5

Inside the Household: Poor Children, Women, and Men

The aim of this chapter is to enter the household to try and answer an apparently simple question: how many children, women, and men are poor? The common approach assigns all individuals within a household to the same poverty status as the household. However, this masks potential differences in poverty among household members. Ignoring these decreases the effectiveness of common approaches to targeting poverty reduction interventions and the take-up of these interventions because they do not address the needs and constraints of the poorest individuals.

The chapter begins with an analysis of global poverty data, including comparisons between male- and female-headed households, and introducing alternative household classifications related to the number of adults and income earners. Despite maintaining the concept of poverty based on the household, the analysis provides insights into sex and age differences among the poor. Next, evidence is presented on intrahousehold differences in resource allocation, first, by relying on a few datasets that provide information on consumption among individuals and, second, by applying models of intrahousehold resource allocation. A broader exploration of adult poverty follows according to the multidimensional approach introduced in chapter 4 but including individual-level information on educational attainment and body mass index.

The accumulated evidence of numerous studies and data sources suggests that women and children are often disproportionately affected by poverty albeit with considerable variation across countries and across types of households. Sex differences in poverty are largest during the reproductive years, when care and domestic responsibilities, which are socially assigned to women, overlap and conflict with productive activities. This tension is often most pronounced among the poorest countries and the poorest groups in society.

Introduction

How many women are poor? How many poor children are there? These seem straightforward questions, but there are no straightforward answers. Most poverty measures, including most of those presented earlier in this report, refer to households. Individuals are typically classified as poor or nonpoor in accordance with the poverty status of the households in which they live. This masks differences in poverty among the individuals within the same household.

In the absence of poverty data on individuals, perceptions about differences in poverty by sex and age are rarely supported by evidence. Consider, for example, the widely cited claim that 70 percent of the world's

poor are women. There is a solid consensus that the empirical data do not substantiate this claim and that the statistic is false (Chant 2008; Green 2010; Greenberg 2014; Quisumbing, Haddad, and Peña 2001; Sánchez-Páramo and Muñoz Boudet 2018). A common lens on the gender dimension of poverty is the difference between female- and male-headed households. The concept of household head is, however, often ill-defined and may even be misleading, for example, if vulnerable widows and more affluent single women are lumped under a single category of female-headed households and then used as a proxy for women in general (Bradshaw, Chant, and Linneker 2017; Grown 2010, 2014; Milazzo and van de Walle 2017).

Drawing on new work conducted for this report, and a review of the existing literature, this chapter revisits what we know about the poverty of individuals, with a focus on differences by sex and between children and adults. Child poverty, though related to the poverty of women, is a distinct issue. This chapter considers both because they are the two dimensions prioritized for the disaggregation of the global poverty figure (World Bank 2017b, 114). The accumulated evidence from many studies and data sources suggests that women and children are often disproportionately affected by poverty, but with considerable variation across countries. Sex differences in poverty are largest during the reproductive years when, because of social norms, women face strong trade-offs between reproductive care and domestic responsibilities on the one hand and productive activities on the other hand. The tension is often most pronounced in the poorest countries and among the poorest groups in society. In addition, women's intrahousehold bargaining power and poverty appear to be related to their position within the household, for example, as the first or more junior wife of the principal male, his mother, and so on. This underscores that gender, age, and status within the household are interrelated dimensions, which can be difficult to disentangle.

A secondary objective of the chapter is to test the boundaries on methods for identifying the poor, whether they live in poor households or not, and to highlight the challenges in retrofitting household-level data to the individual. Advancing our understanding of the poverty of individuals requires a renewed emphasis on data collection and investments in survey data collection methodologies focused on the individual.

More reliable poverty estimates on individuals would facilitate a better understanding of the characteristics of poverty and its intergenerational transmission, the interventions appropriate for different types of individuals, and the more effective targeting of social protection and broader development programs. Such programs often rely on approaches targeted to households but may fail to reach potentially poor beneficiaries if many of these live in households not identified as poor (Brown, Ravallion, and van de Walle, forthcoming).

Measuring the monetary poverty of individuals requires two main pieces of information. The first is information on how total household resources are allocated among household members. This is an intuitive idea, but one vexed with theoretical and practical challenges. Data on the food consumption of individuals are difficult to collect whenever household members consume meals together. Other consumption items, such as housing or consumer durables, are shared among household members and often cannot be allocated to specific individuals even in principle. Because of these and other challenges, living standards surveys, the main data source for measurements of monetary poverty, typically collect most data on the consumption of households as a single entity. Poverty analysis thus remains fixed on the household. The second key ingredient is information on the ways basic needs differ across household members, for example, by sex and age, and across households of different sizes and compositions to assess whether differences in resources translate into differences in well-being and poverty. Even though not the primary focus of this chapter, the need to measure the poverty of individuals highlights the need to revisit the broader issue of equivalence scales (box 5.1).

This chapter highlights various methods that can be used to measure poverty among individuals and explore the effects of gender and age differences on poverty data. The

BOX 5.1 Differences in Needs and Equivalence Scales

Global poverty estimates use data on consumption or income per capita to measure poverty. Similarly, the international poverty line, which is anchored on the average cost of meeting basic needs in the poorest societies, is expressed in per capita terms. This per capita approach assumes that needs do not vary across the members of households and that there are no economies of scale in larger households. Both assumptions are subject to criticism. Caloric needs vary by sex, age, physical activity (often related to occupation), and so on and are thus not the same across all household members. For example, a person engaged in heavy agricultural work typically requires more calories than an office worker. Likewise, shared household public goods may represent an advantage for larger households even at the same level of per capita consumption. One way to adjust for such differences in household size and composition is to use equivalence scales, discussion of which goes back to the seminal work by Engel (1895) and Rothbarth (1943) (see Coulter, Cowell, and Jenkins 1992; Deaton 1997). Equivalence scales approximate the consumption needs of a household of a given size and demographic composition relative to a reference household (usually a household consisting of a single adult, or a single adult male). Many national poverty assessments in both developing and high-income countries, including member countries of the Organisation for Economic Co-operation and Development (OECD), routinely use equivalence scales. The failure to account for equivalence scales will overestimate poverty in regions where households are large and contain lots of children, such as Sub-Saharan Africa, compared to regions where households are small and contain few children, such as Europe and Central Asia and to some extent East Asia and Pacific and Latin America and the Caribbean.

The main problem with adopting an equivalence scale approach in global poverty monitoring is that there is no consensus on what the best scale for this purpose would be across a wide range of countries. For example, nutrition-based equivalence scales, which account for differences in needs by sex and age and are used in many low-income countries, may be less appropriate in higher-income countries where food constitutes a smaller relative share in total consumption. Similarly, the economies of scale in shared goods may be offset by the greater need for health care and education expenditures (Abdu and Delamonica 2017) and the failure to value nonmarket (time and resources) expenditures associated with children (Folbre, Murray-Close, and Suh 2018). In addition, adjusting consumption or income by an equivalence scale requires recalibrating the poverty line (Ravallion 2015). Central to this recalibration is the choice of a household with "reference demographics," which may also vary from country to country. The use of a per capita scale in global poverty monitoring therefore imposes comparability across countries and is also transparent and easy to explain no matter how problematic it may be in the details (Ferreira et al. 2016).

The question of how to adjust for differences in needs arises even more prominently once the focus of the analysis moves inside the household. A comparison of inequality in consumption between adults and children or between men and women remains incomplete if we do not also consider differences in needs between these groups. (See also the section on "Differences in resources and poverty within households" in which all the country studies have adopted some variant of an equivalence scale.) Measuring the poverty of individuals would require not only estimating intrahousehold resource allocation but also adjusting for the differences in needs among individuals living in the same household and between households of different sizes.

starting point, in the next section, titled "Beyond headship: Gender and age profiles of the global poor," is the monetary poverty estimates introduced in chapter 1, which represent the current state of play in global poverty monitoring. In comparing per capita household consumption against the international poverty line, which is also expressed in per capita terms, this approach assumes that resources are shared equally and that needs are the same across all members of a household. This assumption is inadequate for a clear understanding of the differences within households and biases country poverty rates and the demographic profile of poverty if there are systematic differences by sex and age in the household. Despite these limitations, even the current data can provide meaningful though incomplete insights into sex and age differences in poverty if the analysis probes more deeply than comparisons of female- and male-headed households to

explore differences by household composition and over the life cycle.

The subsequent section of the chapter, titled "Differences in resources and poverty within households" presents evidence on intrahousehold differences in resource allocation, thus relaxing the assumption of equal sharing among household members. A few specialized datasets provide information, for at least some aspects of consumption, on how much is allocated and to whom within the household. Invoking assumptions about household behavior and equivalence scales, a growing academic literature provides estimates on resource allocation across individual household members on the basis of (largely) household-level data.

In the penultimate section, the chapter describes a broader examination of well-being and poverty among adult household members based on the multidimensional approach introduced in chapter 4. Straightforward documentation on gender differences in nonmonetary dimensions of well-being may be derived from data collected on individuals, rather than households. An example is education, for which indicators of educational attainment have been used for many years to compare achievements and deprivations between women and men. Likewise, anthropometric data, such as weight, height, and the body mass index (BMI), which are commonly used to measure malnutrition, refer to individuals, not households. These data are used to provide perspective on multidimensional poverty among individuals.

Beyond headship: Gender and age profiles of the global poor

This section analyzes data from the Global Monitoring Database (GMD), which is a collection of globally harmonized household survey data the World Bank uses to monitor global poverty and shared prosperity (box 5.2).[1] The global poverty figures rely on a concept of poverty based on the household (though expressed in per capita terms) and classify individuals as poor or nonpoor according to the poverty status of the households in which they live. Although this approach cannot reveal differences in poverty within households, innovative ways to analyze the data can reveal meaningful, though incomplete, information on sex and age differences, which are explored in this section.

This section shows that, although the proportion of women and men living in poor households is similar on aggregate, the proportions vary by women's and men's marital status, the presence of children and dependents in their households, whether or when they join the labor market, and their responsibilities within the family. Children and other dependents are an important factor of vulnerability, particularly among women during their reproductive years. Care responsibilities, especially borne by women, are greatest during those years in the life cycle that tend also to be the best for income generation. Relying on the economic activity of more adults, both women and men, helps shield the household against poverty, though doing so requires

BOX 5.2 Data Sources Used in This Section

This section relies on information from the harmonized sample of 104 household surveys for 89 countries in the 2013 Global Monitoring Database (GMD).[a] Additional labor data from the International Income Distribution dataset were merged for 17 countries in Sub-Saharan Africa (Muñoz Boudet et al. 2018). Because of remaining quality concerns in the economic participation variables, 18 countries were dropped for the analysis of employment and economic typology of households. Because of low coverage in the Middle East and North Africa (4.1 percent), the results from this region are not presented.

a. GMD (Global Monitoring Database), Global Solution Group on Welfare Measurement and Capacity Building, Poverty and Equity Global Practice, World Bank, Washington, DC.

quality and affordable care services for children, the sick, and the elderly. Formal schooling is also a strong protective factor against poverty, especially for women. Interventions aimed at reducing poverty need to consider both household structure and individual characteristics to increase their chances of success.

