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# AN ANALYSIS OF POVERTY IN MYANMAR

PART  
02

POVERTY PROFILE



Ministry of  
Planning and Finance



WORLD BANK GROUP



# Foreword

This report is the second of two poverty reports to be released by the Government of Myanmar and the World Bank.

The Myanmar Poverty and Living Conditions Survey (MPLCS) was conducted in early 2015 on a nationally representative sample of households. The survey was undertaken as part of a close collaboration between the Ministry of Planning and Finance and the World Bank. The principal objective of the survey was to provide updated information on living conditions and socio-economic indicators in the country. The survey used the Population and Housing Census of 2014 to establish its sample, and was designed to be representative at the national, urban/rural and agro-zone levels.

The data from the MPLCS survey was analyzed by a joint technical team from the Government of Myanmar and the World Bank. The reports produced from this analysis reflect the outcomes of this extensive and close technical collaboration. The reports benefitted substantially from the guidance of a Steering Committee and Technical Working Committee, both of which included representatives from Ministries across the Government of Myanmar and the development partner community.

The second stage of the joint analysis is presented in this report. The joint technical teams reviewed the measures of poverty established in 2004/05 in Myanmar, and recommended that the basket of goods defining poverty in Myanmar is updated to reflect the needs of the poor in 2015. The updates mean that consumer goods that were not previously widely available, such as mobile phones, are now included in the consumption aggregate for Myanmar and in the basket of goods defining poverty.

This report presents the results of this new poverty measure. It provides a comprehensive analysis of poverty and living conditions. We now have a much clearer picture of the challenges and opportunities facing the country that can be used to identify policy priorities and to address the challenges facing Myanmar's poor going forward.



**U Tun Tun Naing**  
Permanent Secretary  
Ministry of Planning and Finance



**Ellen A. Goldstein**  
Country Director for Myanmar,  
Cambodia and Lao PDR



# Acknowledgement

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Additional contributions were made by the National Nutrition Center, Department of Public Health, Department of Labour, Department of Human Resources and Planning and Training, Department of Myanmar Education Research (Department of Education Research, Planning and Training), Department of Labor, Department of Planning, Department of Agricultural Land Management and Statistics, and Department of Population.

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# Abbreviations

<b>CBN</b>	Cost of basic needs
<b>GDP</b>	Gross Domestic Product
<b>GOM</b>	Government of Myanmar
<b>HIES</b>	Household Income and Expenditure Survey
<b>IHLCA</b>	Integrated Household Living Conditions Assessment
<b>LFS</b>	Labor Force Survey
<b>LIFT</b>	Livelihoods and Food Security Trust Fund
<b>LSMS</b>	World Bank Living Standards Measurement Studies
<b>MDG</b>	Millennium Development Goals
<b>MICS</b>	Multiple Indicator Cluster Survey
<b>MNPED</b>	Ministry of National Planning and Economic Development
<b>MOPF</b>	Ministry of Planning and Finance
<b>MPLCS</b>	Myanmar Poverty and Living Conditions Survey
<b>NGO</b>	Non-governmental organization
<b>SIDA</b>	Swedish International Development Agency
<b>UNDP</b>	United Nations Development Programme
<b>UNICEF</b>	United Nations Children's Fund
<b>UNOPS</b>	United Nations Office for Project Services

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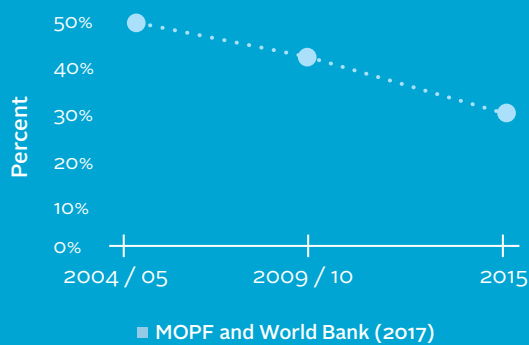


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# Eliminating poverty in Myanmar: Well begun, but far from done

## Poverty declined over the last decade



## However, about a third remain poor

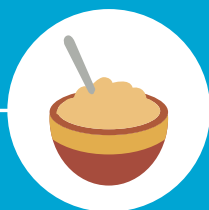


## Poverty reduces life quality and the potential of Myanmar's children



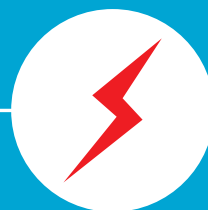
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A quarter of poor children do not complete primary school



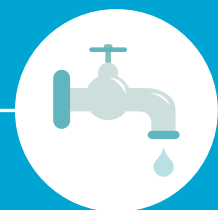
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One in ten households fails to meet their food needs.



#3

Half of households are affected by weather issues, income or health incidents



#4

During the dry season, 4 in 10 poor lack access to an improved water source




## Improving the lives of the poor and vulnerable in Myanmar

Reducing poverty and increasing well-being of the poor and vulnerable populations is a priority for the Government of Myanmar and its development partners.



