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*Development Economics: Theory, Empirical Research and Policy Analysis*

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## **Chapter 2**

### **Well-being**

As indicated in Chapter 1, the ultimate aim in development is to raise the well-being of many people. It is thus important to think deeply about what we mean by “well-being,” to think broadly about the ways in which policymakers might hope to raise a person’s well-being, and to think practically about the data we might gather in our empirical efforts to assess what is happening to well-being. This chapter introduces the contemporary working definition of well-being that guides analysis throughout the text. As with the definition of development offered in Chapter 1, it is an umbrella definition, which captures what is common to the concerns of most development analysts, while allowing for diversity in their answers to more subtle questions about the precise nature of well-being. We call it a “working definition,” acknowledging that the contemporary understanding of well-being described here has grown out of decades of thought and study, and that on-going thought and study may lead to further refinement.

After briefly stating the working definition of well-being and addressing some of the deeper philosophical questions it raises, the chapter helps the reader appreciate the many dimensions of life circumstances that might affect well-being in developing countries, first describing how 42 poor Bangladeshi households pursue well-being in challenging circumstances, and then offering a more general and more structured description of how households throughout the developing world pursue well-being. While the discussion here is informal, it introduces many important concepts and themes to which we will return throughout the text. It also provides a useful framework for brainstorming about the many ways in which policymakers might hope to improve a household’s well-being and the measures policy analysts might employ in empirical studies of well-being, issues we consider at the end of the chapter.

#### *A Working Definition of Well-being*

Here is a definition of well-being that is broad enough to capture the concerns of most development analysts, but concrete enough to provide practical guidance for our study: *A person’s **well-being** is a summary or net assessment of how good or bad her life circumstances are, paying special attention to the quantities and qualities of the goods and services she consumes, the activities to which she allocates her time, and her hopes and fears regarding the future.*

By defining well-being as a “summary or net assessment,” we acknowledge that the life circumstances that matter in evaluating a person’s well-being are multidimensional. People care about how much they consume of rice, beans, and clothing, how long and far they have to walk to obtain drinking water, how burdensome or fulfilling their work is,

how likely their children are to die, and much more. When assessing whether well-being is rising or falling, we must gather information about how life circumstances are improving along some dimensions and deteriorating along others, and find a way to weigh the improvements and reductions against each other, before drawing a conclusion about the net impact on well-being.

By highlighting the consumption of goods and services, the definition points to the potential instrumental value of income, which can be used to purchase goods and services, while emphasizing that people rarely desire income for its own sake. It thus acknowledges that the level of well-being may differ even among people with identical incomes as a result of differences in their ability to turn income into the consumption of the goods and services they desire. The phrase “goods and services” is meant here to be understood very broadly, to include health care, education and other social services, while the phrase “quantities and qualities” emphasizes the tremendous diversity in the nature and value of the services to which people might have access.

The definition’s reference to the allocation of time highlights that, while people are willing to work to acquire income, this allocation of time is costly to them. Poor people in developing countries often work long hours in arduous labor to generate their meager incomes. If they could earn the same income in fewer hours, they might use the freed up time for other activities they value directly, such as attending school and doing homework, spending more time with children, or enjoying recreational activities. This means that even when incomes fail to rise, well-being may be improving if, for example, children who used to contribute to family income are now attending school more and working less. Similarly, if a household’s income rises but the already long work hours of women in the household increase, our definition of well-being allows us to debate whether the overall change has been an improvement for the women.

By highlighting people’s hopes and fears for the future, the working definition of well-being recognizes that people care about the future as well as the present, including the fluctuations in future well-being to which they might be exposed. Among people with the same income and well-being today, some may be much better off than others because they have better expectations about typical future earnings (perhaps because they have more education or own better farm land), or because they have fewer fears of having to curtail consumption in the future because of seasonal fluctuations income or sudden shocks to their income associated with crop losses, job loss or disease.

While our umbrella definition of well-being raises a wide variety of concerns shared by many development actors, it leaves open the answers to some more subtle, philosophical questions about the nature of well-being. First, what is the relationship between a person’s well-being and that person’s **happiness**? When people evaluate their own happiness, they take into account the diverse dimensions of their life circumstances, balance the various pleasures and pains against each other, and draw an overall conclusion regarding how happy they are. At least at first glance, equating a person’s well-being with his happiness is compelling, because it offers a natural way of weighing diverse dimensions of life circumstances against each other for drawing summary

conclusions, and ties the assessment of well-being to an assessment made by the person in question based on his own values and priorities. But many development actors would refuse to equate well-being with happiness for one of two reasons. First, some studies suggest that people living with very few material possessions and great insecurity adapt to their deprived situation, coming to accept it as natural or right, and lowering their aspirations, thereby managing to achieve as high a psychological state of happiness as people with more possessions and freedoms who are not similarly adapted (Sen, 1990; Clark, 2007). By the happiness criterion those who are adapted to having few possessions, or to being sick and hungry, may be just as well off as those who have more possessions and are healthier and better fed. Many development actors would reject this conclusion. Second, studies suggest that people sometimes lack knowledge about how their choices affect the life qualities that they value, raising the possibility that what leaves them happiest (in their ignorance) may not be the same as what would yield them the greatest well-being in a larger sense. For example, not knowing about micro-nutrients (such as vitamins) and their impacts on health and life expectancy, people may think they are happiest spending their income on white rice (which may give them and their children the most calories per dollar), even though they would prefer greater spending on micro-nutrient-rich vegetables if they fully understood the nutrition and health implications of their choices.<sup>1</sup>

A second deep question about the nature of well-being is this: Does well-being relate only to what people ultimately succeed in consuming, doing and experiencing, or also with the rights and freedoms that shape their ability to attain these things? Much of standard economics is predicated on the narrower assumption that what matters to people is only what they ultimately consume and experience. The “**utility**” that people are assumed to maximize in economic models is a function only of these ultimate outcomes. Economists like Amartya Sen, however, point out that such assumptions might lead to very incomplete assessments of well-being. Suppose two people consume the exact same quantities of every consumption item, but for one person this pattern of consumption is a result of choice over how to spend his income, while for the other this pattern of consumption was dictated to him by the government. Sen argues that the well-being of the first is higher, precisely because he had the **capability** of making consumption choices other than what he is now consuming, while the second did not (Sen, 2000).

However development actors choose to answer these deeper questions about well-being, they must ground their choices of objectives and measures in knowledge of what life is like for the people of ultimate interest. The remainder of this chapter introduces readers to life and the pursuit of well-being in developing countries, highlighting the many dimensions of life circumstances that people value directly, and the many additional features of life circumstances that constrain them in their efforts to obtain and achieve what they value.

### *The Pursuit of Well-being by 42 Poor Bangladeshi Households*

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<sup>1</sup> Block (2004) shows that Indonesian mothers with more knowledge about the nutritional implications of food choices do indeed allocate larger shares of household food consumption expenditure to micronutrient rich foods.

Stuart Rutherford interviewed 42 Bangladeshi households twice a month over the course of one year, recording wide-ranging details about their efforts to earn income, obtain goods and services, and cope with life's challenges (Rutherford, 2002). His observations offer outsiders a rare, vivid glimpse into what life can be like in impoverished places. All 42 households would be considered very poor by developed country standards. Almost all live in one room huts with mud floors and walls of mud or woven bamboo. Many have no furniture at all. The best off within the sample have a bed and one or two other pieces of furniture, and perhaps a fan and a television. For many of them the norm is only two meals a day. Most meals are of boiled rice flavored with chilies and vegetables, with fish or meat once a week in good times. Food and the fuel to cook it together cost about 80 cents per day, which is a great burden given wages for tenuous employment on the order of just \$1 or \$1.20 per day.

Covering basic expenses for food and fuel, as well as occasional expenditures on clothing or home repairs, requires effort on the part of all able-bodied household members. Most households' strategies for obtaining income involve combining income from diverse sources. The rural household headed by Saman and Hazara, one of the poorest households in the sample, combines income from four sources: Saman's earnings from casual farm labor, his earnings from fishing in the marsh (on the days he can't find farm work), Hazara's income from egg sales, and her income from boiling and husking rice. In an urban household old age and ill health prevent Abdur from contributing much to family income, but his wife Ranu has a job in a small soft-drinks factory and their 14-year-old son Jahangir works in a garments factory, at wages that are very low and paid irregularly. In another urban household Manzil rents out and repairs rickshaws. His 17-year-old son helps him in the workshop and has also saved up to buy a bicycle, which he now rents out. Other jobs represented in the sample include performing day labor on farms owned by others, or as a mason's helper; cultivating rice or pineapples on the household's own land; raising chickens or cows; trading timber, fruit, saris or sweets; or, for a few, undertaking somewhat more formal employment as a maidservant, factory worker or night guard. Some households also engage in begging or scavenging.

Though all 42 households are poor, they are conscious of significant differences in income and well-being among themselves. The households among them perceived as "not poor" tend to garner higher incomes because they own assets that give them access to more lucrative work. "Assets" range from physical assets such as irrigated farm land, livestock, bicycles, rickshaws or hand pumps, to human assets such as education and good health, to miscellaneous assets such as location near a good road to market.