The rates of women and men living in poor households are similar in the 89-country dataset used here (12.8 percent and 12.3 percent, respectively[2]). These poverty rates vary across regions, but gender differences are only statistically significant in South Asia. Worldwide, this translates to 104 women in poor households for every 100 men. In South Asia, the corresponding comparison is 109 women for every 100 men. These differences become starker at specific ages.

Beyond headship

Many global and country-level analyses of poverty compare female- and male-headed households to highlight sex differences in poverty. However, the concept of the female-headed household is often difficult to interpret. First, it typically combines women who have never married, women who are widowed or divorced, and some women who are married. A related concern is that the headship concept risks conflating gender gaps with differences caused by demographic composition. For example, many female-headed households contain children but not adult males, whereas most male-headed households contain adult women and children. Second, self-reported household headship reflects social norms and views about who is understood as the head of the household, for example, the main breadwinner, the main decision maker, the oldest man, and so on. These norms may vary across countries, within countries, or across income groups, and might privilege one sex over the other. Globally, self-reported female-headed households account for 23 percent of all households, but only 16 percent of poor households. Although this shows that the poverty rate is lower among these households than among male-headed households, we can learn little else (table 5.1).

Poverty by age

Nearly one child in five[3] lives in a poor household. Children are twice as likely as adults to live in poor households. This primarily reflects the fact that the poor tend to live in large households with more children. Children are the poorest across all regions, but the patterns vary by region. For example, in Sub-Saharan Africa, 49.3 percent of girls and 49.5 percent of boys live in poor households and boys represent a slightly larger share (51 percent) of poor children than girls do. Differences with other age groups are even starker: boys and girls under 15 years of age are 10 percentage points more likely to live in a poor household than their young adult (ages 15–24) counterparts, and girls are 17.2 percentage points more likely than females above 60. In contrast, in South Asia, girls are poorer than boys (22.2 and 20.1 percent, respectively) and slightly more numerous than boys among the poor (50.5 percent), but differences in poverty rates between children and older adults—although sizable—are smaller than in other regions.

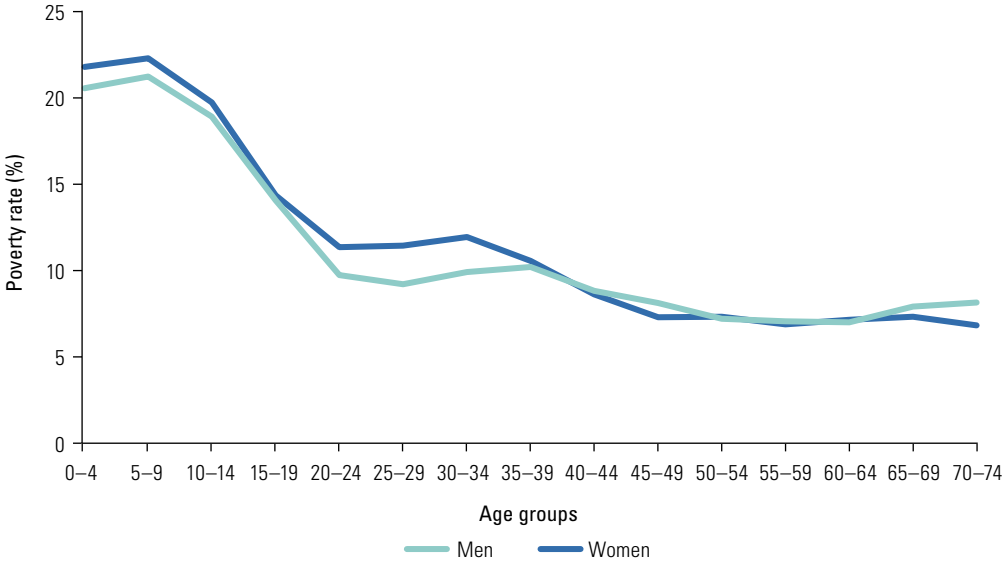
The rates of women and men who are living in poor households decline sharply as children reach adulthood, and they tend to stabilize after women and men reach 50 years of age. Starting in their early 20s and up to age 34, women are 2 percentage points more likely than men to live in poor households, which

TABLE 5.1 Household Poverty Rates and the Distribution of Poor Households, by Headship
Percent

	Poverty rate	Share of poor households	Share of total households
Female-headed households	5.8	16.4	23.5
Male-headed households	9.0	83.6	76.5
All households	8.2	100.0	100.0

Source: Muñoz Boudet et al. 2018.
Note: Data from 89 countries.

FIGURE 5.1 The Share of Women and Men Living in Poor Households, by Age Group



Source: Muñoz Boudet et al. 2018.
Note: Data are from 89 countries.

is a significant, sizable difference (figure 5.1). In this age group, an average of 120 women are living in poor households for every 100 men. This gender gap coincides with the peak productive and reproductive ages of men and women, and can be related to factors such as household formation[4] and income generation for both men and women, and the implications of such processes on their welfare. It is well documented that female labor force participation declines during women's reproductive years, particularly if they have young children (Aguero and Marks 2008; Cruces and Galiani 2007; Goldin and Katz 2002). Among the 20–34 age group, the gender gap in poverty rates ranges from 0.12 percentage points in Europe and Central Asia to 7.1 percentage points in Sub-Saharan Africa. In this age group, the gaps are wider in the poorest countries, especially the 17 countries with overall poverty rates above 35 percent, that is, Haiti and 16 Sub-Saharan African countries.

Schooling, the labor market, and gender differences

Household surveys collect information on educational attainment and income-earning capacity (proxied by employment status) of individuals. This allows for a closer look at how these characteristics build on the age and sex differences.

Formal schooling is inversely correlated with poverty among both women and men. Of the poor population ages 15 or above, 41 percent have no education. Women represent 62.3 percent of the poor population ages 15 or above with no schooling, but only 36.9 percent of the poor with tertiary schooling. The share of women living in poor households diminishes strongly with schooling.

The association between employment and poverty varies by sex and type of employment. In the prime productive years, between 25 and 54 years of age, women represent 86 percent of those out of the labor force and 60 percent of those who are unpaid workers. In poor households, while most men are paid workers or self-employed, over half of women are not in the labor force. Globally, 40 percent of poor men are self-employed, compared with only 19 percent of women (figure 5.2). In Sub-Saharan Africa and South Asia, self-employment is closely associated with poverty for men, but slightly less so for women.

Household structure and gender differences

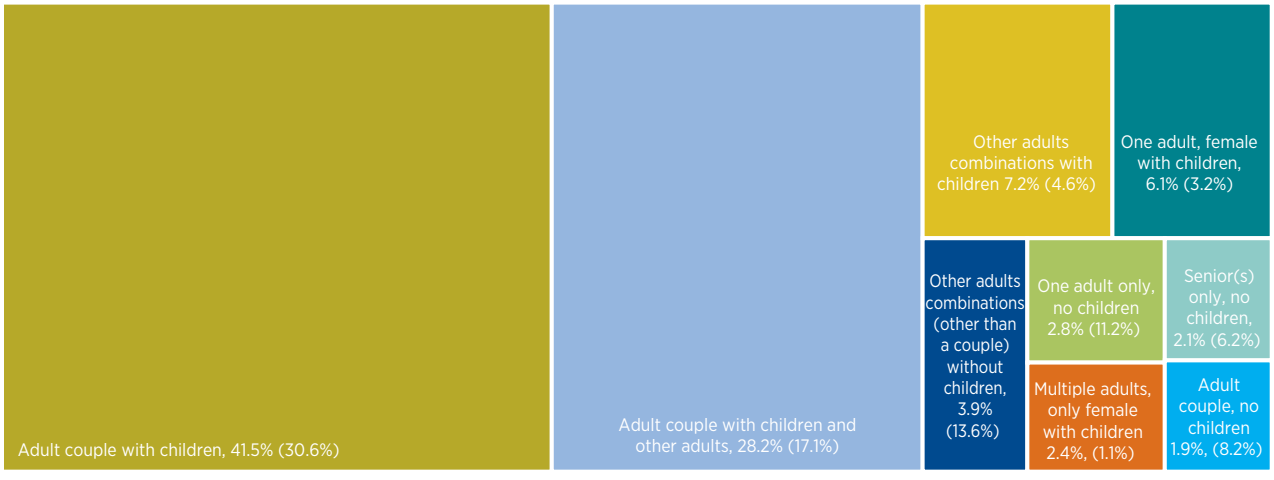
The analysis demonstrates that household composition, particularly the presence of dependents and the type of earners, influences gender differences in poverty over the life cycle. Building on the framework introduced in Grown and Valodia (2010), this subsection illustrates two ways to classify households: a demographic typology and an economic one. The demographic typology is based on the adult composition of the household, starting with the age and sex of the adults (18–64 years) who live in the household and distinguishing separate categories for the elderly or seniors (ages 65 years or above) and children (under age 18). The economic typology is based on the presence and sex of all earners in the household and of the dependents who depend on the income of the earners. Earners are defined as any individuals ages 15 or above who are engaged in any economic activity for pay or profit.[5] Dependents here include nonearners ages 18–64 (unpaid family workers, and those that are unemployed or not in the labor force) and traditional dependents (children and seniors).

Within the lens of the household demographic typology, adult-couple households—consisting of two adults of opposite sex who are married or cohabiting—with children account for the largest share of poor households (figure 5.3). They are overrepresented among the poor, representing 31 percent of all households but accounting for 42 percent of poor households. Adult-couple households with children and other adults, that is, extended family households, which represent 17 percent of all households, account for the second-largest share among poor households (28 percent), and they are also overrepresented among the poor.