## Executive Summary

This report presents findings from a joint analysis of poverty and living conditions in 2015, conducted by the Ministry of Planning and Finance and the World Bank Group. The report draws upon the Myanmar Poverty and Living Conditions Survey (MPLCS), fielded in early 2015.



## The findings of the joint analysis have been released in a two-part poverty assessment.

- 1 **Part One** of the assessment reviews poverty trends based on previous poverty measurement methodologies used in Myanmar and recommends that the method for measuring poverty is revised to reflect standards of living in 2015.
- 2 **Part Two** presents the poverty trend and profile based on a new poverty measure.

## Key Findings of the Myanmar Poverty Assessment

Two main messages were delivered in Part One (MOPF and World Bank, 2017a):

1. Living standards have improved and poverty has declined between 2004/05, 2009/10 and 2015.
2. The joint technical analysis recommended rebasing and revising the poverty measure first established in 2004/04 to reflect the needs of Myanmar's population in 2015.

The Ministry of Planning and Finance has adopted the above recommendation, and the poverty profile presented in this report, Part Two of the Joint Poverty Assessment, uses a new updated poverty line based on the needs of Myanmar's population in 2015.

### Four key findings are presented in this Part Two report:

1. The updated poverty analysis confirms the decline in poverty seen between 2004/05 and 2015. It also puts forward a new estimate of poverty based on consumption patterns in 2015. Poverty is estimated to be 32.1 percent in 2015, down from 48.2 percent in 2004/05.
2. Although the correlates and drivers of poverty in Myanmar are diverse, patterns among poor households can be clearly seen through the lens of human, physical and financial capital.
3. Poverty reduces life quality for all and limits the potential of Myanmar's children in multiple ways.
4. Households report facing costly shocks such as weather or health incidents that reduce their ability to focus on longer-term investments and result in harmful coping strategies.



## **Finding One: Poverty is estimated to be 32.1 percent in 2015**

A new consumption aggregate and poverty estimate based on the needs and living conditions of Myanmar's population in 2015 are presented in this report - Part Two of the poverty assessment. There are three key differences between the new welfare measure and the welfare measures previously used in Myanmar.

First, durables are included to reflect the growing importance of home assets, such as electric fans, solar batteries and mobile phones. Second, the calorie norms and adult equivalent parameters used were revised to reflect updated calorie estimates produced by the Ministry of Health. The calorie estimates used in this poverty measurement exercise are more finely cut than those used in the previous exercises. Finally, the new consumption aggregate and poverty line are based on the food and non-food consumption patterns of the population in 2015, compared to 2004/05 in the case of MNPED et al (2007) methodology. These differences are discussed in greater detail in the accompanying Technical Report.

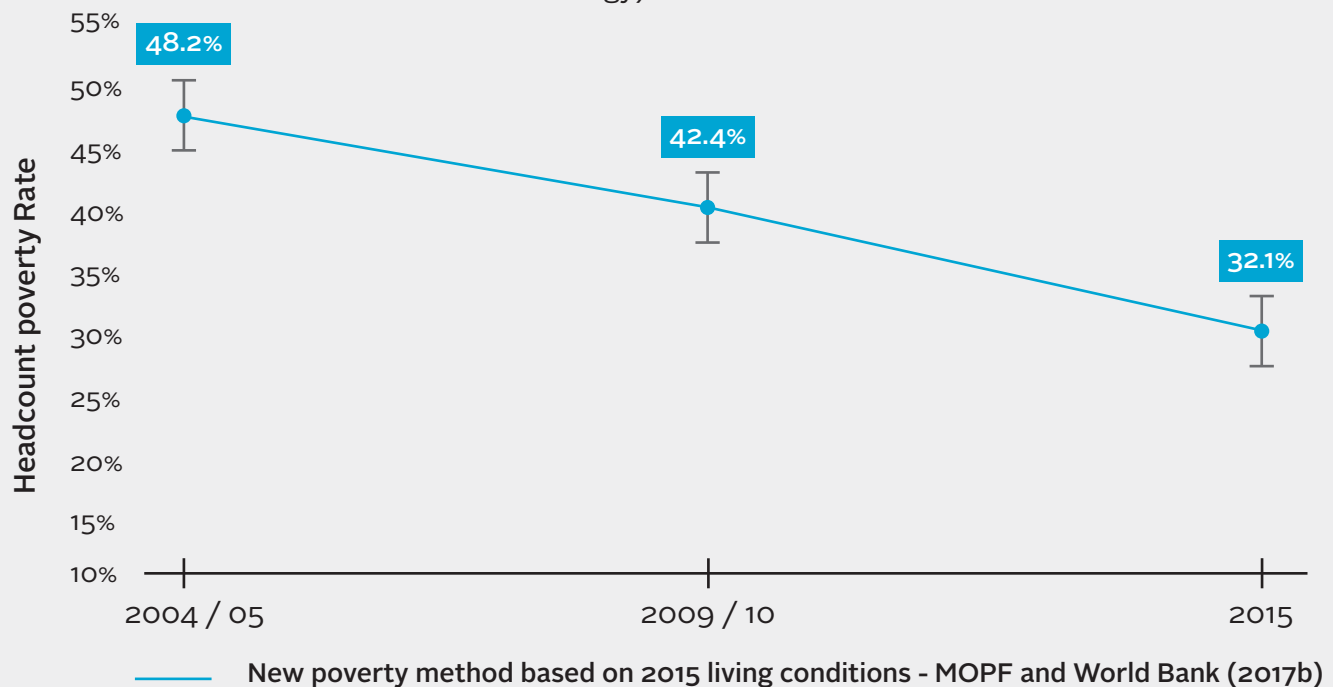
**Using the new consumption aggregate and poverty line, we estimate that 32.1 percent of the population of Myanmar currently lived in poverty in 2015.**