Some of the study households found ways to build a better future through investment. Investments are activities that cost resources and energy today, but create assets that bring long-lasting improvements in income and well-being. Manzil's household managed to fulfill its long-standing dream during the study year, when it purchased an additional rickshaw for its rickshaw rental business. Other households sent at least some of their children to school, despite the need to pay out a large fraction of current income

in school fees and to forgo some of the children's contribution to family income, in the hope of rendering their family better able to earn incomes in the future.

In order to buy a rickshaw or bicycle, or even to pay the school registration fee or buy clothing, households often must save up over a period of time. Some make very small but frequent deposits of coins in "mud banks" (a type of piggy bank made out of clay, which must be broken to extract the savings), sew currency into their clothing, join savings clubs or store cash with a local "money guard" (i.e. a neighbor who owns a good strong box). A few households finance investments by borrowing from microfinance institutions.

Many households also experienced the sorts of "shocks" – sudden deteriorations in life circumstances – that all households fear. Such emergencies, often related to illness and injury, disrupt usual income, create sudden needs for expenditure, and have the potential to wreak long-lasting havoc on a household's ability to meet its needs. Rutherford's study described what happened to one family when the son, Kamrul, was injured.

Some years back he had become involved in a business quarrel which turned violent, and had an arm and a leg broken. The medical bills were large, and this is how the household approached the task of settling them: first they used up business capital cash, then sold business assets. Next went home furnishings – a bed, a steel cupboard, a timber-and-glass sideboard. Only then did they start going the rounds of relatives and neighbours asking for *howlats* [i.e. informal interest free loans], but with minimal success. So they offered to take loans on interest, but still very little was forthcoming. ... Finally [the father] managed a big loan (\$300) from a relative, at a nominal rate of 10% per month. To repay this, they put Sahana, their daughter, who was eleven years old at the time, into a garments factory job, and from her wage they've been paying down the loan intermittently ever since ( p. 50).

Networks of friends, relatives and neighbors are clearly important in shaping households' opportunities and their abilities to cope with shocks. Perhaps the clearest indication of this in the Bangladesh study is the high frequency with which the households engage in *howlats*, or interest-free loans between households, within these networks. The average household in the sample took about 7 such loans during the year, and one household took 24. Relationships are important in such lending, because the lender must have some reason to trust that the borrower will make a good faith effort to repay.

Unfortunately, not all social interactions are beneficial. One story demonstrates the burdens sometimes imposed by both social norms of dowry-giving and corruption in local government bureaucracies.

First, because [Saman and Hazara] didn't pay enough dowry, their newly-married elder daughter's in-laws threatened to send her back home, and when Hazara failed to get Grameen Bank to give her a 'seasonal loan' to cover for the dowry, Saman had to borrow from his oldest son, something he was reluctant to do because the son forced him, in return, to transfer the homestead plot into his name. Second, Saman found he had to pay a bribe to get that land properly registered before he could transfer it, and he had to sell two trees (\$5 each) to raise the cash for the bribe. (p. 10)

### *Key Concepts*

The brief description of what life is like for 42 poor Bangladeshi households provides us with a useful springboard for defining five key terms that will be of great importance throughout the rest of the text, and that will figure importantly in the more structured discussion of the pursuit of well-being by developing country households offered below.

*Households.* In the Bangladesh study, as in most studies of well-being and behavior in developing countries, the focus is on **households**, or groups of people (often related by blood or marriage) sharing a residence and meals. Households are of interest in the study of well-being because the individuals we ultimately care about pursue their well-being in collaboration with other members of the households in which they live. Members of households share land, financial savings and vehicles, make joint choices about their quality of housing, and often jointly work out a division of labor within the household, in which one or more members prepare meals for the rest, some care for children (while perhaps also working in or near the home) and others undertake work further from home.<sup>2</sup> In this chapter we treat the household as if it were a single, unified actor, pursuing a level of well-being that is shared by all members of the household. In Chapter 5 we will acknowledge that households are made up of individuals who may not have a unified view of what they desire, and will introduce important questions about how decision-making takes place within households, and about how household resources are shared across members of different ages, across males and females, and across natural and foster children.

*Assets.* A household's **assets** include the skills, abilities, energy and time of its members, the physical resources it owns or has access to and the technological knowledge it possesses. Notice that our definition of the term "assets" is a very broad one, which includes not just physical assets one might own, but all long-lived attributes and resources that the household owns or has access to that give the household an advantage in pursuing well-being. Rural households with land assets tend to be better off than households without land. Households whose workers are educated tend to be better off than those whose workers are uneducated. Households living near good roads that connect them to markets tend to be better off than households that live far from roads. Assets are of great importance throughout the text, because increases in the quality or quantity of a household's assets are a route to long-lasting improvement in the household's well-being, and because increases in the quantity and quality of an economy's assets give rise to economic growth, expanding the economy's potential to provide valuable goods and services for its people (as we will discuss in more detail in Chapter 3). One of the aims of this chapter is to acquaint the reader with the wide variety of assets that may be important in determining households' well-being.

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<sup>2</sup> A significant challenge in empirical research on well-being is developing rules for identifying households and their members. Though this may seem like a straightforward task, in practice it is often complicated, because household living arrangements can be quite complex, especially in developing countries. Households may send members off for varying periods of time to earn cash in a distant city, counting on those members' contribution to total household income. Households may send children to live with relatives to attend school. Relatives may come to stay as live-in housekeepers. Household heads may have several wives, each of whom essentially runs an independent housekeeping operation, possibly within the same dwelling.

*Markets and Non-market Institutions.* A household's well-being is shaped not only by its assets, but also by the opportunities and challenges it faces in interactions with other households. Economists have long paid close attention to opportunities people have to buy and sell goods and services, including labor, in markets. In recent decades economists have paid increasing attention to opportunities and challenges households face as a result of a broader array of interactions and exchanges, in forums that fall under the label of "institutions." We will use the term **institutions** to refer broadly to forums for interaction and exchange, shaped by formal rules or informal norms, and related mechanisms for enforcing them. Institutions may represent expanded opportunities for voluntary exchange or restrictions on behavior. Having defined institutions this broadly, we can define **markets** as a particular type of institution, through which individuals seeking to buy and sell goods and services, and who are primarily motivated by self-interest, interact to determine the prices at which sales and purchases take place. We will use the label **non-market institutions** to refer to a diverse class of interactions among people that do not involve explicit buying and selling, which may not be shaped solely by self-interest, but which nonetheless allow people to exchange goods, services or information with one another, or allow people to cooperate in paying for and enjoying the fruits of collective efforts. They include diverse formal organizations, such as central government ministries, legal and judicial systems, non-governmental organizations, local community governments, school boards, irrigation system user groups and agricultural cooperatives. They also include informal norms and habits shaping interactions among members of less formally defined groups, such as social norms of sharing with neighbors hit by hard times, community traditions of pooling labor for undertaking activities of mutual benefit, habits of sharing information with neighbors, cultural beliefs regarding acceptable and unacceptable behavior, and more. In this chapter we will identify many ways in which the conditions households face in markets and non-market institutions help shape the level of well-being they are able to achieve. In later chapters we will develop tools for studying how households' choices change in response to changes in those conditions, and for understanding how those conditions are determined through the interactions of many individuals.

*Income.* Though income is far from identical to well-being, it plays an important role in households' pursuit of well-being. We use the term **income** in a broad sense, which may be somewhat foreign to new students of economics and development. We use it to mean not just cash wages received from employers in exchange for work, but the cash-equivalent returns to all of the household's efforts, whether derived in wage employment, in self-employment or in other ways (e.g. receiving rental payments on property the household owns) and whether received in the form of cash, food produced on their own farms or in-kind payments received from others. Defined this way, the level of income describes the full value of resources that may be turned into current consumption of goods and services (or used for other purposes to which we will turn later in the chapter). We will see that a household's opportunities to generate income are shaped by its assets, and by the conditions it faces in markets and non-market institutions.

*Needs.* Even among households with the same assets, and facing the same markets and non-market institutions, the levels of well-being they attain may differ because they differ in their **needs**. Most obviously, among households facing the same income generating opportunities, the households in which there are more mouths to feed are less able to generate well-being for their members. Perhaps less obviously, but of great importance in developing countries, households experiencing temporary illness or living with permanent disabilities may require more resources – medication, health care, special help – to achieve a similar level of well-being.

The next four major sections of the chapter examine four important sets of activities in which households engage. They are designed to help the reader better understand what life can be like in developing countries, what dimensions of life circumstances might matter to people’s own assessment of their well-being, and what kinds of assets, markets and non-market institutions might play a role in determining the well-being they are able to achieve.

### *Earning income*

Households in developing countries devote a large fraction of their time to earning income. They go to great effort to earn income, because they wish to use that income to acquire the goods and services they value. Understanding what determines their **income generating opportunities** – the kinds of work that are open to them, and how remunerative those options are – is critical for understanding the forces that shape their well-being.

*How households earn income in developing countries.* Before we can begin to examine the forces that shape households’ income generating opportunities, we must familiarize ourselves with the array of work opportunities found in developing countries. The description of life for the 42 Bangladeshi households gave us some glimpses of such work. In this section we employ data from a wider range of countries, and a wider range of income groups within countries, in an effort to develop a broader description of how households in the developing world earn income. Tables 2.1 and 2.2 describe patterns of income generation in four countries, which are located in diverse geographic regions of the world and enjoy diverse levels of per capita income. With income per capita of \$720, Malawi is classified as a “Low Income Country” by the World Bank. With income per capita of \$3950 and \$11,410, Indonesia and Mexico are classed as Lower Middle Income and Upper Middle Income countries. Low and Middle income countries are all considered “developing” countries, but clearly span a tremendous range of economic conditions. With income per capita of \$44,260, the United States is an example of a High Income Country or “developed country”, included for comparison (The World Bank, 2007).

