

Monetary and Multidimensional Child Poverty: A Contradiction in Terms?

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ABSTRACT

Although the multidimensional nature of poverty is widely recognized, the extent to which monetary measures can serve as a proxy for non-monetary measures remains unresolved. This is of particular concern for children given their dependence on others for fulfilment of basic needs and assumptions about intra-household distribution that underpin monetary measures. This article adopts an innovative mixed-methods approach to investigate child poverty overlap and mismatch in the low- and middle-income countries of Ethiopia and Vietnam using secondary longitudinal survey data and primary qualitative data from adults and children. Findings indicate that monetary and multidimensional poverty are distinct constructs that are linked, but cannot serve as a proxy for one another. While the degree of dissonance depends on the types of indicators under consideration, poverty mismatch persists regardless of time, place and multidimensional measure under consideration.

INTRODUCTION

Poverty is a complex phenomenon and its measurement remains subject to extensive research and debate. The dichotomy between monetary and multidimensional poverty measures might be one of the most contentious issues within this debate (Ruggeri Laderchi et al., 2003; Thorbecke, 2008). Although the multidimensional nature of poverty is mostly undisputed, the extent to which monetary measures can serve as a proxy for non-monetary measures remains unresolved. The notion that monetary measures can reflect non-monetary outcomes has long been challenged for conceptual reasons (Bourguignon and Chakravarty, 2003) and is increasingly contested on empirical grounds. Expanding evidence suggests

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that poverty estimates based on monetary and non-monetary multidimensional measures are often loosely associated and that one measure cannot serve as a proxy for another (Bradshaw and Finch, 2003; Tran et al., 2015).

While monetary approaches have continued to dominate the discourse and development bureaucracy into the 21st century (Sumner, 2007), shifts can be observed in the poverty measurement landscape. In contrast to the Millennium Development Goals (MDGs), the Sustainable Development Goals (SDGs) include a separate target referring to multidimensional poverty (UN, 2015). In a recent public consultation, the World Bank — arguably the lead agency on global poverty measurement and historically predisposed to monetary measurement — engaged the audience on questions regarding the use of non-monetary indicators of poverty (World Bank, 2015b). With respect to child poverty, a consortium of leading non-governmental organizations (NGOs), think tanks and academic institutes joined in the Global Coalition Against Child Poverty called for age disaggregated indicators of both multidimensional and monetary poverty (Global Coalition Against Child Poverty, 2015). Despite the increased recognition of the need for complementary measurement and a shifting landscape, studies assessing the association between poverty outcomes are biased towards the use of quantitative methods and consideration of single data points. Investigations into child poverty are particularly thin on the ground.

This article seeks to advance research and expand the empirical evidence base regarding the degree of congruence or dissonance between child poverty outcomes predicated on monetary and non-monetary multidimensional measures.¹ In doing so, it aims to contribute to global debates regarding the use of measurement for the reduction of child poverty at a time of austerity and strained government and aid funding affecting children in low-, middle- and high-income countries (Harland-Scott, 2016). It does so by adopting a mixed-methods approach and taking both a cross-sectional and longitudinal perspective in the low- and middle-income countries of Ethiopia and Vietnam, allowing for a uniquely comprehensive analysis based on statistical inference and perceptions of adults and children. Despite a decade of rapid poverty reduction in both countries, there is considerable mismatch between monetary and multidimensional poverty (OPHI, 2015a; Tran et al., 2015; World Bank, 2015a). Exploring such mismatch in diverse country contexts allows for learning lessons from a broader perspective.

This study commences with an overview of the main debates regarding monetary and multidimensional poverty measurements before discussing existing evidence on overlap and mismatch patterns of monetary and multidimensional child poverty. The subsequent sections address data and methods

1. In the remainder of this article, references to 'multidimensional' include non-monetary dimensions only.

used for this study and present the main findings for Ethiopia and Vietnam. The article concludes with a reflection on findings and implications for policy and future research.

MONETARY, MULTIDIMENSIONAL AND MULTIPLE DIMENSIONS OF POVERTY

The bifurcation between monetary and multidimensional poverty measures is predicated on divergent normative and conceptual standpoints. Monetary approaches base their measurement of poverty on a measure of income, consumption or expenditures, and are underpinned by the rationale that if individuals have a certain degree of purchasing power they will be able to fulfil their basic needs (Thorbecke, 2008; Tsui, 2002). Multidimensional approaches incorporate a broad base of attributes in their measures, thereby directly reflecting the many manifestations of poverty (Hulme, 2015). As such, monetary measures have also been referred to as 'indirect' measures and multidimensional measures as 'direct' measures, as the former essentially reflects a means to an end and the latter aims to capture the actual outcomes (Alkire and Santos, 2014; Ringen, 1988).

The drawbacks of the monetary approach have been widely described and include the flawed assumptions that all attributes for the fulfilment of basic needs can be expressed in monetary terms (Hulme and McKay, 2008) and can be purchased on perfectly functioning markets (Bourguignon and Chakravarty, 2003). Furthermore, having sufficient monetary resources to purchase a basic basket of goods does not mean that these will necessarily be converted into that basket of goods (Alkire and Santos, 2014). A particularly pertinent issue in terms of child poverty relates to the fact that monetary resources are predominantly measured at the household level, which does not capture intra-household distribution (Vijaya et al., 2014) and makes one rely on equivalence scales or other methods to infer conclusions for individual household members, including children. This in conjunction with the notion that children are dependent on others for income generation and translation of income into basic needs (Roelen et al., 2012) leads some to argue that monetary indicators are a poor reflection of children's living conditions (White et al., 2003).

Inspired by Sen's seminal work on the capability approach in the 1970s (Sen, 1979, 1982), a wide range of multidimensional poverty approaches has been developed to offer an alternative to monetary poverty measures, including basic needs approaches (Streeten, 1981, 1984), social exclusion methods (Marlier et al., 2009) and, most recently, the Multidimensional Poverty Index (MPI) (Alkire et al., 2015). Given the drawbacks of monetary approaches in capturing the situation of children, it is not surprising to find that some have argued for more holistic understandings of child well-being (Saith and Wazir, 2010) and that recent child poverty studies have focused

on more multidimensional aspects of poverty (Boyden and Bourdillon, 2012; Minujin and Nandy, 2012).