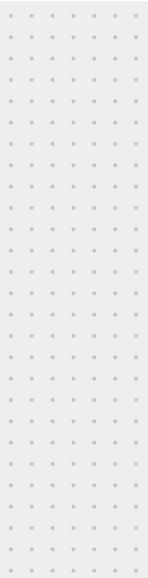
Poverty in Myanmar's farms and villages (rural areas) is substantially higher than that in its towns and cities (urban areas): 38.8 percent of the rural population are estimated to be poor compared to 14.5 percent of those in its towns and cities. This amounts to 15.8 million poor in total, of which 13.8 million live in rural areas and 2.0 million in urban areas. Using the new poverty estimate, we see a decline in poverty from 48.2 percent in 2004/05 to 42.4 percent in 2009/10 and 32.1 percent in 2015. The poverty decline shown below mirrors that seen using the old poverty estimate.

Poverty remains geographically spread in Myanmar: while the Coastal and Hills and Mountains regions contain a disproportionate number of the poorest individuals, 65 percent of the poor live in the Dry Zone and Delta.

In the Coastal and Hills and Mountains areas of Myanmar, we estimate that four in ten of the population are poor and one in six will struggle to meet their basic food needs. Despite a lower share of the population living in these areas, they account for 47 percent of the food poor and 38 percent of those in the bottom quintile of the expenditure distribution. The densely populated Dry Zone and Delta areas account for 65 percent of Myanmar's poor. Although the headcount rate of poverty in the Delta is the lowest of all areas, its high population density implies that the number of poor remains substantial: there are an estimated 5.5 million poor in the Delta (including Yangon), compared to 2 million in the Coastal Zone.

All detailed analysis presented in this report is based on the new poverty measure and consumption aggregate, based on living conditions of 2015 ("MOPF and World Bank (2017b)" methodology).





## **Finding Two: Poverty can be clearly seen through the lens of human, physical and financial capital.**


### **Demographic structure and the education levels of heads distinguish poor and non-poor households.**

The demographic composition of poorer households is quite distinct from non-poor households: poorer households are typically characterized as having more family members and as having more dependents per working age individual. Children of all ages are more likely to be living in poor households than individuals of working age and elderly individuals. Households with more children under the age of 15 are more likely to live in rural areas, have less educated and younger household heads. The demographic composition of these households makes them more likely to have lower welfare levels, by nature of having more people depending on fewer and less educated workers.

### **Poor households have a weaker productive and financial asset base.**

Asset ownership reflects the productive potential of households, and is an important correlate of current wellbeing as well as of potential consumption growth. In situations where credit markets are thin and for households who have difficulty accessing credit markets, households have a lower ability to borrow for investment and have to be more reliant on own-capital accumulation for investment. Asset ownership—both in terms of numbers and value - is lower among poorer households. This is true for household and business assets, as well as for land – the most important asset owned by agricultural households.





**Households in Myanmar display a high degree of diversification, with income from multiple sources. Poorer households are disproportionately concentrated in agriculture, either as casual laborers or as small holder farmers, and tend to be less diversified in their activities.**

Although 70 percent of households are engaged in agriculture, the majority of these households also earn income from additional non-agricultural income sources, such as income from labor, non-farm businesses or remittances from non-agricultural occupations. Poorer households are more likely to be solely engaged in agriculture and, within agriculture, in casual labor activities. Poverty among farming households is strongly linked to low agricultural incomes, reflects small plots of land, and limited irrigation resulting in a heavy reliance on the main monsoon crop.

**Worse off households are also characterized by broader structural constraints that limit opportunities.**

Poorer households are typically less integrated into the formal economy than non-poor households: they are less likely to have identification cards or to have legal titles for their dwellings. Access to these entitlements and official documents can serve as enablers to households for accessing some public services, accessing formal credit sources, enforcing their claims and rights, and for undertaking secure market transactions.