Table 2.1 takes a standard approach to classifying households’ main economic activities into “**sectors of economic activity**” and reports the percentages of households engaged in each sector. In the first row of Table 2.1 we notice that a much larger share of the labor force is occupied in agriculture in the developing countries, as compared to the U.S.,

though the shares vary greatly among developing countries. It is also true (though it is not obvious in the table) that many more people in developing countries are employed in sectors closely linked to agriculture, producing inputs to agricultural production or processing agricultural outputs. For example, their work may be to boil and husk unprocessed rice, transforming it into processed rice. The greater role of agriculture in these economies magnifies the impact of fluctuations associated with the seasons, weather, pest infestations and natural disasters on incomes, and introduces uncertainty that affects decisions and diminishes well-being for many households.

Table 2.1  
Percentage Distribution of Civilian Workers by Economic Sectors

Sector	Malawi 1998	Indonesia 2006	Mexico 2006	United States 2002
Agriculture, hunting, forestry, fishing	83.51	44.47	14.30	2.55
Mining, quarrying	0.06	0.99	0.39	0.38
Manufacturing	2.63	12.16	16.78	13.30
Electricity, gas and water	0.16	0.28	0.44	1.08
Construction	1.63	4.60	8.18	7.08
Wholesale and retail trade, restaurants and hotels	5.71	19.50	28.70	20.59
Transport, storage and communication	0.72	5.74	4.74	6.02
Financing, insurance, real estate and business services	0.31	1.21	5.42	12.22
Community, social and personal services	5.27	11.11	16.15	36.79
Not adequately defined	-	-	4.90	-
Source: International Labor Organization, LABORSTA Internet, Accessed 2/18/08, <a href="http://laborsta.ilo.org/">http://laborsta.ilo.org/</a>				

Notice also that the decline in agriculture's employment share as we move from lower to higher income countries is associated with increases in the shares of most other sectors, suggesting that economic development tends to involve the expansion of a web of interrelated activities in manufacturing, trade, transportation and communication, and a wide range of services.

The nature of employment arrangements, too, tends to be quite different in developing as compared to developed countries. Table 2.2 documents differences in the shares of workers by "**employment status**" in their main jobs. While the vast majority of workers in the United States are employees who work in businesses run by others, large percentages of workers in most developing countries work in small family enterprises run

by themselves or other family members. Many of these family enterprises are family farms, but even outside of agriculture family enterprises are much more prevalent than in developed countries. Such enterprises may sell saris door to door, run small sweet shops, or provide carpentry or taxi services.

Table 2.2  
Percentage Distribution of Civilian Workers by Status in Employment

Status in Employment	Malawi	Indonesia 2006	Mexico 2006	United States 2006
Employees	5.91	37.93	65.39	92.60
Self-employed, including employers and members of producers' cooperatives	15.24	43.86	27.64	7.33
Contributing family members	77.74	18.20	6.97	0.07
Not classifiable	1.12	-	-	-
Source: International Labor Organization, LABORSTA Internet, Accessed 2/18/08, <a href="http://laborsta.ilo.org/">http://laborsta.ilo.org/</a>				

Even among wage employees, the typical job tends to be quite different in developing and developed countries. Compared to the employment of typical households in the United States, the wage jobs obtained by the 42 Bangladeshi households were lower skilled, involved simpler production activities, and were probably located in smaller establishments. They were also profoundly less secure. For many in the Bangladesh sample, wage jobs lasted only a day at a time. Even in urban Colombia, where incomes are higher and agricultural work is much less important than in Bangladesh, employment arrangements also tend to differ in these same ways from typical employment arrangements in the United States (Schaffner, 2001). As compared to U.S. workers, workers in Colombia are less likely to be in white collar occupations (i.e. professional, technical and managerial), more likely to be involved in industries with relatively simple technologies (such as food processing and textile production), more likely to be employed in very small establishments, and more likely to be in jobs that have lasted only a short period of time.

Table 2.3 employs household survey data to offer more detail regarding income generating activities. The table compares four income groups among the “poor” and “middle class”, and differentiates between rural and urban areas. For each country, the first row describes the percentage of all households falling into each income category. Even though the highest income category included in the table (relating to per capita household incomes of \$6-10 dollars per day) pertains to a level of income far lower than the official poverty line in developed countries like the United States, these categories together include the great majority of households in these countries. The next four rows indicate the shares of households in each category that derive any income from four

sources: self employment in agriculture, self employment in non-agriculture, wage employment in agriculture, and wage employment in non-agriculture.

Table 2.3  
Percentages of Households Earning Incomes from Various Sources, by Income Category and Rural/Urban

	Less than \$1/day <sup>1</sup>		Less than \$2/day <sup>2</sup>		\$2-4/day		\$6-10/day	
	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
<b>MALAWI</b>								
Share of all households	21%		63%		27%		3%	
Self-employed in agriculture <sup>3</sup>	98.4	64.2	98.1	55.8	95.0	41.1	90.5	33.6
Self-employed in non-agriculture <sup>3</sup>	25.6	24.1	28.3	34.8	34.3	39.7	32.1	36.6
Wage employed in agriculture <sup>3</sup>	65.8	56.5	58.3	40.1	42.4	20.7	23.6	19.0
Wage employed in non-agriculture <sup>3</sup>	22.1	37.0	23.3	47.9	27.5	60.4	31.7	67.6
<b>INDONESIA (2000)</b>								
Share of all households	7%		55%		37%		3%	
Self-employed in agriculture	52.6	13.6	55.7	12.8	51.7	9.6	45.5	7.2
Self-employed in non-agriculture	35.7	50.1	35.1	48.7	43.2	52.0	51.8	52.4
Wage employed in agriculture	36.9	28.1	31.5	16.6	21.8	10.5	7.4	5.1
Wage employed in non-agriculture	33.4	74.1	36.2	71.4	40.5	72.1	46.3	71.6
<b>MEXICO (2002)</b>								
Share of all households	14%		37%		31%		11%	
Self-employed in agriculture	27.2	1.8	25.4	6.4	21.2	6.1	16.3	7.5
Self-employed in non-agriculture	21.6	22.0	22.4	26.4	21.7	25.4	20.3	30.1
Wage employed in agriculture	23.6	2.1	18.3	1.6	7.8	1.2	5.6	0.5
Wage employed in non-agriculture	36.9	72.6	44.0	69.5	58.3	72.2	60.8	67.9

Sources: For Malawi data, author's calculations from the Malawi Second Integrated Household Survey, 2004-05. For Indonesia and Mexico, from Banerjee and Duflo (2007b).  
Notes: <sup>1</sup>Households living on less than \$1.08/person per day in 1993 World Bank consumption exchange rate. <sup>2</sup>Households living on less than \$2.16/person per day in 1993 World Bank consumption exchange rate. <sup>3</sup>Percentages indicate the share of households within group (defined by income and rural/urban location) with at least one member in the indicated employment category.

Table 2.3 yields several useful observations for future reference. First, agriculture can be an important source of income for households in all income classes. Second, while agriculture is more important as a direct source of income in rural areas, it can serve as a source of income even for households located in urban areas. (Households might live in town but spend their days outside of town working on their own farms or the farms of others. In some developing country cities farming also takes place on small plots of land within the city limits.) Third, self-employment is very common in agriculture and non-agriculture, and in both rural and urban areas. Fourth, among agricultural income sources in rural areas, wage employment shows a sharp decline as income levels rise, indicating the low income levels associated with much (low-skill) agricultural wage labor. Fifth, the higher prevalence of non-agricultural wage employment among higher income households suggests that non-agricultural wage employment opportunities are more

diverse than agricultural wage employment opportunities, with a larger fraction requiring greater skills and offering greater rewards.

This brief introduction to the ways in which households in developing countries earn their income equips us to begin examining the roles that assets, markets and non-market institutions might play in shaping their income generating opportunities.

*Assets and income generating opportunities.* When it comes to generating income, the most important assets possessed by most households in developing countries are the human assets embodied in their members: the time, energy and skills they can put to work, whether in cultivating their own farm, running a small business or working for others. Households with several adult workers have much greater capacity to generate income than those without. Even among adult workers, their ability to undertake more productive, higher paying work may differ greatly, depending on the education and training they have received, and their nutritional status and health or disability. And unfortunately, even among equally skilled and productive workers, women and members of particular ethnic groups may face inferior income generating options as a result of discrimination and social norms that bar them from undertaking certain kinds of work.

A variety of physical assets that households might own become important as we recall that many households have opportunities to generate income on their own farms and small businesses. How much income households can generate by farming will be limited by the quality and quantity of the farm land, livestock, tools and machines they have for use in cultivation. If they have ditches, pumps and other assets that allow them to irrigate, rather than depending on rainfall to water their crops, their productivity will also tend to be much greater. The physical assets shaping their productivity and income generating potential in business include stalls, shops, vehicles, machines and inventory.