FIGURE 5.2 Distribution of People Living in Poor Households, by Sex and Employment Status

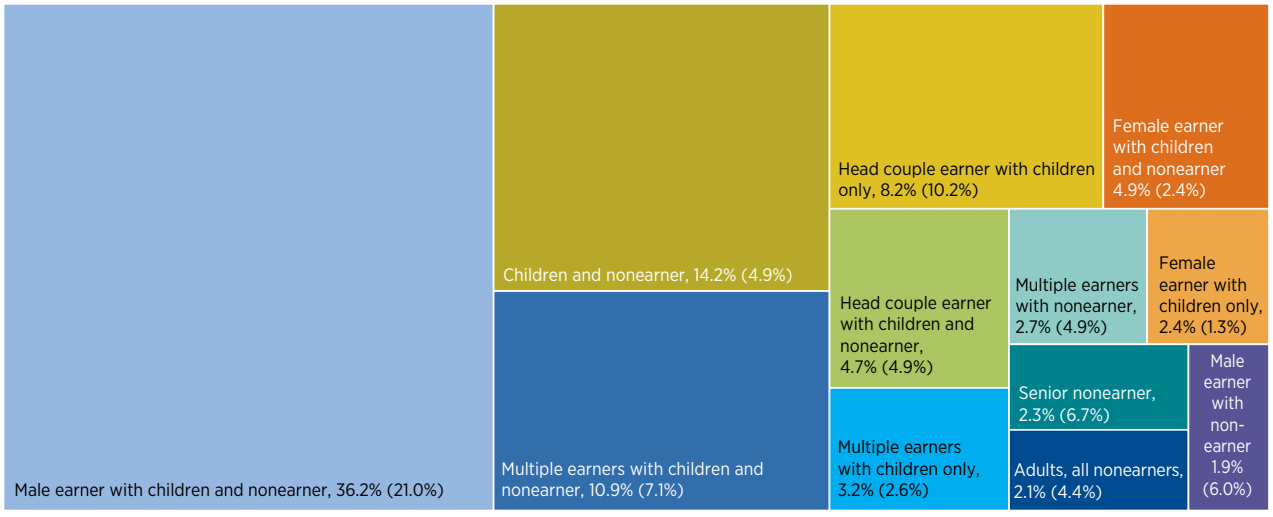
Source: Muñoz Boudet et al. 2018.
Note: Data are from 71 countries. Ages are 25–54.

FIGURE 5.3 Distribution of Poor Households, by Demographic Typology



Source: Muñoz Boudet et al. 2018.
Note: The percentages in the cells refer to the share of the type among poor households; the numbers in parentheses refer to the share of the typology among all households. The figure shows typologies that represent at least 2 percent of either poor or all households. Data are from 89 countries.

FIGURE 5.4 Distribution of Poor Households, by Economic Typology



Source: Muñoz Boudet et al. 2018.
Note: The percentages in the cells refer to the share of the type among poor households; the numbers in parentheses refer to the share of the typology among all households. The figure shows typologies that represent at least 2 percent of either poor or all households. Data are from 71 countries.

Meanwhile, adult-couple households without children are less likely to be poor (8 percent of all households; 2 percent of the poor). Other types of households gain relevance depending on the region. Adult woman households with children are disproportionately represented among the poor in Latin America and the Caribbean and in Sub-Saharan Africa. Three poor women in four live in adult-couple households with children only or with other adults, and this proportion increases to four poor women in five for the 20–34 years age group.

The analysis of poverty using the economic typology confirms that households with traditional dependents (children below 15 or seniors) fare less well than households without dependents (figure 5.4). In most cases, the presence of a nonearner, age 18–64, also raises the poverty rate. Households with no earners, combined with the presence of children, are the household type most at risk of poverty (14 percent of the poor while they account for less than 5 percent of households), followed by households with a single woman earner and dependents (5 percent of the poor and 2 percent of the population) and households with a male earner only, a nonearner and children (36 percent of the poor while they account for 21 percent of the population). Poor women are concentrated in households with children and nonearners (42 percent in households where there is only a male earner and 15 percent in households with multiple earners).

Differences in resources and poverty within households

The previous section summarizes what the data used to monitor global poverty reveal about gender and age differences in the profile of poverty, while maintaining the (generally implicit) assumption that resources under the per capita measure are shared equally. A more comprehensive measurement of gender and age differences in the profile of poverty requires a relaxation in the assumption of equal sharing to consider intrahousehold differences in resource allocation.

Measuring intrahousehold inequalities in resource allocation and poverty in household surveys is not an easy task. Accurate data on food consumption across individuals in a household are difficult to collect whenever household members cook together and share meals. Some household surveys collect such data using a 24-hour recall or direct observation (weighting, measuring by resident enumerators), but these methods are time-consuming and intrusive. Other consumption items, such as housing, are de facto

public goods within the household that are shared among household members and cannot be allocated to specific individuals even in principle (Case and Deaton 2002; Klasen 2007). The following section reports findings from four recent country surveys that collect data on consumption among individuals. These case studies are then complemented by model-based estimates of poverty in two countries. Modeling allows the resource shares of men, women, and children to be estimated over the entire consumption basket even though individual consumption data are only available on a few items, thus providing a more complete picture of intrahousehold resource sharing.

Individual-level data on consumption

Starting in the 1980s, a few specialized studies have collected data on consumption among individuals, often with a focus on food (Behrman and Deolalikar 1990; Haddad, Hoddinott, and Alderman 1997; Haddad and Kanbur 1990; Pitt, Rosenzweig, and Hassan 1990). An early example of this literature is the work of Haddad and Kanbur (1990) who investigate intrahousehold inequality in food consumption in the Philippines through the lens of calorie adequacy, that is, calorie intake relative to standardized calorie requirements by age, sex, and pregnancy status. These data suggest that total inequality in calorie adequacy among individuals is significantly underestimated, by 30 to 40 percent, if inequality within households is ignored.

More recent data collection efforts in Africa and Asia have allowed a fresh look at intrahousehold differences in poverty across various contexts and social settings (De Vreyer and Lambert 2017 on Senegal; D'Souza and Tandon 2018 on Bangladesh; Mercier and Verwimp 2017 on Burundi; Santaeulàlia-Llopis and Zheng 2017 on China).[6] Though these studies individualize only a few separate components of consumption (table 5.2), they reveal interesting differences in resource allocation among women, men, and children.

The evidence in this section shows that intrahousehold differences in consumption and poverty are widespread. In most cases, women and children are allocated a smaller share of the households' resources than men.[7] Intrahousehold inequalities in resource allocation appear to be more pronounced for nonfood items than for core food items, hinting at a degree of solidarity within families. Similar to the previous section, we find evidence of complex dynamics within households, linked to life cycle and status that extend beyond simple gender or age divides. For example, intrahousehold bargaining power and poverty among women are related to their relationship with the principal male, such as first versus second wife, or mother versus wife.

TABLE 5.2 Recent Datasets on Individualized Consumption

Country	Survey	Year(s)	Representativeness	Items individualized and data collection method
Bangladesh	Bangladesh Integrated Household Survey 1, 2	*2011–12, 2015*	National (rural)	Food (24-hour recall by the woman in charge of cooking)
Burundi	Panel Priority Survey	*2012*	The 2012 wave is a follow-up of a 1998 nationally representative survey	Food and clothing (respondents were asked to specify the share of household expenditures going to the main adult man, woman, sons, daughters, and other household members)
China	China Health and Nutrition Survey	*1989, 1991, 1993, 1997, 2000, 2004, 2006, 2009,* 2011, 2015	Select provinces	Food, alcohol, and cigarettes (24-hour recall over three days, plus household food inventory)
Senegal	Poverty and Family Structure Survey	*2006–07,* 2010–12	National	Most consumption is captured at the cell level (for example, clothing, mobile phones, transport, food outside the home); food consumed at home is individualized based on accounts about which meals are shared and estimates of the preparation costs

Note: The italicized years are used in the case studies.

China

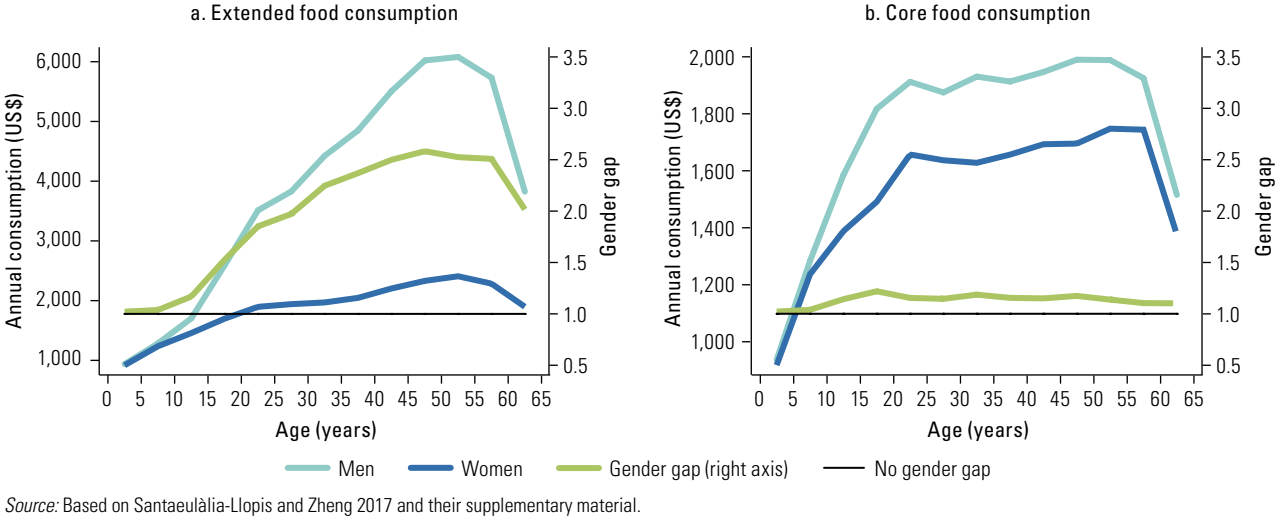
In China, intrahousehold and gender dynamics over the past 20 years have evolved against the backdrop of rapid economic and demographic change. The China Health and Nutrition Survey data allow the computation of an individual measure of extended food consumption, which includes all food items as well as alcohol and tobacco (Santaeulàlia-Llopis and Zheng 2017).[8] In 1991, extended food consumption was twice as high among men as among women, and, by 2009, this ratio had risen to 2.3. This gender gap is, however, largely accounted for by four items—tea, coffee, alcohol, and tobacco—that are consumed disproportionately by men and may reflect different degrees of control over resources or social norms about acceptable behavior of men and women. Excluding these items gives a narrower measure of core food consumption, according to which consumption is about 12 percent greater among men than among women, a ratio that has remained close to constant and could reflect differences in caloric need between men and women. Analysis over the life cycle shows that the gender gap in extended food consumption starts to emerge at about age 15 and peaks between the ages of 45 and 55, after which it declines sharply (figure 5.5). In contrast, the gender gap in core food consumption peaks much earlier, at around age 17–18, and stays at a similar level until age 50.