### **Finding Three: Poverty reduces life quality and the potential of Myanmar's children**

**There are many deprivations associated with poverty in Myanmar.**


Myanmar's population continues to suffer from deprivations that limit their ability to feed their families, to finish school and to recover from health shocks. Approximately a third of households report limiting the quality of their diet as a consequence of inadequate resources while 8 percent of households report running out of food due to a lack of resources.

**Health related difficulties affect all households in Myanmar: out of pocket expenses are high and the number of days of labor lost is significant.**

Self-reported ill-health is common in Myanmar: nearly one in six individuals reported having been sick and taken time off normal activities in the last thirty days. Health issues are the most common single shock type reported by households. Health expenditures are high and almost exclusively out-of-pocket, placing a large burden on households. Sixteen percent of households in our sample face catastrophic health care expenditures, accounting for more than 10 percent of total welfare. Poorer households have more difficulty affording appropriate treatment, and are more likely to respond to health difficulties through negative coping strategies, such as borrowing money from informal sources at high interest rates.

**Many rural and poor households lack year round access to basic public services such as electricity and improved drinking water.**

People all over Myanmar, and particularly the poor, suffer from difficulties accessing some basic services and infrastructure including clean water, health services and electricity. Only 33 percent of households have access to electricity through the public grid and the majority of those with public grid access live

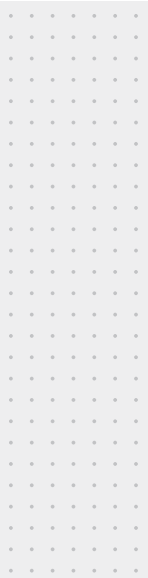


in urban areas. However, off-grid sources of electricity are used extensively, and a myriad of alternative sources of energy have sprung up, from communal provision and solar home systems to rechargeable batteries. Access to improved water sources is highly seasonal in rural Myanmar, and in particular in the Delta area. Outside of the wet season, rainwater harvesting is replaced by water collection from ponds and rivers. Nearly 3 in 10 people lack access to year round improved drinking water, and 1 in 4 lacks access to improved sanitation. Many rural areas also lack access to the critical infrastructure needed to connect to markets within Myanmar and to the rest of the world.

**Myanmar is set to experience a possible demographic dividend in coming years<sup>1</sup>, but malnutrition, high infant mortality, and poor quality education will limit the ability of children from poorer households to play a full role in achieving Myanmar's growth potential.**

Out of every 100 children born in Myanmar, 6.2 die before their first birthday and 7.2 before their fifth (Ministry of Immigration and Population, 2015). Children from poor households are more likely to live in food scarce environments, with implications for their physical and mental growth potential. The dominance of rice in diets in Myanmar means that calorie consumption is typically high but the poor lack the full dietary diversity needed to reduce malnourishment. Six out of 10 children starting grade one drop out before the end of middle school; among families in the bottom 40 percent of the consumption distribution, this figure is seven in 10. Dropout rates are high for both boys and girls, and differences in dropouts across richer and poorer households dwarf gender gaps. School dropout at the secondary level in Myanmar is closely linked to costs, despite substantial increases in the budget for schools. The effects of such childhood poverty are devastating and long-lasting, limiting physical and cognitive development, with subsequent effects on labor market outcomes.

<sup>1</sup> Ministry of Immigration and Population, 2015



## **Finding Four: Households are affected by shocks that may reduce their longer-term growth**

**There is considerable vulnerability to poverty in Myanmar.**

Beyond the third of the population who are poor, a further 14 percent are near-poor, in that their expenditures are above the poverty line of 1303 kyat but below 1564 kyat per adult equivalent per day, 20 percent higher than the poverty line. Thirty percent of the population live within 50 percent of the poverty line. For these people, unanticipated shocks to income or welfare, such as illness of a family member or pests that hit crops, can send them back into poverty. Since many households live life on the cusp of poverty, setbacks such as the illness of a family member, crop failures, or natural disaster can have severe negative repercussions.

**Families struggle to make longer term investments that can improve their well-being, in part due to having to focus on urgent short-term problems.**

Households weathering insecurities take actions that affect their ability to bounce back, including cutting back on their investments, selling core productive assets, and withdrawing children from school. Poorer households have more limited recourse to formal credit or relatives that can help them to weather large shocks, leading to households taking out high interest loans that they may struggle to pay back. A fifth of all households in Myanmar are estimated to be heavily indebted and nearly one in five households has taken out a loan to cover basic food needs.



# 01.

## Introduction to poverty measurement in Myanmar

### Overview of Content

Before examining the incidence and profile of poverty in Myanmar, this chapter first introduces the key references and terms that will be drawn upon throughout the report. The chapter draws heavily from the first chapter of Part One of the Poverty Assessment (MOPF and World Bank, 2017a).