The quantity and quality of goods and services a household can produce from given quantities of labor and physical inputs, on a farm or in a business enterprise, depend on the “technology” or “knowledge assets” to which they have access. Farmers who know and understand how to employ the best methods regarding seed depth and spacing, or who are able to successfully use newly developed high-yielding seed varieties, may achieve higher yields of rice or wheat from the same value of inputs than do farmers practicing traditional methods. Similarly, small manufacturers using better work management practices or producing better designed products are able to produce higher value output from the same value of inputs. Thus it is important to include households’ technological knowledge as key assets shaping their income generating opportunities.

Many additional assets shaping a household’s productivity are owned by governments, communities or groups, rather than by the household itself. Roads, electrical power generators and the equipment required for producing telephone services, which tend to be owned by governments or private companies, have great potential to expand the array of ways in which a household might generate income and increase the household’s productivity. Especially in small rural communities, some important assets are owned jointly by many households. For example, all households in a village may have the right

to graze animals on certain plots of land held in common, or to fish and collect water from a certain lake or river.

A small number of households in developing countries – usually among the better off – owns assets that produce returns outside the households' regular economic activities. These include savings deposits that produce interest income and land, buildings or equipment that are rented out to others and produce rental income. A very few households own insurance policies, which provide payments in the event of insured losses.

Many more households own assets that produce returns in much less obvious forms, but that play important roles in shaping household well-being. A prime example of such an asset is the housing in which the household lives. We can think of homes as assets that produce on-going flows of "housing services." Houses that are large, well equipped with clean tap water and electricity, and that are located in pleasant spots produce housing services of greater value than slum shanties. If the owners of a house rent it out to someone else, they receive rental payments (in exchange for the enjoyment of housing services), which is an obvious addition to income. But even if the owners of the house live in it themselves, we can think of the house as producing income which the household immediately turns around and employs in the "purchase" and consumption of housing services.

*Markets and income generating opportunities.* While the assets a household owns or shares determine the quality and quantity of the goods and services the household can produce and the productivity of its labor, the income it earns depends also on market conditions, which determine the prices it receives for the goods and services it sells. Earnings from wage employment depend not only on a worker's education and strength, but also on the level of wages being paid to workers of her type in the local labor market. An expansion of labor demand in manufacturing, for example, may push up wages and well-being for many workers (even while their assets and productivity remain unchanged). Similarly, earnings from self-employment depend not only on the household's own assets and abilities for producing goods for sale, but also on the prevailing prices for the goods it produces, prices of inputs it must purchase and rental prices of assets it must rent. Like wages, these prices are determined in markets, and vary with changes in relative strength of demand and supply. Returns on financial assets and real estate are also determined in markets.

*Non-market institutions and income generating opportunities.* A first set of non-market institutions shaping household income generating opportunities are the institutions that determine a household's access to the services of local infrastructure and community assets. A household's productivity depends not only on the existence of those assets, but also on whether and to what extent the household will be allowed to use them. Sometimes the services of large assets are sold in markets, but often access is rationed through non-market institutions such as users' groups or local governments. The organizations operating irrigation, electrical or rice milling assets may set up formal rules for rationing the services to specific households on the basis of need, location or random luck.

Sometimes authority to distribute asset services is delegated to individuals or committees, who are guided by some combination of informal rules and self interest.

Another set of non-market institutions that play important roles in shaping current income are often referred to as “private safety net” institutions. Often shaped by social norms rather than formal rules, such institutions lead households who are doing relatively well within a community to give cash, food or interest-free loans to other households who are doing relatively poorly. The motivations behind these “private transfers” may be diverse, and are the subject of substantial research and policy interest (which we study in Chapter 10). Needy households living in communities in which these norms are strong may receive transfers from their neighbors that boost their income beyond what they can earn through regular economic activities.

A final set of non-market institutions that directly determine a household’s income generating options are formal government tax and transfer policies and associated programs. Households facing higher tax rates expect to “take home” less income from taxable income generating activities in which tax laws are likely to be enforced. Government programs may also increase the income generating options for some households by offering them “public transfers” of cash, food, or other resources (in programs like those studied in Part VII of the text).

### *Spending income and acquiring goods and services*

Households produce income not because money is intrinsically valuable, but because they can use it to purchase goods and services that fulfill intrinsic needs and wants. Indeed, households devote the great majority of their income in any year to **consumption expenditure**. Good measures of consumption expenditure include not only the total value of cash purchases of goods and services, but also the value of goods consumed out of production on family farms or received in in-kind payments. When seeking to understand what determines a household’s well-being, it is useful to take a look at the goods and services on which the household spends its income, and also to take a broader look at the goods, services and experiences the household values and the challenges it faces in acquiring them.

*How do households in developing countries spend their income?* As we saw in the Bangladeshi households, at low levels of income a very large share of household budgets is devoted to obtaining food, and a large fraction of the food budget is devoted to obtaining one or two main staple foods, often grains such as rice. It is common for low-income households to spend at least half, if not three-quarters, of their total consumption budget on food (Banerjee and Duflo, 2007). In rural North Vietnam, even the better off households devote from 25 to 60 percent of their consumption expenditure to a single food item: rice (Benjamin and Brandt, 2004). (If you have not lived in such economic circumstances, try to imagine what it would be like to eat only rice, and to spend less than what you spend on rice for all other accoutrements of life: clothing, furniture, housing, entertainment.) As income levels rise, the absolute quantity of food consumption expenditure tends to rise, but its share in total consumption expenditure tends to fall, in

an empirical pattern known as **Engel's Law**. Once income is sufficient to cover more than basic foods required for survival, households have an opportunity to purchase clothing, furniture, and eventually a more varied array of possessions. School fees and the purchase of medicines in the event of illness sometimes require large fractions of consumption expenditure. For more details on consumption expenditure patterns by income group see Banerjee and Duflo (2007).<sup>3</sup>

*The challenges of acquiring valuable goods, services and experiences.* To acquire goods and services, households may have not only to pay out income, but also to incur costs in time and in forbearance of unpleasant treatment. To acquire clean drinking water or fuel, for example, developing country households often devote hours each day to walking to water sources or collecting firewood. Some households in rural Uganda spend two hours per day collecting water, usually the hours of women and children (United Nations Development Program, 2006). To acquire health care services from public clinics, they may have to wait in line for long hours, and perhaps even risk ill treatment by staff from different socio-economic groups. Among women who had given birth in a rural health center in Zimbabwe and were asked to list the disadvantages of giving birth in such an institution, 22 percent reported being ridiculed for not having baby clothes, 16 percent reported being ordered by nurses to wash linen soon after delivery, and 13 percent report being hit by a nurse during delivery (Filmer, et al., 2000)! And some experiences that people value, such as breathing clean air or feeling safe from crime, may be determined in large part by forces outside their control. Thus it is useful to brainstorm about the roles that assets, markets and non-market institutions might play in causing variation in households' abilities to enjoy goods, services and experiences, even among households with the same income.

*Needs, income and well-being.* Households with greater needs (as defined above) must stretch a given amount of income further and it is reasonable to think of them as achieving a lower level of well-being. Thus a household's well-being depends not only on the number of workers contributing income, but also on the number of dependents, or household members who cannot work, whether because they are too young, too old, or too infirm. Often the number of dependents per family is quite high in developing countries, and especially among poorer households. While women in France give birth to an average of 1.9 children each, women in Niger average 7.4 (World Bank, 2007). Numbers of dependents also increase when adult children take their parents into their households, and when families in countries ravaged by the AIDS epidemic or war take in orphans as foster children.

Needs are also shaped by household requirements for health care. Households in developing countries face much higher risks of contracting debilitating and sometimes deadly infectious diseases, including malaria, tuberculosis and AIDS. When households are hit by illness or injury, their need to spend more on health care and medicine means they have less left over to spend on daily necessities. Households with disabled members

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<sup>3</sup> For accounting purposes, payments for school fees and health care are often treated as elements of current consumption spending. Later in the chapter we will recognize, however, that incurring costs to send children to school or acquire health may also be viewed as investments in the future.

may also have to spend more than other households at all times to achieve the same level of functioning and well-being.

*Assets and consumption.* Some assets that we have not yet mentioned, which may have little direct impact on productivity and income, may play an important role in determining a household's enjoyment of what it values. For example, owning or having access to a convenient source of clean drinking water may bring benefits in taste, health and time.

*Markets and consumption.* Among households with the same nominal incomes, those facing higher market prices for food and other important consumption items will be able to purchase less and achieve less well-being. When households spend large fractions of their income on a single staple food like rice, an increase in the price of rice can have devastating consequences. Indeed, increases in food prices often lead to riots.

*Non-market institutions and consumption.* Non-market institutions may play a role in shaping both a household's perceived needs and its ability to acquire the goods, services and experiences that meet needs. Social norms placing great importance on hosting large celebrations when a daughter turns 15, or on paying dowries or bride prices when children marry, create spikes in households' perceived needs, and these spikes can be very large. In South Asia, for example, the size of dowry payments range from one to seven times annual male wages, and can impoverish bride's families (Anderson, 2007). Formal and informal bureaucratic rules and procedures may also play important roles in shaping well-being, when some goods and services must be obtained through markets characterized by rationing. This is especially likely in key markets -- including health care markets and some markets for staple foods -- in which governments have chosen to play an important role. Political and law enforcement institutions shape households' ability to "consume" the enjoyment of the rights to vote, to speak one's mind freely, to be treated with respect, and to be protected from unwarranted arrest. Variation in all these institutions may lead to variation in well-being even among households facing identical incomes, needs and market prices.

