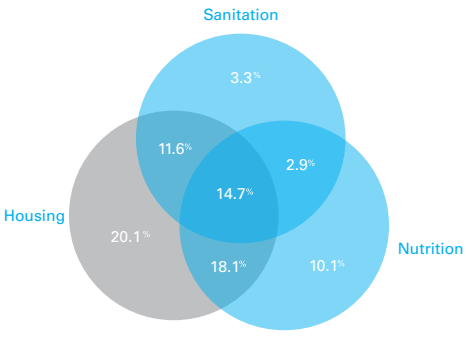
Most children this age are deprived in at least one additional dimension (Figure 4.15), and the majority of children deprived in nutrition, sanitation or housing are deprived in two additional dimensions—this is not suprising given the overall level of deprivation in Malawi.

The three dimensions that present the highest degree of overlap for this age group are nutrition, sanitation and housing. About 15 percent of children in this age group are deprived in all three, while a little less than one in five is not deprived in any of these. In addition, there is a great degree of overlapping between nutrition and housing, with 18 percent of children deprived in both, and most children deprived in sanitation are either deprived in all three, or at least in one of the other two dimensions.

Figure 4.17 shows the overall distribution of deprivation counts for this age group. Most children in this age group are deprived in one (30 percent) or two (31 percent) dimensions and 55 percent of children age 24-59 are deprived in 2+ dimensions. However, there are considerable differences between rural and urban areas: the distribution of deprivation in rural areas is skewed to the right, showing that there are more children deprived for higher deprivation counts, while the distribution in urban areas is decidedly skewed to the left, with about two in five children not deprived at all. The percent of children with 2+ deprivations is 61 in rural areas compared to 21 percent in urban areas.

The difference in deprivation rates by area is reflected also in deprivation headcounts by cut-off: while in rural areas most children are deprived in at least one dimension (88 percent), in urban areas the headcount is less than two thirds (Table 7.4). Children in rural areas also experience more deprivations at the same time, on average, than urban children. This results in a higher M0 for rural (0.37) than urban (0.18) children (Table 7.4) at a threshold of 1 or more deprivations.

Figure 4.16: Overlap between three dimensions



Not deprived in any: **18.8%**

Table 7.4: Adjusted deprivation headcounts for children 24-59 months

	Headcount (H)		Intensity (A)		Adjusted headcount (M0)	
	Urban	Rural	Urban	Rural	Urban	Rural
Deprived in 1+	61.9	88.4	28.7	41.5	0.18	0.37
Deprived in 2+	21.2	61.0	45.5	51.1	0.10	0.31
Deprived in 3+	5.0	27.3	63.5	64.9	0.03	0.18
Deprived in 4+	-	6.3	-	81.1	-	0.05

As before, the education of the head of the household is strongly associated with the probability of being deprived (Figure 4.18). A head of household with at least some primary reduces the probability of a child being deprived in three or more dimensions by 6 percentage points, with respect to a head who has no education. If the head has completed high school, the probability of a child being deprived drops by almost 30 percentage points. The main activity of the head is also associated with the probability of being deprived: if the head is a wage employee, the probability of being deprived for a child decreases by 14 percentage points. On the contrary, living in rural areas increases the probability of deprivation by 21 percentage points. Focusing now on the relationship between consumption and each specific dimensional deprivation, Figure 4.19 illustrates that the shape of the curves varies a lot across the different dimensions : it is almost completely flat for health and water in both rural and urban areas, while for nutrition we observe a steeper portion of the curve on the left of the poverty line, which means that for poor children an increase in consumption is effective in reducing nutritional deprivation. The curves are

Figure 4.17: Deprivation headcount by area

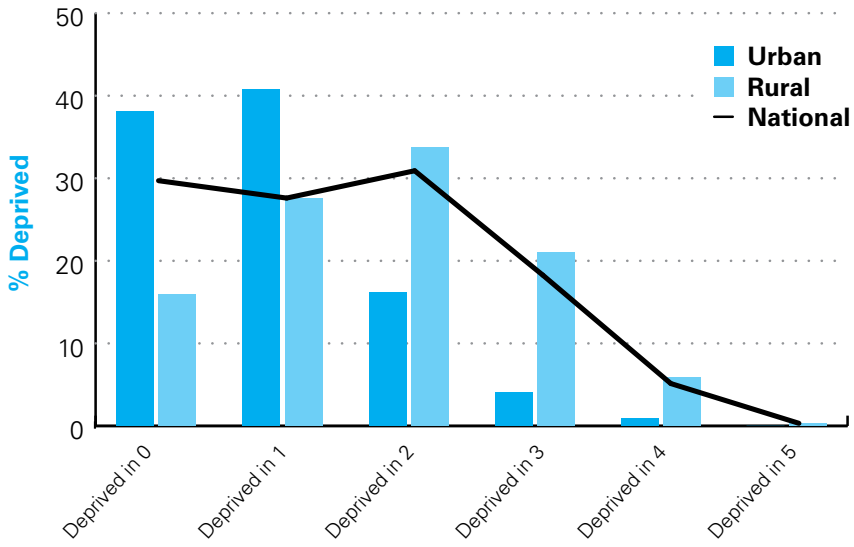
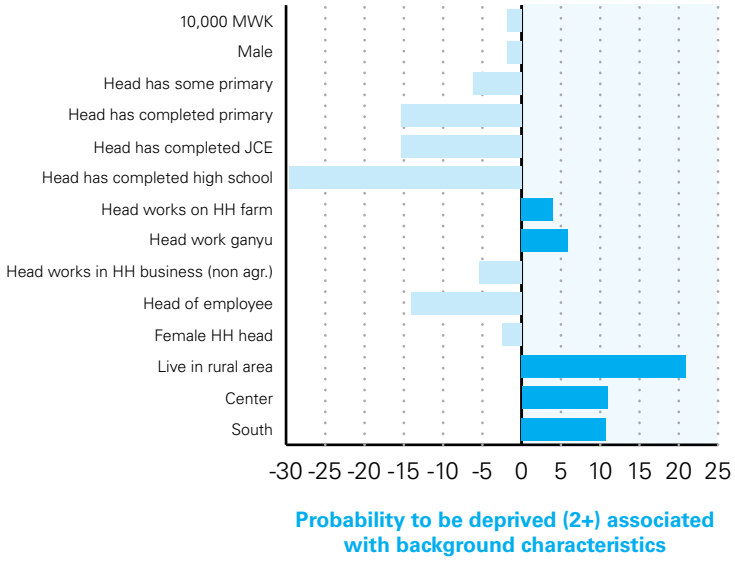


Figure 4.18: Probability to be deprived (2+) associated with background characteristics



again very steep for housing, especially in rural areas, while for sanitation in urban areas we see that the line turns from steep to almost flat around the poverty line.

Figure 4.20 presents the relationship between consumption and the number of dimensional deprivations suffered by children in this age group. This relationship is quite strong in rural areas through the entire range of consumption, and is likely driven by housing and nutrition, and to a lesser extent by sanitation, based on the prior figure. In urban areas on the other hand the relationship is very strong below the poverty line and then flattens considerably—improvements in income among the non-poor in urban areas will not reduce deprivation in this age group.

Figure 4.20: Relationship between consumption and deprivation counts

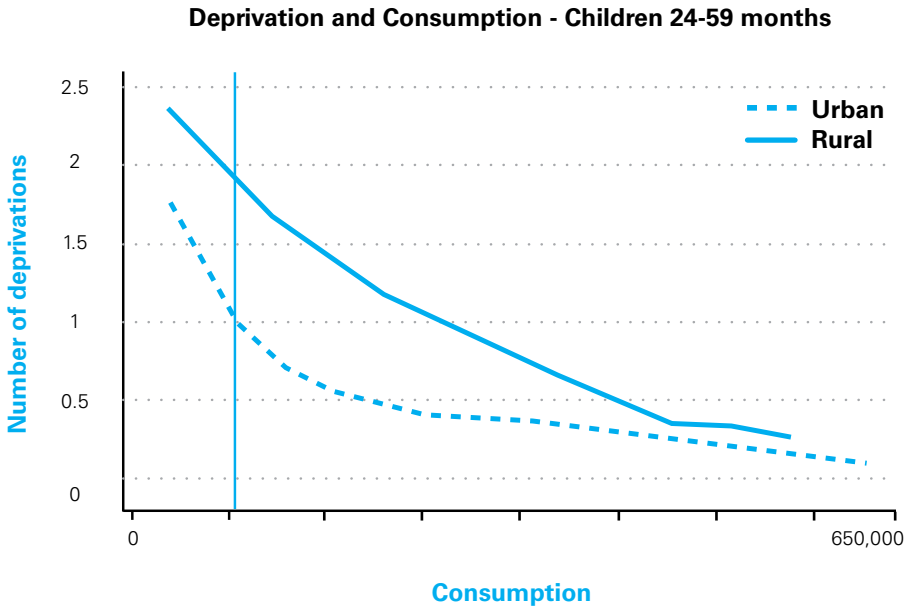
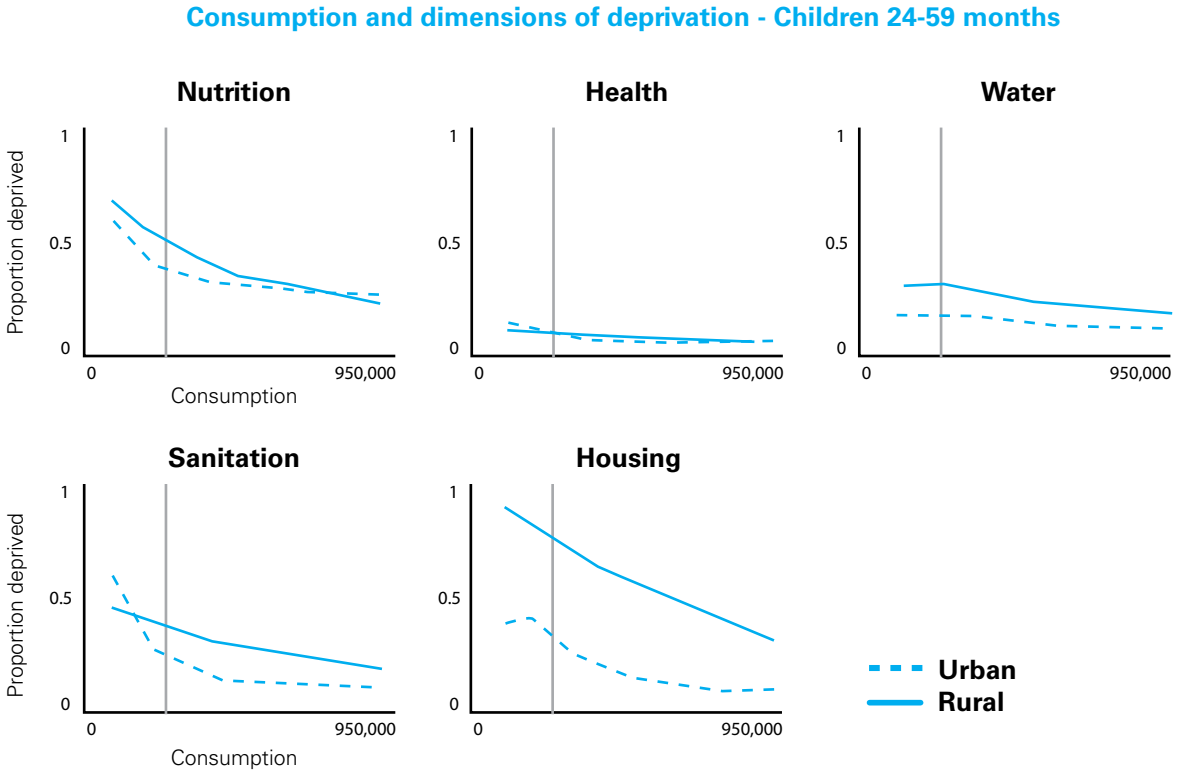
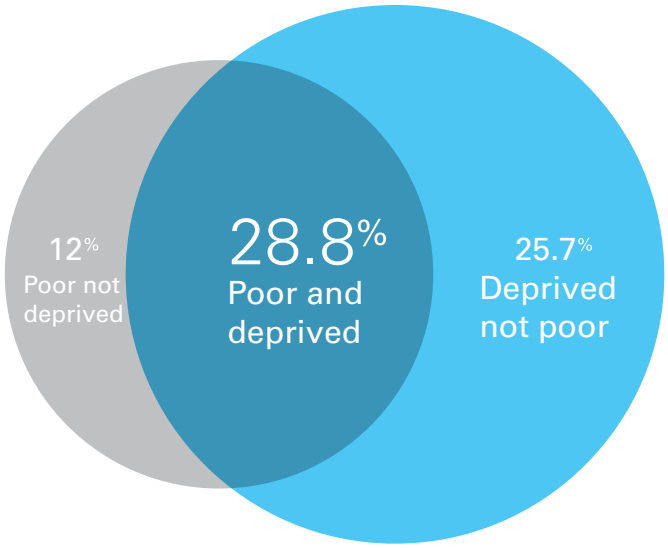


Figure 4.19: Relationship between consumption and dimensional deprivation



We end this analysis by decompising all children into four categories: those who are neither poor nor deprived (in 2+ deprivations), those who are in one of these states but not the other, and those who are both poor and deprived. (Figure 4.21). Almost thirty percent of children in this age group are both poor and deprived—these are the most vulnerable children in this age group. Meanwhile, about one in four children are deprived in 2+ dimensions and yet live in households that are not monetarily poor, highlighting again the important fact that addressing income poverty alone is not enough to reduce child derpivation.

Figure 4.21: Overlap between monetary poverty and deprivations (2+)



Not poor and not deprived (in 2+): **33.5%**

5. Deprivation Analysis of Children 5-17 Years Old

This chapter provides details on the indicators, dimensions and background correlates of deprivation among children age 5-17. There are two important differences in the dimensions considered for the older age groups. First, education is now added as a dimensions and health is eliminated. Second, the Protection and Information dimensions are now included and includes child work and early marriage for Protection, and availability of information devises for the Information domain.

