



# IDENTIFYING POOR CHILDREN: UNDERSTANDING THE DIFFERENCES BETWEEN POVERTY APPROACHES

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# MOTIVATION

Poverty measurement is a crucial instrument for identifying the most vulnerable children and single them out as a policy priority.

## Different approaches to MEASURING POVERTY

- Monetary poverty, subjective poverty, financial strains, social exclusion, etc. Often reflect “lack of well-being”, while grounded in distinct theories.
- Poverty estimates associate too loosely with each other for identifying the same individuals as poor (Bradshaw and Finch, 2003; Tran, Alkire and Klasen, 2015; Roelen, 2018). Literature Review

## Focus on the CHILD

- Children’s experience of poverty is different from that of adults.
- Except for the effects of equivalence scales (if used), children are usually not distinguished from the other household's members.
- Empirical differences in the identification of poor children are not frequently made because of lack of data.

# THIS PAPER

## Research question

- To what extent and under what conditions monetary, subjective and child multidimensional poverty approaches identify the same children as poor?

## Research objective

- Investigating associations between **monetary** and **non-monetary poverty** measures, and **child-level** and **household-level** determined poverty to identify “poor” children.

## Empirical strategy

- Study the overlap between household-level **monetary** and **subjective** poverty and child-level **multidimensional** poverty for identifying poor children in a developing country: ZAMBIA.
- Use a multinomial logit model to estimate the **effects of child and household’s characteristics** on the probability of a child being simultaneously identified as poor.

# DATA

**2015 Living Conditions Monitoring Survey (LCMS 2015) of Zambia:** most recent nationally representative, household and individual level survey data

- support the joint measurement of monetary, subjective and multidimensional poverty.
- specific set of variables allowing deeper understanding of child poverty and overlapping poverty.

## Sample design

- Sample of about 12,251 non-institutionalized private households and 31,472 children younger than 18 years
- Reliable estimates at national, provincial and rural/urban levels.

**Sample restricted to the total population of children of age 0 to 17 years**

# POVERTY APPROACHES

**Monetary poverty** identifies a child as poor when (s)he lives in a household with a consumption expenditure below the Zambia's national poverty line for 2015 of K214.26 per month per adult equivalent (approx. USD 17 per month).

**Subjective poverty** identifies a child as poor when a selected member of the household identifies the latter as VERY poor.

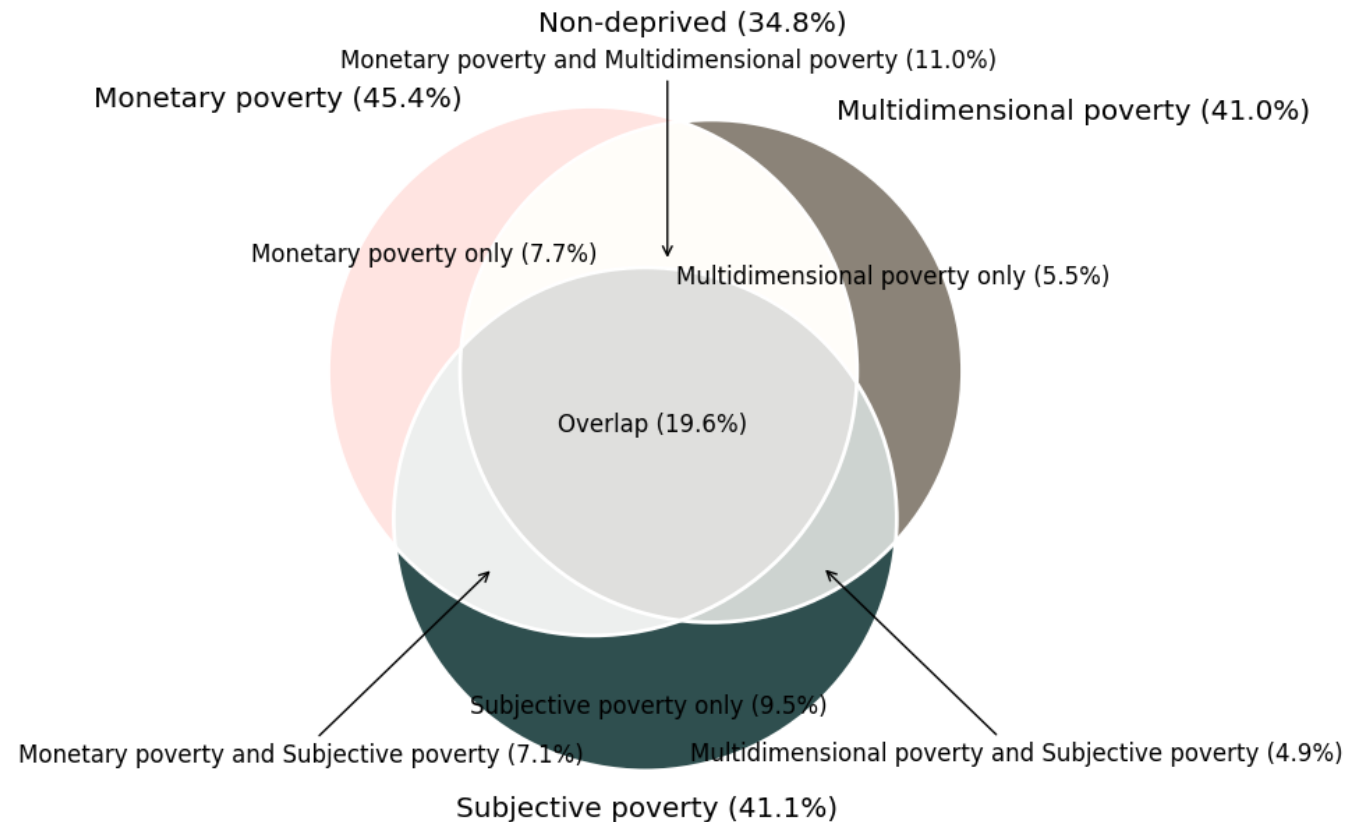
- Question: “Do you consider your household to be non-poor, moderately poor or very poor?”