#### *Responding to Predictable and Unpredictable Fluctuations in Income and Needs*

The 42 Bangladeshi households appeared very conscious of the fact that their income generating opportunities and needs are subject to great variation from month to month, year to year, and even day to day. They care about the future, and as they look to the future, they care about the frequency and magnitude of the fluctuations they will face. The same is true for households throughout the developing world. Recent decades have seen increasing interest in these fluctuations, and in the activities households undertake to try to cope with them, on the part of both academic researchers and development practitioners.

*Sources of predictable fluctuations.* Agriculture introduces seasonal fluctuations into the lives of many households in developing countries. This is most obvious for farming households, who reap most of their income in harvest seasons and may generate very

little income in other seasons. But the seasons bring changes in incomes and needs for many other households, too, through various channels. Farmers' greater demand for labor and greater supply of food in harvest seasons lead to increases in wages and decreases in the price of food that shape well-being for many other households. In countries like Gambia, fluctuations in production and employment have such a profound impact on households' ability to acquire even basic foodstuffs that the last months before the new harvest are called the "hungry season" (Lawrence, et al., 1989).

Another fairly predictable source of variation over time in income and needs is the aging of individuals and evolution of family life. As young households start out, they know that their ability to generate income will rise, as their children require less of their parents' time and even become capable of contributing to family income, and will diminish in later years, as children leave home and parents become elderly. As parents look to the future they also foresee pronounced variation in needs for expenditure, which may increase first with childbirth and care for young children, later with the need to provide dowries for daughters or bride prices for sons, and yet later with increased needs for health care as the effects of age set in. Unfortunately, these life cycle variations in income and needs tend not to match up. Income cannot be expected to spike just when dowry payments are required, and income may be lowest just when health-related needs are highest in old age.

Recent research, including the Rutherford study for Bangladesh, highlights the potential significance of variation in income and needs over much shorter time scales than lifetimes or even seasons. The variation arises out of the "lumpiness" of income receipts and consumption purchases. Even small businessmen with reasonably steady sales from month to month may experience only a few days of significant cash inflow during a month. Even workers with steady employment may receive their pay only once a month. The timing of these cash inflows may not match up well with the ideal timing of consumption purchases. Some foods must be purchased every day to prevent spoilage. Other basic goods might be purchased more cheaply if purchased in bulk, in which case the ideal purchases might be larger than the income available on a typical pay day.

*Sources of unpredictable fluctuations or "shocks".* Agricultural productivity varies in unpredictable ways as a result of fluctuations in many factors beyond farmers' control: temperature, rainfall, size of insect populations, exposure to crop diseases, and more. Not only can farmers lose their entire source of income to crop loss when struck by shocks, but rural workers suffer reduced wages as the demand for labor falls. During a drought in 1974 in Bangladesh, for example, real agricultural wages fell 50 percent (Jayachandran, 2006). Even when production conditions and crop yields are steady, agricultural incomes may vary, as a result of variation in the market prices at which crops are sold. Dercon (2002) reports that in a sample of rural Ethiopian households, 78 percent reported having been severely affected by a harvest failure in the last 20 years, and 42 percent reported having been severely affected by a "policy shock" (such as a change in taxation or a ban on migration) in that time. Even when crop prices rise, benefitting farmers who sell the crops, the price increases may represent devastating shocks to the purchasing power of the landless poor, who must purchase food. An index of world food prices rose 83

percent over the three years prior to early 2008, significantly increasing poverty in many regions of the world (World Bank, 2008).

Households face fluctuating returns in non-agricultural businesses as well. Small businesses selling handicrafts or carpentry services may suddenly find that their clients have run short of cash. Production and sales may suddenly stop when necessary inputs fail to be delivered or workers become ill. Even households working for wages in non-agricultural sectors face the risk of job loss.

Even when farm and non-farm business income holds steady, households in developing countries may be hit by many other sorts of potentially devastating shocks. High rates of illness and injury place households at risk of shocks that simultaneously reduce their ability to generate income and increase their need for expenditures on medicine and health care. Where laws, policing and judicial systems offer only poor enforcement of contracts and inadequate crime prevention, households face the risk of losing assets through fraud or theft. Where governments have made no commitment to respect private ownership, people may also face the risk of losing assets to the government through expropriation. On top of this, many of the world's poor live in places where they cannot count on police to keep their neighborhoods safe, and where they fear violence at the hands of warring militias.

*Desire for consumption smoothing.* The ebbs and flows of income, consumption needs and prices matter, because people would rather avoid great variation in their ability to meet needs. We would prefer to eat two good meals every day rather than have several three-meal days followed by several one-meal days. When facing a spike in needs for expenditure when our daughter marries, we would rather be able to meet that need without having to go hungry. In fact, we would be willing to eat somewhat less on average in exchange for the promise of fewer or smaller fluctuations, and thus fewer experiences of very low consumption. Economists often refer to the desire to meet needs for consumption expenditure in a steady way as an interest in “**consumption smoothing.**”<sup>4</sup>

*Ex post efforts to smooth consumption.* Given people's interest in consumption smoothing, it should come as no surprise that households engage in a variety of costly activities to help them cope with fluctuations in income and needs. Let's first consider

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<sup>4</sup> This term is most appropriate when thinking about the desire to smooth out expenditures for steady needs relative to income that fluctuates with the season or over the life cycle. This would require spending less than all of currently generated income during high income seasons or middle age, in order to spend more than all of currently generated income in low-income seasons or old age. Sometimes the desire to meet needs for consumption expenditure in a timely way may instead call for financing consumption expenditures that are larger and less frequent than income receipt. This requires spending less than all currently generated income during normal consumption need periods in order to spend significantly more when consumption needs spike. We might prefer to call this something like a desire for “consumption lumping”, but we will define the term “consumption smoothing” to include this sort of desire and behavior, on the grounds that the household is trying to maintain smoothness from period to period in the fraction of needs that is met by expenditure.

activities they might undertake *after* they have been hit by a period of unusually low income generating opportunities, or unusually high needs. These are often referred to as ***ex post* (or after the fact) responses to fluctuations**. Households may borrow to support more consumption today than their current income would allow, against the promise to repay the loan with interest out of future income (when income and needs have returned to more normal levels). They may borrow from many sources, including friends and neighbors, local moneylenders, pawn brokers, banks or microfinance institutions. They may instead finance current purchases of greater value than current income by drawing down past savings. If the shock to their income generating opportunities reduces only the profitability of their farm or small business, they may also compensate by working more in wage labor markets (Kochar, 1999).

*Ex ante efforts to smooth consumption.* Knowing that they will be exposed to fluctuations in the future, households may take steps now that will help them avoid or better weather potential future fluctuations. These are often referred to as ***ex ante* (or before the fact) responses to fluctuations**. Households may “save up” by spending less than their income on current consumption, so that they will have savings to draw down when needs rise relative to income. This saving may take many forms: placing currency in a mud bank, depositing savings in a bank account, buying durable goods like jewelry or household appliances, or lending to others against a promise of later repayment. In rare circumstances, households purchase formal insurance, agreeing to pay premiums (which reduce their average levels of consumption) in exchange for the promise of receiving indemnities to prevent their consumption from falling severely in the event they are hit by certain shocks. They may also insure themselves informally through their participation in informal private safety net institutions (as discussed in Chapter 8).

A final set of *ex ante* approaches to smoothing out potential fluctuations in consumption expenditure, which raises concern among development analysts and policymakers, falls under the label of “**income smoothing**.” Households engage in income smoothing when they choose income generating strategies that are purposely designed either to reduce the magnitude of seasonal fluctuations in income or to reduce the probability of being hit by shocks to the income they generate (Morduch, 1995). For example, farmers might allocate some of their land to each of several crops that produce harvests in different seasons, in order to spread out their cash inflows over the year. They might work several plots of land at different altitudes or with different soil qualities, rather than working with a comparable quantity of land in a single location, hoping to avoid the destruction of their entire crop by flood, drought or a particular disease. By working in off-farm employment as well as cultivating their land, they may shield themselves against the most devastating effects of either agricultural or non-agricultural downturns. They might also simply choose not to cultivate certain crops whose yields are particularly sensitive to weather conditions. While such choices represent farmers’ constructive response to the fear of fluctuations, they nonetheless raise concern among development analysts, because they raise the possibility that farmers might forego opportunities to generate higher average annual incomes in their efforts to reduce the fluctuations in incomes (around the average) to which they are exposed. For example, they might diversify crops to smooth income over the seasons, even though they would earn higher total annual income if they

allocated all their land to a single crop producing the highest value per acre. They might work several plots in different locations, even though they could avoid significant commuting costs if they worked contiguous plots. Lacking access to good financial tools for smoothing consumption, poor farmers' desire to avoid fluctuations may prevent them from taking steps that could reduce their poverty.

*Fluctuations and well-being.* In light of households' concern with future fluctuations, we must recognize that their well-being is a function not only of what they can consume, enjoy and experience today, but also of what they see as they look to the future. Even among households enjoying the same **current well-being**, in the sense that they enjoy the same levels of current consumption, time use, health and safety, some households might enjoy greater **dynamic well-being**, in the sense that they anticipate fewer fluctuations in their future ability to meet their needs, and experience less vulnerability to shocks.