Figure 5.1: Indicators

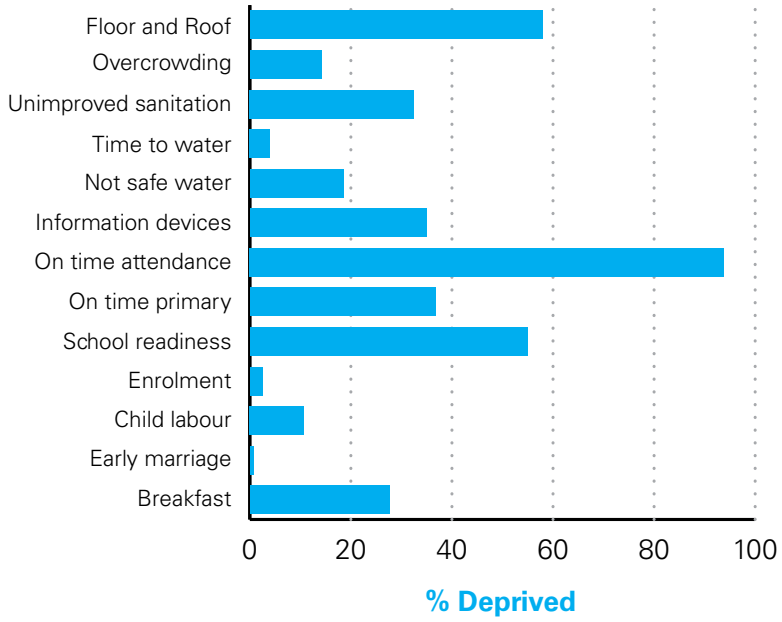
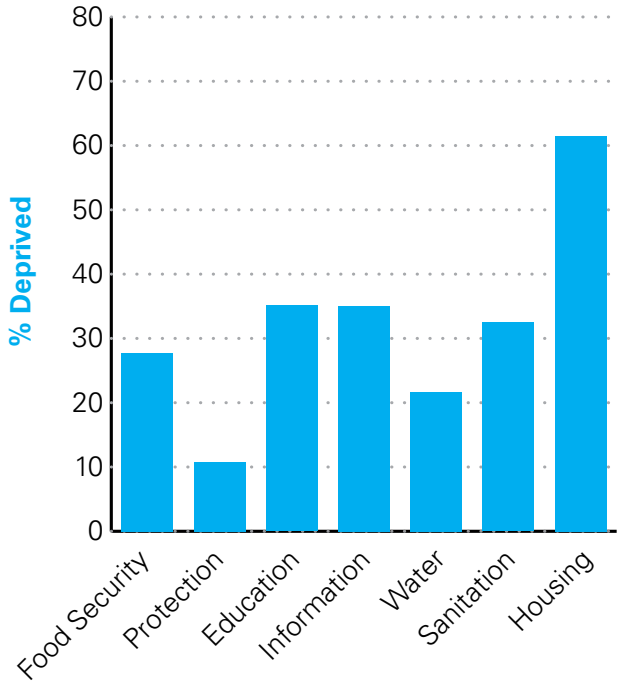


Figure 5.2: Dimensions



5.1 Children 5-14 years old

The largest sources of deprivation in this age group are housing (62 percent), followed by information (35 percent) and education (35 percent). Deprivation in education is driven by on time attendance which shows a rate of almost 94 percent—this captures whether children are in the age appropriate grade and the threshold is more than two grades behind; at the same time deprivation in general school enrolment is quite low (2.5 percent). On the other hand, deprivation rates for child work and early marriage are quite low, leading to a low deprivation rate in protection. For this age group, the dimension relative to nutrition is defined as food security.

Children in rural areas are generally worse off in all indicators, especially household related ones although differences in grade-for-age are quite small and deprivation rates thus universally high. Consequently, children in rural areas are significantly more deprived in every dimension.

Table 7.5 shows deprivation rates by background characteristics. Girls are slightly more deprived in protection (12 percent versus 10 percent for boys) but boys are more deprived in education (37 versus 33 percent). Children with more than three siblings are more deprived in information, and children living with an older head of household are more deprived in nutrition, education, and information. A more educated head of household decreases the probability of a child being deprived in all dimensions except protection, and children who live with a married head of household are less likely to be deprived in food security and information. Finally, children living with a female head of household are more deprived in food security, education, sanitation and sanitation.

Figure 5.3: Indicators by area

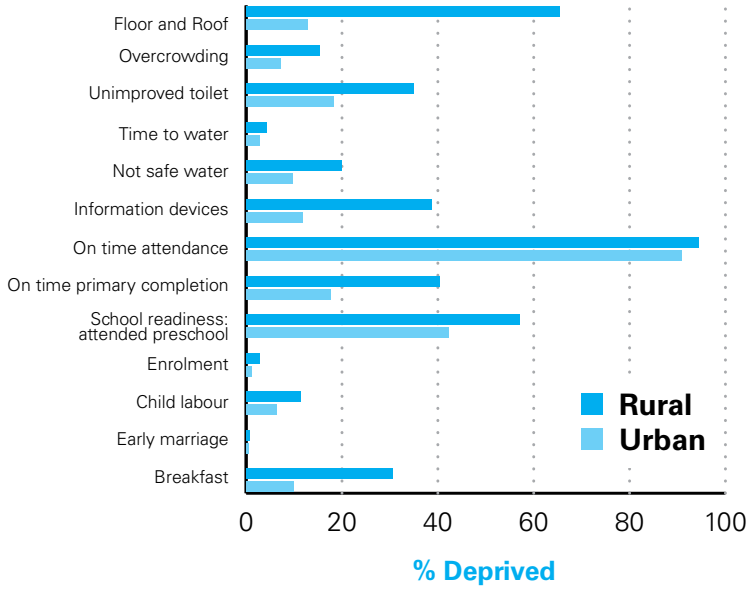


Figure 5.4: Dimensions by area

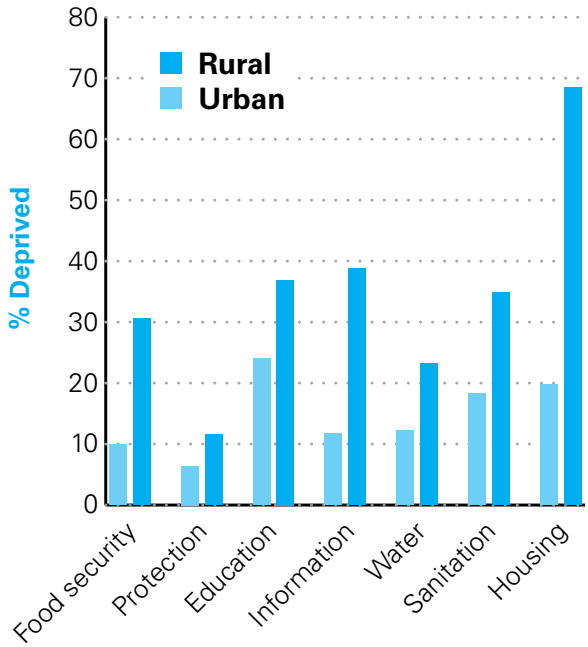


Table 7.5: Deprivation rates by background characteristics children age 5-14 years

	Food Security	Protection	Education	Information	Water	Sanitation	Housing
Female	27.1	12.0*	32.9*	35.3	21.1	30.6*	61.6
Male	28.3	9.7*	37.3*	34.6	22.2	34.4*	61.3
3 children or less	28.2	10.0	34.4	38.6*	20.9	30.0	60.2
More than 3 children	27.3	11.5	35.5	32.2*	22.2	34.4	62.4
HH head is less than 60	26.7*	10.0	33.6*	32.0*	21.9	32.2	61.5
HH head is over 60	39.4*	13.7	41.6*	49.0*	20.5	32.7	65.4
HH head is single	37.5*	12.2	36.5	52.6*	18.6	35.6	65.6
HH head is married	24.9*	9.9	33.7	28.2*	22.6	31.1	60.8
HH head has less than primary	31.7*	10.7	39.2*	39.8*	23.5*	35.7*	68.7*
HH head has completed primary	16.9*	11.2	24.1*	22.0*	16.6*	23.8*	42.1*
HH head works	28.2	10.8*	34.2	32.6*	21.7	31.3*	61.0*
HH head doesn't work	22.9	3.4*	37.3	50.3*	23.7	47.5*	76.5*
Male HH head	24.9*	9.8	34.0	28.4*	22.8	30.7*	60.3*
Female HH head	38.7*	12.3	35.6	52.3*	18.1	38.0*	67.6*
Urban	10.0*	6.4*	24.0*	11.8*	12.2*	18.3*	19.7*
Rural	30.6*	11.6*	36.9*	38.8*	23.2*	34.9*	68.4*

The star (*) in the table means that the difference is statistically significant at the 5% confidence level.

The majority of children experience 2 to 4 additional deprivation at a time (Figure 5.5). For example, about one half of the children deprived in housing or education are deprived in 2, 3 or 4 additional dimensions. The occurrence of multiple deprivations is of course to be expected in an overall context of high deprivation rates as is the case in Malawi.

Among the dimensions that overlap the most, there are education, information and housing (Figure 5.6). Twelve percent of children are deprived in all three of these, and about the same amount are deprived in both education and housing. Less than one in four children are not deprived in any of these dimensions.

Figure 5.5: Overlap of dimensions

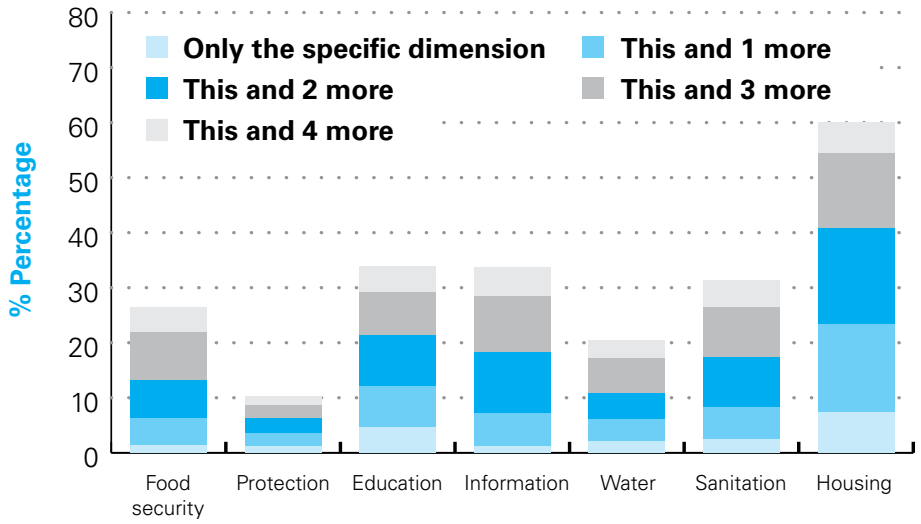


Figure 5.6: Overlaps between household level deprivations

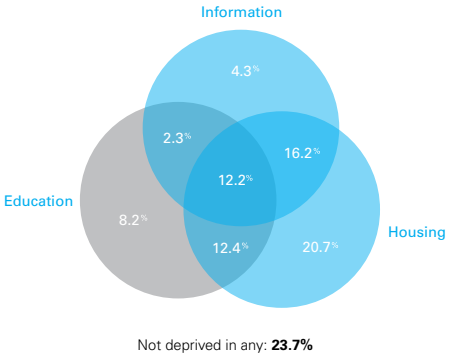
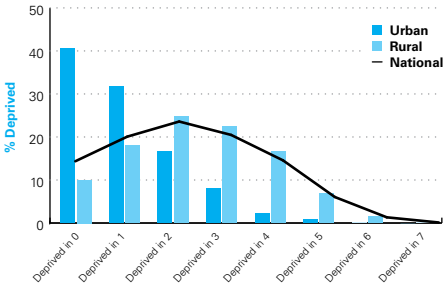


Figure 5.7: Deprivation headcount by area



Aggregating the overall dimensional deprivations across all children in this age group allows us to construct the distribution of deprivation counts which is depicted in Figure 5.7. Overall in this age group 66 percent of children are deprived in 2+ dimensions with higher percentages in rural areas (72) compared to urban (28) (Table 7.6).

As in Chapter 4, we assess the probability of having 2+ deprivations in a multivariate framework using background characteristics of the household. Results from this procedure, interpreted as percentage point changes in the probability of having 2+ deprivations, are shown in Figure 5.8. In this age group the effect of consumption is small and not statistically significant. On the other hand head's education, partcularly completion of high school and in fact any level of schooling reduces the probability of being deprived; on the other hand living in a rural area is associated with a 23 percentage point increase in the probability of having 2+ deprivations even after controlling for household consumption, education and employment of the head. This 'effect' likely represents the lack of acces to services such as sanitation, water and housing in rural areas.

Figure 5.9 focuses attention exclusively on the relationship between consumption and each specific dimensional deprivation and the results are quite similar to the younger age groups. Deprivation in housing is strongly linked to household income in rural areas while Protection has virtually no relationship at all. In other dimensions (Sanitation, Information, Nutrition) the link is strongest among households who are below the poverty line, and this is true in both urban and rural areas.