**Multidimensional poverty** identifies a child as poor using the Multidimensional Overlapping Deprivation Analysis (MODA), when (s)he is deprived in multiple dimensions ( $K=3$ ).

- Rights-based (as opposed to consensus based); Child-centred (child as unit of analysis); Life-cycle approach; Nationally contextualised

# OVERLAPS BETWEEN MEASURES

Overlap in Monetary, Multidimensional and Subjective Poverty Measured for Children Aged 0 to 17 years



Source: Authors' calculations using Zambia LCMS (2015)

Correlations  
Alt. Measures

## RESULTS

### Multinomial logit Estimates of the Effects of Child and Household's Characteristics on the Overlaps Between Child Poverty Measures for Children Aged 0 to 17 Years, Zambia

VARIABLES	MP& MCP & SP	MP& MCP	MP& SP	MCP& SP	MP only	MCP only	SP only	Non-poor
<b>Age</b>	-0.0052*** (0.002)	-0.0071*** (0.002)	0.0090*** (0.002)	-0.0080*** (0.001)	0.0118*** (0.002)	-0.0128*** (0.001)	0.0073*** (0.002)	0.0049** (0.002)
<b>Age-Squared</b>	0.0003*** (0.000)	0.0004*** (0.000)	-0.0006*** (0.000)	0.0004*** (0.000)	-0.0007*** (0.000)	0.0007*** (0.000)	-0.0004*** (0.000)	-0.0001 (0.000)
<b>Male</b>	0.0075 (0.005)	0.0063 (0.004)	-0.0099** (0.004)	0.0075** (0.003)	-0.0049 (0.004)	-0.0014 (0.003)	0.0039 (0.005)	-0.0090 (0.006)
<b>Orphan</b>	0.0543*** (0.018)	0.0086 (0.016)	0.0002 (0.012)	0.0100 (0.010)	-0.0115 (0.0161)	-0.0064 (0.014)	0.0318** (0.016)	-0.0870*** (0.023)
<b>Disabled</b>	0.0037 (0.027)	-0.0220 (0.024)	0.0020 (0.025)	-0.0187 (0.015)	0.0110 (0.027)	-0.0283* (0.016)	-0.0280 (0.032)	0.0802 (0.050)
<b>Observations</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>

Note: The table reports marginal effects estimates from Multinomial Logit regression model calculated considering sampling weights. MP: Extreme Monetary Poverty; MCP: Multidimensional Child Poverty (k=3); SP: Severe Subjective Poverty. All regressions include province fixed effects. Robust Standard Errors are in parentheses. Significance level: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

# ANALYSIS

- The probability of a perfect match between the three poverty measures **decreases with the age** of the child.
- The **gender of the child is not very significant** to explain the overlaps between different child poverty measures
- **Orphans** are identified as poor **by any of the three measures with higher probability** than children with at least one parent alive
- The **disability** status of the child is **not significantly** related to child poverty.