However, the measurement of multidimensional poverty is not without debate or caveats.² First, while multidimensional poverty measures include directly observable indicators reflecting a range of attributes of well-being or capabilities (Alkire et al., 2015), they inevitably remain a proxy aiming to capture complex and inherently latent concepts of well-being or capabilities. Second, choices inherent to the incorporation of multiple dimensions of poverty in poverty measures are normative and subject to value judgments and, when made implicitly, they make multidimensional poverty estimates susceptible to misinterpretation (Roelen et al., 2009) and controversy (Klasen, 2000).

One of the most contentious issues in measuring multiple dimensions of poverty appears to be that of aggregation (Lasso de la Vega and Urrutia, 2011; Lustig, 2011). Ferreira and Lugo (2013) distinguish between those favouring 'scalar indices' versus a 'dashboard' approach. Proponents of scalar indices value the property to rank countries, households or other units of analysis for subsequent use in policy, communication and advocacy (Birdsall, 2011). Opponents of such indices denounce the ambiguity in the choice of dimensions, thresholds and weighting schemes that is inherent in the aggregation of individual indicators into a composite index (Ravalion, 2011; Thorbecke, 2011). Yet, as Ferreira and Lugo (2012: 14) suggest 'what really matters to policymakers, is the pattern of associations and overlaps across the core dimensions of well-being', suggesting the need for a combined analysis across the multiple dimensions of poverty that includes monetary, non-monetary and aggregate multidimensional indicators.

EVIDENCE ON OVERLAP AND MISMATCH

The evidence base regarding incongruent poverty outcomes when using different measures is rapidly expanding. Studies investigating poverty mismatch usually explore one or more of three elements, namely (i) differences in magnitude; (ii) correlation between poverty indicators; and (iii) identification of poverty groups. The first element refers to the extent to which measures point towards different sizes of poverty, usually expressed in head-count rates. The MPI country briefs produced by the Oxford Poverty and Human Development Initiative (OPHI), for example, juxtapose findings on the basis of the national and/or international monetary poverty lines against findings based on the MPI (OPHI, 2015b). The second element considers the degree of correlation between poverty indicators and the extent to which one

2. For an extensive overview and discussion of issues and shortcomings, see contributions in Issue 2, Volume 9 of the *Journal of Economic Inequality* and the comments on those contributions in Issue 3.

measure can serve as a proxy for the other. The third element refers to the extent to which measures identify the same or different groups of individuals as being poor or deprived.

Findings from studies of population-wide poverty largely suggest that the use of monetary and multidimensional measures results in different pictures of poverty, pointing towards a modest, even limited, overlap of results. Evidence originates from both low- and middle-income contexts (Baulch and Masset, 2003; Gaihare, 2012; Klasen, 2000; Kumar, 2012; Levine, 2012; Nilsson, 2010; Ruggeri Laderchi et al., 2003; Sahn and Stifel, 2003; Santos, 2012; and Tran et al., 2015) and high-income country settings (Bradshaw and Finch, 2003; Perry, 2002; Wagle, 2009). Studies on child poverty are limited, but an indicative review suggests that different measures point towards limited correlation and distinct groups of children as being poor.

In a cross-country study in the European Union, Dawson (2015) finds that children living in monetary poor households are not necessarily those suffering from deprivation in non-monetary dimensions and vice versa. Main and Bradshaw (2014) draw similar conclusions for children in the United Kingdom. Brewer et al. (2009) point towards a 'hump-shaped' profile: as household income increases, children's levels of deprivation first rise and then fall. Bastos et al. (2004) find that children in Portugal suffering income poverty and non-monetary deprivations are not necessarily the same despite lack of income being a strong predictor of deprivation in other areas. Analysis of income and non-income deprivations for children in the United States suggests limited correlation and concludes that income is an inadequate proxy for non-income deprivations (Ciula and Skinner, 2015). Menchini and Redmond (2009), however, find that household consumption is a strong indicator for child deprivation in Eastern European and Central Asian regions.

Evidence from low- and middle-income countries is comparatively scarce. In Indonesia, the majority of children living in calorie-deficient households were found to live in households above the monetary poverty line. Although access to water and sanitation appeared to be more closely associated with monetary poverty, only a little more than half of all children in the lowest two deciles suffered from non-monetary and monetary deprivations at the same time (Hadiwidjaja et al., 2013). Similarly, a study on child poverty and deprivation in children's physical environment in Congo Brazzaville indicated that although income poverty and non-monetary deprivations are linked, their association is relatively weak (Notten, 2009). Findings regarding the relationship between household assets and children's health in Zimbabwe indicate that household assets are not a significant predictor of children's health outcomes (Crea et al., 2013). With respect to child poverty in Darfur, Trani and Cannings (2013) conclude that income deprivation does not adequately reflect the reality and complexity of child poverty, which is a finding considered of particular pertinence in emergency contexts as time,

resource and logistical challenges often lead to singular and over-simplified interventions.

The availability of evidence on overlap and mismatch of child poverty outcomes with respect to the countries included in this study, namely Ethiopia and Vietnam, is particularly limited. Although both countries are included in the Young Lives cohort study on childhood and child poverty (Young Lives, 2015), analysis to date does not provide insight into the elements of child poverty overlap or mismatch as discussed above. Available evidence from Ethiopia and Vietnam based on comparisons of population-wide monetary and non-monetary indicators of poverty does suggest that there is considerable mismatch in terms of magnitude and poverty groups (OPHI, 2015a; Tran et al., 2015; World Bank, 2015a). Evidence on child poverty in Vietnam indicates that although monetary and multidimensional poverty are strongly associated, there are also groups of children that were either exclusively monetarily or multidimensionally poor (Roelen et al., 2012). However, findings are predicated on quantitative data and assessed for a single point in time only.

DATA AND METHODS

It is now widely acknowledged that mixed-methods approaches to the study of poverty can offer a degree of breadth and specificity that quantitative and qualitative measures in isolation fail to achieve (Shaffer, 2013). Mixed-methods approaches can vary in their degree of integration, ranging from triangulation to highly iterative processes of data collection and analysis (Carvalho and White, 1997). In its most basic form, the complementary use of participatory methods can 'widen the lens' and incorporate issues that are often overlooked or ignored in more common quantitative studies (Camfield et al., 2009). A more tightly integrated study allows for more suitably unravelling the complexities of poverty, thereby contributing to the study's credibility and usability (Roelen and Camfield, 2015).

This study sought to find a middle ground by combining secondary quantitative panel data with primary qualitative data. An iterative process ensured that analysis of secondary data informed the design of qualitative data collection tools and preliminary analysis of qualitative data informed the analytical strategy for quantitative data analysis. Such a process allows for triangulation and validation of findings but also offers a middle ground between deductive and inductive approaches, thereby reconciling distinct epistemological traditions. As children's opinions and experiences differ from those of adults, it can be considered to be particularly imperative to use participatory methodologies in researching child poverty (Camfield et al., 2009).