Table 7.6: Multidimensional deprivation ratios by area

	H			A			M0		
	National	Urban	Rural	National	Urban	Rural	National	Urban	Rural
Deprived in 1+	85.7	59.5	90.0	37.4	24.6	38.8	0.32	0.15	0.35
Deprived in 2+	65.7	27.7	72.1	44.4	36.4	44.9	0.29	0.10	0.32
Deprived in 3+	42.2	11.1	47.4	53.2	48.1	53.4	0.22	0.05	0.25
Deprived in 4+	21.8	3.1	25.0	62.8	61.5	62.9	0.14	0.02	0.16
Deprived in 5+	7.3	0.9	8.4	74.2	72.8	74.2	0.05	0.01	0.06
Deprived in 6+	1.3	0.1	1.6	86.5	85.7	86.5	0.01	0.00	0.01

Figure 5.8: Probability of being deprived (2+) associated with background characteristics

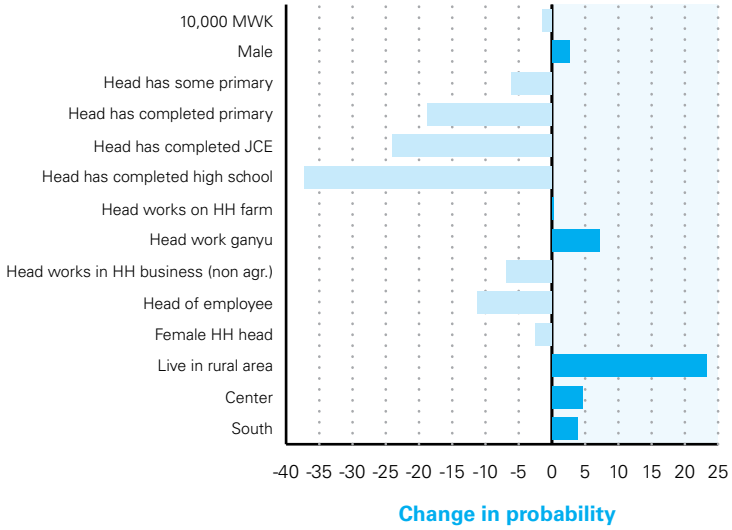


Figure 5.9: Relationship between consumption and dimensional deprivation

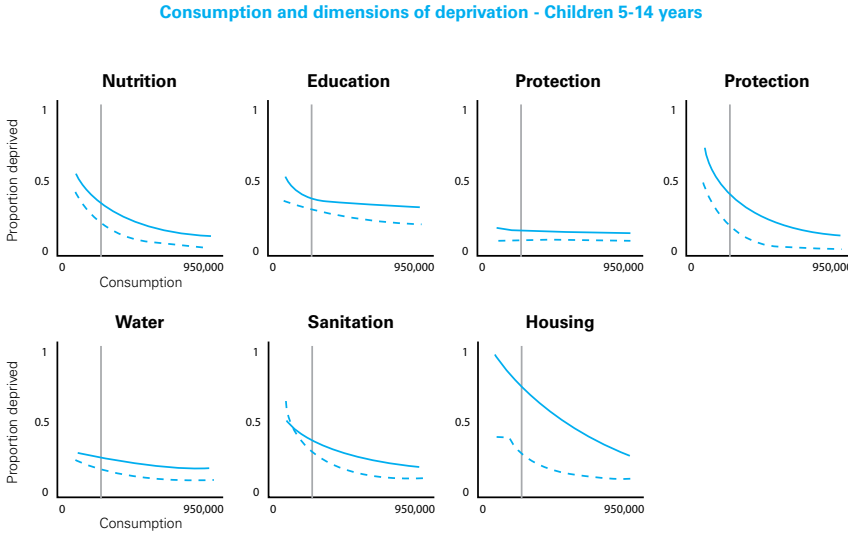
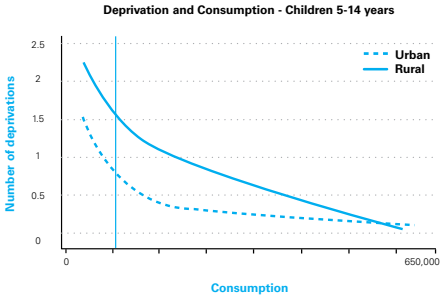


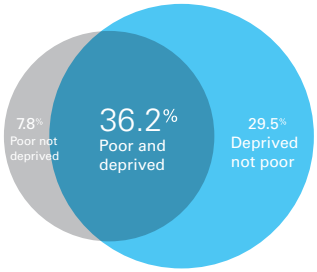
Figure 5.10: Relationship between consumption and dimensional deprivation



The relationship between deprivation counts and consumption shown in Figure 5.10 is also similar to that among younger age groups. Overall the relationship is strongest among children living in households below the poverty line, and is generally stronger in rural areas relative to urban areas, with the relationship among richer households in urban areas being quite weak.

The overlap between deprivation (2+) and monetary poverty is strogner in this age group, with more than one in three children both poor and deprived in 2 or more dimensions (Figure 5.11). However there remains another third (30 percent) of the total of children in this age group who suffer from 2+ deprivations and yet do not live in monetarily poor households.

Figure 5.11: Overlap between monetary poverty and deprivation (3+)



Not poor and not deprived (in 2+): **26.5%**

5.2 Children 15-17 years

In this age category the Malawi TWG recommended six dimensions for the MCPI rather than the seven used in the 5-14 age group. The food security dimension was eliminated because the there was not available data on the indicator (breakfast) for children 15 and older, and it was also thought not to reflect a violation of an underlying right.

Figure 5.12: Indicators

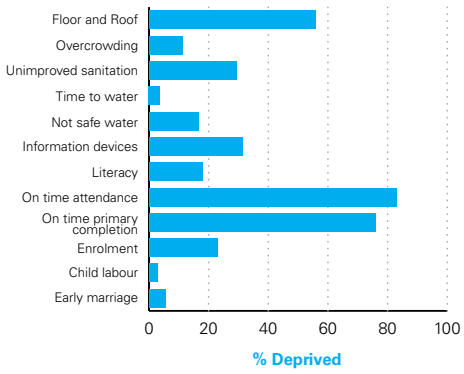


Figure 5.13: Dimensions

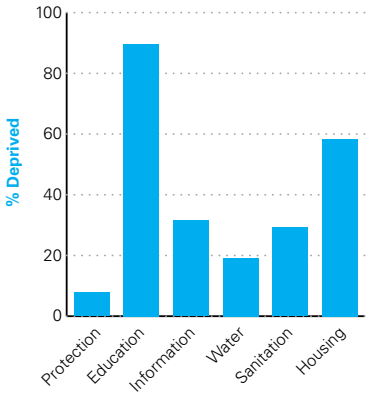


Figure 5.14: Indicators by area

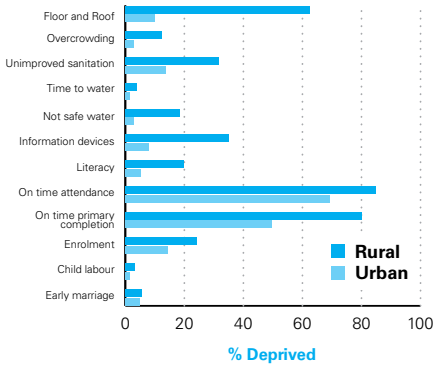
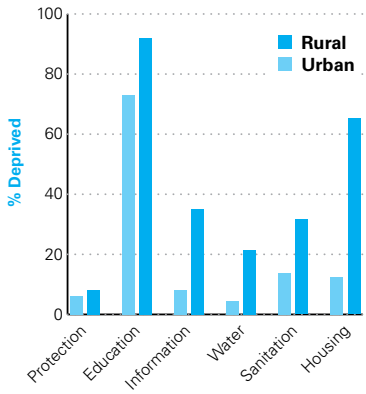


Figure 5.15: Dimensions by area



Among this group the highest dimensional deprivations occur in Education, Housing and sanitation, with the Education deprivation driven by the two indicators of grade-for-age and completion of primary school. Figure 5.12 indicates that among children 15-17, 75 percent have not actually completed primary school.

Analyses by area of residence shows the same pattern of dimensional deprivation with the highest rates in the same three dimensions in each area, but higher overall levels in rural areas (Figure 5.15). One key difference is in the Information dimensions where deprivation rates are only 8 percent in urban areas compared to 35 percent in rural ones; literacy rates are also much lower in urban areas (5 percent) among this age group suggesting that quality of schooling might be a factor at play. Howeve even in urban areas nearly 50 percent of children age 15-17 have not yet completed primary school—this is a pressing issue in Malawi.

Girls are significanlty more deprived in protection than boys (Table 7.7), but they are not less deprived in education anymore. Children of a more educated head of household are less deprived in all dimensions except protection and water—for which there are no significative differences.Again, living in rural areas results in higher deprivation rates in almost every dimension, with the exception of protection.

Table 7.7: Deprivation rates by background characteristics children age 15-17 years

	Protection	Education	Information	Water	Sanitation	Housing
Female	13.7*	89.0	33.5	18.9	32.2	57.6
Male	2.5*	90.1	29.6	19.4	26.6	59.3
3 children or less	12.7*	88.3	35.5*	20.9	32.0	55.6
More than 3 children	4.0*	90.6	28.2*	17.7	27.1	60.8
HH head is less than 60	6.7	88.8	26.3*	19.2	27.8	58.1
HH head is over 60	4.6	90.8	42.5*	19.4	30.5	64.4
HH head is single	6.4	90.6	43.3*	16.8	32.8	63.9
HH head is married	6.3	88.9	24.2*	19.9	26.7	57.5
HH head has less than primary	7.3	93.7*	36.1*	20.1	31.9*	67.4*
HH head has completed primary	9.4	81.0*	22.0*	17.2	23.9*	39.9*
HH head works	6.3	89.3	27.7*	19.0	27.5	58.3
HH head doesn't work	7.0	86.7	47.5*	21.5	38.5	70.9
Male HH head	6.6	88.2	23.8*	20.1	24.3*	57.2
Female HH head	5.7	92.1	46.3*	16.5	40.9*	65.9
Urban	6.2	73.1*	8.1*	4.4*	13.7*	12.5*
Rural	8.2	92.0*	35.0*	21.4*	31.6*	65.2*

The star (*) in the table means that the difference is statistically significant at the 5% confidence level.

The experience of multiple simultaneous deprivations remains a common phenomenon in this age group. Figure 5.16 shows that around 55 percent of those deprived in housing also suffer from at least one additional deprivations. Education deprivation also displays significant overlap; here also 80 percent of children deprived in Education are also deprived in at least 2 other deprivations.

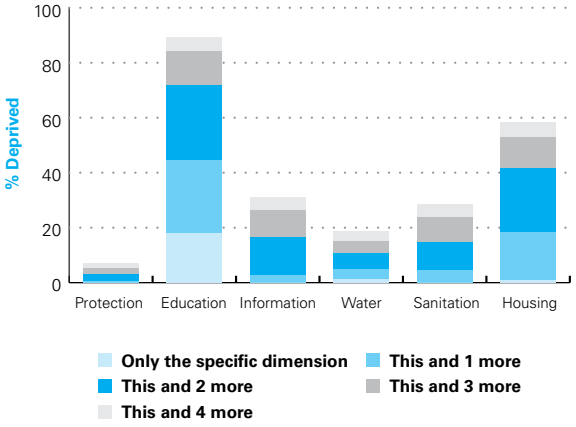


Figure 5.16: Dimensions Overlap

The three dimensions that overlap the most for this age group, are education, information, and housing: one in four children are deprived in all three (fig 5.17). Furthermore, there is a high degree of overlap between education and housing, with almost one third of children deprived in both these dimensions.

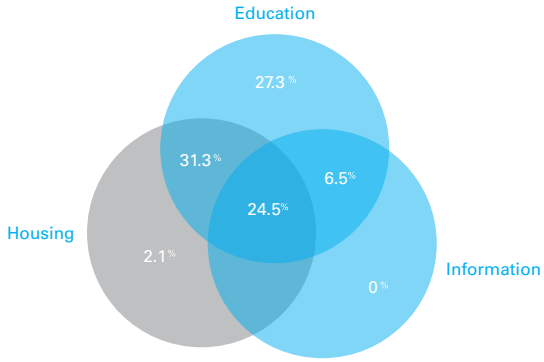


Figure 5.17: Overlap of 3 dimensions

The full distribution of deprivation counts for this age group is shown in Figure 5.18. Overall 73 percent of children are deprived in 2+ dimensions—the highest age-specific deprivation rate (Table 7.8). The urban-rural differences also appear starkest among this age group, with 80 percent of rural children deprived in 3+ dimensions compared to only 27 in urban areas. In urban areas 23 percent of children in this age group suffer no deprivation at all.

The risk factors associated with being deprived in 2+ dimensions is shown in Figure 5.19 derived from multivariate regression analysis. Consistent with the previous figure, the deprivation risk associated with living in a rural area is highest in this age group at 28 percentage points, even after controlling for factors such as consumption, and education and employment of the household head. Notice that the benefit of higher levels of completed schooling by the head are also the largest among this age group; having a head with complete JCE reduces the probability of having 3+ deprivations by 21 percentage points. On the other hand head's employment status appears to have smaller effects among this age group.