## Surveys used to measure household living standards in Myanmar

Prior to 2015, two nationwide surveys were collected in Myanmar that included comprehensive information on household expenditures.<sup>2</sup> Welfare and poverty were twice measured in Myanmar using the Integrated Household Living Conditions Assessment (IHLCA), conducted in 2004/05 (IHLCA-I) and in 2009/10 (IHLCA-II).<sup>3</sup>

In early 2015, the Myanmar Poverty and Living Conditions Survey (MPLCS) was conducted to capture living conditions in Myanmar. Although the MPLCS is relatively small in scale, with a sample size of 3,648 households, the sample can be used to describe the national, urban/rural and agro-ecological zone level. It cannot be used at the state and region level. The MPLCS used the 2014 Population and Housing Census to draw its sample.<sup>4</sup>

Table 1.1

Summary of surveys used to measure national poverty in Myanmar

Survey	Timing	Level of representation	References drawn upon in this report
Integrated Household Living Conditions Assessment Survey I and II (IHLCA)	2004/05: Repeat visits in November/December 2004 and May 2005	National; Rural/Urban; State/Region	Poverty Profile: MNPED et al, 2007. Technical Report: MNPED et al, 2010.
	2009/10: Repeat visits in December 2009/January 2010 and May 2010	National; Rural/Urban; State/Region	Poverty Profile: MNPED et al, 2011. Technical Report: MNPED et al, 2011.
Myanmar Poverty and Living Conditions Survey (MPLCS)	2015: Households were enumerated in January through April 2015	National; Rural/Urban; Agro-Zone	Accompanying Technical Report on Poverty Measurement and MPLCS Survey Report.

<sup>2</sup> There have been other surveys used to capture poverty in Myanmar. The Livelihoods and Food Security Trust Fund (LIFT) conducted a household survey in 2011, 2013 and 2015 in order to evaluate progress made in rural areas covered by LIFT programs. The results from these surveys are thus not nationally representative.

<sup>3</sup> The survey includes a nationwide representative sample of 18,660 households, based on a sample drawn from administrative population counts. The survey was comprehensive in scope, including modules on basic household characteristics, housing, education, health, consumption expenditures, assets, labor and employment, business, finance and savings. The survey was supported by development partners, and in particular by the UNDP, UNICEF, UNOPS and SIDA.

<sup>4</sup> The survey was comprehensive in scope, including modules on basic household characteristics, housing, education, health, consumption expenditures, assets, labor and employment, business, and finance and savings, as the IHLCA did, and additionally including modules on subjective well-being and self-reported incidence of shocks. The survey was supported by the World Bank Living Standards Measurement Studies (LSMS) and Poverty and Equity teams, and was conducted under the oversight of the Planning Department and Central Statistical Organization in the Ministry of Planning and Finance (previously the Ministry of National Planning and Economic Development).



## The following agro-ecological zones can be examined using the MPLCS survey:

-  **Hills and Mountainous Zone**  
covering Chin, Kachin, Kayah, Kayin, Shan
-  **Coastal Zone**  
covering Rakhine and Taninthayi
-  **Delta Zone**  
covering Ayeyarwady, Bago, Mon, Yangon
-  **Dry Zone**  
covering Mandalay, Magwe, Nay Pyi Taw, Sagaing

More details on these surveys can be found in the Annex of Part One report and in the survey report.

## Poverty measurement using household surveys

This section briefly explains the concept of poverty and how it is measured. The accompanying Technical Report goes into greater depth.

There are two principal steps in poverty measurement: the construction of a welfare aggregate and the construction of a poverty line. The primary elements of poverty analysis are described in Table 2.2 below, which defines terms that are reoccurring through this poverty profile.