Data

Sources of secondary quantitative data included in this study are three waves of the Ethiopian Rural Household Survey (ERHS) from 1999, 2004 and 2009³ and three waves of the Vietnam Household Living Standards Survey (VHLSS) from 2004, 2006 and 2008.

The ERHS is a panel survey data set focusing on rural livelihoods with waves in 1994, 1995, 1997, 1999, 2004 and 2009. Despite its relatively small size — it included 15 villages and a sample of 1,477 households in the first full round in 1994 — it is representative of the main agricultural systems in Ethiopia (Dercon and Porter, 2011). These surveys were conducted by the Economics Department at Addis Ababa University, the Centre for the Study of African Economies, University of Oxford or the International Food Policy Research Institute. Sample attrition between 1994 and 2009 is low, with a loss of only 16.1 per cent (or 1.1 per cent per year) and most of the attrition occurs in the early years of the study; attrition between 2004 and 2009 is less than 0.6 per cent per year (Dercon and Porter, 2011; Dercon et al., 2012). This study uses data from three waves only to ensure that the sample size is large enough for parametric analysis.

The VHLSS is a nationally representative data set and is based on the former Vietnam Living Standards Survey (VLSS), which was conducted in 1993 and 1998. The VHLSS has since been undertaken every second year since 2002 by the Government Statistical Office (GSO), following the World Bank's Living Standards Measurement Survey (LSMS) methodology. Survey samples from 2002 to 2010 were drawn from a master sample, which is a random sample of the 1999 Population Census enumeration areas and includes a rolling sample. It provides micro-data at the level of both the household and its individual members on a range of issues related to children's well-being and child poverty as well as social protection. Previous studies using the VHLSS data did not find attrition bias (Baulch and Masset, 2003) and assumed an unbiased sample (Günther and Klasen, 2009). Sample sizes per cross-sectional wave and for the full panel data are presented in Table 1.

Secondary survey data are complemented with primary qualitative data that were purposively collected for this study. Data collection took place in four sites in each country. Site selection was informed by analysis of secondary data, including quantitative data and other reports and pragmatic

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3. These data have been made available by the Economics Department, Addis Ababa University, the Centre for the Study of African Economies, University of Oxford and the International Food Policy Research Institute. Funding for data collection was provided by the Economic and Social Research Council (ESRC), the Swedish International Development Agency (SIDA) and the United States Agency for International Development (USAID); the preparation of the public release version of these data was supported, in part, by the World Bank. AAU, CSAE, IFPRI, ESRC, SIDA, USAID and the World Bank are not responsible for any errors in these data or for their use or interpretation.

Table 1. Sample Statistics – Quantitative Data

	1999	2004	2009	Panel
Ethiopia (ERHS)	5054	3709	4937	1497
	2004	2006	2008	Panel
Vietnam (VHLSS)	12154	10696	9960	1068

Source: Author’s own calculations from ERHS 1999, 2004 and 2009 and VHLSS 2004, 2006 and 2008

Table 2. Sample Statistics – Qualitative Data

	Adults	Children	Total
Ethiopia (ERHS)	88	61	149
Vietnam (VHLSS)	145	78	223

Source: Compiled by author

considerations. In Ethiopia, qualitative fieldwork took place in the northern region of Tigray in Harresaw and Limat *kushets*, Harresaw *tabia* in Atsbi *woreda* and Kaslen and Wela-Alabur *kushets*, Geblen *tabia* in Subhasaesie *woreda*.⁴ Tigray region was selected given its relatively high poverty figures; research sites were chosen to mirror those included in the ERHS data set. In Vietnam, qualitative data collection was undertaken in southern Mekong River Delta region in My Hoa and Long Hau communes in Dong Thap province and My Hoa and Oc Eo communes in An Giang province. These sites were selected as poverty mismatch based on analysis of VHLSS data was most prominent in Mekong River Delta region and the selected four sites within that region. Qualitative sample sizes per country are presented in Table 2.

Qualitative fieldwork engaged both adults and children (aged 10–15) and consisted of focus group discussions, key informant interviews, household case studies and both individual- and group-based participatory exercises. They aimed to elicit views and experiences regarding manifestations and causes of child poverty. Given the technical nature and negative connotations of the terms monetary poverty and multidimensional poverty, questions for adults and children were framed around concepts of household wealth and child well-being. Adults and children were asked about what constitutes child well-being and household wealth, the extent to which they overlapped or not and what could explain potential mismatch between both outcomes. Analysis of qualitative data involved a process of reading and re-reading, followed by a categorization and coding of responses. The standardized coding scheme was grounded in Maslow’s hierarchy of needs theory (Maslow, 1954), Bronfenbrenner’s ecological model of human development

4. Woreda, tabia and kushet refer to administrative sub-divisions in Tigray region with woreda representing district-level division, tabia representing municipality level and kushet referring to sub-municipality units.

(Bronfenbrenner, 1979) and Minkkinen's structural model of child well-being (Minkkinen, 2013) with codes reflecting recurrent themes in both countries, ensuring consistency of analysis.

Poverty Measures

Monetary poverty is calculated on the basis of welfare indicators and poverty lines as employed in other studies. In Ethiopia, estimates are based on real per capita consumption with the consumption aggregate including purchased items, gifts in cash and in kind and consumption of own produce. We use poverty lines as established in the ERHS data set based on cost of a bundle including food and non-food items (see also Dercon and Krishnan, 1998; Dercon and Porter, 2011). In Vietnam, estimates are based on real per capita expenditures and national poverty lines as established by the GSO and the World Bank and is generally referred to as the official poverty line (see also Roelen et al., 2012).

Multidimensional poverty is based on individual indicator deprivation rates and aggregated indices using a 'counting' approach (Atkinson, 2003), mirroring methodologies as applied by OPHI's MPI (Alkire et al., 2015) and UNICEF's Multiple Overlapping Deprivation Analysis (de Neubourg et al., 2014). The combination of both aggregated and disaggregated indicators for the purposes of this analysis follows the acknowledgement that poverty analysis is subject to sensitivity and ambiguity of aggregated poverty indices (see discussion above).

Availability of information within the ERHS regarding issues of child deprivation is limited and mostly confined to time use. As such the multidimensional measure for Ethiopia is based on three indicators referring to school attendance, family work and engagement in domestic chores (see Table 3). Analysis of association between indicators (see Appendix, Table A1) suggests there is no correlation between attending school and family work and a negative correlation between attending school and engagement in domestic chores. Correlation between family work and domestic chores strengthens over time but is negative, suggesting they capture different deprivations.