Table 7.8: Multidimensional deprivation ratios, children 15-17

	H			A			M0		
	National	**Urban**	**Rural**	**National**	**Urban**	**Rural**	**National**	**Urban**	**Rural**
Deprived in 1+	93.8	76.7	96.3	41.9	25.6	43.9	0.39	0.20	0.42
Deprived in 2+	73.3	27.3	80.1	49.0	41.9	49.3	0.36	0.11	0.40
Deprived in 3+	45.3	9.6	50.6	58.7	57.8	58.7	0.27	0.06	0.30
Deprived in 4+	17.8	3.3	20	72.1	72.8	72.1	0.13	0.02	0.14
Deprived in 5+	5.4	1.2	6.1	84.4	83.3	84.5	0.05	0.01	0.05

Figure 5.18: Deprivation headcount by area

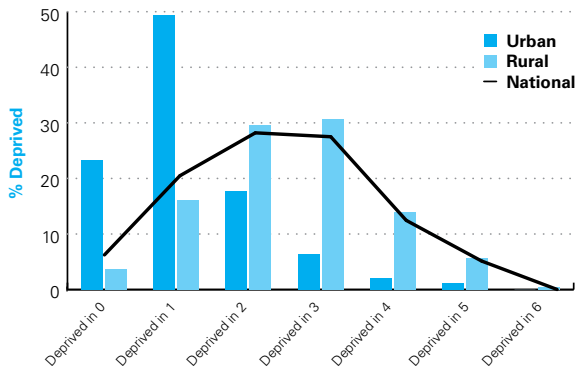


Figure 5.19: Probability of being deprived (2+) associated with background characteristics

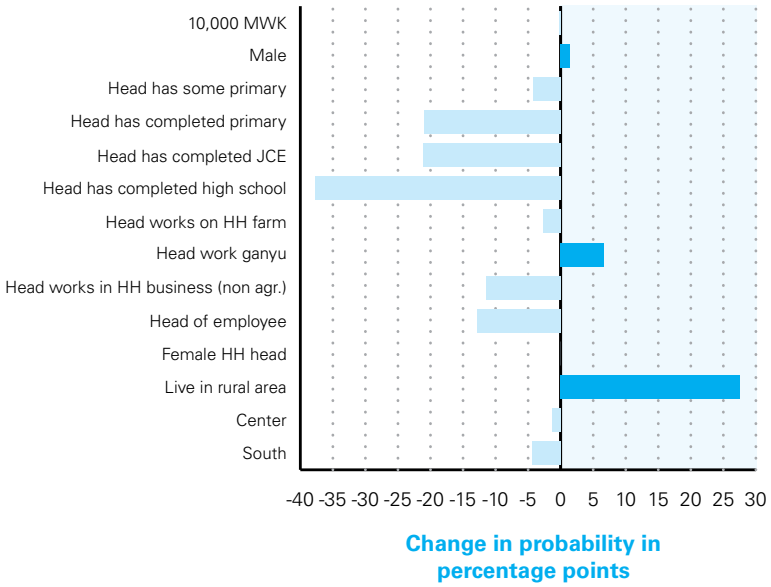


Figure 5.20: Relationship between consumption and dimensions deprivations

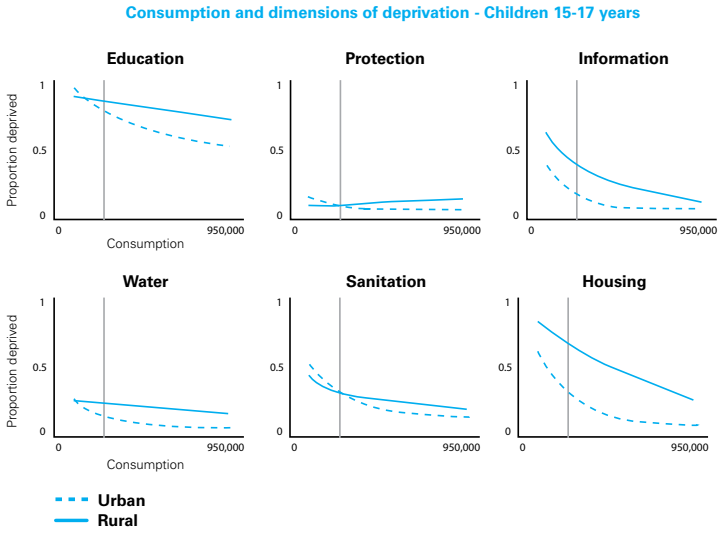
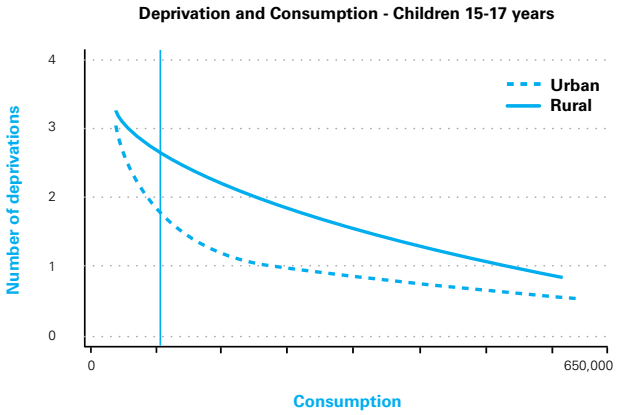


Figure 5.21: Consumption and deprivation counts

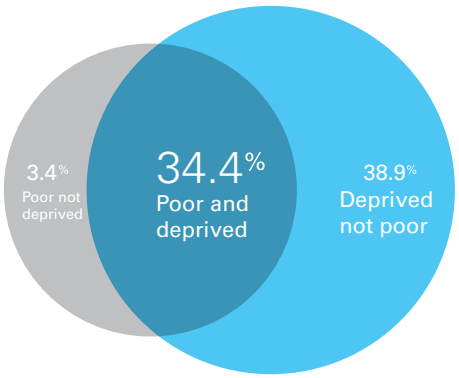


Focusing on the relationship between consumption and dimensional deprivation, Figure 5.20 illustrates that Housing continues to have a very strong relationship with consumption among this age group. However Education deprivation is now more strongly associated with consumption than for the 5-14 age group; this is because the underlying indicators of grade-for-age and primary school completion are both strongly associated with income at this age group.

The relationship between deprivation counts in Figure 5.21 follows the familiar pattern of overall strong association among poor households in both urban and rural areas, and a continued strong relationship above the poverty line in rural areas but a slightly weaker relationship in urban areas. However for the older age group the association between deprivation counts and consumption is stronger in urban areas than in the 5-14 age group, no doubt driven by the relationship between consumption and Education which is the key difference in this age group.

We end this section by decomposing children into the four groups of deprived only, poor only, deprived and poor simultaneously and not poor nor deprived (at the chosen cut-off). The overlap between the two is 34 percent in this age group, while almost two in five children (39 perccent) are deprived in 2+ dimensions and yet live in households that are not below the poverty line. About one in five children are not poor and not depirved in 2 or more dimensions.

Figure 5.22: Overlap between monetary poverty and deprivation (3+)



Not poor and not deprived (in 2+): **23.2%**

6. Dynamics of Poverty and Deprivation

In this chapter we exploit the panel nature of the IHPS and assess the dynamics of child poverty and deprivation. We begin by simply comparing the trends over time in indicators to see what changes have occurred. We then dig deeper into the data by linking data from individual children across survey rounds to track their individual changes in well-being, to see how fluid an individual's poverty status is and what key factors determine the movement out of poverty. For this analysis we use the first (2010/11) and second (2013) wave of the IHPS.

Since the two waves of the survey are consistent, there is no need to adjust dimensions and/or indicators, and we used for 2010 the same indicators, dimensions and age groups as for 2013. Table 6 reports the deprivation rates by single indicator and dimension for each wave.

Trends in deprivation are mixed. While there has been an improvement in health, education, information, and water, there has been an increase in deprivation in nutrition (which is driven by an increase in all indicators, especially the anthropometrics), protection, housing, and in particular sanitation, where deprivation increased about 10 percentage points between the two waves.

Table 8: Indicators and dimensions rate in the two waves

	2010/11	N	2013	N
Indicators				
Ante Natal Care	3.9	960	1.6	1103
Skilled birth attendance	16.1	960	10.7	1103
Bed-net	8.5	1919	3.6	2517
Underweight	4.3	2077	9.2	2423
Wasting	2.9	2040	7.2	2325
Stunting	24.6	2108	30.5	2400
Meals (less than 3)	26.8	9887	29.8	13838
No Breakfast	25.6	4626	27.7	5890
Child Labor	7.7	5683	9.3	7297
Early marriage	2.9	2242	2.8	3053
Enrolment	6.6	4846	6.4	6463
School readiness: attended preschool	63.9	1154	55	1241
On time attendance	50.1	3306	47.5	4528
Literacy	21.4	1057	18	1407
On time primary completion	81	1411	85.9	1920
Information devices	34.5	15597	33.8	19899
Floor and Roof	57.8	15592	57.1	19901
Overcrowding	43.4	15597	47.7	19903
Unimproved toilet	22	15586	31.3	19903
Not safe water	19.2	15588	17.5	19903
Time to water	9.2	15597	9.5	19889
Dimensions				
Health	12.2	2633	7.1	2926
Nutrition	27.6	6855	30.2	8452
Protection	8.8	5683	10.3	7297
Education	46.4	5683	44.1	7297
Information	35.6	5683	34.3	7297
Water	27.6	8318	26.6	10224
Sanitation	23.4	8311	32.7	10224
Housing	74.8	8318	76.2	10224

Table 8.1 reports the poverty[5] headcount rates (individual level) and indicates a decrease in poverty among the entire population from 48 to 38 percent in this three years period. Child poverty has decreased by the same amount, from 52 to 42 percent (row 2 of Table 8.1), but it remains higher than poverty in the general population. The third row of Table 8.1 shows the poverty rate among children 0-17 years with those age 3-20 three years later—this is a cohort sample. Results indicate the same decrease in poverty among this cohort of children. Finally, the last row of Table 8.1 follows children age 0-17 years in 2010/11 and calculates their poverty rate in 2013—this is a panel analysis as poverty is calculated on the exact same children. The poverty rate among these children decreases slightly less than for the cross section and the cohort children, from 52 to 43 percent.

Table 8.2 repeats this analysis based on deprivations rather than monetary poverty. The first row indicates that overall deprivation (defined as deprived in 2 or more dimensions) decreased slightly (2 percentage points). The bottom row of Table 8.2 shows the change in deprivation among the panel of children who were 0-14 years in 2010 (and thus 3-17 years in 2013) and shows a 2 point increase in deprivation, which is opposite to the general change in poverty when comparing children 0-14 years in 2010/11 with children 0-14 years in 2013 (row 2), where deprivation rates decrease of 3 percentage point. Hence the dynamics of deprivation appear to be different when examining the panel of children versus the cross-section—we will explore this phenomenon in more detail below.

More importantly, deprivation seems to be more stagnant with respect to monetary poverty.

5 As above, poverty is defined in this section using the national poverty lines defined by Malawi's NSO.

Table 8.1: Poverty rates (basic needs poverty line)

	2010/11			2013		
	Mean	**S.D.**	**N**	**Mean**	**S.D.**	**N**
Poor: all population	0.48	0.50	15,597	0.38	0.49	19,903
Poor: 0-17 cross section	0.52	0.50	8,318	0.42	0.49	10,224
Poor: 0-17 in 2010/11, cohort	0.52	0.50	8,318	0.42	0.49	9,858
Poor: 0-17 in 2010/11, panel	0.52	0.50	7,629	0.43	0.50	7,629
Poor: 0-14 in 2010/11 panel	0.53	0.50	6,647	0.44	0.50	6,647

Table 8.2: Deprivation rates (deprived in 2+)

	2010/11			2013		
	Mean	S.D.	N	Mean	S.D.	N
Deprived in 2 or more: 0-17 cross section	0.65	0.48	8,318	0.63	0.48	10,224
Deprived in 2 or more: 0-14 cross section	0.64	0.48	7,261	0.61	0.49	8,817
Deprived in 2 or more: 0-14 in 2010/11 (cohort)	0.64	0.48	7,261	0.65	0.48	8,472
Deprived in 2 or more: 0-14 in 2010/11 (panel)	0.64	0.48	6,647	0.66	0.47	6,546

Tables 6.4 and 6.5 focus on the panel of children who were 0-14 years in 2010/11 and subsequently 3-17 years in 2013 to understand a bit more the dynamics of poverty and deprivation. Table 8.3 reports the so-called 'transition matrix' for deprivations; the numbers in square brackets show the percentage of children in each cell. About one in five (22 percent) are not deprived in 2010/11 and remain so in 2013. One-half remain deprived in both years. More than one-fourth, 27 percent of children, 'switch' status between the two periods: 14 percent were not deprived in 2010/11 but transitioned to deprived in 2013 (top right cell of Table 8.3), while 12 percent of all children made the exact opposite transition (bottom left cell of Table 6.4).

The transition matrix for monetary poverty[6] shown in Table 8.4 indicates a similar degree of flux for children in monetary poverty, with slightly more than one-third of children (34 percent) changing status. About 13 percent of children move into poverty (top right cell of Table 8.4) and 21 percent moves out of poverty. However, in this case the direction of movement is opposite as to what we observe in Table 8.3, with more children escaping poverty then falling into it.

The persistence in poverty is important to understand as it sheds light on why households move in and out of poverty, and what types of policy might be useful to reduce poverty. A society with a 25 percent poverty over time but where the exact same 25 percent are poor is quite different from a society where the poverty rate is 25 percent but a completely different set of households are poor from year to year. In the first society poverty is a structural phenomenon while in the second society poverty is transitional, and likely due to changes in temporary characteristics of the household; the policy responses will clearly be different in these two scenarios.

How persistent is poverty in Malawi? The transitional matrixes show that 34 percent of children change status over a three year period. Another way to assess persistence is to see how strong prior poverty status is in predicting future poverty status. Such an analysis is only possible with panel data, and we provide estimates of this persistence effect in Figure 6.1 which graphs consumption in 2010/11 against consumption in 2013 (left panel) and the number of deprivations in 2010/11 against the number in 2013 (right panel). The slope of these lines gives an idea of the 'state dependency' or persistence of the prior state, with a steeper slope indicating higher state dependence or persistence. It is interesting to note that among children in Malawi, persistence looks stronger for consumption than for deprivations. On the one hand consumption is a household level indicator while deprivations are individual; however the first part of the deprivation slope is quite steep, similar to the one of consumption, showing

Table 8.3: Deprivation transition, children 0-14 at baseline deprived in 2+

		2013		
		Not Deprived	**Deprived**	**Total**
2010/11	**Not Deprived**	60.22	39.78	100
		[21.73]	[14.36]	36.09
	Deprived	18.9	81.1	100
		[12.08]	[51.83]	63.91
	Total	33.81	66.19	100
	N			**6,546**

Table 8.4: Poverty transition, children 0-13 at baseline

		2013/14		
		Not Poor	**Poor**	**Total**
2010/11	**Not Poor**	65.92	34.08	100
		[26.04]	[13.46]	39.51
	Poor	34.01	65.99	100
		[20.57]	[39.92]	60.49
	Total	46.61	53.39	100
	N			**6,647**

6 Here poor is defined using a poverty line increased by 15 percent, to account for a more robust change in poverty status.

that persistence is lower for higher number of deprivations. This is consistence with the movement of children in and out of deprivation that occurs at a cut-off of two or more.