*Assets and dynamic well-being.* Once we recognize that households care about the future, we must recognize that what matters about a household's assets are not only the levels of income and consumption they support today, but also their likely longevity, and the roles they might play in reducing exposure to future fluctuations. Households enjoying the use of a high quality and well-maintained road that will last for 10 years, or employing long-lived assets like sewing machines and trucks, perceive a better future than households using a low quality road that will crumble in 2 years, or employing working capital (whose impact on income is dissipated much more quickly). Households with assets that tie them to agricultural production in a region characterized by serious fluctuations in rainfall and risk of insect infestations may be worse off than households with assets that support the same current income level and tie it to more stable sources of income.

*Markets, non-market institutions and fluctuations.* The importance of expectations regarding the future furthermore suggests that households' well-being may be shaped not only by current conditions in markets and non-market institutions, but also by their expectations regarding future market trends, and their beliefs regarding the credibility of government promises to sustain emergency relief programs into the future.

Recognizing the importance of fluctuations and of household's interest in consumption smoothing, we must also recognize the significance of a set of markets that had not previously entered the discussion: financial markets. These markets shape households' opportunities to borrow and save, and thus their ability to smooth consumption when income and needs fluctuate.

Concern with fluctuations also raises interest in the potential for society to evolve institutional arrangements that aid in consumption smoothing. For example, social norms may require that the elderly live with their children, and that the young support their parents in old age, tending to smooth consumption over the life cycle by reducing the consumption expenditure of the young (relative to their own income) and increasing that of the elderly.

## *Responding to Opportunities for Investment*

As people look to the future, they see not only the challenges of predictable fluctuations and shocks, but also the opportunity to improve their lives through **investment**, or the creation of assets. Investment is costly, because it takes resources and effort to create or improve assets, but the reward for investment is the ability to reap the returns of those assets, perhaps for many years into the future. The returns may take the form of higher average income, reduced exposure to fluctuations in income and needs, or improved ability to cope with such fluctuations. Investment can play a crucial role in raising poor households out of poverty and raising non-poor households to greater levels of well-being. It is also crucial for economic growth at the aggregate level, which, as we will argue in the next chapter, is of vital importance for sustained and widespread development.

The transformative potential of investment is tremendous. As a result of investment in education, a boy raised as one of 10 children in a one-room, grass-roofed hut 5 kilometers from the nearest road may grow up to be an engineer, capable not only of providing his family with a more comfortable standard of living, but also of creating and running a non-governmental organization that builds and runs irrigation projects in his home region. Irrigation investments, in turn, can sometimes double agricultural yields or make cultivation feasible in new places or seasons. As a result, families with small farms who previously produced barely enough food to feed themselves can begin to sell some surplus, using the proceeds to purchase new kinds of goods and services, thereby stimulating others to initiate or expand non-agricultural enterprises. In this section we first consider the many sorts of investment opportunities that might be available, and then discuss the ways households might seek to take advantage of such opportunities.

*Types of investment opportunities.* Households may invest in the purchase or construction of physical assets such as farm land, irrigation ditches, or tools for repairing rickshaws. For many of these investments, the primary anticipated payoff is in the form of increased average future income, though some investments, such as the construction of irrigation and drainage systems that regulate water supply in the face of variable rainfall, also reduce exposure to fluctuations in income. Yet other investments in physical structures, such as investments in home improvements or the creation of wells for drinking water, pay off directly in the enjoyment of the future stream of services produced by the new assets.

Households may make shorter-term investments in “working capital,” or goods that must be purchased today in order to make possible the generation of income only days or months later. For example, farmers invest in working capital when they purchase and apply fertilizer with a view to reaping a larger harvest several months later. Traders employ working capital when they purchase retail inventory with a view to selling the items in the coming days or weeks. Such purchases are made with a view to their impact on future income, and thus qualify as investments. But it is useful to distinguish them from the purchases of structures and equipment, because the income boost they produce is typically exhausted much more quickly.

Households invest in “human assets” when they sacrifice money, time or comfort to acquire education or training for their families. Households also invest in human assets when they obtain medical care that prevents a temporary illness or injury from turning into permanent disability or loss of life.

Often the best routes to improving incomes involve not just doing more of the same thing – cultivating the same crop on more land, running the same business with more rickshaws – but moving into a new way of earning income. The novelty may be mild, as when rice farmers begin to cultivate a newly developed variety of rice, or when small businessmen find an improved way to organize their workplace. But it may be more radical, affecting their entire way of life, as when they shift from cultivating crops to working on skyscraper construction crews or in factory production lines. The costs of such innovation may include the costs of acquiring new sorts of physical assets (e.g. new machines that operate more efficiently or produce a higher quality product), the costs of acquiring information, and the loss of income during the early days after adopting a new technology or starting a new business, until the household builds up required skills and clientele. They may also include the many economic, social and psychological costs of migrating.

*Ways of financing investment.* Households can undertake investment only if they have some way of **financing** it. That is, they must be able to cover the up front costs. Households finance investment through saving when they abstain from consuming some of their income in the present, in order to free up resources for buying or constructing assets. Savings may be explicit, as when they store up coins in a piggy bank. Sometimes the saving is implicit. For example, households may decide to allocate their children’s time to attending school rather than to generating more household income on the family farm. They are saving implicitly, because they are consuming fewer goods and services in the present than if they were not sending their children to school, but they are using the implicit savings to finance investment in the creation of education assets. Households can undertake investment without curtailing near-term consumption only if they are able to borrow to finance the investment. As we discussed above in the context of responses to fluctuations, both saving and borrowing may take many forms.

*Investment opportunities and well-being.* Households’ willingness to engage in costly investment activities reinforces for us their interest in the future. It also suggests that when households take advantage of new opportunities to invest, their dynamic well-being is likely to rise, even though their current income, consumption and well-being may decline, as they devote current time and resources to undertaking the investment.

*Markets, non-market institutions and investment.* Recognizing households’ interest in investment requires us to expand yet further our discussion of the conditions in markets and non-market institutions that have potential to affect a household’s well-being. In light of the potential to invest in new lines of work, we must recognize that households’ well-being may be improved by increases in the prices or wages they could receive in new lines of work that they could move into through investment. In light of financing

needs, we take even greater interest in nature of saving, credit and insurance instruments available to them in financial markets. In light of the costliness of investment, we recognize the importance of additional markets and non-market institutions through which the cost of creating or purchasing new assets is determined. For example, lower prices for improved seeds and fertilizer would encourage farm investments, and more accessible schools would encourage investment in education. Finally, recognizing the role of investment opportunities in shaping dynamic well-being, we must also recognize the potential relevance of a broader range of institutions that shape households' confidence regarding their ability to reap the returns of new assets they create. For example, formal laws and law enforcement organizations, together with informal social norms, help determine the attractiveness of investment by building households' confidence that the assets they create will remain undamaged and in their possession. (We elaborate on these institutional concerns more in the next chapter, and yet further in Chapters 9 and 10.)

*Current assets and investment.* The household's current assets may shape not only its ability to generate income today, but also its ability to profitably undertake investment in new assets. For example, investment in the expansion of a small business may be profitable only for those who already have sufficient education and training for running the business, for those who live in areas with sufficiently developed transportation and communication infrastructure, or for those whose businesses are large enough that they can take advantage of scale economies. Household with too few assets may also be unable to obtain financing for investment. We examine some of these possibilities further in Chapter 9.

### *Linking policies and programs to household well-being*

If the array of policies and programs put into place by a country's government and other development organizations are to bring improvements in well-being for the country's many people, then they must set into motion an array of changes in assets, markets and non-market institutions that allow households of diverse sorts to improve their well-being. Thus it is useful, even at this early point in our studies, to consider what we have learned about the channels through which policies might connect with the households of ultimate interest.

Given the importance of income in households' pursuit of well-being, we recognize first the wide array of ways in which policies might improve a household's income generating opportunities. Policies might increase the quality or quantity of assets that the household owns or has access to, by providing education or health care, building irrigation systems, or offering it access to an improved production technology. Policies might instead improve the household's income generating opportunities by orchestrating changes in markets that raise the prices of the goods, services or labor that it produces and sells, or reduce the prices of the inputs it must purchase for use in farm- or non-farm production. Finally, policies might improve a household's income generating opportunities by setting up or improving on non-market institutions that govern the household's access to productive assets or that transfer resources to households in need. Most obviously,

policies may set up new government programs that provide households in need with transfers of food or cash.

Recognizing that income is only an imperfect instrument in households' efforts to satisfy a wide array of needs and interests, we recognize the potential to improve well-being by improving households' access to clean water or health care services, by reducing the prices of the goods and services on which the household spends a significant share of its income, or by improving air quality or public safety.

Knowing the significance of the fluctuations faced by developing country households, we recognize that policies may improve a household's well-being by reducing its exposure to fluctuations and hazards, or improving its ability to smooth consumption relative to the fluctuations. Public health efforts that reduce the probability of contracting communicable diseases and water control projects that reduce the probability of drought-related crop losses reduce exposure to hazards. Orchestration of changes in financial markets that provide the household with more attractive opportunities for borrowing and saving might improve its ability to cope with fluctuations. Policy might also set up or improve public safety net institutions, which provide households with assurance that they will be able to find help if and when they are hit by income losses in the future.