Data availability within the VHLSS is more comprehensive and the measure for Vietnam includes six domains and nine indicators within these domains (see Table 3). Analysis of association between indicators (see Table A2) suggests a consistent pattern over time. Correlations are strongest between shelter and water and sanitation indicators and between indicators for education and absence of child work. Correlations between health and social inclusion indicators and other indicators are mostly insignificant.

Aggregation in both countries is grounded in the counting approach (Atkinson, 2003) with equal weighting of indicators and domains and sensitivity analysis informing the establishment of the overall poverty

Table 3. Domains and Indicators of Multidimensional Child Poverty Measures in Ethiopia and Vietnam

Ethiopia		Vietnam
Indicators	Domains	Indicators (expressed as deprivations)
Not Attending School (6–18)	Education	Net Enrolment (5–15)
Working on Farm (6–18)	Health	Primary Completion Rate (12–15)
Working on Domestic Chores (6–18)		Visit to Health Facility (2–4)
	Shelter	Living in House with Electricity (0–15)
	Water and Sanitation	Living in Proper House (0–15)
		Living in Dwelling with Improved Toilet (0–15)
	Child Work	Drinking from Improved Water Source (0–15)
		Child Work (6–15)
	Social Inclusion	Having Caregiver Unable to Work (0–15)

Note: numbers in parentheses are age ranges
Source: Compiled by author

threshold. In Ethiopia, the child is considered multidimensionally poor if deprived with respect to at least two indicators. In Vietnam, the aggregation of the indicator and domain poverty rates follows a combination of the union and dual cut-off identification strategies (Roelen et al., 2012): a child was classified as domain deprived if he or she did not meet the threshold of at least one of the indicators within the specific domain and multidimensionally poor if deprived in at least two domains.

The differential use of indicators across both countries — both in terms of the types of indicators and the number included — allows for extending the investigation into poverty overlap and mismatch across different constructs and measures of multidimensional child poverty. The Vietnamese construct can be considered a more ‘conventional’ measure capturing a wide range of dimensions with varying degrees of correlation that are commonly included in multidimensional constructs (see Alkire et al., 2015; Gordon et al., 2003). The Ethiopian construct is more focused on time use and participation in work and employs fewer indicators that reflect different types of deprivation.

Analytical Strategy

The analytical strategy focuses on poverty trends, association between monetary and non-monetary indicators and identification of poverty groups, from both a cross-sectional and a longitudinal perspective and using quantitative and qualitative data. Firstly, we assess headcount rates for monetary and multidimensional child poverty over time and consider poverty trends as highlighted by respondents in qualitative research. Next, the association

between monetary and non-monetary indicators of child poverty is analysed on the basis of correlation coefficients and focus group discussions around differences between household wealth and child well-being. Finally, the study assesses poverty groups as established in the quantitative data and participatory exercises for considering the overlap and mismatch between monetary and multidimensional child poverty over time. The monetary poverty lines are adjusted to bring the monetary poverty headcount rates in line with the multidimensional poverty headcount rates. In Ethiopia, the monetary poverty line was established at the level of real per capita consumption that resulted in the same proportion of children being monetarily poor as multidimensionally poor. The same procedure was applied in Vietnam using real per capita expenditures. The elimination of size differences between both measures ensures that analysis of overlap and mismatch focuses on group and distributional differences only (see Roelen et al., 2012).

FINDINGS

Findings are reported in line with three elements of mismatch often studied, namely (i) child poverty trends; (ii) association between monetary and non-monetary indicators of child poverty; and (iii) child poverty groups. In contrast to existing studies, this study reports findings based on quantitative and qualitative data and includes a repeated cross-sectional and longitudinal perspective.

(i) Child Poverty Trends

In Ethiopia, child poverty trends from 1999 to 2009 do not convey an unequivocally positive picture with differential trends when using monetary and multidimensional measures (see Table 4). Monetary child poverty remained at 44 per cent from 1999 to 2004 but increased to 60 per cent in 2009. These findings are in line with population-wide monetary poverty estimates based on ERHS data and can largely be attributed to inflation (Dercon et al., 2012). Multidimensional child poverty increased from 45 per cent in 1999 to 50 per cent in 2004 but dropped to 37 per cent in 2009. As a result, monetary and multidimensional poverty rates diverged significantly between 1999 and 2009.

Analysis of indicator outcomes underlying the multidimensional child poverty rate (see Table A3) indicates that the increase from 1999 to 2004 is largely a result of children's increased engagement in family work and domestic chores while the decrease from 2004 to 2009 followed improved school attendance rates. The positive trend in access to education and other social services is corroborated by qualitative data, as evidenced by a quote from a social worker in Tigray region: 'The well-being situation of children in

Table 4. Monetary and Multidimensional Child Poverty Rates Ethiopia, 1999–2009

	1999			2004			2009		
	ERHS, n=5054			ERHS, n=3709			ERHS, n=4937		
	Monetary Poverty, Age 0–15 (n=4156)	Multidimensional Poverty, Age 6–18 (n=3531)		Monetary Poverty, Age 0–15 (n=3609)	Multidimensional Poverty, Age 6–18 (n=2802)		Monetary Poverty, Age 0–15 (n=4211)	Multidimensional Poverty, Age 6–18 (n=3811)	
Total	44.1	44.8		43.8	50.0		59.7	37.3	
Gender									
Male	42.3	44.0	*	44.2	49.3		59.5	38.0	
Female	45.9	48.9	***	43.3	50.7	***	59.9	36.7	***
Region									
Tigray	47.1	56.6		44.6	63.0		96.5	27.4	
Amhara	33.2	43.4		23.3	48.5		45.8	41.1	
Oromia	27.7	48.4		46.7	53.3		34.5	40.0	
SNNPR	67.0	37.8		57.6	46.2		79.6	34.2	

Note: n is smaller than full sample due to missing values, *** p<0.01, ** p<0.05, * p<0.1
Source: Author's own calculations from ERHS 1999, 2004 and 2009

this community has generally improved over time because infrastructure like health posts and primary education are established near to our community'.⁵