Typical household-level data miss a substantial portion of inequality among individuals. A comparison of an individual-level measure of extended food consumption to a household-level measure, where the latter is normalized for differences in household demographic composition using equivalence scales highlights this clearly. In the rural (urban) subsamples, household consumption per adult equivalent misses about 41 percent (38 percent) of individual inequality. This is again driven primarily by individual inequality in the consumption of alcohol, tobacco, coffee, and tea. Core food consumption inequality among small children ages 0–5 is about twice as high as the inequality among adults.

Burundi

Burundi is one of the poorest countries in Africa, with a legacy of conflict and violence. Mercier and Verwimp (2017) use a household survey conducted in 2012 that asked mostly female respondents to specify how categories of consumption goods were allocated within the household to examine intrahousehold consumption inequality.[9] The data show a gender gap in clothing and food expenditures (the latter less pronounced) that benefits women. Among children, the consumption shares of food and clothing appear to be balanced between boys and girls. The large share of missing values in item groups other than food and clothing prevents additional analysis.

FIGURE 5.5 The Gender Gap in Food Consumption over the Life Cycle, China



Source: Based on Santaeulàlia-Llopis and Zheng 2017 and their supplementary material.
Note: The gender gap is the ratio of male-to-female consumption, based on a regression with age dummies and time fixed effects (pooling data from 1989, 1991, 1993, 1997, 2000, 2004, 2006, and 2009).

Assuming equal sharing among siblings of the same sex, irrespective of age, one may use the reported resource shares for food and clothing to compute a partially individualized measure of consumption. Taking into account differences in caloric needs by sex and age through the use of equivalence scales yields poverty rates of 65 percent among men, 56 percent among women, and 77 percent among children. Because of the disproportionate incidence of child poverty, children make up 68 percent of the hidden poor, that is, poor individuals living in nonpoor households, significantly more than their share in the sample population (56 percent). Mirroring the results from Senegal below, the age effect becomes insignificant if the analysis controls for the household member's status within the family, suggesting that individual consumption depends more on a person's position within the household than on age.

In Burundi, unlike in the other countries discussed in this section, women appear to be less poor than men. This highlights the context specificity of intrahousehold distribution rules. However, another potential explanation for the higher consumption shares among women may be that women overestimate their consumption relative to that of their husbands, for example because of internalized social norms or because they are not aware of some components of consumption among their husbands, such as food consumed away from home. Relying on one (female) respondent who reports about other members' consumption (see also box 5.3 for alternative measures of food security) may generate some measurement error.

BOX 5.3 Dietary Diversity as an Indicator of Individual-Level Food Security

The four case studies show intrahousehold inequalities in the consumption of calories and nutrients, a pattern also found to varying degrees in Ethiopia (Coates et al. 2017), India (Fledderjohann et al. 2014), Nepal (Harris-Fry et al. 2018), and South East Asia (Bühler, Hartje, and Grote 2018). A double burden of malnutrition—simultaneous presence of undernourished and overweight individuals—is occurring in many households and countries, for example, in middle-income countries, stunted children living with obese mothers (Aitsi-Selmi 2015).

An alternative to the collection of individual food consumption could be dietary diversity. It is routinely collected for vulnerable individuals (infants and their mothers) in household health surveys, but less frequently collected for individuals in household consumption surveys.

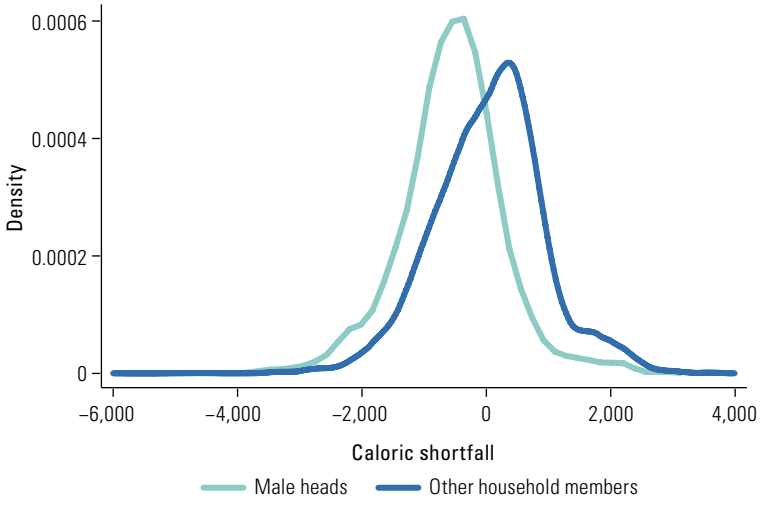
Dietary diversity indicators capture the number of food items or groups consumed, often weighted according to the nutritional importance of the food in question. Some measures additionally account for how often a given food (or items from a given food group) is consumed. Common metrics for dietary diversity are Household and Individual Dietary Diversity Scores (Maxwell, Vaitla, and Coates 2014), which count the number of food groups consumed over a 24-hour recall period by the whole household (reflects the household economic ability to access a variety of foods) or individual members (reflects dietary quality and nutrient adequacy [Arimond et al. 2010; Moursi et al. 2008; Savy et al. 2005; Torheim et al. 2004]).

Individual-level dietary diversity indicators are strongly correlated with the three common measures of child undernutrition: stunting, wasting, and underweight (Arimond and Ruel 2004; Chandrasekhar et al. 2017; Headey and Ecker 2013; Mallard et al. 2016; Rah et al. 2010; Ruel 2003). Across countries, even a very simple dietary diversity measure is better at predicting malnutrition than calorie deprivation (Headey and Ecker 2013).

Although the dietary diversity of mothers and their young children tends to be strongly correlated, children often consume fewer food groups than their mothers (Amugsi, Mittelmark, and Oduro 2015; Nguyen et al. 2013). In Bangladesh, even more food secure households have poor infant diets (Owais et al. 2016). Among children in Nepal, older children have better dietary diversity, but their diets are more likely to deteriorate when the household experiences a negative shock. Younger children have less diverse but more stable diets (Finaret et al. 2018). In India, children's diets vary by age and sex, with girls' diets less diverse than boys'—especially in adolescence (Aurino 2017).

In sum, individual-level dietary diversity metrics are a promising approach to assess individual food security (Bühler, Hartje, and Grote 2018; Headey and Ecker 2013; Leroy et al. 2015). Adding these questions to existing household consumption surveys could provide an alternative source of information about differences within households.

FIGURE 5.6 Caloric Shortfalls of Male Heads and Other Household Members, Bangladesh



Source: D'Souza and Tandon 2018.

Bangladesh

A significant portion of the population in Bangladesh is undernourished in terms of calories and specific micronutrients. Studies have also repeatedly demonstrated inequitable intrahousehold resource distribution. D'Souza and Tandon (2018) use the Bangladesh Integrated Household Survey to explore intrahousehold differences in undernourishment.[10] The analysis draws on data of 3,060 rural households with male heads who are married and whose spouses are present, but without pregnant or lactating women. Individual shortfalls from minimum dietary energy requirements are computed. Individuals who meet these requirements in calories and micronutrients are classified as adequately nourished, and those who do not are classified as undernourished. Similarly, a household is adequately nourished if the total household caloric availability exceeds the sum of the individual dietary requirements. The analysis reveals that male heads have much smaller caloric and micronutrient shortfalls than other household members (figure 5.6).

These differences lead to the misclassification of individuals relative to their household status, that is, undernourished individuals in adequately nourished households or adequately nourished individuals in undernourished households. Overall, the proportion of misclassification varies between 18 percent and 30 percent according to the type of member (first row of table 5.3) but in adequately nourished households, 55 percent of boys and 47 percent of girls are undernourished (whereas only 22 percent of heads and 9 percent of spouses are undernourished, third row of table 5.3).

Senegal

The household structure in Senegal, as in other West African countries, is complex because of polygamy and the frequent presence of foster children. This offers opportunities to explore intrahousehold inequality within extended families. The 2006/07 Poverty and Family Structure Survey, described in De Vreyer et al. (2008), can be used to construct a relatively individualized measure of consumption and poverty status. To reflect intrahousehold structure and resource allocation

TABLE 5.3 Individuals Misclassified by the Household Measure of Caloric Availability

Measure	Male heads	Spouses	Boys	Girls	Other adults
All households					
Share	0.24	0.18	0.30	0.28	0.22
Number	3,060	3,060	2,462	2,342	1,722
Adequately nourished households					
Share	0.22	0.09	0.55	0.47	0.15
Number	1,901	1,901	1,257	1,207	1,207
Undernourished households					
Share	0.26	0.32	0.05	0.09	0.39
Number	1,159	1,159	1,205	1,135	515

Source: D'Souza and Tandon 2018.
Note: Shares = population-weighted means of undernourished individuals in adequately nourished households and adequately nourished individuals in undernourished households. Number = observations.

more accurately, each household is divided into cells whereby the household-reported head forms a cell with unaccompanied dependent members; each wife of the head and her children and any other dependents then form separate cells, as do other adults with dependents, for example, married brothers. This cell structure is characteristic of households in Senegal.

The cell consumption data show that intrahousehold inequality accounts for almost 14 percent of total consumption inequality in Senegal, driven largely by intrahousehold inequality in nonfood consumption. About 13 percent of the poor live in nonpoor households and are hence invisible in standard measures of poverty (De Vreyer and Lambert 2017). There are also important gender differences. Per capita consumption is 33 percent greater among cells headed by a man than among those headed by a woman, and this difference is statistically significant. This pro-male-headed cell gap in consumption narrows if the analysis controls for education because literacy and numeracy outcomes are worse among women than among men. The remaining gender difference appears to be mainly attributable to the greater dependency ratio in female-headed cells because children are ascribed to their mother's cell (and not their father's) if the mother is present in the household (De Vreyer and Lambert 2017 and their supplementary material).

The social roles ascribed to women imply that their position in the household and their marital status are much more strongly associated with their material well-being than is the case for men. The mothers and daughters of the household-reported male head, and, to a lesser extent, his junior wives tend to be found in the least favored positions in the household, whereas no equivalent consumption penalty exists among fathers and sons. Widowed women, whether remarried or not, are also particularly vulnerable. These gender differences in per capita consumption extend to poverty. A cell headed by a daughter of the household-reported male head is 2.5 times more likely to be poor than the cell associated with the household head, whereas there is no significant difference in poverty status between cells headed by sons and those associated with the household-reported male head. The same is true for sisters versus brothers. Cells headed by women in a leviratic union—that is widows who "remarried" their former husband's brother or other male relative—have a higher probability of being poor, at an odd ratio of 1.4 relative to women in their first marriage, but the difference is not statistically significant (De Vreyer and Lambert 2017 and their supplementary material).