Finally, recognizing households' interest in improving their future through investment, we gain new insights into the approaches policymakers might take to increasing household assets. Rather than simply giving assets to households, policymakers may identify ways to encourage households' own investments in the creation of assets, whether by reducing up-front costs of investment, improving access to financing, or encouraging the development of legal and social institutions that improve incentives for private investment. In this way, development actors might succeed in spurring the creation of new assets while sharing the cost of the asset creation with the households themselves.

It is useful to make three observations about this array of channels through which policy might connect with households' well-being. First, policy efforts that increase the quality or quantity of a household's assets are likely to generate improvements in household well-being that last long after the policy effort has ceased, while policies that give the household food or cash, or that induce changes in market prices, are likely to have effects that largely disappear once the effort has ended.

Second, while some of these policy channels are likely to be activated directly, through direct contact between program personnel and the household of interest, others may be activated much more indirectly. Households tend to acquire cash transfers, food transfers, education and knowledge of new agricultural technologies through direct contact with development organizations seeking to improve the household's well-being through just these channels, while households may experience improvements in the prices of the goods they sell, or improvements in wages, without even knowing the nature of the policies that brought these changes about. The price an urban household must pay for its

wheat purchases, for example, may fall as a result of a policy that expanded distant farming households' supply of wheat by improving their access to irrigation systems.

Observe finally that any one policy effort is likely to have differentiated effects across households of different types. Most obviously, programs that give cash, health care or education to some groups do not give them to others. Perhaps less obviously, policies that raise the price of rice faced by all households will help farming households that sell rice, but hurt households that buy rice for consumption and producers who buy rice as an input to food processing activities. Policies that provide some farmers with improved technology for producing corn will improve their farm incomes and well-being, but may, by stimulating their supply to markets, cause the price of corn to fall, reducing incomes for other corn farmers (while also improving consumption opportunities for corn buyers). We will ultimately wish to develop methods for analyzing policies that help us think systematically and comprehensively about policy impacts, both direct and indirect, that are multidimensional and differentiated across diverse socio-economic groups.

### *The role of household choice*

We have thus far described the many activities in which households engage as they pursue well-being, and have brainstormed about the ways in which policymakers might hope to improve households' opportunities. In this section we highlight the many choices households make in response to the opportunities they face, and offer several broad observations about the significance of household choice for development and policy. In Part III of the text we will examine many of these choices much more closely.

*Household choices.* Assets, markets and non-market institutions shape a household's income generating opportunities, but a household determines its actual income by choosing which opportunities to take up and how much time and energy to devote to them. Similarly, socio-economic circumstances shape a household's opportunities for acquiring the goods and services that contribute to current well-being, but households must choose how to allocate their income across diverse consumption purchases, and what time and effort to put into acquiring goods and services. Assets, markets and non-market institutions shape the fluctuations to which household are exposed, and the array of options they face for smoothing income or consumption in the face of those fluctuations, but the fluctuations they ultimately experience and the efforts they engage in to cope with those fluctuations are also shaped by their choices regarding how to generate income, what efforts to make in safeguarding themselves and their assets against crime, what borrowing and saving to engage in, and more. Assets, markets and non-market institutions shape their investment and financing opportunities, but the investments they ultimately undertake are ultimately a matter of choice.

A first implication of household choice is that two households facing identical income generating opportunities may ultimately generate different levels of income because they differ in their **preferences**, or the values, priorities and sensitivities they bring to evaluating the relative merits of the options they face. One household may choose to generate less income when facing the same opportunities, for example, because its

members believe that women should not work outside the household compound and would experience great discomfort if they violated this social norm.

A second implication of household choice is that when a household is presented with new opportunities, it will take advantage of the opportunities in the way it deems best, and the results may be surprising. Policymakers provide cash transfers to households with the objective of boosting their consumption of staple foods, but a recipient household may choose to spend the additional money on better tasting or more highly processed food, or may choose to take advantage of the transfer income by working fewer hours at earning income from other sources.

Finally, once we recognize the importance of household choice, we must recognize that policy efforts to improve well-being by improving households' opportunities will only succeed in improving well-being if households choose to take advantage of the new opportunities. A new government program offering cash transfers to poor households will fail to help households for whom the burdens of traveling and waiting in line to obtain the transfers outweigh the value of the transfers, and the development of a new agricultural seed variety that can increase average yields will fail to help farmers for whom the prospect of increased average yields is outweighed by the new variety's greater susceptibility to devastating failures in periods of bad weather. Policymakers seeking to bring improvement to a target set of households must seek to understand how those households evaluate and choose among opportunities if they are to design successful policies.

#### *Constructing measures to use in studying impacts on well-being*

Success in development means improvement in well-being. Unfortunately, we cannot measure development success directly, because we cannot observe well-being directly. The best we can do is draw inferences (or educated guesses) about what is happening to well-being on the basis of data describing what is happening to measures of **living standards**, which are observable, quantifiable dimensions of life circumstances. The exposition above of how households pursue well-being sheds light on the strengths and weaknesses of two commonly employed summary measures of living standards: **household per capita income** and **household per capita consumption expenditure**. It also highlights reasons why it will often be useful to supplement these with additional living standard measures.

*Real household per capita income.* The most frequently used summary measure of a household's standard of living is its per capita household income. Ideally, the notion of "income" used in constructing the measure is the notion of income defined above, which includes income from all sources and in all forms, even the value of food a household produces for itself on its own farm.<sup>5</sup> Income provides a good summary measure of the

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<sup>5</sup> Accurate measurement of a household's total income is highly demanding of survey designers' care and of survey respondents' time and good will. For accurate measurement of total income a survey questionnaire must contain detailed questions about all possible sources of income, for all members who might be involved in generating income, and must ask detailed series of questions regarding payments in

household's ability to purchase many of the goods and services that contribute directly to its well-being. Dividing total household income by the number of household members, to express income on a **per capita** basis, is a simple (and imperfect) way of adjusting the measure for important differences across households in the magnitude of their needs.<sup>6</sup>

The incomes constructed from direct household reports in answer to survey questions are nominal measures, expressed in units of currency. **Nominal income** measures may differ over time or from place to place even when the volume of goods and services they can purchase, and thus the level of well-being they can sustain, are very different, as a result of differences in the prices of consumption items. **Real income** measures are constructed by dividing nominal income measures by a **price index**, which describes the currency prices of a common basket of consumption items in various regions and time periods. Where the price index is higher, the purchasing power of currency is lower. Dividing income measures by the price index produces a real income measure whose variation better reflects differences in households' capacity to purchase goods and services.

The discussion above suggests several reasons why data on differences in income per capita might lead to flawed inferences about differences in well-being. First, of course, it is not possible to use income to buy every good, service or experience that matters to people. Measures of income per capita shed no light on households' ability to enjoy rationed goods and services, political liberties, or a pleasing environment. They are also insensitive to changes in the hours that households devote to income generating work. When new opportunities allow households to earn more per hour of work, they may take advantage of the opportunity by devoting *less* household time to work generating current income, in order to devote more time to the schooling of children or to the creation of physical assets like irrigation ditches that will increase future income; thus their current income might go down even while well-being is rising. (We'll look at such possibilities in more detail in Chapter 5.) Second, income per capita measures adjust only imperfectly for differences across households in needs. Among households with the same income per capita, those with ill or disabled members might have much less disposable income, after accounting for their required spending on medical care and other coping activities.

Third, often income fluctuates greatly for predictable reasons, and households take action to smooth consumption in the face of those fluctuations. Common measures of a household's income, which are extrapolated from detailed questions regarding the household's income in the last 7, 14 or 30 days, will tend to fluctuate greatly from month

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cash, payments in kind and production for own consumption for each possible income source. This is especially difficult in developing countries, where many household members work, where work is diverse and informal, and where pay takes many forms. Grosh and Glewwe (2000) provides a more detailed discussion of how to measure the components of income.

<sup>6</sup> In some cases total income is divided by "adult equivalents" rather than the simple number of household members. This is an effort to adjust somewhat more accurately for needs differences across households. Rather than treating every person as adding the same amount to household needs, people in different age and gender brackets are treated as requiring differing amounts of typical expenditure to meet common needs. For example, a child may be counted as equivalent to seven-tenths of an adult

to month, even while the household's enjoyment of goods and services holds nearly constant. Income measures may thus mislead, both when it comes to identifying the households that are worst off, and when attempting to draw inferences about changes in well-being over time.

Fourth, current income measures at best describe the household's current ability to purchase goods and services. Among households with the same current income, some are enjoying a period of unusually good returns to their assets, but expect to earn much less in the future, while others expect to maintain this level of income into the future, while yet others face tremendous investment opportunities and hope to earn even more in the future. Some of the households have good reason to fear devastating future shocks to their income, while others do not. Current income measures tell us nothing about these variations.