Estimates in Vietnam convey a more consistently positive picture. Both monetary and multidimensional child poverty reduced over time (see Table 5), which is in line with overall poverty trends in this period (World Bank, 2015a). Multidimensional poverty rates remain consistently higher than monetary poverty rates. Analysis of indicator rates underlying multidimensional child poverty (see Table A4) suggests a steady decrease in most areas of deprivation with most rapid improvements in shelter, water and sanitation. Health deprivation rates dropped from 2004 to 2006 but increased again from 2006 to 2008. Estimates do point towards a persistently wide urban–rural divide, with children living in rural areas at greater risk of monetary and multidimensional poverty. This divide is reflected by a comment from a community member from An Giang province: 'Many families have to move to live in big cities to look for job opportunity because there is little work here. In the past, they harvested rice by hand but now it's mechanized. There are 8 people in 10 people here who move to big cities'.⁶

(ii) Association between Monetary and Non-monetary Indicators of Child Poverty

Analysis of the correlation between per capita consumption and indicators underlying multidimensional child poverty in Ethiopia (see Table 6) corroborate the mixed relation between outcomes as discussed above. Not attending school is negatively correlated with monetary resources, that is, higher household wealth is associated with increased school attendance. The positive sign for indicators 'working on farm' and 'working on domestic chores', however, reflects that a greater level of monetary resources is associated with higher deprivation in areas of child work.

Qualitative data underpin these findings. Many adults and children emphasized the importance of monetary resources in securing basic needs for children, indicating that there is a strong overlap between both: '[Household wealth and child well-being] are related and always the same, because rich households usually feed their children well, purchase clothes frequently, send their children to school and provide health care more than the poor families',⁷ and 'Although poor households have the desire to care for their children, their economic situation does not allow them to do so, while richer

5. Interview with social worker, male respondent, Harresaw kushet, Harresaw tabia, Ethiopia, 7 August 2013.

6. Group discussion with community, male respondent, Oc Eo commune, An Giang province, Vietnam, 22 October 2013.

7. Group discussion male and female children aged 11–14, female respondent, Harresaw kushet, Harresaw tabia, 6 August 2013.

Table 5. Monetary and Multidimensional Child Poverty Rates in Vietnam, 2004–08

	2004		2006		2008	
	VHLSS, n=12154		VHLSS, n=10696		VHLSS, n=9960	
	Monetary Poverty	Multidimensional Poverty	Monetary Poverty	Multidimensional Poverty	Monetary Poverty	Multidimensional Poverty
Total	27.2	38.7	22.6	30.7	20.1	26.8
Gender		*			**	
Male	27	39.5	22.4	30.5	18.6	26.3
Female	27.4	37.8	22.9	31.0	21.7	27.4
Area	***	***	***	***	***	***
Urban	5.3	16.2	5.4	11.3	4.7	10.8
Rural	32.7	44.4	27.6	36.3	25.1	32.0

Note: *** p<0.01, ** p<0.05, * p<0.1
Source: Author's own calculations from VHLSS 2004, 2006, 2008

Table 6. Correlation Real Per Capita Consumption and Child Poverty Indicators in Ethiopia, 1990–2009

	1999	2004	2009
	n=2893 (6–18)	n=2726 (6–18)	n=3230 (6–18)
	Correlation with real per capita expenditure	Correlation with real per capita expenditure	Correlation with real per capita expenditure
Multidimensional poverty status	–0.024	0.043**	0.047***
<i>Indicators</i>			
Not attending school, age 6–18	–0.052***	–0.043**	–0.069***
Working on farm, age 6–18	0.022	0.085***	0.041**
Working on domestic chores, age 6–18	0.038**	0.051***	0.059***

Note: *** p<0.01, ** p<0.05, * p<0.1; n is smaller than full sample due to missing values for real per capita consumption

Source: Author’s own calculations from ERHS 1999, 2004 and 2009

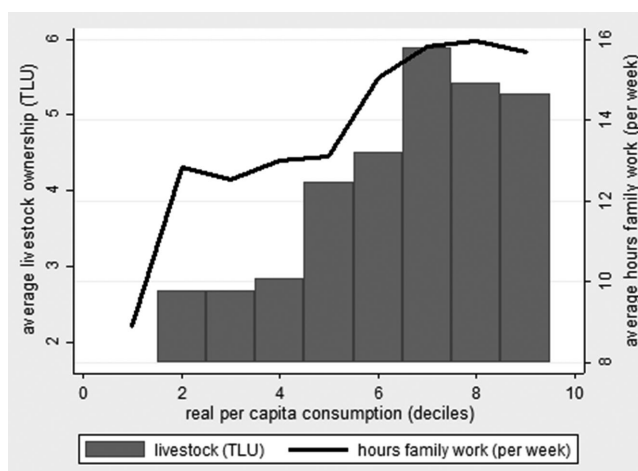
households easily fulfil their children’s demands because of their financial capacity’.⁸

At the same time respondents highlighted the trade-off between greater household wealth and children going to school or spending time studying or on leisure: ‘A rich household has better resources of land and livestock but does not raise his children in good well-being; he does not send them to school but keeps them working at home full-time’,⁹ and ‘Sometimes children in rich households are obliged to work in farm activities rather than going to school. But the children of poor households go to school and the parents have tried to fulfil the necessary educational materials’.¹⁰

A disaggregation of the relation between per capita consumption and ‘working on farm’ by decile also suggests the existence of positive and negative tipping points across the income distribution (see Figure 1). The number of hours of farm work increases in the first two deciles, levels off in the third to fifth quintiles before increasing again in the top half of the income distribution. The number of hours worked is also strongly associated with livestock ownership. Hence, while a minimum level of involvement of children in household production appears crucial for sustaining a minimum standard of living, a trade-off between household wealth and child well-being occurs at the upper end of the income distribution (see also Table A5).

8. Group discussion with female adult carers, female respondent, Kaslen kushet, Geblen tabia, Ethiopia, 12 August 2013.
9. Group discussion with male and female community members, male respondent, Wele-Alabur kushet, Geblen tabia, Ethiopia, 15 August 2013.
10. Group discussion with male and female community members, female respondent, Kaslen kushet, Geblen tabia, Ethiopia, 12 August 2013.

Figure 1. Livestock Ownership and Family Work across Consumption (Deciles for Children Aged 10–15 in Rural Ethiopia)



Source: Author's own calculations from ERHS 2009

Analysis of VHLSS data finds significant correlation between per capita expenditure and all non-monetary indicators in Vietnam (see Table 7 and Table A6). The sign for all indicators apart from 'having caregiver unable to work' is negative, reflecting that a greater level of household monetary resources is associated with lower deprivation in all but one area of multidimensional child poverty. The comparison of correlation coefficients across years shows that the degree of correlation decreases over time as both monetary and multidimensional poverty rates fall, suggesting that monetary and multidimensional poverty are indeed distinct constructs.