## RESULTS (CONT.)

VARIABLES	MP& MCP & SP	MP& MCP	MP& SP	MCP& SP	MP only	MCP only	SP only	Non-poor
<b>No. of HH members</b>	-0.0163*** (0.002)	0.0014 (0.002)	0.0092*** (0.002)	-0.0092*** (0.002)	0.0093*** (0.001)	-0.0051*** (0.002)	0.0006 (0.002)	0.0102*** (0.002)
<b>No. Children &lt; 18 years in the HH</b>	0.0271*** (0.003)	0.0058** (0.002)	-0.0047** (0.002)	-0.0026 (0.003)	0.0007 (0.002)	0.0003 (0.002)	-0.0096*** (0.003)	-0.0169*** (0.003)
<b>Male HH head</b>	-0.0521*** (0.007)	0.0226*** (0.006)	-0.0118** (0.005)	-0.0039 (0.004)	0.0292*** (0.006)	0.0050 (0.005)	-0.0169*** (0.006)	0.0279*** (0.008)
<b>HH head: Primary School Education</b>	-0.0890*** (0.011)	-0.0065 (0.008)	0.0174** (0.008)	0.0217*** (0.006)	0.0059 (0.008)	0.0025 (0.006)	0.0203** (0.010)	0.0277** (0.013)
<b>HH head: Secondary School Education</b>	-0.1786*** (0.012)	-0.0303*** (0.009)	-0.0061 (0.008)	-0.0098* (0.006)	-0.0008 (0.009)	0.0152** (0.007)	0.0298*** (0.010)	0.1806*** (0.014)
<b>HH head: Higher Education</b>	-0.3158*** (0.011)	-0.1206*** (0.009)	-0.0596*** (0.008)	-0.0451*** (0.005)	-0.0682*** (0.009)	-0.0188** (0.008)	-0.0358*** (0.011)	0.6639*** (0.016)
<b>Rural</b>	0.1328*** (0.008)	0.0896*** (0.007)	-0.0063 (0.004)	0.0164*** (0.004)	0.0028 (0.004)	0.0142*** (0.004)	-0.0414*** (0.004)	-0.2081*** (0.005)
<b>Observations</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>	<b>30,114</b>

Note: The table reports marginal effects estimates from Multinomial Logit regression model calculated considering sampling weights. MP: Extreme Monetary Poverty; MCP: Multidimensional Child Poverty (k=3); SP: Severe Subjective Poverty. All regressions include province fixed effects. Robust Standard Errors are in parentheses. Significance level: \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

## ANALYSIS (CONT.)

- The relationship between the household's composition and the probability of finding an overlap between the different poverty measures varies:
  - The **larger the household size, the lower the probability** of a child being simultaneously identified as poor by the three measures.
  - Each **additional child** younger than 18 years old in the household **increases** the aforementioned probability.
- The general trend is for a **lower probability of a three-way overlap for household's heads with higher education** compared to non-education or incomplete primary school
- Living in a **rural area increases the probability for children of being jointly identified as poor** by the three measures of poverty compared to children living in urban areas.

# CONCLUSIONS

- **19.6** percent of children are jointly identified as poor by the 3 measures.
- Many individual and household's characteristics such as **age, orphan hood, household composition, area of residence** and **level of education and gender of the household's head** significantly affect the probability of children to be identified as poor according to 3 approaches.
- The relationship of these variables differs depending on the nature of the overlap evaluated.
- These results support the literature that found that the different poverty measures capture different aspects of child well-being.
- Better understanding these differences between these measures is essential to move towards the realization of the development goals.



**Thank you**

- The mismatch of monetary and non-monetary approaches to child poverty attributed to the status of dependence assumed by children within the household (White et al., 2003)
- Monetary resources aggregated at the household level and attributed to each member mask the dynamics of effective resource allocation within the household (Hulme and McKay, 2008)
- The fulfilment of children's basic needs goes beyond the affordability of market provided goods and services. Some of these essential goods and services (health and education, for example) are public in nature and rarely provided in sufficient amounts or quality by the markets (Notten and De Neubourg, 2011; Thorbecke, 2008; Minujin et al., 2006; Waddington, 2004; Gordon et al., 2003a, 2003b; Bourguignon & Chakravarty, 2003; White et al., 2003; Tsui, 2002)
- Failure of implicit assumptions behind household-level measures of individual-level suffered poverty (Brown et al., 2017; Baland & Ziparo, 2017; De Vreyer and Lambert, 2018; Sahn & Younger, 2009; Hulme & McKay, 2008).