*Real per capita consumption expenditure.* Another frequently-used summary measure of a household's living standard is its real per capita consumption expenditure, or the total value of goods and services consumed by the household divided by the number of household members, and adjusted for differences in prices. Ideally, good measures of consumption expenditure include not only the sums explicitly paid for the purchase of goods and services in markets, but also the value of goods the household produces for its own consumption. If a household neither adds to nor draws down savings, then its total income equals its total consumption expenditure within any given period of time. Thus income and consumption expenditure are closely related concepts. In practice, however, they are measured in very different ways. Rather than attempting to identify every possible income source, and asking detailed questions about each, the consumption expenditure approach identifies all possible sets of goods or services on which the household might make expenditures, and asks detailed questions about each of these.

Consumption expenditure measures are thought to have two advantages over measures of total income as measures of living standards. First, though both are difficult to measure, the science of consumption expenditure measurement is somewhat better advanced. Consumption surveys employ a wide range of techniques, from directing detailed questions about food purchase and use to the individual in charge of cooking in the household, to requirements for surveyors to spend two weeks with a household, measuring everything that gets cooked and eaten! More important, in the presence of income fluctuations and consumption smoothing, measures of consumption expenditure in any short period are likely to give a more accurate description of the household's capacity to enjoy goods and services than measures of income in the same short period.

Consumption expenditure measures share all the other weaknesses of income measures for drawing inferences about well-being, and arguably suffer an additional weakness. One way in which households may choose to enjoy an increase in income is to save. They may set some of their current income aside under a mattress or in a savings account, or may plow those savings directly into investment in the expansion of a small household enterprise. Consumption expenditure may remain steady, failing to register

improvements in well-being, even while income is increasing and households are rendering themselves more prepared for the future through saving.

*Direct Assessment.* The well-being households pursue is a function of the household's enjoyment along many dimensions: its consumption of diverse goods and services, its enjoyment of leisure and other uses of time, its sense of security and opportunity as it looks to the future, its political freedoms, and more. Income and consumption expenditure measures attempt to quantify enjoyment of these things only indirectly (and imperfectly). An obvious alternative, or complementary, approach is to measure directly many of the dimensions of enjoyment that households care about. This requires household survey questions not only about physical quantities of food, clothing, and other commodities consumed, but also the nature of the household's shelter; the experience of household members with illness and crime; access to health care, literacy, schooling and other social services. They may also ask questions about freedoms to participate in local politics, their fears about the future, and more.<sup>7</sup>

As the primary approach to drawing inferences about well-being, the direct approach suffers an important practical weakness. While direct assessment offers a rich picture of what life is like for people, it offers no obvious summary assessment of how overall well-being is changing over time, or how it differs across households. If a household's consumption of clothing increases, but its consumption of rice and the quality of its housing declines, has its well-being risen or fallen?

**Direct assessment**, especially when focused on features of life circumstances for which income and consumption expenditure are not expected to be good gauges, is perhaps more useful as a supplement to (rather than a substitute for) income and consumption expenditure measures. It may be used to check, for example, what is happening to the time use of household members, to their access to rationed health care, and to the quality of their water and air. If income per capita is rising, the work hours of all members are holding constant or falling, and no deterioration is taking place in other key social and environmental circumstances, then the data taken together provide good evidence of improved well-being. Even if income per capita is only holding constant, these supplementary measures may reveal important improvements in well-being that should not be ignored.

*Measuring assets.* As researchers have taken an increasingly dynamic view of the formation of well-being, they have taken greater interest in gathering information on households' assets. The quantity and nature of a household's assets are associated not only with current income and ability to consume, but also with the level and potential variability of future income and consumption. Many assets with important implications for levels of well-being – the level of education of the household head, the quantity of agricultural land owned by the household – are also somewhat easier and less time consuming to measure than income itself. Asset-based measures have two draw-backs in the study of well-being. First, assets take multiple forms, and it can be difficult to create

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<sup>7</sup> Again the reader should consult Grosh and Glewwe (2000) for detailed discussion of how best to construct surveys for measuring these features of living standards.

a summary measure of a household's assets for use in comparisons over time and across people. Second, as described above, income and well-being are determined not only by a household's assets, but also by conditions in the markets and non-market institutions that determine the returns the household is able to derive from its assets. A household with more assets, but living in a region where prices in relevant markets are lower, might be worse off than a household with fewer assets. Nonetheless, collecting data on assets is of great value for drawing inferences about households' well-being.

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### *Questions for review*

1. What role does the definition of “well-being” play in defining the larger policy objective of development?
2. Discuss the significance of each phrase in the working definition of **well-being** provided in the text.
3. Discuss how development actors with varying views might understand the relationship between a person’s well-being and that person’s **happiness**.
4. What weakness does Amartya Sen point to in the economist’s frequent equating of well-being with “**utility**”? Contrast the notion of utility with Sen’s notion of **capabilities**.
5. Define the following concepts and discuss their significance for the study of well-being: **household, assets, markets, non-market institutions, income, and needs**.
6. Define a household’s **income generating opportunities** and discuss the relationship between these opportunities and the household’s actual income.

7. Discuss the lessons to be learned from Tables 2.1 through 2.3 about how households in developing countries earn their income. Describe some general differences between developed and developing countries in the ways most people earn their income.
8. Describe the various categories of assets that help to determine a household's income generating opportunities.
9. Describe how conditions in markets for goods, services and labor interact with a household's assets to determine its income.
10. Give examples of some institutions that help determine a household's income generating opportunities.
11. Define **consumption expenditure**, and discuss its relationship to income.
12. What is **Engel's Law**?
13. What costs other than monetary costs might a household incur when attempting to obtain goods and services?
14. What might cause the *needs* of one household to be greater than another's? What might cause a household's *needs* to rise from one month to another?
15. Discuss the roles of assets, markets and non-market institutions in shaping a household's needs and its ability to consume desired goods and services.
16. Describe sources of **predictable fluctuations** and sources of **unpredictable fluctuations or shocks**.
17. What is meant by the term **consumption smoothing**? Describe some **ex post** and **ex ante** ways in which households might engage in consumption smoothing.
18. Define the term **income smoothing** and discuss why policymakers might be concerned about household's engaging in income smoothing.
19. Discuss the relationship between **current well-being** and **dynamic well-being**.
20. Discuss how concerns about fluctuations and households' desire for consumption smoothing lead us to recognize additional assets, markets and non-market institutions that might be important to well-being.
21. Define **investment**. Describe the wide range of investment activities in which a household in a developing country might engage.
22. What is meant by the need to **finance** an investment? In which ways might households finance their investments?
23. Discuss how households' potential interest in investment enriches our understanding of the roles assets, markets and non-market institutions might play in shaping a household's well-being.
24. Describe the various ways in which a government or NGO might try to improve a household's well-being? Which of these approaches seem more likely to produce long-lasting improvements?
25. What is the distinction between direct and indirect effects of policy on households' well-being?
26. Give an example of a policy that benefits some groups while hurting other groups.
27. What are some of the choices that households must make in their pursuit of well-being?
28. Define the term **preferences**, and discuss how differences in preferences can lead households facing the same income generating opportunities to experience difference levels of income.
29. Why might it be important for policymakers to recognize the importance of household choice when evaluating and designing interventions to raise well-being?
30. Define the term **living standards**, and discuss the relationship between the well-being and living standards.
31. Discuss the strengths and weaknesses of using data on **household per capita income** for drawing inferences about how well-being is changing over time, or about how well-being differs across households.

32. Discuss the strengths and weaknesses of using data on **household per capita consumption expenditure** for drawing inferences about how well-being is changing over time, or about how well-being differs across households.
33. Discuss the strengths and weaknesses of **direct assessment** of households' consumption or enjoyment along multiple dimensions for drawing inferences about how well-being is changing over time, or about how well-being differs across households.
34. Discuss the strengths and weaknesses of employing measures of household assets for drawing inferences about how well-being is changing over time, or about how well-being differs across households.

### *Questions for discussion*

1. From what you were told about the 42 poor Bangladeshi households, what do you guess are some of the assets, markets and non-market institutions that play the most important roles in shaping their well-being?
2. If you have traveled in a poor region, whether in a developing country or an impoverished region within a richer country, discuss:
  - What are the most obvious (i.e. visible to the eye of a visitor) dimensions of living conditions that suggested low levels of well-being?
  - What would you guess are some of the dimensions of living standards that are very difficult to observe, along which attainment in this region was also very low, contributing to low levels of well-being?
3. Consider two approaches for assessing household living standards and well-being. The first involves the selection of a random sample of households within a region and the use of long, detailed questionnaires eliciting comprehensive information about income, consumption and living standards more generally. The second involves a very short questionnaire including only questions that are easy to answer, and which is administered to every household that hopes to take advantage of a certain government program. For what purposes is each method best suited? How could analysis of the results of the first approach be used to give practical guidance regarding the design of the second approach?

### *Problems*

1. Suppose we know that a household's current income per capita did not increase as the result of a policy. Provide as comprehensive a list as possible of ways in which the policy might nonetheless have improved the household's well-being. Use the organized description of households' pursuit of well-being explicated in this chapter to provide structure for your answer.
2. Suppose you are attempting to choose a measure of living standards for use in determining which households are most in need of assistance. Discuss the relative merits of the following possible measures of living standards:
  - Real income per capita within household over last two weeks
  - Real income per capita within household over last 12 months
  - Real consumption expenditure per capita over the last month
  - Per capita meat consumption over the last month
  - Indicators of whether a household has a dirt floor, uses water from an improved source, and sends children to school
  - Individual measures of height (for age), weight (for age), recent illness.