Analysis of qualitative data in Vietnam corroborates the positive association between real per capita expenditures and indicators underlying multidimensional child poverty. Discussions with adults and children reveal that having enough household income is indeed important in securing a good level of well-being for children: 'Children in rich families get full enjoyment such as transport, eating and drinking, clothing and better daily activities than the poor. They have balanced diets without fasting, thirst or craving, whereas the poor cannot afford those',¹¹ and 'Rich children have a lot of nutritious food; they have 3 meals per day with fish, pork and chicken. Rich children do not need to earn money to assist parents. Poor children have to catch fish to assist parents'.¹²

11. Group discussion with male adult carers, male respondent, My Hoa commune, Dong Thap province, Vietnam, 27 October 2016.

12. Group discussion with children out of school, male respondent, Long Hau commune, Dong Thap province, Vietnam, 26 October 2016.

Table 7. Correlation Real Per Capita Consumption and Child Poverty Indicators in Vietnam, 2004–08

	2004	2006	2008
	VHLSS, n=12154	VHLSS, n=10696	VHLSS, n=9960
	Correlation with real per capita expenditure	Correlation with real per capita expenditure	Correlation with real per capita expenditure
Multidimensional poverty	−0.334***	−0.299***	−0.281***
Indicators (expressed as deprivations)			
Net enrolment (5–15)	−0.149***	−0.151***	−0.159***
Primary completion rate (12–15)	−0.185***	−0.172***	−0.159***
Visit to health facility (2–4)	−0.132***	−0.148***	−0.123***
Living in house with electricity (0–15)	−0.206***	−0.184***	−0.170***
Living in proper house (0–15)	−0.243***	−0.200***	−0.173***
Living in dwelling with improved toilet (0–15)	−0.432***	−0.405***	−0.384***
Drinking from improved water source (0–15)	−0.189***	−0.191***	−0.198***
Child work (6–15)	−0.153***	−0.131***	−0.144***
Having caregiver unable to work (0–15)	0.038***	0.038***	0.072***

Note: *** p<0.01, ** p<0.05, * p<0.1
Source: Author’s own calculations from VHLSS 2004, 2006, 2008

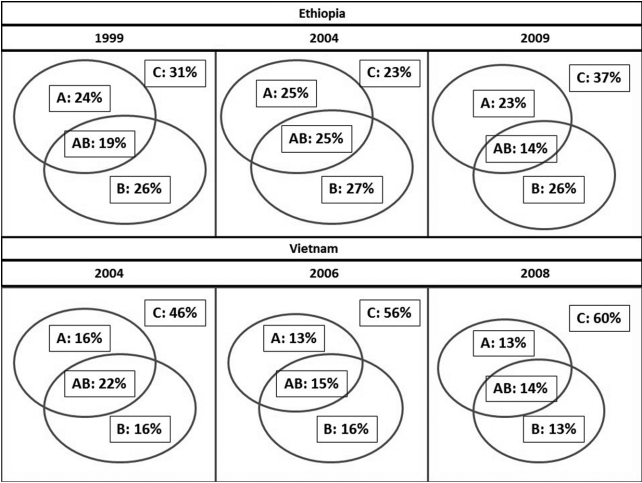
At the same time, adults and children also emphasized that monetary and multidimensional poverty do not always go hand in hand, particularly in terms of securing material and physical needs as well as psychosocial well-being. The level of monetary resources was not always considered a determinant for outcomes in elements of multidimensional poverty such as education: ‘The rich as well as the poor have the same education level. It cannot be said that the poor are not good in school. I have a friend who is a studious pupil although he is a poor child’.¹³

(iii) Child Poverty Groups

The Venn diagrams in Figure 2 show percentages of children belonging to different ‘poverty groups’ in Ethiopia and Vietnam. Children are either categorized as non-poor (group C), both monetary and multidimensionally poor (group AB), exclusively multidimensionally poor (group A) or exclusively monetarily poor (group B).

13. Case study with female caregiver and male child, male child respondent, Long Hau commune, Dong Thap province, Vietnam, 25 October 2016.

Figure 2. Child Poverty Groups in 1999, 2004 and 2009



Note: A=multidimensionally poor but not monetarily poor; B=monetarily poor but not multidimensionally poor; AB=monetarily poor and multidimensionally poor; C=non-poor
Sources: Author's own calculations from ERHS 1999, 2004 and 2009 and VHLSS 2004, 2006, 2008

Analysis points towards group differences with substantial groups of children being either multidimensionally poor (A) or only monetarily poor (B). Group differences are largest in Ethiopia, which is not surprising given the limited correlation between monetary and non-monetary indicators and trade-off between household wealth and children's time use. But despite greater correlation between monetary and non-monetary outcomes, children in Vietnam living in multidimensional poverty are not necessarily monetarily poor and vice versa. Sensitivity analysis for both countries indicates that findings are robust with group differences persisting for different values of the poverty line. Indicator deprivation rates by poverty group (see Table A8) indicate that living without electricity is mostly associated with experiencing combined monetary and multidimensional poverty or exclusive multidimensional poverty. Deprivation with respect to visiting a health facility and living in a dwelling with an improved toilet, however, is also experienced by respectively one-third and half of those children that are exclusively monetarily poor.

Patterns of mismatch when using different poverty measures are not limited to single time periods but persist over time in both Ethiopia and Vietnam (see Tables 8 and 9). In Ethiopia, there are many transitions between poverty groups with large proportions changing poverty group from one period to the next. This fluid pattern can partly be explained by the overall increase in monetary poverty from 2004 to 2009 as well as by the indicators underlying

Table 8. Transition Matrices for Poverty Groups in Ethiopia, 1999–2009

		2004					
		N	AB	A	B	C	Total
1999	A	200	23.0	34.0	14.5	28.5	100
	AB	210	31.0	20.0	32.9	16.2	100
	B	285	19.3	16.5	44.2	20.0	100
	C	307	18.2	22.8	26.4	32.6	100
		2009					
		N	AB	A	B	C	Total
2004	AB	349	22.4	25.5	29.2	22.9	100
	A	291	10.7	31.3	21.3	36.8	100
	B	415	15.7	15.4	34	34.9	100
	C	339	4.4	22.4	18.3	54.9	100

Source: Author’s own calculations from ERHS 1999, 2004 and 2009

Table 9. Transition Matrices for Poverty Groups in Vietnam, 2004–08

		2006					
		N	AB	A	B	C	Total
2004	AB	567	49.6	14.5	26.1	9.9	100
	A	393	3.6	30.5	2.8	63.1	100
	B	407	13.8	8.9	39.3	38.1	100
	C	1126	0.1	5.9	3.5	90.6	100
		2008					
		N	AB	A	B	C	Total
2006	AB	352	53.4	10.8	26.7	9.1	100
	A	304	13.8	41.5	2.6	42.1	100
	B	358	18.4	7.0	35.5	39.1	100
	C	1479	1.4	5.9	4.3	88.4	100

Source: Author’s own calculations from VHLSS 2004, 2006 and 2008

the measure of multidimensional child poverty (see Table A7), which refer to time use and are likely to be more responsive to short-term changes than more static basic needs such as shelter, water and sanitation.