## SAMPLE DESCRIPTION

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	<i>All children</i>	<i>0-4 years</i>	<i>5-13 years</i>	<i>14-17 years</i>
<b>National</b>	<b>31,472</b>	<b>6,384</b>	<b>18,223</b>	<b>6,865</b>
<i>In Households</i>	10,198	4,853	8,286	5,041
<i>Urban</i>	13,130	2,515	7,403	3,212
<i>Rural</i>	18,342	3,869	10,820	3,653
<b>Province</b>				
<i>Central</i>	3,159	632	1,828	699
<i>Copperbelt</i>	3,308	665	1,903	740
<i>Eastern</i>	3,470	846	1,906	718
<i>Luapula</i>	3,261	717	1,822	722
<i>Lusaka</i>	3,082	495	1,881	706
<i>Muchinga</i>	2,731	474	1,697	560
<i>Northern</i>	3,135	628	1,823	684
<i>North-Western</i>	2,928	515	1,751	662
<i>Southern</i>	3,542	802	1,966	774
<i>Western</i>	2,856	610	1,646	600

Source: Authors' calculations using Zambia LCMS (2015)

## Age-groups, Dimensions and Indicator for Multidimensional Poverty Measurement

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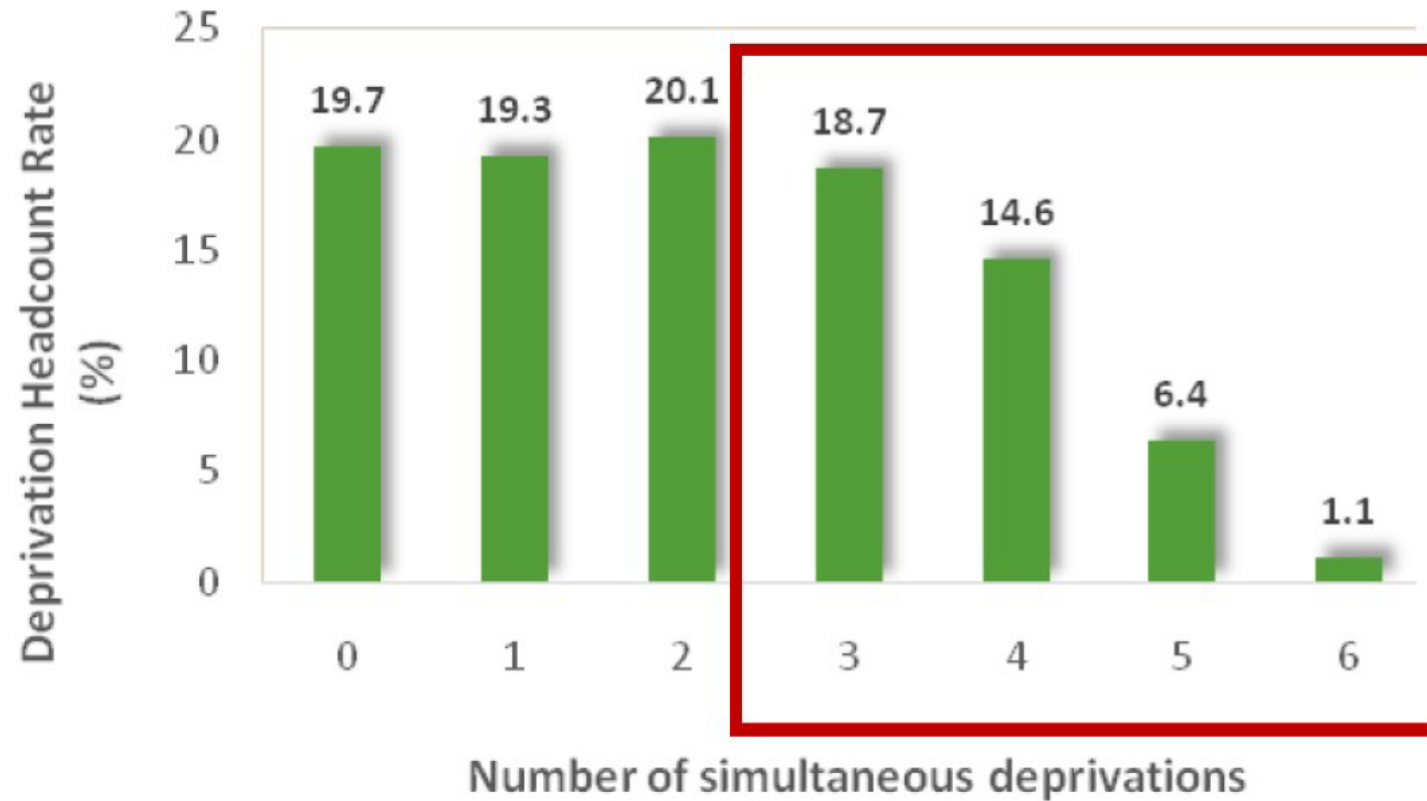
AGE GROUP: 0-4 YEARS	AGE GROUP: 5-13 YEARS	AGE GROUP: 14-17 YEARS
<b>NUTRITION</b> <ul style="list-style-type: none"><li>• Infant and Young Child Feeding</li><li>• Weight for height (Wasting)</li></ul>	<b>CHILD PROTECTION</b> <ul style="list-style-type: none"><li>• Child marriage/ cohabitation</li><li>• Child labor</li></ul>	<b>CHILD PROTECTION</b> <ul style="list-style-type: none"><li>• Child marriage/ cohabitation</li><li>• Child labor</li></ul>
<b>HEALTH</b> <ul style="list-style-type: none"><li>• Full Immunization</li></ul>	<b>EDUCATION</b> <ul style="list-style-type: none"><li>• Compulsory School Attendance</li><li>• Grade-for-age</li></ul>	<b>EDUCATION</b> <ul style="list-style-type: none"><li>• Grade-for-age</li><li>• Primary School Attainment</li></ul>
<b>INFORMATION</b> <ul style="list-style-type: none"><li>• Availability of information devices</li></ul>	<b>INFORMATION</b> <ul style="list-style-type: none"><li>• Availability of information devices</li></ul>	<b>INFORMATION</b> <ul style="list-style-type: none"><li>• Availability of information devices</li></ul>