Table 8.5 formalizes the graphs through a set of regressions which predict poverty or deprivation in 2013 using poverty or deprivation status in 2010/11 plus other control variables. The sample is children 0-14 in 2010/11 (who become age 3-17 in 2013). Column 1 uses per adult equivalent consumption as a continuous variable while column 2 uses the indicator of poverty status, where 1 is poor, and 0 is non poor. Therefore, the results in column two refer to the probability of being poor, while the results in column one refer to an increase in consumption. Similarly columns three use the count of number of deprivations, and results refer to an increase in the number of deprivations, while column three uses the 0/1 status indicator of being deprived in 2 or more dimensional deprivations. The key variable of interest is in the first row, if this variable has a coefficient estimate of 0 there is no relationship between prior well-being status and future well-being status; if the coefficient is 1, there is a perfect relationship between the two. The higher the coefficient (the closer to one) the stronger the persistence over time. Consistent with the graphs, consumption has very high persistence—the highest of the four indicators examined in this table. The number of deprivations has a lower, but still consistent, persistence. Meanwhile persistence of poverty status and deprivation status (being deprived in 3 or more) are quite similar: 23 and 25 percentage points. Deprivation is slightly more persistent than poverty, yet they have quite the similar impact.

Figure 6.1: Relationship between consumption and deprivation at baseline and (+1)

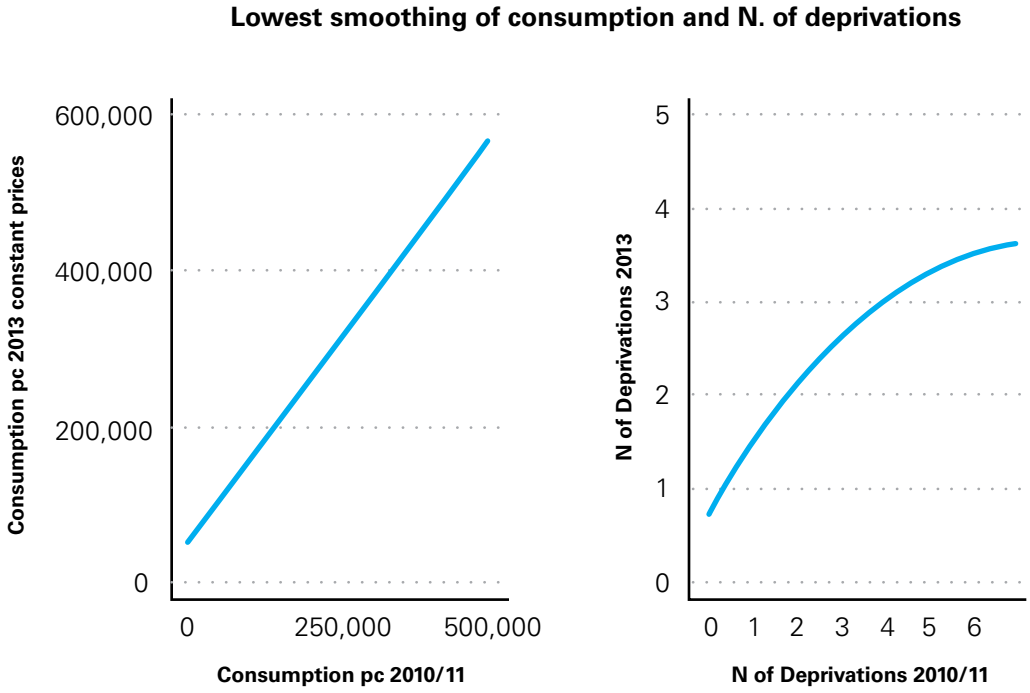


Table 8.5: Children age 0-14 in 2010/11, panel sample

	(1)	(2)	(3)	(4)
VARIABLES (at baseline unless specified)	**Consumption per capita**	**Poor**	**N of Dimensions**	**Deprived in 2+**
Variable at baseline	**0.393**	**0.198**	**0.375**	**0.221**
	(31.77)	(15.82)	(26.54)	(21.78)
Age 2013	0.001	-0.002	0.050	-0.011
	(0.41)	(-0.82)	(3.16)	(-1.51)
Age head 2013	-0.002	0.006	-0.021	-0.008
	(-0.39)	(1.73)	(-1.83)	(-1.89)
Male	0.003	-0.005	-0.001	0.011
	(0.24)	(-0.44)	(-0.04)	(1.05)
Head is married	0.038	0.023	**-0.168**	-0.028
	(1.09)	(0.75)	(-1.97)	(-0.89)
Head has primary or more	**0.136**	**-0.104**	**-0.320**	**-0.125**
	(11.77)	(-9.80)	(-13.62)	(-13.54)
Head activity in 2013: on hh farm	0.037	0.004	0.009	0.003
	(2.02)	(0.22)	(0.19)	(0.21)
Head activity in 2013: ganyu	**-0.097**	**0.108**	**0.180**	**0.067**
	(-3.35)	(4.33)	(2.68)	(2.97)
Head activity in 2013: hh business (non agr.)	**0.243**	**-0.202**	**-0.482**	**-0.128**
	(9.87)	(-9.05)	(-8.67)	(-5.93)
Head activity in 2013:wage employee	**0.152**	**-0.042**	**-0.440**	**-0.178**
	(5.52)	(-1.72)	(-7.53)	(-7.50)
Head is female	0.046	0.009	-0.067	0.018
	(1.42)	(0.32)	(-0.87)	(0.62)
Rural	**0.148**	**-0.068**	**0.191**	**0.087**
	(6.78)	(-3.50)	(4.09)	(5.21)
Central region	**0.052**	-0.026	**0.159**	**0.033**
	(2.95)	(-1.65)	(3.97)	(2.27)
Southern region	**0.089**	-0.016	**0.121**	0.023
	(4.96)	(-0.95)	(2.86)	(1.51)
# Adults migrant	0.000	-0.000	-0.009	-0.004
	(0.03)	(-0.02)	(-0.48)	(-0.80)
# cash remittances	-0.019	0.002	0.040	0.011
	(-1.01)	(0.12)	(1.05)	(0.79)
# in-kind remittances	-0.016	0.010	0.008	-0.001
	(-1.00)	(0.66)	(0.20)	(-0.05)
# negative shocks on income 2013	-0.045	0.015	0.028	0.011
	(-6.58)	(2.49)	(1.79)	(1.99)
# negative shocks on asset 2013	0.007	0.003	0.031	0.013
	(1.03)	(0.53)	(2.04)	(2.39)
# positive shocks on income 2013	**0.056**	**-0.156**	-0.038	**0.041**
	(1.09)	(-3.35)	(-0.36)	(1.07)
# positive shocks on asset 2013	0.001	-0.013	**0.005**	**-0.014**
	(0.04)	(-0.48)	(0.07)	(-0.56)
No. Under 5	**-0.106**	**0.089**	**0.055**	0.013

	(1)	(2)	(3)	(4)
VARIABLES (at baseline unless specified)	**Consumption per capita**	**Poor**	**N of Dimensions**	**Deprived in 2+**
	(-13.28)	(12.07)	(2.75)	(1.84)
No. 5-14	**-0.039**	**0.032**	-0.019	-0.000
	(-6.80)	(5.81)	(-1.43)	(-0.09)
No. 15-17	0.018	**-0.022**	**-0.073**	**-0.036**
	(1.53)	(-2.09)	(-2.77)	(-3.62)
No. 18-25	-0.001	-0.015	**-0.049**	**-0.017**
	(-0.07)	(-1.61)	(-2.26)	(-2.12)
No.26-35	0.005	**-0.032**	**-0.113**	**-0.032**
	(0.44)	(-2.68)	(-3.96)	(-3.05)
No. 36-50	**0.056**	**-0.051**	**-0.124**	-0.019
	(3.64)	(-3.49)	(-3.41)	(-1.47)
No. 51-60	**0.116**	**-0.131**	**-0.232**	**-0.064**
	(4.92)	(-6.04)	(-4.42)	(-3.34)
No. over 60	**0.064**	-0.015	**-0.210**	**-0.059**
	(2.28)	(-0.56)	(-2.84)	(-2.24)
Daily market	**-0.062**	0.010	**-0.155**	**-0.036**
	(-3.46)	(0.61)	(-3.83)	(-2.49)
Weekly market	0.016	0.006	0.039	-0.015
	(0.98)	(0.45)	(1.04)	(-1.10)
No. religious buildings	-0.002	-0.002	**-0.007**	-0.001
	(-1.35)	(-1.53)	(-2.26)	(-0.52)
Any primary school	0.009	-0.053	-0.003	0.003
	(0.66)	(-4.23)	(-0.08)	(0.29)
Any secondary school	**0.060**	**-0.041**	**-0.086**	-0.003
	(3.29)	(-2.49)	(-2.05)	(-0.19)
Health facility	-0.035	0.071	**-0.236**	-0.055
	(-0.72)	(1.94)	(-2.28)	(-1.43)
Observations	5,925	5,925	5,925	5,846

Bold is significant at least at 5% confidence level

What determines whether a child moves into or out of poverty or deprivation? Are the households that move into deprivation different from those who move into poverty? Table 8.6 estimates these probabilities using similar regression models to those shown previously. In addition, it reports the results for the difference of consumption and number of deprivations. Education of the household head has a protective effect on both deprivation and poverty, it is associated with a larger difference in consumption (which means an increase in consumption in 2013) and a smaller difference in number of deprivation. The probability of becoming deprived generally decreases if the head of household works, as compared to not working. However, the strongest protective effect is found when the head is either a wage employee, or works in the household non-agricultural business. Ganyu activity of the head is associated with an increase in deprivation number and higher probability of falling into poverty. Shocks[7] on income don't seem to have particular impact on deprivation, while they affect the probability of falling in and out of poverty; shocks on assets however are associated with an increase in deprivation. The effect of community services, even when significant, is very low in magnitude; to be noted that deprivation decreases with the presence of at least a high school and a health facility in the community.

7 Shocks reported in 2013 refer to a 12 months period before the survey.

Does income reduce the risk of deprivation among children? Figure 6.2 depicts the relationship between consumption (x-axis) and deprivation count by area of residence over time. As shown earlier, the curve is quite steep at low levels of consumption—among the poor, small increases in consumption reduce child deprivation. These curves quickly become flat however, indicating that further increases do not translate into as big reductions in deprivation risk for children. Finally, the slopes of the curves are fairly similar across time—this relationship is stable, and highlights the fact that income alone is not enough to address child deprivation.

Figure 6.2: Relationship between consumption and number deprivation in both years