Taken as a whole, these studies give an idea of the potential misclassification of individuals with respect to households' poverty classification: many poor individuals do not live in poor households. In addition, they point out complex relationships between sex, age, and status within the household, especially in nonnuclear households, making it difficult to disentangle those effects. Furthermore, there are potentially complex interactions between the way the data were collected (for example, single or multiple respondents in the household, direct enumerator observation), the variable analyzed (caloric intake, food consumption, total consumption), and the level of disaggregation (individual-level analysis, cells/subgroups of household members, or broad categories such as children/women/men).

Estimating individual consumption from household-level data

Collecting data on individual-level consumption is costly and not always feasible in the context of large-scale household surveys. Even specialized datasets, such as the ones presented earlier in this section, tend to individualize only some components of the overall consumption basket and thus provide a partial picture of sharing within households. Moreover, basing our understanding of intrahousehold differences in well-being and poverty on differences in the consumption of specific consumption items is problematic if preferences over those items differ between household members. For example, even if men disproportionately consume alcohol and tobacco, women might spend more on other items so that any subset of items cannot provide the full picture (Tian,

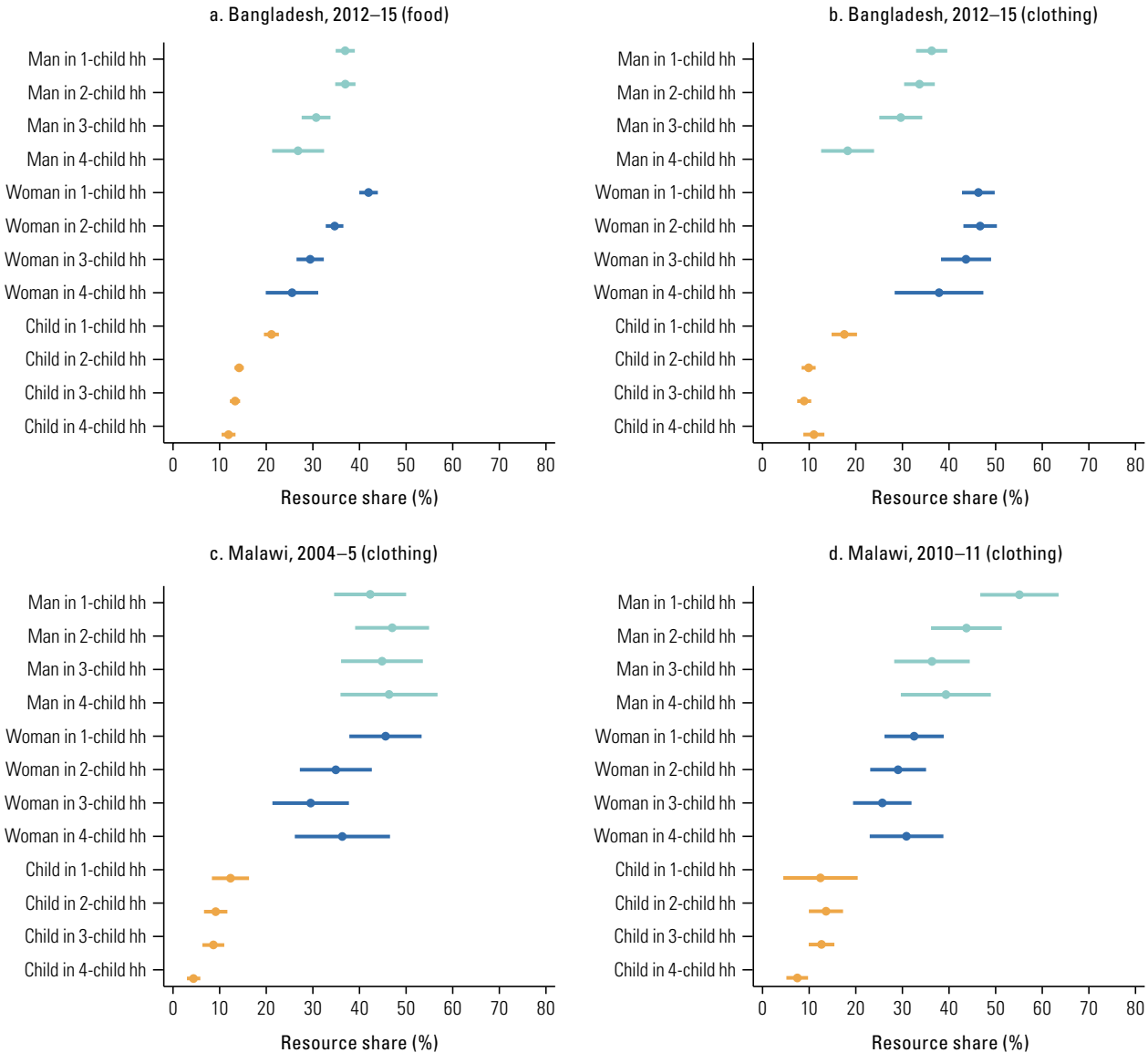
Yu, and Klasen 2018). An alternative approach is to model intrahousehold resource allocation on the basis of the observed behavior of the household and a structural model that describes the preferences of household members and how they make decisions (for example, the collective household model pioneered by Chiappori 1988, 1992). Armed with this structural model, and exploiting the fact that many household surveys collect consumption data of one or two items in a way that can be "assigned" to individuals, demand functions can be estimated that allow for teasing out how resources are shared inside the household even if data on consumption of most items are collected at the household level (see annex 5A for further details). This approach has two main advantages. First, it allows an estimation of the resource shares of women, men, and children over the entire consumption basket and therefore provides a more complete picture of the allocation of resources within households. Second, because the data requirements are modest, this approach could open the door to estimating individual-level poverty in many countries, beyond the select few case studies discussed in the previous section. A small but growing literature uses model-based estimates of intrahousehold resource allocation to explore differences in poverty between women and men or between adults and children in developing countries.[11]

Estimating individual poverty in this way requires that at least some parts of the household consumption basket can be assigned to individuals. In other words, one observes who within the household consumes what—either because the underlying household survey disaggregates items in such a way (for example, men's clothing, women's clothing, and children's clothing), or because the survey asks respondents to assign an item to specific household members. These data requirements are modest. In fact, most studies rely on a single assignable good, typically clothing, that is disaggregated among men, women, and children in many standard household surveys. However, the underlying structural model estimates the resource shares of men, women, and children over the entire consumption basket. The flip side of this is that the structural model imposes strong assumptions on the ways in which households and individuals behave, and those assumptions are open to criticism (Basu 2006; Cuesta 2006; Doss 1996; Sen 1990; Udry 1996; World Bank 2017b). For example, this literature is largely based on the standard assumption of utility maximization and does not consider alternative explanations of human behavior. Likewise, the collective model assumes that all household decisions are efficient—in other words, whatever decision the household takes, no alternative decision would have been preferred by all its members. This rules out inefficient bargaining outcomes, whereby households may get trapped in situations where at least one household member could be made better off without making the others worse off (see Basu 2006; World Bank 2017b). Because of these assumptions, and additional econometric challenges in estimating the sharing rules empirically, model-based estimations of individual resource shares warrant additional validation and sensitivity analysis before they can be used in routine poverty monitoring.

As a first step in this direction, we use the model proposed by Dunbar, Lewbel, and Pendakur (2013) to estimate consistent intrahousehold differences in resource allocation and poverty in nuclear households in two countries (Bangladesh and Malawi). The model has the advantage that it is considerably less complex than previous approaches, which enhances transparency and makes estimating individual resource shares across countries more feasible using the same method (see annex 5A). Figure 5.7 shows estimates of resource shares in Bangladesh (pooling data for 2011/12 and 2015), with either food or clothing as the assignable good, and in Malawi in 2004/05 and 2010/11, with clothing as the assignable good.[12] The horizontal axis gives the percentage of household resources, both the point estimate and the confidence interval, that are allocated to an individual of type *j* living in a household of type *s*, holding the other household characteristics fixed at their mean. On the vertical axis are the types of individuals and household sizes. The share of household resources that goes to children has been divided by the number of children.

The results on Bangladesh in figure 5.7, panel a, which use food as the assignable

FIGURE 5.7 Estimated Consumption Allocation, Men, Women, and Children, Bangladesh and Malawi



Source: Gaddis et al., forthcoming.
Note: The horizontal axis gives the percentage of household (hh) resources, both the point estimate and the confidence interval, that are allocated to an individual of type *j* living in a household of type *s*, holding the other household characteristics fixed at their mean. On the vertical axis are the types of individuals and household sizes. The share of household resources that goes to children has been divided by the number of children. hh = household.

good, show that, in households with one or two children, men receive about 37 percent of the resources. The share of resources going to men is smaller in households with three children (31 percent) and in households with four children (27 percent). In households with one child, women's resource shares are larger than those of men (42 percent), but their resource shares decline more steeply as the number of children increases, to 35 percent in households with two children, 29 percent in households with three children, and 26 percent in households with four children. Among the children, an only child receives, on average, about 21 percent of the resources. In households with multiple children, each child receives between 12 percent and 14 percent of the resources.

The broad patterns in resource allocation for Bangladesh are similar if one uses clothing as the assignable good (figure 5.7, panel

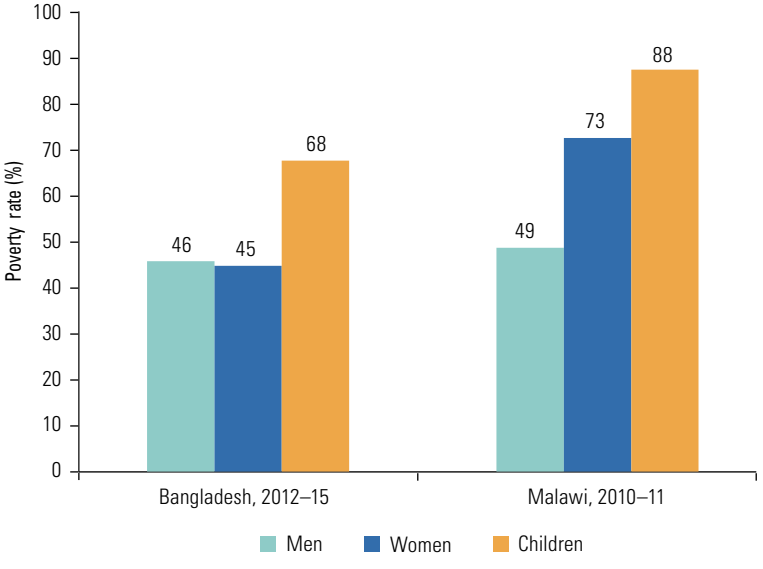
b), which lends credibility to the estimation method.[13] However, the precision is much greater with food, presumably because of food's larger share in household consumption (33 percent versus 3 percent). Moreover, in households with more than one child, the resource shares of women are somewhat smaller, and the resource shares of children are larger if the estimation is based on food.