In Vietnam, roughly half of those children experiencing both monetary and multidimensional poverty in the preceding period remain in this situation in the next period. Transitions out of poverty are most frequent among those experiencing exclusive multidimensional poverty rather than those experiencing exclusive monetary poverty, particularly from 2004 to 2006. This mirrors findings by Baulch and Dat (2011) indicating that the proportions of poor moving out of monetary poverty were smaller from 2004 to 2006 compared to 2002 to 2004 and by Roelen (2014), pointing towards high exit rates out of multidimensional child poverty from 2004 to 2006 and 2008.

CONCLUSION

This study considered patterns of overlap and mismatch of child poverty in Ethiopia and Vietnam based on different data sources and indicators and the extent to which they persist over time and across socio-economic contexts. It did so by assessing (i) child poverty trends, (ii) correlation between poverty indicators, and (iii) poverty groups from a cross-sectional and longitudinal perspective and using quantitative and qualitative data. The innovative combination of cross-sectional and longitudinal secondary quantitative data and primary qualitative data from children and adults provides a unique empirical and methodological contribution to academic and policy debates regarding poverty measurement and its implications for the reduction of child poverty.

The study firmly establishes that monetary and multidimensional child poverty are two different constructs that are strongly linked but cannot serve as a proxy for one another. Mismatch persists across non-monetary indicators in quantitative and qualitative data and holds across different constructs of multidimensional child poverty, time and space. While more conventional measures of multidimensional child poverty reflecting deprivation with respect to basic needs such as education, water and sanitation and shelter display positive correlation with monetary poverty and move in the same direction over time, there is considerable mismatch between groups of children identified as being poor. Multidimensional measures capturing the more specific issues of time use and work display more nuanced associations with household monetary resources, as also reflected by the tipping points in the wealth distribution beyond which the mutually reinforcing effect between household wealth and child well-being becomes a trade-off. Poverty trends over time may move in opposite directions, inevitably leading to greater poverty mismatch. Further research is required to investigate characteristics of children in different poverty groups as well as individual, household and structural drivers for poverty group membership.

Findings do not only satisfy academic curiosity but also have important policy implications. Inadequate information about the extent to which different indicators provide different pictures of poverty causes policy to be designed and targeted on the basis of incomplete information, leading to deficient identification of vulnerable people and an inadequate response to their needs. Child poverty reduction is part of academic and policy debates in low-, middle- and high-income contexts, as evidenced by the review of existing studies, inclusion of an age-disaggregated poverty target in the Sustainable Development Goals (SDGs) and current discussions about child poverty measurement in the context of austerity in, for example, the United Kingdom. Findings in this article exemplify that the use of different measures has implications for who and how many are identified as being poor, making the choice of poverty measures a political commitment as much as a technical exercise.

APPENDIX

Table A1. Correlation Multidimensional Child Poverty Indicators in Ethiopia, 1999–2009

	1999		
	n=3531 (6–18)		
	Not Attending School, Age 6–18	Working on Farm, Age 6–18	Working on Domestic Chores, Age 6–18
Not Attending School, Age 6–18			
Working on Farm, Age 6–18		0.001	–0.057 ^{***}
Working on Domestic Chores, Age 6–18			0.010
	2004		
	n=2802 (6–18)		
	Not Attending School, Age 6–18	Working on Farm, Age 6–18	Working on Domestic Chores, Age 6–18
Not Attending School, Age 6–18			
Working on Farm, Age 6–18		–0.009	–0.102 ^{***}
Working on Domestic Chores, Age 6–18			–0.001 ^{***}
	2009		
	n=3811 (6–18)		
	Not Attending School, Age 6–18	Working on Farm, Age 6–18	Working on Domestic Chores, Age 6–18
Not Attending School, Age 6–18			
Working on Farm, Age 6–18		–0.004	–0.055 ^{***}
Working on Domestic Chores, Age 6–18			–0.213 ^{***}

Note: *** p<0.01, ** p<0.05, * p<0.1

Source: Author's own calculations from ERHS 1999, 2004 and 2009

Table A2. Correlation Multidimensional Child Poverty Indicators in Vietnam, 2004–08

2004									
n=12154									
	Net Enrolment (5–15)	Primary Completion Rate (12–15)	Visit to Health Facility (2–4)	Living in House with Electricity (0–5)	Living in Proper House (0–15)	Living in Dwelling with Improved Toilet (0–15)	Drinking from Improved Water Source (0–15)	Not Engaged in Child Work (6–15)	Having Caregiver Unable to Work (0–15)
Net Enrolment (5–15)		0.521***		0.193***	0.135***	0.169***	0.087***	0.277***	0.520
Primary Completion Rate (12–15)				0.305***	0.216***	0.227***	0.141***	0.142***	0.013
Visit to Health Facility (2–4)				0.091***	0.024	0.015	0.038		–0.003
Living in House with Electricity (0–15)					0.253***	0.275***	0.224***	0.120***	–0.036***
Living in Proper House (0–15)						0.394***	0.055***	0.043***	–0.013
Living in Dwelling with Improved Toilet (0–15)							0.227***	0.131***	–0.037***
Drinking from Improved Water Source (0–15)								0.140***	–0.069***
Not Engaged in Child Work (6–15)									–0.048***
Having Caregiver Unable to Work (0–15)									