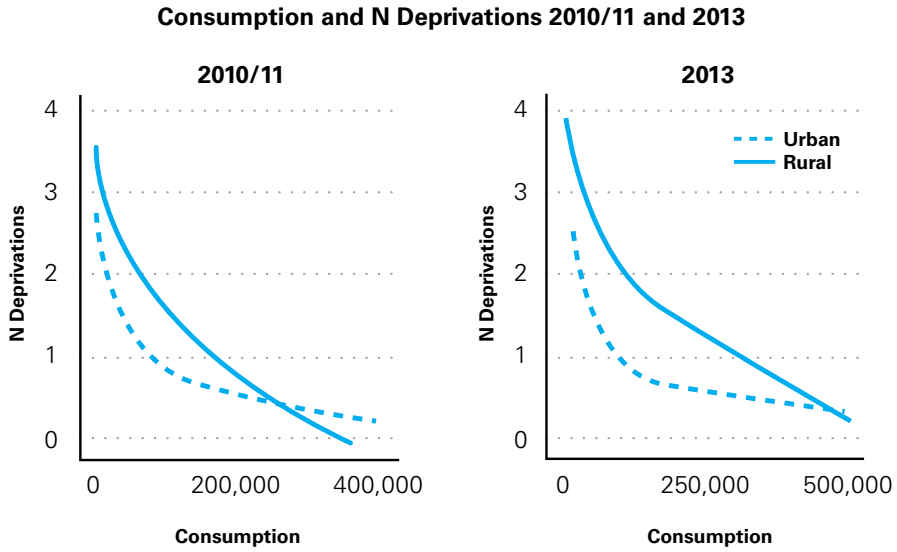


Table 8.6: Transition regressions, Children 0-14 in 2010/11, Panel sample

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES at baseline	**Into Poverty**	**Out of Poverty**	**Delta of log consumption**	**Into Deprivation**	**Out of Deprivation**	**Delta of Dimensions**
Consumption/N of Deprivation in 2010	**0.158**	**-0.153**	**-0.607**	**-0.149**	**0.048**	**-0.625**
	(20.63)	(-19.15)	(-49.13)	(-32.75)	(14.89)	(-44.28)
Age 2013	0.000	0.001	0.001	-0.007	**0.016**	**0.050**
	(0.05)	(0.51)	(0.41)	(-1.52)	(2.76)	(3.16)
Age head 2013	-0.000	-0.006	-0.002	-0.001	0.004	-0.021
	(-0.11)	(-1.93)	(-0.39)	(-0.58)	(1.23)	(-1.83)
Male	0.001	0.004	0.003	0.007	-0.002	-0.001
	(0.09)	(0.47)	(0.24)	(0.95)	(-0.18)	(-0.04)
Head is married	-0.021	-0.038	0.038	0.002	0.038	**-0.168**
	(-0.91)	(-1.51)	(1.09)	(0.11)	(1.57)	(-1.97)
Head has primary or more	**-0.064**	**-0.009**	**0.136**	**-0.077**	0.007	**-0.320**
	(-7.63)	(-0.89)	(11.77)	(-10.59)	(0.84)	(-13.62)
Head activity in 2013: on hh farm	-0.011	-0.025	**0.037**	-0.003	-0.008	0.009
	(-0.86)	(-1.82)	(2.02)	(-0.22)	(-0.70)	(0.19)
Head activity in 2013: ganyu	**0.058**	-0.037	**-0.097**	0.027	**-0.035**	**0.180**
	(2.95)	(-1.95)	(-3.35)	(1.38)	(-2.24)	(2.68)
Head activity in 2013: hh business (non agr.)	**-0.097**	**0.050**	**0.243**	**-0.065**	**0.035**	**-0.482**
	(-7.17)	(2.58)	(9.87)	(-4.49)	(2.09)	(-8.67)
Head activity in 2013:wage employee	**-0.048**	-0.020	**0.152**	**-0.096**	**0.036**	**-0.440**
	(-2.89)	(-1.00)	(5.52)	(-6.78)	(1.99)	(-7.53)
Head is female	-0.056	-0.037	0.046	0.022	-0.007	-0.067
	(-2.62)	(-1.60)	(1.42)	(1.26)	(-0.33)	(-0.87)
Rural	**-0.048**	**0.098**	**0.148**	**0.046**	0.011	**0.191**
	(-3.45)	(5.61)	(6.78)	(3.61)	(0.77)	(4.09)
Central region	-0.001	-0.010	**0.052**	-0.007	**-0.028**	**0.159**
	(-0.11)	(-0.73)	(2.95)	(-0.64)	(-2.46)	(3.97)
Southern region	**-0.036**	-0.005	**0.089**	-0.002	-0.012	**0.121**
	(-3.02)	(-0.37)	(4.96)	(-0.18)	(-1.06)	(2.86)
# Adults migrant	0.004	-0.002	0.000	-0.003	-0.001	-0.009
	(0.81)	(-0.46)	(0.03)	(-0.64)	(-0.11)	(-0.48)
# cash remittances	0.006	-0.025	-0.019	0.014	-0.006	0.040
	(0.54)	(-1.84)	(-1.01)	(1.49)	(-0.52)	(1.05)
# in-kind remittances	0.009	0.019	-0.016	0.002	-0.001	0.008
	(0.99)	(1.65)	(-1.00)	(0.17)	(-0.09)	(0.20)
# negative shocks on income	**0.022**	0.002	**-0.045**	0.007	-0.004	0.028
	(4.71)	(0.40)	(-6.58)	(1.60)	(-1.02)	(1.79)
# negative shocks on asset	**0.008**	**0.010**	0.007	**0.008**	**-0.009**	**0.031**
	(1.96)	(2.29)	(1.03)	(1.97)	(-2.04)	(2.04)
# positive shocks on income	-0.018	**0.150**	0.056	-0.016	**-0.099**	-0.038
	(-0.51)	(4.93)	(1.09)	(-0.43)	(-2.36)	(-0.36)
# positive shocks on asset	-0.018	-0.006	0.001	0.002	0.027	0.005
	(-0.78)	(-0.32)	(0.04)	(0.10)	(1.50)	(0.07)
No. Under 5	**0.023**	**-0.042**	**-0.106**	**0.012**	0.003	**0.055**
	(4.28)	(-6.54)	(-13.28)	(2.49)	(0.60)	(2.75)
No. 5-14	**0.007**	-0.004	**-0.039**	0.001	-0.003	-0.019
	(2.06)	(-0.99)	(-6.80)	(0.40)	(-0.68)	(-1.43)

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES at baseline	**Into Poverty**	**Out of Poverty**	**Delta of log consumption**	**Into Deprivation**	**Out of Deprivation**	**Delta of Dimensions**
No. 15-17	**-0.018**	**0.023**	0.018	-0.010	**0.021**	**-0.073**
	(-2.09)	(2.68)	(1.53)	(-1.32)	(2.78)	(-2.77)
No. 18-25	0.009	0.013	-0.001	-0.001	0.010	**-0.049**
	(1.34)	(1.77)	(-0.07)	(-0.18)	(1.50)	(-2.26)
No.26-35	0.005	**0.020**	0.005	-0.004	0.012	**-0.113**
	(0.60)	(2.12)	(0.44)	(-0.57)	(1.41)	(-3.96)
No. 36-50	-0.008	**0.033**	**0.056**	-0.011	-0.001	**-0.124**
	(-0.78)	(2.81)	(3.64)	(-1.22)	(-0.11)	(-3.41)
No. 51-60	**-0.060**	**0.086**	**0.116**	**-0.036**	0.015	**-0.232**
	(-3.66)	(5.06)	(4.92)	(-2.52)	(0.93)	(-4.42)
No. over 60	-0.036	0.006	**0.064**	-0.027	0.026	**-0.210**
	(-1.88)	(0.25)	(2.28)	(-1.44)	(1.20)	(-2.84)
Daily market	0.005	-0.020	**-0.062**	**-0.027**	0.002	**-0.155**
	(0.41)	(-1.48)	(-3.46)	(-2.46)	(0.14)	(-3.83)
Weekly market	0.002	-0.018	0.016	0.002	0.013	0.039
	(0.17)	(-1.52)	(0.98)	(0.23)	(1.30)	(1.04)
No. religious buildings	-0.000	0.001	-0.002	0.001	**0.002**	**-0.007**
	(-0.14)	(0.67)	(-1.35)	(1.44)	(2.20)	(-2.26)
Any primary school	-0.009	**0.035**	0.009	0.008	-0.002	-0.003
	(-1.04)	(3.40)	(0.66)	(0.91)	(-0.20)	(-0.08)
Any secondary school	0.010	**0.027**	**0.060**	-0.001	-0.016	**-0.086**
	(0.81)	(2.15)	(3.29)	(-0.09)	(-1.41)	(-2.05)
Health facility	0.007	**-0.080**	-0.035	-0.014	0.033	**-0.236**
	(0.26)	(-2.08)	(-0.72)	(-0.51)	(1.18)	(-2.28)
Observations	5,925	5,925	5,925	5,846	5,846	5,925

Bold is significant at least at 5% confidence level

7. Discussion and Conclusion

Comprehensive estimates of child poverty using a multidimensional approach have been constructed for Malawi using the 2013 IHPS. Monetary poverty is calculated using the national poverty line constructed by the NSO. An innovative multidimensional child poverty indicator—the MCPI—is built using UNICEF methodology and national thresholds and indicators. The results indicate that 63 percent of children are deprived in 2 or more dimensions and 43 percent of children live in households that are monetarily poor.

The analysis identifies several groups of children, each of which would require a slightly different policy focus. Results indicate that the most vulnerable group of children is 33 percent that is deprived in 2+ dimensions and live in monetarily poor households. On the other hand, 29 percent of children are deprived in 2+ dimensions yet do not live in households below the poverty line.

In addition, the report also estimates the relationship between monetary well-being (income, measured by per capita consumption) and childhood deprivations. While in some age groups and for some specific dimensions the association between the two is strong, in the agregate, improvements in income will not automatically lead to corresponding reductions in childhood deprivations. Income has the strongest effect in reducing deprivation amongst households below the poverty line, and the weakest among non-poor households in urban areas.

There are two key policy implications that flow from the analysis. First, income based targeting will miss a significant number of children who are extremely vulnerable, suffering from 2 deprivations. Second, improvements in income will not lead to corresponding decreases in childhood deprivations. Together these imply that a strategy to address child poverty must be inherently multi-sectoral, combining broad-based income support interventions with sector specific programs that directly address deprivations, particularly in areas such as water, sanitation and housing.

Finally, the production of this report is timely in that the SDGs now include a specific target related to multidimensional child poverty (Goal 1.2). The MCPI constructed here would be ideal to seve as the Malawi national indicator to track this target, and could be routinely reported in the Integrated Household Survey in the future.

Annex A
Indicators and dimensions with thresholds

Table A1: Dimensions and Indicators by Age Group for Malawi MCPI

	Threshold	0-23m	24-59m	5-14yrs	15-17yrs
HEALTH					
ANC1	No Ante Natal care	X			
Skilled birth attendance1	Attendance and facility	X			
Sleeps under bed net		X	X		
PROTECTION					
Early marriage	Married before 18			X(12+)	X
Child Work	International definition2			X	X
EDUCATION					
School readiness: attended preschool	Not in school for 5,6 years old			X(5,6)	
On time primary completion	Completed primary by 13			X(13, 14)	X
Grade progression	More than 2 grades behind			X(9+)	X
Literacy	Can't read or write in any language				X
NUTRITION					
Stunting	Height for age <2 s.d. from WHO reference		X		
Underweight	Weight for age <2 s.d. from WHO reference	X			
Wasting	Weight for height <2 s.d. from WHO reference	X			
Meals per day	Less than 3 meals per day		X		
Had nothing for breakfast3				X	
INFORMATION					
No information devices	No tv, radio, phone			X	X
WATER					
Uses potable water		X	X	X	X
Time to fetch water	More than 30' roundtrip	X	X	X	X
SANITATION					
Improved sanitation		X	X	X	X
HOUSING					
Floor and roof made of natural materials	Leaves, mud, dirt.	X	X	X	X
Over-crowding	People per room more than national median (2.33)	X	X	X	X

Notes:
Number in parentheses indicates age range for which indicator is defined
(1): These indicators refer to the mother's latest child and are imputed on children of the same mother
(2): Age 5-11: 1hour of economic activities or more than 28hrs chores (firewood and water). Age 12-14: more than 14hrs economic activities or more than 28hrs of chores. Age 15-17: more than 43 hrs of total activities.
(3): Asked for children under 15

Table A2: Participants of indicator setting and draft report review workshops

Name	Institution
Jimmy Kawaye	Ministry of Finance and Economic Development
Peterson Ponderani	Ministry of Finance and Economic Development
Hermis Mauwa	Ministry of Finance and Economic Development
Matxon Tsoka	Center for Social Research, University of Malawi
Willian Simwanza	Ministry of Education
Simeon Yosefe	Ministry of Health
Esnart Phiri	Ministry of Gender, Children, Disability and Social Welfare
Jameson Ndawala	National Statistical Office
Sautso Wachepa	National Statistical Office
Bester Mulauzi	Save the Children
Sophie Shawa	UNICEF Malawi
Luisa Marie Lippi	UNICEF Malawi
Stanley Gwavuya	UNICEF Malawi
Edward Archibald	UNICEF Malawi
Lucia Ferrone	UNICEF Florence
Sudhanshu Handa	UNICEF Florence

Annex B
Construction of the MCPI

Following Alkire and Foster (2011), MODA analyses deprivation using three main indices: the headcount ratio, the average deprivation intensity, and the adjusted headcount ratio. The deprivation headcount ratio for each indicator and dimension is the number of children deprived as a share of the child reference population. As an FGT0 measure it shares all the properties of this family of indices (Foster et al. 1984). The dimensional deprivation headcount ratio is calculated as follows:

$$h_{j,r} = \frac{q_{j,r}}{n_r}$$

$$q_{j,r} = \sum_{i=1}^{n_r} y_j$$

Where:
hj,r - headcount ratio of children deprived in dimension j of the reference population ***r***;
qj - number of deprived children in dimension j of the reference population ***r***;
nr - total number of children in the reference population r;
yj - deprivation status of child i in dimension j, with yj = 1 if xj < Zj (deprivation) and yj =0 if xj ≥ Zj (no deprivation);
xj - value of dimension j for child i;
Zj - threshold of the dimension j.
Counting the number of deprivations each child is deprived in, we can then calculate the poverty headcount for each chosen cut-off. The average intensity of multidimensional deprivation A measures the breadth of child deprivation among the multidimensionally deprived children. It is the sum of all existing deprivations among children identified as deprived, as a share of the sum of all possible deprivations among those deprived in at least K dimensions.

The average intensity of deprivation uses the following equation:

$$A = \frac{\sum_1^{qk} ck}{qk \times d}$$

Where:
A - average intensity of multidimensional deprivation according to the cut-off point ***K*** for the age group a;
qk - number of children affected by at least K deprivations in the age group ***a***;
d - total number of dimensions considered per child within the relevant age group ***a***;
cK - number of deprivations each multidimensionally deprived child i experiences, with ***cK = Di*yK*** .

Finally, the adjusted headcount ratio M0 consists of both the multidimensional child deprivation headcount ratio and the average intensity of deprivations. The multidimensional child deprivation headcount ratio uses the following formula:

$$M_o = H * A = \frac{\sum_1^{qk} ck}{na * d}$$

Where:
M0 - adjusted multidimensional child deprivation headcount ratio among children affected by at least ***K*** deprivations in age group ***a***;
cK - number of deprivations each multidimensionally deprived child i experiences, with ***cK = Di * yK***.