These estimates suggest inequalities in the way resources are shared among household members, particularly between adults and children. However, unlike the nutrition-centered Bangladesh case study presented earlier, the estimates in this section do not suggest that women fare worse than men. One explanation for this divergence could be that D' Souza and Tandon (2018) use a measure of needs; another is that we are looking at a different sample—nuclear households here, compared with all couple-households, excluding pregnant and lactating women, in D'Souza and Tandon (2018). Yet another explanation is that, per definition, the approach used in this section uses information on the assignable good to estimate individual-level resource allocation over the entire consumption basket, beyond just food and nutrition. Still, these differences in results underscore the need to further explore the robustness of model-based estimates of intrahousehold resource allocation.

In Malawi in 2004/05 (figure 5.7, panel c), one finds that the share of household resources going to men does not vary with the number of children. It is greater than the share of resources going to women, though the confidence intervals overlap. The share of resources going to women also does not vary significantly with the number of children. The share of resources going to each child is not significantly different in households with one, two, or three children, but it is smaller when there is a fourth child. Focusing on the confidence intervals together with the point estimates, the results on Malawi in 2010/11 are qualitatively similar (figure 5.7, panel d) apart from the fact that the resource share of men is greater in households with one child than in households with more children.[14]

One may use the resource shares to estimate poverty rates among men, women, and children, depending on the size of the relevant household. This requires additional assumptions about household economies of scale and the relative needs of children. The estimates here follow Dunbar, Lewbel, and Pendakur (2013) in relying on an equivalence scale used by the OECD. Figure 5.8 summarizes the information on Bangladesh (using the more precise estimates based on food as the assignable good) and on Malawi (using the latest available survey). In both countries, the estimated poverty rates are significantly higher among children than among adults. The model estimates that women are poorer than men in Malawi, but not in Bangladesh. However, these results only apply to nuclear households. These make up the largest share of poor households globally but are often less poor than extended multigenerational households (see the previous section).

FIGURE 5.8 Estimated Individual Poverty Rates, Nuclear Households, Bangladesh and Malawi



Source: Gaddis et al., forthcoming.
Note: Based on estimated resource shares in figure 5.7, panel a, Bangladesh, using food as the assignable good; panel d, Malawi, using the 2010/11 data.

An individual perspective on multidimensional poverty

The chapter now builds on the multidimensional approach described in chapter 4, which captured deprivations in education, health and nutrition, access to services, and security, in addition to monetary poverty. Bringing the multidimensional approach to

individuals takes advantage of the fact that, in most household surveys, in contrast to consumption expenditures, nonmonetary indicators in a few key dimensions of well-being, such as education and nutrition, are often collected on an individual basis. For example, educational attainment is often lower among adult women than among adult men because of past gender gaps in school enrollments, and these differences within the household can be captured by a measure of multidimensional poverty among individual household members.

The multidimensional poverty measure introduced in chapter 4 combines monetary and nonmonetary dimensions of well-being, but it relies on households as the unit of analysis. By way of illustration, consider the dimension of education. The measure retroactively collapses the information about the educational attainment of individual household members into an indicator for the household, whereby the household is deprived if no adult member has completed primary education. Like the monetary poverty estimates in chapter 1, the household multidimensional poverty measure in chapter 4 cannot provide insights into differences within households.

Data on five countries—Ecuador, Indonesia, Iraq, Mexico, and Tanzania—are used to exemplify how one might apply the multidimensional poverty measure to the individual.[15] The focus is on adults (18+ years) because some of the indicators are not directly valid for infants and young children, such as educational attainment or the BMI, and because a multidimensional measure of child poverty should consider child-specific vulnerabilities (box 5.4).

The analysis uses the same five dimensions of multidimensional poverty as the country case studies in chapter 4.[16] The datasets have been selected on the basis of the availability of information on individuals, but the surveys provide information only about individual deprivations in the education and health-nutrition dimensions. The individual multidimensional poverty measure considers adults deprived in the education dimension if they have not completed primary schooling, and they are considered deprived in the nutrition indicator of the health and nutrition dimension if they are undernourished (table 5.4). The other dimensions—monetary poverty, access to services, and security—and the health indicator of the health and nutrition

BOX 5.4 Child Poverty

Children growing up in extreme poverty require special attention. They experience poverty differently than adults, and their needs and vulnerabilities change rapidly in ways that are foreign to adults (Abdu and Delamonica 2017). Key dimensions of poverty among children include health, information, nutrition, education, water, sanitation, and housing. Poverty causes poor children to miss out on a good start in life. The consequences of inadequate nutrition, deficient early stimulation and learning, and exposure to stress and shame last a lifetime. They lead to stunted development, low capacity in the skills needed for work, restrained future productivity as adults, and the transmission of poverty down the generations, including through early marriage. Beyond this sad and avoidable impact on human life and potential, neglecting children fails to build the human capital the world needs for sustained economic prosperity.

The numbers are stark: Children are more than twice as likely as adults to be living in poor households (the results are robust to the use of 32 different equivalence scales, and the youngest children are the least well off [Newhouse, Suárez-Becerra, and Evans 2017]). More than half (58 percent) of the children in fragile and conflict-affected states live in poor households and face immediate threats such as gender-based violence, recruitment as child soldiers, and discrimination in the provision of basic services. Irregular migration, displacement, and trafficking create multiple dangers for children; girls, especially, are disadvantaged because of gender inequalities.

Children living in poverty often experience stress, anger, frustration, sadness, and hopelessness because of the repeated instances of discrimination and social exclusion they encounter, which may lead them to drop out of school, lose friends, and become exposed to risks that more well off children and adults never have to face (Save the Children 2016).

TABLE 5.4 Indicators and Dimensions, the Individual and Household Multidimensional Poverty Measure

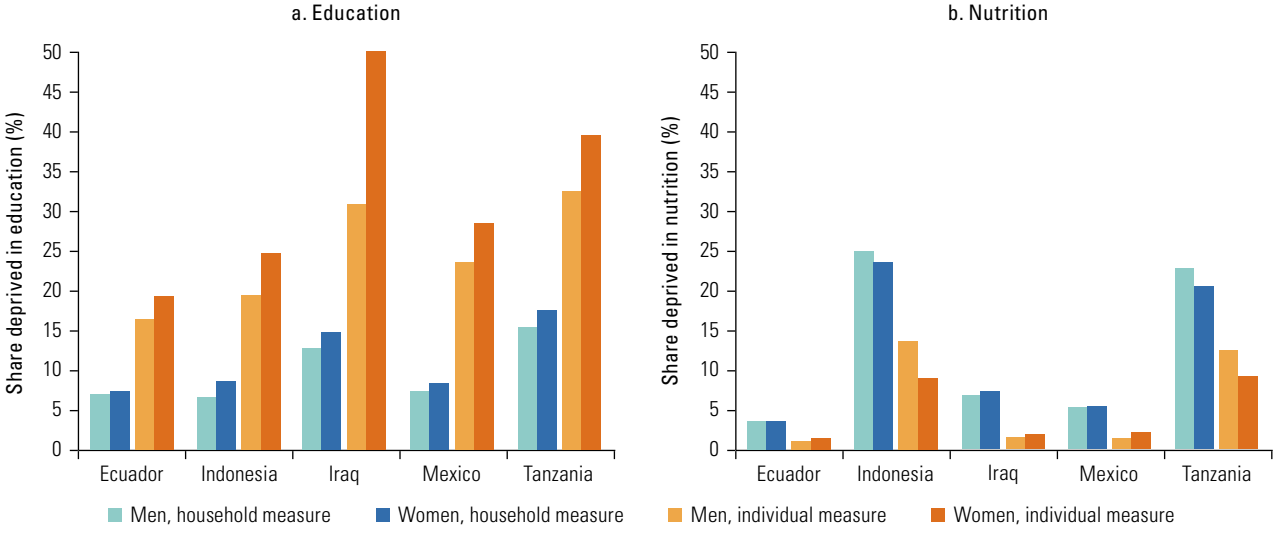
Dimension	Deprived if: Individuals	Deprived if: Households	Weight (%)
Monetary poverty	Daily consumption per capita < US$1.90		20
Education	Adult has not completed primary school	No adult has completed primary school Any school-aged child is not attending school	20
Health and nutrition	Any woman (ages 15–49) experiencing a live birth in the previous 36 months did not deliver at a facility Any child (ages 12–59 months) did not receive a DPT3 vaccination		20[a]
	Adult undernourished (BMI < 18.5)	Any woman (ages 15–49) is undernourished (BMI < 18.5) Any child (ages 0–59 months) is stunted	
Access to services	No access to an improved source of water within a round trip distance of 30 minutes No access to improved sanitation facilities for use exclusively by the household No access to electricity		20
Security	Household has been negatively affected by crime in the previous 12 months or lives in an area where more than 20% of households have been negatively affected by crime		20

Note: Dimensions on which data on individuals are available are shaded gray. BMI < 18.5 = body mass index below 18.5 (underweight); DPT3 = diphtheria-pertussis-tetanus vaccine.
a. Health and nutrition each has a weight of 10 percent.

dimension may be analyzed meaningfully only among households with the existing data. Thus, the multidimensional poverty measure is de facto only partially individualized; only 30 percent of deprivations are measured among individuals. This is a clear limitation because one must fall back on the assumption of equal sharing among household members in the other indicators and dimensions (70 percent), and this dilutes whatever intrahousehold inequality one may find in those dimensions that can be measured among individuals. Nonetheless, even a partially individualized multidimensional poverty measure reveals that multidimensional poverty is greater among women than among men in the countries under examination, driven by women's disadvantaged position in educational attainment.

Figure 5.9 shows the share of men and women who are deprived in the two indicators on which data on individuals are avail-

FIGURE 5.9 Gender Gaps, Education and Nutrition Deprivation



Source: Klasen and Lahoti, forthcoming.

able: education and nutrition. For each country and indicator, deprivation rates among men and women are compared through two approaches: one relying on the household, whereby all household members are assigned the same deprivation status, and the other relying on the individual, measuring individual deprivations directly.[17]

In education (figure 5.9, panel a), the household approach reveals some gender differences in education deprivation that tend to disadvantage women, showing that women are more likely than men to live in a household where no adult has completed primary school. These gender differences, which are muted under the household approach, are amplified if the data on individuals are used. In the five countries under examination, women are much more likely to be deprived in education than men if deprivations are measured across individuals, especially in Iraq (a gap of 19 percentage points). In addition to these gender gaps, an individual, whether a man or a woman, is more likely to be considered deprived in education if the measure of deprivation is applied across individuals. This reflects the fact that the household education indicator is defined in an expansive way, that is, all household members are considered nondeprived if any adult in the household has completed primary school, irrespective of who in the household benefited from education and whether there is any systematic gender bias. (Klasen and Lahoti 2016 show that defining deprivation in this way will lead to an underestimation of deprivation and poverty rates using a household-level approach because typically many deprived individuals live in households where one member has the required education.)