Continued

Table A2. Continued

2006										
n=10696										
	Net Enrolment (5–15)	Primary Completion Rate (12–15)	Visit to Health Facility (2–4)	Living in House with Electricity (0–5)	Living in Proper House (0–15)	Living in Dwelling with Improved Toilet (0–15)	Drinking from Improved Water Source (0–15)	Not Engaged in Child Work (6–15)	Having Caregiver Unable to Work (0–15)	
Net Enrolment (5–15)		0.544***								
Primary Completion Rate (12–15)				0.162***	0.134***	0.193***	0.141***	0.329***	0.005	
Visit to Health Facility (2–4)				0.224**	0.175***	0.200***	0.156***	0.150***	–0.017	
Living in House with Electricity (0–15)				0.149***	0.028	0.016	0.000		0.050	
Living in Proper House (0–15)					0.183***	0.260***	0.345***	0.119***	–0.035***	
Living in Dwelling with Improved Toilet (0–15)						0.359***	0.221***	0.086***	–0.013	
Drinking from Improved Water Source (0–15)							0.332***	0.166***	–0.073***	
Not Engaged in Child Work (6–15)								0.104***	0.031***	
Having Caregiver Unable to Work (0–15)									–0.027***	

Continued

Table A3. Indicator Rates in Ethiopia, 1999–2009

	1999	2004	2009
N	5054	3709	4937
Indicators (Deprivation)			
Not Attending School, Age 6–18	65.1	51.1	33.4
Working on Farm, Age 6–18	37.3	48.6	48.0
Working on Domestic Chores, Age 6–18	41.2	53.3	52.1

Source: Author's own calculations from ERHS 1999, 2004 and 2009

Table A4. Indicator Rates in Vietnam, 2004–08

	2004	2006	2008
N	12154	10696	9960
Indicators (Deprivation rates %)			
Net Enrolment (5–15)	19.8	18.0	15.5
Primary Completion Rate (12–15)	10.8	9.2	6.7
Visit to Health Facility (2–4)	55.7	47.8	54.9
Living in House with Electricity (0–15)	8.7	5.6	4.1
Living in Proper House (0–15)	22.8	17.9	14.4
Living in Dwelling with Improved Toilet (0–15)	53.1	47.7	40.9
Drinking from Improved Water Source (0–15)	13.7	11.8	9.6
Child Work (6–15)	13.4	8.9	9.9
Having Caregiver Unable to Work (0–15)	8.3	8.0	8.9

Source: Author's own calculations from VHLSS 2004, 2006 and 2008

Table A5. Multidimensional Poverty across Consumption Deciles in Ethiopia, 1999–2009

	1999 Multidimensionally Poor (%)	2004 Multidimensionally Poor (%)	2009 Multidimensionally Poor (%)
Deciles Real Per Capita Consumption			
1	43.6	51.2	34.9
2	41.6	46.8	32.9
3	40.7	45.2	33.0
4	45.1	49.1	35.4
5	45.1	47.9	39.9
6	46.3	56.9	36.0
7	46.9	47.6	40.8
8	39.5	48.9	38.2
9	40.9	59.7	33.2
10	40.7	49.2	43.8

Source: Author's own calculations from ERHS 1999, 2004 and 2009

Table A6. Multidimensional Poverty across Consumption Deciles in Vietnam, 2004–08

	2004 Multidimensionally Poor (%)	2006 Multidimensionally Poor (%)	2008 Multidimensionally Poor (%)
<i>Deciles Real Per Capita Expenditure</i>			
1	78.5	65.6	66.3
2	58.6	53.6	49.4
3	52.6	42.8	39.7
4	46.3	37.0	29.1
5	41.4	33.1	27.1
6	37.1	29.1	25.1
7	32.7	23.4	18.6
8	30.1	19.9	14.3
9	16.9	13.7	10.1
10	7.5	5.3	6.7

Source: Author's own calculations from VHLSS 2004, 2006 and 2008

Table A7. Indicator Deprivation Rates by Poverty Group in Ethiopia, 1999–2009

	1999			2004			2009		
	Monetarily Poor and Multi- dimensionally Poor (%)	Multi- dimensionally Poor but not Monetarily Poor (%)	Monetarily Poor but Not Multi- dimensionally Poor (%)	Monetarily Poor and Multi- dimensionally Poor (%)	Multi- dimensionally Poor but not Monetarily Poor (%)	Monetarily Poor but not Multi- dimensionally Poor (%)	Monetarily Poor and Multi- dimensionally Poor (%)	Multi- dimensionally Poor but not Monetarily Poor (%)	Monetarily Poor but not Multi- dimensionally Poor (%)
Indicators (Deprivations)									
Not Attending School, Age 6–18	89.4	87.4	48.2	80.9	70.3	28.1	79.8	61.6	16.7
Working on Farm, Age 6–18	63.7	70.7	12.2	69.0	78.8	21.6	68.1	78.4	31.8
Working on Domestic Chores, Age 6–18	69.6	62.9	19.0	71.5	75.2	32.2	71.1	78.1	34.6

Source: Author's own calculations from ERHS 1999, 2004 and 2009

Table A8. Indicator Deprivation Rates for Poverty Groups in Vietnam, 2004–08

	2004				2006				2008			
	Monetarily		Multi-		Monetarily		Multi-		Monetarily		Multi-	
	Poor and Multi- dimensionally Poor (%)	Poor (%)	Poor but not Multi- dimensionally Poor (%)	Poor (%)	Poor and Multi- dimensionally Poor (%)	Poor (%)	Poor but not Multi- dimensionally Poor (%)	Poor (%)	Poor and Multi- dimensionally Poor (%)	Poor (%)	Poor but not Multi- dimensionally Poor (%)	Poor (%)
<i>Indicators (Deprivations)</i>												
Net Enrolment (5–15)	45.2	40.7	4.8	48.8	48.8	44.7	5.3	47.8	44.4	3.9		
Primary Completion Rate	31.5	15.3	2.1	33.3	33.3	15.7	3.2	27.7	12.6	2.6		
(12–15)												
Visit to Health Facility (2–4)	74.1	74.6	30.1	74.6	74.6	73.0	28.6	80.5	81.2	37.0		
Living in House with	29.4	12.5	0.6	25.9	25.9	11.1	0.2	22.2	6.6	0.0		
Electricity (0–15)												
Living in Proper House	61.2	50.0	2.2	55.2	55.2	51.5	2.9	47.0	49.6	2.6		
(0–15)												
Living in Dwelling with	94.9	85.2	52.4	94.5	94.5	87.7	55.0	95.1	81.3	49.0		
Improved Toilet (0–15)												
Drinking from Improved	27.5	15.0	14.0	30.6	30.6	24.0	10.2	30.7	16.6	9.8		
Water Source (0–15)												
Child Work (6–15)	30.2	28.3	4.4	27.6	27.6	25.2	1.3	34.7	29.3	3.5		
Having Caregiver Unable to	10.5	17.1	3.4	10.6	10.6	16.8	3.2	10.1	20.8	3.7		
Work (0–15)												

Source: Author’s own calculations from VHLSS 2004, 2006 and 2008

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