Table 1.2

Components of welfare and poverty measurement

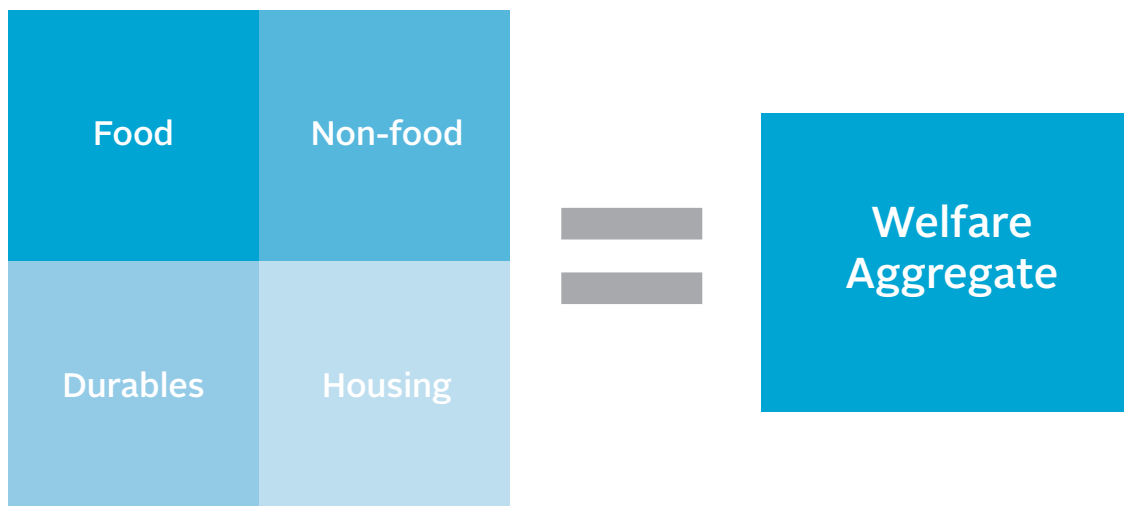
<b>Welfare</b>	Welfare refers to an individual's well-being or long-term happiness.
<b>Measure of welfare</b>	Welfare is commonly measured in monetary terms, for example household expenditures or household income. Households with higher monetary welfare measures are considered better off.
<b>Poverty line</b>	The poverty line defines the minimum welfare level needed to not be considered severely deprived. What is implied by a minimum need varies across countries and as a country develops. In countries where people have severe difficulty feeding themselves, this is often benchmarked around meeting calorie needs. In better off countries where food adequacy is no longer an issue but where worse off households may be excluded or deprived in other ways (e.g. inadequate health care, limited education), poverty may be measured relative to the average or median household.
<b>Food poverty line</b>	The food poverty line defines the level of expenditures needed to meet basic minimum calorie needs. The food poverty line and poverty line may be revised upwards to reflect improvements in dietary diversification and greater consumption of non-food items that are associated with income growth.
<b>Poor</b>	The poor live in a household in which income or expenditures per person (or adult equivalent) is less than or equal to the total poverty line.
<b>Food poor</b>	The food poor live in a household in which income per person (or adult equivalent) is less than or equal to the food poverty line.

**A welfare aggregate captures well-being in monetary terms. It includes four main items.** The four principal items included in a welfare aggregate are food; non-food expendables spending which includes: spending on energy, taking buses or buying fuel for motorbikes, education and, sometimes, health; the use value of durables, which captures a value from using the home assets in the household's possession; and finally the imputed value of the household's housing.



Figure 1.1

Components of a welfare aggregate



A poverty line defines the minimum standard of living that is needed for a household to live a reasonable life, meaning that they are able to feed themselves and to purchase basic non-food items. A household is considered to be poor if their welfare aggregate, effectively the value in kyats that they report consuming, falls below the minimum that is considered needed in Myanmar to support a basic minimum standard of living.

The year that a poverty line is based in matters for the estimate of poverty produced. Even if the methodology to estimate a poverty line is completely unchanged, a poverty line based in two different years will yield two different poverty estimates. A poverty line is a benchmark that reflects standards of living at a given moment in time – it is based in a particular reference year. Poverty lines are typically anchored in food needs and using the food tastes and preferences of the poorest households in a society. Poorer households tend to consume a lower quality diets than richer households, with fewer calories, more basic carbohydrates, and less protein. As households grow richer their diets improve, they consume more non-food items and increase their range of leisure goods. As the diets and consumption patterns of the poorest in society evolves, the line that reflects their basic minimum needs should be revisited.

The headcount rate is the most commonly used measure of poverty. The headcount rate captures the proportion of the population who live in poor households. A household is defined as poor if their per capita (or per adult equivalent) welfare is less than or equal to the poverty line. A household is food poor if their per capita or per adult equivalent consumption expenditures lie below the food poverty line.

The depth and severity of poverty provides a sense of whether the deprivation is relatively shallow—with many people just failing to meet their needs—or deeper and more dispersed. The headcount rate of poverty captures the proportion of the population whose expenditures are lower than what is needed to meet basic societal minimum food and non-food needs. The

headcount poverty measure is not sensitive to the depth of poverty among the poor—if the number of people living below the poverty line remains the same but the poor become better off, the headcount measure does not change. The poverty gap and severity measures are sensitive to changes in welfare under the poverty line. The poverty gap captures the depth of poverty using the average shortfall from the poverty line; the poverty severity measure places more weight on people who are further away from the poverty line.

**Tracking changes in poverty and welfare can help to evaluate whether growth and policies have helped those most in need and to assess whether inequality has evolved.** Living standards measurement surveys are typically used to capture household expenditures and to examine how the share of the population living in poverty has evolved over time. Measures of expenditures are however sensitive to the design of the survey instrument. A poverty line set using the expenditures measured through one survey design cannot be readily applied to the expenditure measure of another survey of incomparable design; this is the case even if the surveys were collected at the same time and for the same population. Due to differences in design between the MPLCS and IHLCA surveys, this assessment of poverty uses imputation approaches to restore comparability of aggregates (Elbers et al., 2003). The more conventional survey-based approaches are also used to examine trends, as a robustness check.