Annex C Regional Results

Table C1 Deprivation rates by region, Children 0-23 months old

	North	Center	South
Indicators			
Ante Natal Care	1.9	1.7	1.4
Skilled birth attendance	12.5	11.8	9.3
Bed-net	5.6	2.7	3.8
Underweight	3.3	11.0	5.2
Wasting	3.3	8.1	7.3
Not safe water	15.3	18.4	18.9
Time to water	3.3	4.1	5.8
Unimproved toilet	24.0	34.3	42.5
Floor and Roof	6.9	14.1	9.8
Overcrowding	60.9	71.7	62.1
Dimensions			
Health	16.0	13.6	12.2
Nutrition	4.7	13.8	9.4
Water	18.4	21.6	23.6
Sanitation	24.0	34.3	42.5
Housing	62.4	74.7	64.9
Number of dimensions			
Deprived in 0	22.7	15.5	18.5
Deprived in 1	38.1	36.2	32.5
Deprived in 2	31.4	28.5	31.3
Deprived in 3	6.7	16	14.2
Deprived in 4	1.1	3.8	3.2
Deprived in 5	-	0.1	0.3
Headcount			
Deprived in 1+	77.3	84.5	81.5
Deprived in 2+	39.2	48.4	49.0
Deprived in 3+	7.8	19.9	17.7
Deprived in 4+	-	3.9	3.5
Average Intensity			
Deprived in 1+	32.4	37.1	37.3
Deprived in 2+	44.5	49.9	48.8
Deprived in 3+	62.8	64.0	64.4
Deprived in 4+	-	80.4	81.8
Adjusted Headcount (M0)			
Deprived in 1+	0.25	0.31	0.30
Deprived in 2+	0.17	0.24	0.24
Deprived in 3+	0.05	0.13	0.11
Deprived in 4+	-	0.03	0.03

Table C2 Deprivation rates by region, Children 24-59 months old

	North	Center	South
Indicators			
Bed-net	6.9	3.3	4.4
Stunting	13.9	33.9	35.2
Less than 3 meals per day	18.2	23.0	30.9
Not safe water	20.3	18.2	17.7
Time to water	1.9	3.6	5.5
Unimproved toilet	23.3	30.2	34.7
Floor and Roof	18.6	14.3	9.4
Overcrowding	65.8	66.7	57.2
Dimensions			
Health	6.0	2.8	3.8
Nutrition	28.1	47.5	49.9
Water	21.9	20.7	22.4
Sanitation	23.3	30.2	34.7
Housing	67.0	70.5	59.6
Number of dimensions			
Deprived in 0	18.1	15.5	15.8
Deprived in 1	36.5	30.0	27.9
Deprived in 2	31.8	29.3	32.2
Deprived in 3	10.7	19.8	18.2
Deprived in 4	3.0	4.7	5.9
Deprived in 5	0.0	0.6	0.0
Headcounts			
Deprived in 1+	81.9	84.5	84.2
Deprived in 2+	45.4	54.4	56.3
Deprived in 3+	13.6	25.1	24.1
Deprived in 4+	-	5.3	5.9
Intensity			
Deprived in 1+	35.1	40.3	40.5
Deprived in 2+	47.3	51.4	50.7
Deprived in 3+	64.3	64.8	64.9
Deprived in 4+	-	82.4	80.0
M0			
Deprived in 1+	0.29	0.34	0.34
Deprived in 2+	0.21	0.28	0.29
Deprived in 3+	0.09	0.16	0.16
Deprived in 4+	-	0.04	0.05

Table C3 - Deprivation rates by region, Children 5-14 years old

	North	Center	South
Indicators			
No breakfast	18.6	30.6	26.8
Early Marriage	0.3	0.6	0.9
Child Labor	16.6	10.0	10.2
School Enrolment	1.2	2.9	2.3
Pre-school	53.6	50.9	59.2
Timely attendance (>2 grades behind)	29.3	40.2	35.0
Timely primary completion	93.9	94.3	93.3
No information device	26.8	37.7	33.9
Not safe water	16.9	19.1	18.3
Time to water	1.7	3.2	5.2
Unimproved toilet	21.5	29.8	37.4
Floor and Roof	11.4	18.5	10.5
Overcrowding	56.6	62.9	53.1
Dimensions			
Nutrition	18.6	30.6	26.8
Protection	16.7	10.1	10.4
Education	33.2	35.9	34.6
Information	26.8	37.7	33.9
Water	18.2	21.5	22.5
Sanitation	21.5	29.8	37.4
Housing	58.6	67.7	56.0
Number of dimensions			
Deprived in 0	14.5	14.2	14.4
Deprived in 1	27.1	18.3	20.1
Deprived in 2	26.3	22.0	24.4
Deprived in 3	18.3	21.3	19.9
Deprived in 4	10.1	15.5	14.5
Deprived in 5	3.3	7.0	5.4
Deprived in 6	0.3	1.7	1.1
Deprived in 7	0.0	0.0	0.2
Headcounts			
Deprived in 1+	85.5	85.8	85.6
Deprived in 2+	58.3	67.5	65.6
Deprived in 3+	32.1	45.5	41.1
Deprived in 4+	13.7	24.2	21.2
Deprived in 5+	3.6	8.7	6.7
Deprived in 6+	-	1.7	1.2
Intensity			
Deprived in 1+	32.3	38.8	37.0
Deprived in 2+	40.7	45.5	43.9
Deprived in 3+	50.7	53.7	53.0
Deprived in 4+	62.3	64.7	64.5
Deprived in 5+	73.4	75.3	75.1
Deprived in 6+	-	86.9	86.4
M0			
Deprived in 1+	0.37	0.43	0.41
Deprived in 2+	0.35	0.41	0.39
Deprived in 3+	0.27	0.35	0.33
Deprived in 4+	0.15	0.24	0.22
Deprived in 5+	0.06	0.12	0.10
Deprived in 6+	-	0.03	0.03

Table C4 - Deprivation rates by region, Children 15-17 years old

	North	Center	South
Indicators			
Early Marriage	2.2	3.8	7.9
Child Labor	0.2	3.1	3.3
School Enrolment	16.4	22.7	25.0
Timely attendance (>2 grades behind)	69.7	75.8	77.7
Timely primary completion	81.9	84.4	81.6
Literacy	6.6	16.9	22.0
No information device	26.8	29.4	35.0
Not safe water	18.1	16.3	16.2
Time to water	2.4	2.0	5.8
Unimproved toilet	21.4	24.1	36.9
Floor and Roof	13.7	13.7	7.9
Overcrowding	62.4	60.3	49.1
Dimensions			
Protection	2.2	6.5	10.9
Education	84.5	89.8	90.5
Information	26.8	29.4	35.0
Water	19.8	18.3	19.9
Sanitation	21.4	24.1	36.9
Housing	64.7	63.6	51.3
Number of dimensions			
Deprived in 0	8.1	6.4	5.6
Deprived in 1	16.2	20.6	21.3
Deprived in 2	37.8	29.3	24.3
Deprived in 3	26.0	26.7	28.5
Deprived in 4	9.7	12.3	13.2
Deprived in 5	2.2	4.5	6.4
Deprived in 6	0.0	0.1	0.7
Headcounts			
Deprived in 1+	91.9	93.6	94.4
Deprived in 2+	75.7	73.0	73.1
Deprived in 3+	37.8	43.6	48.8
Deprived in 4+	11.8	16.9	20.3
Deprived in 5+	2.2	4.6	7.1
Intensity			
Deprived in 1+	39.8	41.3	43.2
Deprived in 2+	44.7	48.3	50.9
Deprived in 3+	56.2	58.3	59.6
Deprived in 4+	69.7	71.4	73.0
Deprived in 5+	83.3	83.8	85.0
M0			
Deprived in 1+	0.37	0.39	0.41
Deprived in 2+	0.34	0.35	0.37
Deprived in 3+	0.21	0.25	0.29
Deprived in 4+	0.08	0.12	0.15
Deprived in 5+	0.02	0.04	0.06

Annex D Background characteristics

Table D1: Mean value of background characteristics by age group

	All children	0-23 months old	24-59 months old	5-14 years old	15-17 years old
Male	0.50	0.52	0.48	0.50	0.51
Age	8.00	11.80	41.54	9.22	15.89
HH size	6.18	5.77	5.78	6.33	6.37
Orphan	0.02	0.00	0.00	0.02	0.06
Parents alive but absent	0.09	0.01	0.05	0.10	0.15
Age of the head	41.26	35.66	36.73	42.56	48.09
Head is Married	0.79	0.83	0.83	0.78	0.72
Head is Separated/Divorced	0.12	0.11	0.11	0.13	0.13
Head is Widowed	0.09	0.06	0.05	0.09	0.15
Head ed.: no school	0.38	0.30	0.27	0.42	0.39
Head ed.: some primary	0.40	0.44	0.46	0.38	0.40
Head ed.: completed primary	0.08	0.10	0.09	0.07	0.07
Head ed.: completed JCE	0.07	0.09	0.08	0.07	0.06
Head ed.: secondary +	0.07	0.08	0.09	0.06	0.07
Head activity: no work	0.18	0.19	0.18	0.18	0.15
Head activity: household farm	0.49	0.46	0.46	0.50	0.55
Head activity: ganyu	0.09	0.10	0.09	0.09	0.11
Head activity: HH business (non agr.)	0.14	0.14	0.15	0.14	0.10
Wage employment	0.10	0.11	0.12	0.10	0.09
Female head	0.21	0.17	0.17	0.22	0.25
Rural	0.85	0.85	0.84	0.86	0.87
North	0.09	0.08	0.09	0.09	0.10
Center	0.45	0.46	0.45	0.45	0.47
South	0.46	0.46	0.46	0.46	0.43
No. Children 0-5	1.00	1.56	1.54	0.81	0.60
No. Children 5-14	2.28	1.62	1.68	2.68	1.88
No. Children 15-17	0.48	0.25	0.27	0.41	1.32
No. Adults 18-25	0.43	0.74	0.55	0.34	0.41
No. Adults 26-35	0.69	0.90	0.90	0.68	0.28
No. Adults 36-50	0.63	0.44	0.49	0.68	0.78
No. Adults 51-60	0.14	0.08	0.08	0.15	0.22
No. Adults over 60	0.13	0.08	0.08	0.13	0.21

Annex E
Complete regression analysis results

Table E1: Marginal effects on deprivation outcomes – Children 0 – 59 months

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	**Deprived in 2+**	**No. of Deprivations**	**Health**	**Nutrition**	**Water**	**Sanita-tion**	**Housing**
10,000 MWK	**-0.017**	**-0.013**	**-0.002**	**-0.007**	-0.002	**-0.008**	**-0.013**
	(-10.00)	(-6.22)	(-2.44)	(-5.05)	(-1.82)	(-4.42)	(-10.78)
Male	-0.005	-0.001	0.007	-0.009	-0.004	0.018	-0.014
	(-0.31)	(-0.03)	(0.80)	(-0.56)	(-0.26)	(1.06)	(-0.93)
Age	**0.019**	**0.047**	**-0.026**	**0.089**	-0.003	-0.009	-0.005
	(3.26)	(3.74)	(-7.18)	(17.86)	(-0.61)	(-1.52)	(-0.97)
Household Size	-0.003	-0.027	0.008	-0.041	-0.001	0.041	-0.030
	(-0.16)	(-0.66)	(0.60)	(-1.95)	(-0.04)	(1.82)	(-1.73)
Both parents dead	-0.036	-0.057	0.125	0.143	0.064	-	-0.104
	(-0.19)	(-0.09)	(1.42)	(0.64)	(0.32)		(-0.63)
Parents alive but elsewhere	-0.044	-0.184	0.005	0.026	0.024	-0.063	-0.069
	(-0.77)	(-1.65)	(0.10)	(0.46)	(0.43)	(-0.93)	(-1.29)
Age of the head of HH	-0.002	**-0.007**	0.001	-0.001	-0.002	0.000	**-0.003**
	(-1.49)	(-2.10)	(0.92)	(-0.82)	(-1.70)	(0.09)	(-2.44)
Head is Separated/Divorced	-0.005	0.039	0.001	-0.008	0.007	0.046	-0.019
	(-0.14)	(0.49)	(0.03)	(-0.22)	(0.22)	(1.21)	(-0.58)
Head is Widowed	-0.040	-0.027	0.014	-0.020	-0.023	-0.031	0.010
	(-0.86)	(-0.26)	(0.53)	(-0.47)	(-0.52)	(-0.64)	(0.23)
Head has some primary	**-0.057**	**-0.197**	**-0.032**	**-0.052**	-0.014	**-0.055**	-0.011
	(-2.81)	(-4.01)	(-2.91)	(-2.61)	(-0.74)	(-2.64)	(-0.57)
Head has completed primary	**-0.153**	**-0.399**	**-0.033**	**-0.067**	-0.031	**-0.069**	**-0.101**
	(-5.10)	(-5.74)	(-1.88)	(-2.19)	(-1.11)	(-2.17)	(-3.84)
Head has completed JCE	**-0.172**	**-0.631**	**-0.055**	**-0.065**	**-0.113**	**-0.131**	**-0.147**
	(-5.59)	(-9.42)	(-3.00)	(-2.05)	(-3.69)	(-4.07)	(-5.54)
Head has completed high school +	**-0.307**	**-0.743**	**-0.080**	**-0.078**	**-0.109**	**-0.208**	**-0.252**
	(-7.38)	(-10.56)	(-3.20)	(-2.12)	(-3.13)	(-5.00)	(-8.02)
Head work: unpaid hhld agr. labour	0.006	-0.019	0.003	**0.072**	0.007	**-0.046**	-0.025
	(0.25)	(-0.36)	(0.24)	(3.20)	(0.35)	(-2.03)	(-1.19)
Head work: ganyu	0.059	0.104	0.014	**0.084**	-0.007	0.041	-0.019
	(1.78)	(1.37)	(0.80)	(2.69)	(-0.23)	(1.26)	(-0.64)
Head work: household businnes (non agr.)	-0.057	**-0.323**	-0.009	**0.087**	**-0.073**	**-0.084**	**-0.140**
	(-1.90)	(-4.89)	(-0.52)	(2.95)	(-2.61)	(-2.70)	(-5.42)
Head work: age employment	**-0.133**	**-0.352**	0.010	**0.070**	**-0.066**	**-0.151**	**-0.139**
	(-4.06)	(-5.32)	(0.56)	(2.24)	(-2.16)	(-4.44)	(-5.01)
Female HH head	-0.052	-0.091	-0.011	0.038	-0.042	-0.060	-0.019
	(-1.58)	(-1.26)	(-0.56)	(1.24)	(-1.47)	(-1.75)	(-0.62)
Live in rural area	**0.217**	**0.462**	0.010	**0.050**	**0.048**	**0.062**	**0.281**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	**Deprived in 2+**	**No. of Deprivations**	**Health**	**Nutrition**	**Water**	**Sanita-tion**	**Housing**
	(9.30)	(9.69)	(0.76)	(2.17)	(2.18)	(2.53)	(15.82)
Central region	**0.088**	**0.250**	-0.005	**0.156**	-0.015	0.048	**0.097**
	(3.97)	(5.23)	(-0.43)	(6.85)	(-0.73)	(1.99)	(5.04)
Southern region	**0.096**	**0.247**	-0.010	**0.157**	-0.011	**0.107**	0.010
	(4.39)	(5.18)	(-0.75)	(6.97)	(-0.55)	(4.62)	(0.53)
No. Children under 5	0.031	**0.147**	0.007	0.038	0.030	-0.014	**0.044**
	(1.31)	(2.88)	(0.48)	(1.53)	(1.32)	(-0.54)	(2.07)
No. of children 5-14	-0.012	0.023	-0.008	**0.050**	0.010	**-0.050**	0.004
	(-0.55)	(0.49)	(-0.54)	(2.17)	(0.47)	(-2.05)	(0.19)
No. of children 15-17	-0.020	-0.026	0.009	-0.018	-0.023	-0.025	0.013
	(-0.77)	(-0.45)	(0.54)	(-0.70)	(-0.91)	(-0.88)	(0.56)
No. adults 18-25	-0.025	-0.070	-0.010	0.033	-0.007	**-0.085**	-0.006
	(-1.09)	(-1.49)	(-0.72)	(1.46)	(-0.33)	(-3.53)	(-0.31)
No. adults 26-35	-0.039	-0.088	-0.013	0.027	-0.017	**-0.079**	-0.032
	(-1.70)	(-1.77)	(-0.90)	(1.15)	(-0.79)	(-3.09)	(-1.54)
No. adults 36-50	-0.020	-0.057	-0.020	0.041	0.002	-0.103	-0.006
	(-0.73)	(-0.94)	(-1.16)	(1.43)	(0.09)	(-3.37)	(-0.22)
No. adults 51-60	-0.057	-0.131	**-0.087**	**0.092**	0.002	**-0.136**	-0.047
	(-1.42)	(-1.49)	(-2.99)	(2.35)	(0.05)	(-3.14)	(-1.35)
No. adults over 60	-0.036	-0.048	-0.054	0.087	0.026	-0.135	-0.001
	(-0.82)	(-0.52)	(-1.85)	(2.03)	(0.66)	(-2.95)	(-0.02)
Observations	*2,809*	*2,809*	*2,809*	*2,715*	*2,809*	*2,805*	*2,809*