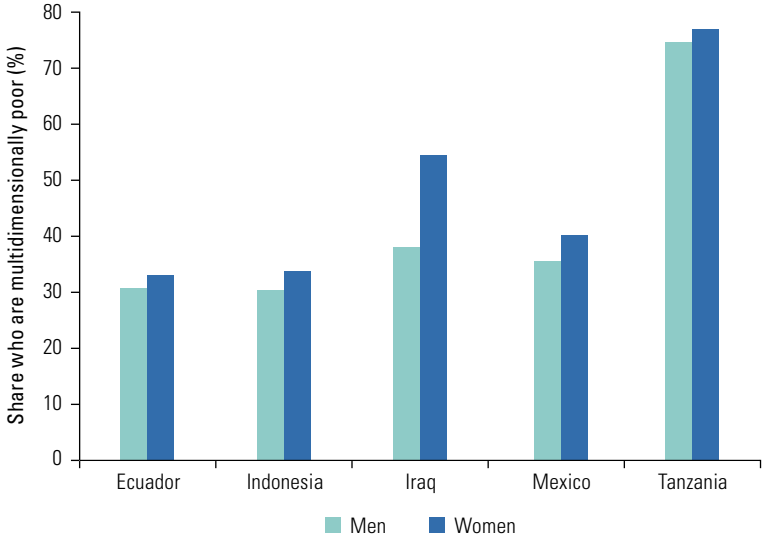
In terms of nutrition (figure 5.9, panel b), gender gaps are small, even if measured with reference to individuals, and they do not show a consistent pattern.[18] Unlike the case of education, a person is less likely to be considered deprived in nutrition under the individual approach than under the household approach. This is because the household nutrition indicator is defined restrictively, that is, all household members are considered deprived if any adult in the household is undernourished, which will overestimate deprivation and poverty using a household-level approach (Klasen and Lahoti 2016).

The share of men and women who are multidimensionally poor, measured across individuals, is shown in figure 5.10. Multidimensional poverty is more prevalent among women than among men in all countries, with the largest gender gap in Iraq (54 percent versus 38 percent). Klasen and Lahoti (forthcoming) show that a significant gender gap in multidimensional poverty is also found in India.

These gender gaps may even be wider among the most vulnerable groups. For example, in all countries but Ecuador, widows are significantly more likely to be multidimensionally poor than widowers, and the gender gap ranges from 8 percentage points in Iraq to 19 percentage points in Mexico (Klasen and Lahoti, forthcoming). This highlights widowhood as an important vulnerability factor among women, which is not revealed in the household multidimensional poverty measure (Djuikom and van de Walle 2018).

The gender gaps illustrated in figure 5.10 are probably still an underestimation of the true extent of gender inequality in multidimensional poverty. Because of data limitations, even the individual multidimensional poverty measure individualizes only some

FIGURE 5.10 Gender Gaps, Individual Multidimensional Poverty



Source: Klasen and Lahoti, forthcoming.

of the dimensions in which one may expect to find variations within households and systematic gender differences. As discussed in the previous section, intrahousehold inequalities in consumption may disadvantage women and children. But, because none of the datasets used here allows estimates of resource allocation across individuals, the individual multidimensional poverty measure must fall back to reliance on (unsatisfactory) assumptions about equal sharing associated with the monetary poverty dimension. Similarly, other studies have shown a gender dimension in access to services. For example, the individual deprivation measure, a new gender-sensitive multidimensional measure of poverty, illustrates how men and women are affected differently by lack of access to services because of social norms assigning domestic work to women (Hunt 2017; IDM 2017). A more refined individual multidimensional poverty measure would also capture women's and men's exposure to all forms of violence under the security dimension. Some forms of violence, particularly gender-based violence and especially intimate partner violence, are more frequently experienced by women than by men (Stöckl et al. 2013; UBOS and ICF International 2017). In contrast, men are more susceptible to recruitment in gangs and armed groups. An individual measure of exposure to violence could reveal such differences within households and lean toward greater intrahousehold variation in the multidimensional poverty measure.

Another direction for expanding the individual multidimensional poverty measure along gender lines would be to broaden the set of dimensions, to include time use and socioemotional dimensions of poverty. As discussed earlier, patterns of time use are very different between men and women, especially in the presence of children. Many studies (World Bank 2011; Bardasi and Wodon 2010; Blackden and Wodon 2006; Rubiano Matulevich and Viollaz 2018) show the persistent gap between time spent in market and nonmarket activities, with women consistently spending twice as much time as men in the latter (household chores, child and elderly care) and often having less leisure time. Data limitations on the actual distribution of time between care and household chores and on simultaneous activities (watching a child while selling at the market) also hide the profound effect these differences have for labor force participation decisions, types of jobs, and hours spent working for pay or profit.

Participatory poverty research often shows that, although insufficient financial means are central to the experience of destitution among poor people, they are interlocked with other dimensions, such as voicelessness, social exclusion, shame, exposure to violence, lack of access to basic infrastructure and services, lack of education, poor physical and mental health, and illness. Box 5.5 summarizes findings from recent and ongoing participatory analysis of poverty (Narayan et al. 2000a; Walker and Godinot 2018).[19]

Conclusion

This chapter starts with a question: How many women and children are poor? Despite the conceptual challenges in answering this question and the data limitations, accumulating evidence using different methods and data sources confirms the existence of a pattern of consumption inequality between children and adults and between women and men in the household. The results suggest that women are disproportionately affected by poverty. Likewise, the global poverty data and country studies show that children are poorer than adults, which is partly driven by demographic patterns of fertility and household formation. However, the picture of how much poorer children are in relation to adults is sensitive to assumptions about the relative needs of children, which requires further investigation beyond the scope of this chapter. In several countries, households seem to share basic food items somewhat equitably, but inequality among gender lines is stronger for more prized consumption items.

These general patterns mask contextual variation related to the position of individuals in the life cycle (marital status and parenthood), their status within the household (the sons, first wife, or mother of a man who is the household head hold higher relative status than his daughters or more junior wives), and their human capital and position in the labor market (schooling and employment status). Because of gendered social norms that view

BOX 5.5 Gender and Socioemotional Dimensions of Poverty: Participatory Studies

The World Bank (2017b) recognizes that in-depth consultation with people experiencing poverty is essential to an understanding of the true nature of the multifaceted phenomenon of poverty. The *Voices of the Poor* reports (Narayan et al. 2000a; Narayan et al. 2000b) highlight the importance of nonmonetary dimensions, access to services, and gender norms. Under the strain of vast social, economic, and political transformation, poor household members reflect on the contradiction between purported gender roles—homemaker for women and breadwinner for men—and the reality of women performing income-earning tasks, which increases their time poverty. Under stress, men are more likely to abuse alcohol, and domestic violence spreads. All these factors affect children negatively.

Following the same approach, people living in extreme poverty in Bangladesh, Bolivia, France, Tanzania, the United Kingdom, and the United States are leading research with the International Movement ATD Fourth World and Oxford University to understand the dimensions of poverty that matter most in their lives (Walker and Godinot 2018).

Provisional findings indicate that, while lack of financial resources and the inability to meet basic needs are central, both women and men frequently associate these needs with their direct consequences in terms of physical and mental health. Shame, fear, depression, worry, and anger emerge as integral components of the experience of poverty. Poverty is also relational. As a group, people living in poverty experience oppression, exploitation, humiliation, and the denial of rights, including the denial of rights to health care and education. As individuals, they experience social isolation, stigma, and discrimination. Beyond their intrinsic importance, these factors also contribute to a lack of social and political voice and to relative powerlessness, all often resulting in social exclusion.

Both women and men emphasize these dimensions, but they experience them differently. Gender roles mean that women feel stress and stigma in the context of care and family responsibilities under tightly constrained domestic budgets. Men can feel emasculated if they cannot fulfill their breadwinning role. Whereas women may face sexual exploitation and gender-based violence, especially as domestic workers, men face exploitation and discrimination as casual laborers. Children find themselves socially excluded at school, singled out if they are unable to afford the totem items of their peers. They are often embarrassed to invite friends home to their substandard housing.

In rural areas, people living in poverty may lack basic social and infrastructure service provision locally, whereas, in cities, point of use charges deny them access. Gender roles imply that lack of proximate clean water affects more the time and lives of women (and children) who are responsible for fetching it, cooking, and cleaning. Stigma is more contagious in rural settings, afflicting all members of extended families, than in urban areas, where social life is more individualized. Although poverty is pain, people experiencing it often demonstrate resourcefulness; they acquire knowledge and skills that could be useful to others, and they feel they have a positive and valuable contribution to society.

unpaid work as a female prerogative, women face a strong trade-off between reproductive and productive functions, and mothers who do not work for pay are especially likely to live in poor households. Adult couples with dependent children or other nonearners aged 18–64 in the household are overly represented among the poor. These gender gaps in poverty are stronger in Sub-Saharan Africa and South Asia; within countries, these inequities seem stronger among the poorest, which has strong implications for reaching the twin goals, reducing poverty and sharing prosperity.

Gender gaps are also pervasive in other key components of welfare. Although gender gaps in school enrollments have narrowed significantly over the past decades (and in some countries reversed), adult women around the world continue to be disadvantaged in educational attainment because of past (and sometimes present) gender inequalities in access to schooling. Participatory research also highlights gender differences in the socioemotional dimensions of poverty.

Advancing our understanding of poverty among individuals requires a renewed emphasis on individual-level data collection.