## A framework for understanding poverty and framing this analysis

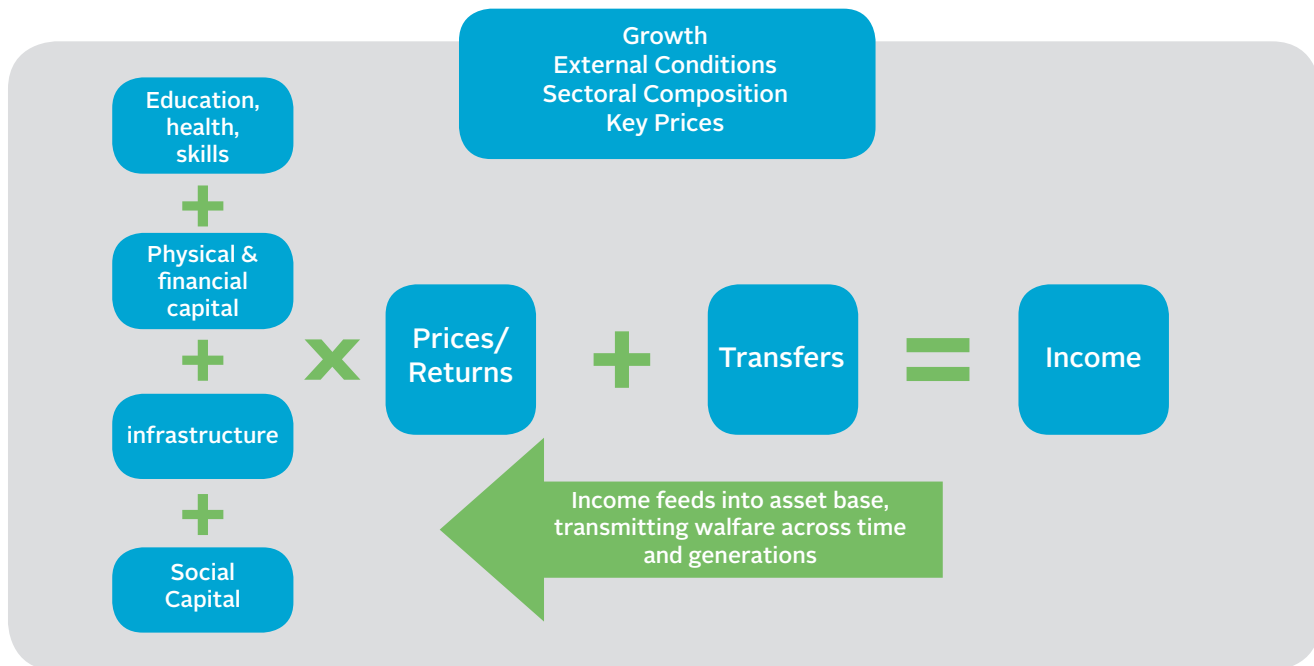
**Poverty refers to living with deficiency, in a manner that restricts a person's ability to take part in society and often with negative implications on future generations.** Although the definition of poverty - not having sufficient resources to cover the basic necessities of life - is simple at first glance, the causes of poverty are likely to be multidimensional and complex. The discussion below puts forward a basic model of poverty through the lens of income generation. It does not however delve into the more fundamental questions of why households in Myanmar behave differently when faced with similar constraints and opportunities. Further studies that explore the multidimensionality and behavioral aspects of poverty will be needed to support broad based poverty reduction in Myanmar.

Figure 1.2 below presents a simplified description of the income generating environment facing households in Myanmar.

**The causes of poverty can lie within the household but also reflect the community and broader society that the household lives in. Poverty is caused by a lack of capacity to generate sufficient resources to keep a household above a minimum welfare threshold.** The most important asset people have is their time—everyone has 24 hours in a day to devote as they choose. How time is spent depends on their health, experience and education, the asset base of the household, the services and infrastructure available to the household, their social capital and the broader economic and regulatory environment that are the enabling factors for how successfully the household is able to turn its own time and assets into incomes.

Figure 1.2

The drivers of poverty, a framework



Households turn their assets—education, land, capital, enabling physical infrastructure such as road access, etc.—into output that faces a set of prices in the market. This could be by means of a casual or permanent wage job, running a small business, or production of agricultural products using land. Households may supplement their income through various sources of transfers—for example, assistance from other households in their community, from government or non-governmental organizations, or from former household members.

**Income is used toward current expenditures as well as investing in the future. Poorer households with less income spend less now, and are also able to invest less in their children and future leading to the intergenerational transmission of poverty.** Examples of current expenditures include food and clothing. It can also be used for investing in the future—for example, it can be used to pay for important productive assets such as land, or to support education that will in turn raise the human capital of future generations and potentially help to break the cycle of poverty. Poor households invest less in their future as they do not have the margins to finance both current consumption and assets that may increase their well-being in the future. The business and regulatory environment surrounding households determines the choices they can make. For example, trade policies will directly impact the availability and price of inputs—such as fertilizer—and will also impact where households can sell to.