Bold indicates significance level >95%

Table E2: Marginal effects on deprivation outcomes – Children 5 -17 years old

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Deprived in 2+	No. of Deprivations	Protection	Education	Information	Water	Sanita-tion	Housing
10,000 MWK	**-0.015**	**-0.018**	-0.000	**-0.003**	**-0.024**	**-0.003**	**-0.009**	**-0.017**
	(-10.07)	(-7.30)	(-0.89)	(-5.38)	(-20.88)	(-3.76)	(-6.71)	(-12.01)
Male	0.013	0.020	**-0.025**	**0.043**	-0.004	-0.002	0.017	-0.002
	(1.27)	(0.66)	(-3.44)	(4.03)	(-0.43)	(-0.21)	(1.52)	(-0.15)
Age	**0.013**	**0.042**	0.000	**0.050**	0.001	-0.000	0.002	-0.001
	(8.53)	(9.07)	(0.38)	(34.55)	(0.79)	(-0.31)	(1.08)	(-0.81)
Household Size	**-0.033**	**-0.127**	-0.009	-0.000	**-0.059**	-0.010	**-0.033**	**-0.029**
	(-4.17)	(-5.66)	(-1.60)	(-0.04)	(-7.23)	(-1.23)	(-3.53)	(-3.64)
Both parents dead	-0.009	0.178	-0.006	0.047	**0.089**	0.016	0.002	-0.001
	(-0.24)	(1.47)	(-0.20)	(1.08)	(2.17)	(0.38)	(0.03)	(-0.03)
Parents alive but elsewhere	0.044	0.059	**0.063**	**0.081**	-0.004	0.005	-0.009	-0.004
	(1.95)	(0.93)	(4.35)	(3.58)	(-0.16)	(0.21)	(-0.36)	(-0.16)
Age of the head of HH	-0.001	-0.002	-0.001	-0.001	0.000	-0.001	0.001	**-0.002**
	(-0.86)	(-0.93)	(-1.56)	(-1.72)	(0.60)	(-1.11)	(1.54)	(-2.59)
Head is Separated/Divorced	**0.053**	0.120	0.023	-0.019	**0.066**	0.038	-0.001	-0.009
	(2.35)	(1.80)	(1.46)	(-0.79)	(3.26)	(1.87)	(-0.04)	(-0.40)
Head is Widowed	-0.036	-0.048	-0.002	**-0.063**	**0.111**	0.037	-0.052	**-0.117**
	(-1.43)	(-0.65)	(-0.13)	(-2.35)	(4.98)	(1.55)	(-1.90)	(-4.68)
Head has some primary	**-0.063**	**-0.328**	**0.027**	**-0.189**	**-0.053**	0.017	**-0.043**	-0.022
	(-5.30)	(-8.59)	(3.18)	(-15.34)	(-4.90)	(1.46)	(-3.41)	(-1.83)
Head has completed primary	**-0.155**	**-0.686**	0.015	**-0.257**	**-0.106**	0.008	**-0.069**	**-0.075**
	(-8.80)	(-12.43)	(1.07)	(-12.89)	(-5.50)	(0.44)	(-3.36)	(-3.87)
Head has completed JCE	**-0.222**	**-1.054**	0.004	**-0.287**	**-0.198**	-0.034	**-0.144**	**-0.169**
	(-11.66)	(-19.18)	(0.28)	(-13.68)	(-8.39)	(-1.62)	(-6.19)	(-8.33)
Head has completed high school +	**-0.337**	**-1.125**	**0.035**	**-0.367**	**-0.317**	**-0.064**	**-0.217**	**-0.267**
	(-13.03)	(-19.24)	(2.04)	(-14.73)	(-8.98)	(-2.62)	(-7.11)	(-9.75)
Head work: unpaid hhld agr. labour	-0.011	**-0.118**	**0.184**	0.016	**-0.060**	-0.021	**-0.079**	**-0.054**
	(-0.80)	(-2.64)	(12.62)	(1.03)	(-4.76)	(-1.57)	(-5.33)	(-3.80)
Head work: ganyu	**0.067**	**0.228**	**0.107**	**0.101**	-0.008	-0.018	-0.006	0.009
	(3.28)	(3.60)	(5.66)	(4.61)	(-0.41)	(-0.92)	(-0.26)	(0.42)
Head work: household businnes (non agr.)	**-0.091**	**-0.522**	**0.115**	0.019	**-0.084**	**-0.076**	**-0.072**	**-0.135**
	(-4.81)	(-9.55)	(6.59)	(0.96)	(-4.38)	(-4.08)	(-3.41)	(-6.82)
Head work: age employment	**-0.126**	**-0.452**	-0.019	**0.059**	**-0.088**	**-0.095**	**-0.062**	**-0.138**
	(-6.28)	(-7.33)	(-0.74)	(2.67)	(-4.17)	(-4.48)	(-2.73)	(-6.43)
Female HH head	0.006	0.059	-0.014	-0.022	0.018	**-0.058**	0.009	0.024
	(0.27)	(0.94)	(-0.93)	(-0.96)	(0.92)	(-2.96)	(0.37)	(1.08)
Live in rural area	**0.218**	**0.705**	0.008	**0.078**	**0.174**	**0.068**	**0.046**	**0.300**
	(16.24)	(17.50)	(0.67)	(5.05)	(10.97)	(4.63)	(2.83)	(21.78)
Central region	**0.051**	**0.248**	**-0.024**	0.029	**0.049**	-0.018	**0.051**	**0.095**
	(3.76)	(6.15)	(-2.53)	(1.96)	(3.89)	(-1.35)	(3.32)	(7.05)
Southern region	**0.035**	**0.146**	-0.017	0.008	-0.008	-0.004	**0.119**	-0.004
	(2.64)	(3.67)	(-1.90)	(0.54)	(-0.66)	(-0.32)	(8.08)	(-0.30)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	**Deprived in 2+**	**No. of Deprivations**	**Protection**	**Education**	**Information**	**Water**	**Sanita-tion**	**Housing**
No. Children under 5	**0.031**	**0.187**	0.014	-0.007	**0.037**	0.018	**0.058**	**0.021**
	(2.88)	(5.95)	(1.79)	(-0.59)	(3.51)	(1.73)	(4.82)	(1.97)
No. of children 5-14	0.012	**0.061**	0.011	-0.019	**0.019**	0.003	**0.030**	0.005
	(1.30)	(2.30)	(1.68)	(-1.96)	(2.08)	(0.29)	(2.72)	(0.59)
No. of children 15-17	0.006	-0.015	-0.000	**0.032**	0.007	-0.016	0.001	0.002
	(0.54)	(-0.44)	(-0.05)	(2.60)	(0.59)	(-1.41)	(0.05)	(0.18)
No. adults 18-25	-0.013	-0.024	0.005	0.005	-0.009	-0.001	0.001	-0.009
	(-1.33)	(-0.84)	(0.69)	(0.47)	(-0.82)	(-0.15)	(0.09)	(-0.82)
No. adults 26-35	-0.012	-0.046	**-0.023**	**-0.028**	0.003	0.019	-0.010	0.005
	(-1.01)	(-1.30)	(-2.42)	(-2.05)	(0.26)	(1.54)	(-0.72)	(0.44)
No. adults 36-50	0.010	0.005	-0.003	**-0.037**	-0.004	**0.033**	-0.008	0.021
	(0.78)	(0.14)	(-0.24)	(-2.52)	(-0.25)	(2.48)	(-0.51)	(1.57)
No. adults 51-60	**-0.037**	**-0.133**	0.002	-0.036	-0.021	0.015	**-0.045**	-0.015
	(-2.09)	(-2.51)	(0.11)	(-1.76)	(-1.14)	(0.83)	(-2.18)	(-0.78)
No. adults over 60	0.029	0.083	0.015	-0.013	0.023	0.029	-0.023	0.042
	(1.35)	(1.31)	(1.01)	(-0.57)	(1.10)	(1.39)	(-0.96)	(1.87)
Observations	*6,230*	*6,230*	*6,230*	*6,230*	*6,230*	*6,230*	*6,230*	*6,230*

Bold indicates significance level >95%

Table E3: Marginal effects on the probability of being deprived in 2+,

Covariates	Children 0-23 months old	Children 24-59 months old	Children 5-14 years old	Children 15-17 years old
10,000 MWK	**-0.014**	**-0.018**	**-0.015**	**-0.003**
	(-6.56)	(-10.17)	(-18.78)	(-4.54)
Male	0.029	-0.019	**0.026**	0.014
	(1.14)	(-0.89)	(2.28)	(0.59)
Age	-0.002	0.004	**-0.112**	**1.287**
	(-0.32)	(0.45)	(-7.39)	(1.65)
Age of the head of HH	0.003	-0.006	**-0.008**	**-0.019**
	(0.33)	(-0.84)	(-1.96)	(-2.49)
Head is separated/Divorced	-0.014	-0.011	**0.087**	**0.082**
	(-0.26)	(-0.24)	(3.86)	(1.81)
Head is widowed	-0.086	-0.055	0.014	-0.029
	(-1.20)	(-0.90)	(0.50)	(-0.58)
Education of the head: Some primary	**-0.085**	**-0.062**	**-0.061**	-0.042
	(-2.52)	(-2.19)	(-4.32)	(-1.48)
Head has ompleted primary	**-0.181**	**-0.154**	**-0.188**	**-0.210**
	(-3.75)	(-3.56)	(-7.85)	(-4.56)
Head has completed JCE	**-0.225**	**-0.153**	**-0.240**	**-0.211**
	(-4.56)	(-3.48)	(-9.64)	(-4.38)
Head has completed high school or more	**-0.326**	**-0.296**	**-0.373**	**-0.377**
	(-5.55)	(-5.68)	(-12.22)	(-7.23)
Activity of the HH head: unpaid hhld agr. labour	-0.025	0.040	0.003	-0.027
	(-0.70)	(1.28)	(0.17)	(-0.81)
Activity of the HH head: ganyu	0.028	0.059	**0.071**	0.067
	(0.55)	(1.33)	(3.00)	(1.40)
Activity of the HH head: household businnes (non agr.)	-0.008	-0.054	**-0.068**	**-0.115**
	(-0.16)	(-1.30)	(-3.11)	(-2.66)
Activity of the HH head: wage employment	**-0.194**	**-0.141**	**-0.112**	**-0.129**
	(-3.92)	(-3.14)	(-4.61)	(-2.68)
Female HH head	-0.055	-0.025	-0.025	-0.000
	(-1.09)	(-0.58)	(-1.08)	(-0.00)
Live in rural area	**0.230**	**0.209**	**0.232**	**0.276**
	(5.99)	(6.95)	(15.59)	(8.04)
Central region	**0.060**	**0.109**	**0.046**	-0.013
	(1.71)	(3.70)	(3.04)	(-0.42)
Southern region	**0.065**	**0.107**	**0.039**	-0.044
	(1.84)	(3.69)	(2.60)	(-1.43)
No. Children under 5	**0.045**	0.023	-0.003	0.020
	(2.22)	(1.34)	(-0.42)	(1.21)

Covariates	Children 0-23 months old	Children 24-59 months old	Children 5-14 years old	Children 15-17 years old
No. of children 5-14	-0.018	-0.011	**-0.017**	-0.007
	(-1.49)	(-1.10)	(-3.72)	(-0.76)
No. of children 15-17	0.021	**-0.047**	**-0.033**	-0.012
	(0.80)	(-2.12)	(-3.50)	(-0.56)
No. adults 18-25	-0.014	-0.017	**-0.039**	**-0.035**
	(-0.74)	(-1.01)	(-4.72)	(-2.36)
No. adults 26-35	**-0.055**	-0.026	**-0.031**	**-0.071**
	(-2.09)	(-1.25)	(-2.61)	(-2.86)
No. adults 36-50	-0.038	0.001	-0.008	0.011
	(-1.06)	(0.05)	(-0.59)	(0.41)
No. adults 51-60	**-0.125**	-0.020	**-0.061**	-0.049
	(-2.17)	(-0.44)	(-3.10)	(-1.34)
No. adults over 60	-0.065	-0.029	-0.026	**0.079**
	(-1.00)	(-0.55)	(-1.10)	(1.85)
Observations	*1,187*	*1,606*	*5,149*	*1,102*

Bold indicates significance level >95%

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