<b>HOUSING</b> <ul style="list-style-type: none"><li>• Overcrowding</li><li>• Housing materials (Floor &amp; Roof)</li></ul>	<b>HOUSING</b> <ul style="list-style-type: none"><li>• Overcrowding</li><li>• Housing materials (Floor &amp; Roof)</li></ul>	<b>HOUSING</b> <ul style="list-style-type: none"><li>• Overcrowding</li><li>• Housing materials (Floor &amp; Roof)</li></ul>
<b>SANITATION</b> <ul style="list-style-type: none"><li>• Access to improved sanitation</li><li>• Garbage disposal</li></ul>	<b>SANITATION</b> <ul style="list-style-type: none"><li>• Access to improved sanitation</li><li>• Garbage disposal</li></ul>	<b>SANITATION</b> <ul style="list-style-type: none"><li>• Access to improved sanitation</li><li>• Garbage disposal</li></ul>
<b>WATER</b> <ul style="list-style-type: none"><li>• Drinking Water Source</li><li>• Water treatment</li></ul>	<b>WATER</b> <ul style="list-style-type: none"><li>• Drinking Water Source</li><li>• Water treatment</li></ul>	<b>WATER</b> <ul style="list-style-type: none"><li>• Drinking Water Source</li><li>• Water treatment</li></ul>

Source: Ministry of Development Planning Zambia (2018)

# DISTRIBUTION OF THE NUMBER OF DEPRIVATIONS

All Children Aged 0-17 Years

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Source: Ministry of National Development Planning (2018)



## CORRELATION BETWEEN MEASURES

Correlation Between Monetary, Multidimensional and Subjective Poverty Measured for Children Aged 0 to 17 years, by Area of Residence [BACK](#)

		National			Rural			Urban		
		MP	MCP	SP	MP	MCP	SP	MP	MCP	SP
National	MP	1.000								
	MCP	0.4979*	1.000							
	SP	0.3701*	0.3359*	1.000						
Rural	MP				1.000					
	MCP				0.3433*	1.000				
	SP				0.2511*	0.2397*	1.000			
Urban	MP							1.000		
	MCP							0.4161*	1.000	
	SP							0.3596*	0.2518*	1.000