This chapter has touched upon various data gaps limiting our understanding of individual poverty. Three broad directions for data collection and methodological survey research emerge from this discussion. First, although full individual-level consumption data collection remains infeasible for most living standards surveys, there may be some scope to collect partially individualized consumption data. This could take the form either of fielding an individual-level module to a subset of households or of identifying a subset of consumption items (beyond clothing) that can signal inequalities within households and that can be collected for individuals (or, at the minimum, for men, women, girls, and boys) in a reliable and cost-effective way. Advancing this type of data collection would facilitate the application of the collective model to estimate intrahousehold resource shares. Second, expanding individual-level data collection on nonmonetary dimensions, such as time use, violence, access to services and assets, and some of the socioemotional dimensions highlighted by participatory research, would allow for the advance of multidimensional measures of individual poverty and analysis of the intersectionality of deprivations. Third, additional methodological research is needed to shed light on the difference, in terms of accuracy and cost, between self- and proxy-reporting for data referring to individuals. The marginal cost of individual-level data collection is strongly influenced by whether survey enumerators need to interview multiple household members (thus allowing for repeat visits to the household), which has major implications for survey operations. Existing research highlights the importance of respondent selection for data on assets and labor (on assets: Kilic and Moylan 2016; Doss, Kieran, and Kilic 2017; on labor: Bardasi et al. 2011; Dammert and Galdo 2013), but similar investigations would be useful for other dimensions of living standards and welfare, including consumption.

In terms of research, recent advances in the application of the collective bargaining model to household survey data are promising but need to be put to the test in additional validation studies and extended to more complex household structures (beyond nuclear households). Specialized data collections and participatory research could help to test some of the key assumptions underlying these methods and explore the sensitivity of results to alternative assumptions. Further investigations of how relative needs and preferences differ inside the household would allow for a better understanding of whether an unequal resource allocation translates into differences in well-being and poverty.

The findings of this chapter have important implications for policies and interventions to alleviate poverty and enhance shared prosperity. Given the importance of maternal health and education for the formation of children's human capital in many contexts, better understanding intrahousehold poverty could help design more effective interventions to weaken its intergenerational transmission. Understanding differences in poverty levels between different household members is important for the effective targeting of poverty reduction programs. At present, commonly used household targeting of social assistance programs may miss a significant share of the poor: those people hidden in overall nonpoor households. Understanding how gender and age affect the demand for basic services is key to making sure that interventions to expand basic infrastructure and social services address the differentiated needs and constraints of the poorest. Factoring in the potential impacts of interventions on time use would benefit women disproportionately. Finally, better understanding of the socioemotional dimensions of poverty would help increase the take-up of programs and strengthen their design and implementation by lifting relevant social and psychological barriers and decreasing stigma. As more poverty alleviation programs focus on productive inclusion, the success of active and enabling policies that stress agency and entrepreneurial initiative also depends on fostering the mindset that help poor people and society recognize their potential.

Annex 5A

Technical note: Estimating intrahousehold resource shares

The basic approach

Most studies estimating intrahousehold resource shares are based on the collective household model (Chiappori 1988, 1992). The collective model recognizes that household members have their individual preferences and assumes Pareto efficiency, that is, whatever decision the household takes, no alternative decision would have been preferred by all its members. In this model, it is as if each household member (that is, woman, man, or child) is allocated a fraction of the household's total resources (that individual's resource share), which the individual then allocates according to his or her own preferences. Each household member determines his or her demand for each consumption item by maximizing his or her utility function, subject to the individual's resource constraint (that is, determined by resource share) and a vector of shadow prices. These shadow prices are equivalent to market prices for private goods, but lower than market prices for goods that are shared by multiple household members. (Bourguignon and Chiappori 1992; Browning et al 1994; Chiappori and Meghir 2015.) There are two routes to recover individual resource shares from observed household expenditures. One is to assume that preferences of adults in couples are no different from preferences of singles. Consumption by adults in couples is then deduced from the observation of consumption by singles and by couples, with assumptions on economies of scale for the public goods. An alternative route, which is followed in this chapter, is to use information on the consumption of assignable goods, that is, goods that are consumed only by one type of individual in the household. For assignable goods, the household's consumption is also the consumption of the individual, so that the household's budget share for an assignable good (observed) is equal to the product of an individual's resource share by the budget share the individual would choose subject to his or her own shadow budget constraint (both unobserved). The estimates presented in this section, which are based on the approach proposed by Dunbar, Lewbel, and Pendakur (2013), make some further assumptions of similarity of certain aspects of preferences.[20] The resource shares are identified from the observation of the budget shares of assignable goods (see below for details).

The model underlying individual resource shares

Households are supposed to be composed of one adult man, one adult woman, and s children. Each household member is of type j, where $j = m, f, c$ for the adult man, adult woman, and children, respectively. Following Dunbar, Lewbel, and Pendakur (2013), the demand system can be written as follows:

$$\begin{aligned} W_{m,s} &= \eta_{m,s}(z) \quad (\alpha_{m,s}(z) + \beta_0 \ln(\eta_{m,s}(z)x)) \\ W_{f,s} &= \eta_{f,s}(z) \quad (\alpha_{f,s}(z) + \beta_0 \ln(\eta_{f,s}(z)x)) \\ W_{c,s} &= \eta_{c,s}(z) \quad \left\{\alpha_{c,s}(z) + \beta_0 \ln\left[\frac{\eta_{c,s}(z)}{s}x\right]\right\} \end{aligned} \tag{5A.1}$$

where $W_{j,s}$ is the household budget share of member j's assignable good in a household with s children; $\eta_{j,s}(z)$ is the resource share of household member of type j in a household with s children; x is the household's total nondurable expenditure; and z is a set of sociodemographic characteristics of the household. The last equation in the demand system (5.1) gives the household budget share of the children's assignable good. The children are jointly treated as one member of the household; this requires the simplifying assumption that resources are shared equally among the children.

The term in parentheses in each equation of the demand system (5.1)—$\alpha_{j,s}(z) + \beta_0 \ln(\eta_{j,s}(z)x)$—is referred to as j's latent budget share (for $j = m, f$, and the corresponding term for children). The latent budget share is linear in the log of individual resources.

Notes

1. This section draws on Muñoz Boudet et al. (2018).
2. These rates are higher than the rates in chapter 1 because they are based on a subset of countries and household surveys (see box 5.2). Corresponding rates for the 2015 GMD data are 11.4 and 11.7 percent for women and men, respectively.
3. In 2015, 19.3 percent of those ages 0–14 lived in poor households.
4. Average age at marriage by country was 25 years for women (minimum 17.2 and maximum 33.8 years) and 28.4 years for men (minimum 21.7 and maximum 36.5 years) (World Marriage Data 2015 using the latest data for 2013).
5. Farmers are considered earners, even if they produce mostly for subsistence purposes, unless they are classified in the survey as unpaid family workers.
6. To the best of our knowledge, these are the few relatively recent datasets that collect consumption data with the level of detail necessary for intrahousehold analysis and a significant geographical coverage. Other existing datasets are either limited in geographic scope, are outdated, or can only assign a small proportion of consumption to individuals.
7. Although these smaller shares may reflect differences in needs or preferences, the evidence in this section points to differences not fully accounted by those.
8. The China Health and Nutrition Survey is a panel dataset that has tracked food consumption among individuals in about 6,800 households in nine provinces since the early 1990s. The survey records the quantity (in grams) of a variety of food items, including alcohol and tobacco, that each household member consumed at and between meals, at home and away from home, during three days at a level of detail suitable for nutritional analysis. Local prices are used to compute a monetary measure of consumption.
9. The survey included a module on individual consumption, which asked a single respondent, a woman household member considered responsible for the household budget, to specify the share of household consumption dedicated to five groups of individuals: the main adult man, the main adult woman, the sons, the daughters, and all other household members. In about two-thirds of households, the woman respondents reported that they were the wives of the household heads whereas, in the remaining third, they reported that they headed the households.
10. The Bangladesh Integrated Household Survey was conducted between December 2011 and March 2012. It covered 5,000 households and was representative of rural Bangladesh. The survey recorded individual food consumption, in grams, for over 300 food items for every household member during the previous 24 hours, as reported by the woman in charge of cooking and serving.
11. See Bargain, Donni, and Kwenda (2014) on Côte d'Ivoire; Bargain, Kwenda, and Ntuli (2017) on South Africa; Bargain, Lacroix, and Tiberti (2018) on Bangladesh; Belete (2018) on Ethiopia; Brown, Calvi, and Penglase (2018) on Bangladesh; Cuesta (2006) on Chile; Dunbar, Lewbel, and Pendakur (2013) on Malawi.
12. The results are based on pooling the Bangladesh Integrated Household Survey 2011–12 and 2015 and on using the Malawi Integrated Household Survey 2004–05 and 2010–11.
13. See Bargain, Lacroix, and Tiberti (2018) for a similar validation study.
14. The resource shares are estimated less precisely in Malawi than in Bangladesh, even in comparisons with resource shares estimated

on the basis of expenditures on clothing. This may arise because of differences in sample size (4,149 households in Bangladesh against 3,045 in Malawi in 2004/05). The additional estimation of resource shares in Tanzania based on pooling the 2012–13 and 2014–15 datasets did not yield interpretable results. The sample size was considerably smaller, with only 1,552 observations, which may explain why the estimation results were inconclusive.

15. Details on the datasets used are presented in chapter 4. This section does not include a discussion of Uganda, because anthropometric information is not available on adults in that country.
16. Following chapter 4, the individual multidimensional poverty measure gives equal weight to each dimension (0.2), and all indicators within a dimension are weighted equally. The only exception is the health and nutrition dimension; the two subdimensions (health, nutrition) are weighted equally. For the Alkire-Foster (2011) measure, $\alpha = 0$ is used, and a household classified multidimensionally poor if it is deprived in at least 0.2 of the weighted indicators (k = 0.2). The results are qualitatively similar for different parameters of the Alkire-Foster (2011) measure and for the Datt (forthcoming) measure.
17. In education, the approach compares the share of adults deprived according to the household indicator (no adult has completed primary school) and the individual indicator (the adult has not completed primary school). In nutrition, the approach compares the share of adults deprived according to the household indicator (any woman [ages 15–49] in the household is undernourished) and the individual indicator (the adult is undernourished).
18. In addition, most surveys are characterized by numerous missing values for nutrition among individuals, which reduces the reliability of this indicator. This is because household survey protocols typically allow for only a limited number of revisits to each household. Household members who are not at home during the first visit and subsequent revisits are not measured.
19. In this ongoing work to gain insight on the dimensions of poverty in six countries, each national team of 10–15 people is responsible for the local design, execution, and analysis of the research. Each team includes people who are poor, but also academics and practitioners who provide services or advocate for the poor. Outreach is undertaken among people of working age, the elderly, and children, all of whom participate in detailed moderated discussion, first, within peer groups of people with similar experiences and, then, in mixed groups that explore relationships across dimensions and seek consensual conclusions.
20. The first is that Engel curves for the assignable good have the same shape across household members. The second is that preferences are similar across household types, where household types are differentiated by the number of children living in the household. These assumptions can be used in isolation or jointly (as done here) to identify the share of resources accruing to each member of the household.