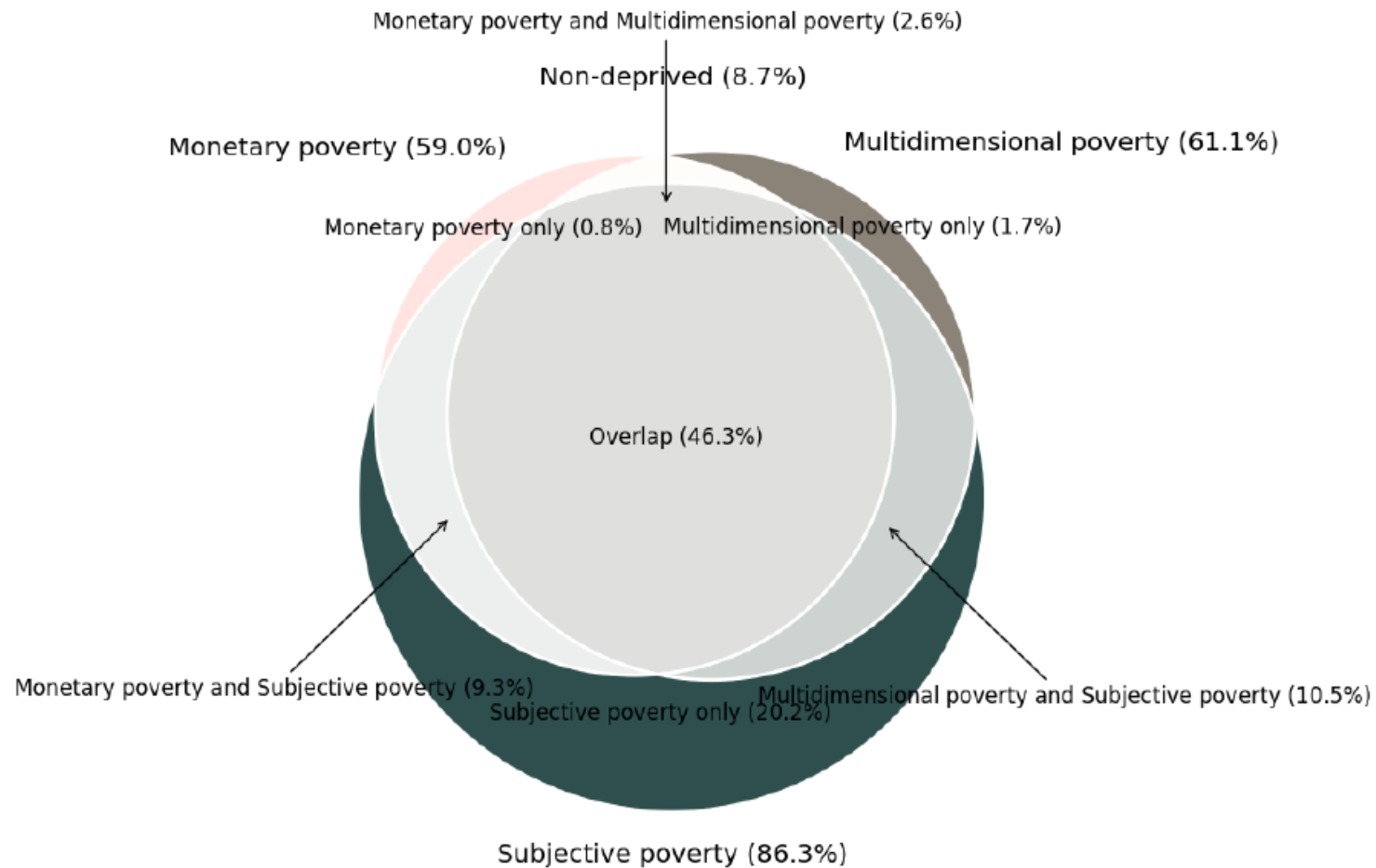
Source: Authors' calculations using Zambia LCMS (2015)

Note: MP: Extreme Monetary Poverty; MCP: Multidimensional Child Poverty (k=3); SP: Severe Subjective Poverty.

# OVERLAPS BETWEEN MODERATE MEASURES

Overlap in Monetary, Multidimensional and Subjective Poverty Measured for Children Aged 0 to 17 years

[BACK](#)



Source: Authors' calculations using Zambia LCMS (2015)

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