In this report, we discuss key assets—both owned by the household and available in their communities—as well as the income generating opportunities of the poor. We do not focus on the broader external factors facing the household, such as changes in the policy framework or macroeconomic conditions, although we do assess the influence of unanticipated shocks external to the household.

The rest of the report is structured as follows.

**What is the level of poverty in 2015, what are their characteristics and spending patterns?**

Part One of the Poverty Assessment recommended a new measure of poverty based on living conditions in 2015. Chapter 2 introduces the proposed consumption aggregate, new poverty and inequality estimates. It then presents trends in poverty estimates and assesses progress in fighting poverty against broader developments in the economy.

Chapter 3 presents a profile of poverty in Myanmar, using the new poverty measure to assess differences between the poor and non-poor. The profile focuses on the socio-economic correlates of welfare.

Chapter 4 examines in close detail the consumption aggregate and food expenditures in particular, the key component of measured welfare and the largest expenditure item for the majority of households.

**What is the asset base of the poor and non-poor in Myanmar?**

Chapters 5, 6 and 7 look at the asset base of households in Myanmar through three lenses: human capital, notably education (Chapter 5), health (Chapter 6) and the availability of key sanitary, infrastructure and energy sources households need in order to thrive (Chapter 7).

**What unanticipated external conditions impact on the lives of the people of Myanmar?**

Chapter 8 looks at how shocks affect the welfare of households in Myanmar, notably focusing on the influence of idiosyncratic and covariate shocks, such as the illness of a household member or drought.

**How do households translate their assets into income?**

Chapter 9 looks at how households generate income, and the key differences emerging between richer and poorer households.



# 02.

Welfare and poverty in  
2015: a new benchmark  
for Myanmar's next  
development phase



## Key Messages:

- **In 2015, 32 percent of the population lived in poverty.** A revised estimate of poverty based on living conditions in 2015 suggests that nearly a third of the population lived in poverty and a further 14 percent were highly vulnerable to poverty.
- There are 15.8 million people living in poverty in 2015, of which 13.8 million reside in rural areas.
- **Poverty declined** between 2004/05 and 2015. The poverty decline is seen in both the previous poverty estimate, benchmarked in living standards of 2004/05, and in the new poverty estimate benchmarked in 2015.
- **Standards of living increased more rapidly in urban areas than in rural.**
- **Inequality has risen.** Although improvements in living standards were seen among the poorest in society, greater improvements were seen among richer households. The welfare of the poorest 10 percent in the population has not changed as markedly as the welfare of the average household.

## New consumption aggregate and poverty line in 2015

**Part One of the Myanmar Poverty Assessment made the recommendation to revise and rebase the poverty estimates to reflect the needs of the poor in 2015.** This recommendation emerged from the initial stages of the joint analysis of poverty. Updates to a country's welfare aggregate and poverty line are recommended approximately every ten years to reflect changes in living conditions that occur as incomes rise (such as a shift in the basket of goods from food to non-food goods) and to reflect changes in survey and poverty estimation methodology. As discussed in Part One, living conditions and the needs of the poor have indeed changed since poverty was first measured in 2004/05. First, the share of food in a household's basket has declined while non-food items have become more diverse, raising the need to capture a greater diversity of non-food items. Second, and related, the number and variety of goods has increased, particularly for household assets. Third broad reforms have changed the spending patterns of households, as government resources to key services have increased allowing households to diversify the range of items they spend resources on.

**This poverty assessment puts forward a new consumption aggregate and poverty line, based on standards of living in Myanmar in 2015. There are three key differences between the new welfare measure and the welfare measure previously used by the Ministry of Planning and Finance.** First, durable use value is included to reflect the growing importance of home assets, such as electric fans, solar batteries and mobile phones in households in Myanmar. Durables were not included in the MNPED et al (2007) methodology. Second, the calorie norm and adult equivalent parameters used were revised to reflect updated calorie estimates produced by the Ministry of Health. The new poverty line is based on a basket of 2238 calories, compared to 2300 calories used in the two previous poverty methodologies. The calorie estimates used in this poverty measurement exercise are more finely cut than those used in the previous exercises. In previous poverty estimations, all children under the age of 15 were treated as having similar needs while in this estimation, for example, a 2-year-old is treated as having different needs to a 10-year-old. Finally, the new consumption aggregate and poverty line are based on the food and non-food consumption patterns of the population in 2015, compared to 2004/05 in the case of MNPED et al (2007) methodology. These differences are discussed in greater detail in the accompanying Technical Report.

**The new poverty lines for Myanmar establish the threshold below which a household is considered to be poor.** The new poverty lines are given in January 2015 Myanmar Kyat in Table 2.1. An individual in Myanmar is considered to be poor if he or she lived in a household with per adult equivalent consumption expenditures of 1303 kyat per adult equivalent per day or less, or 1241 kyat in

per capita terms. The food poverty line is set at 850 kyat per adult equivalent per day, or 805 kyat in per capita terms.

**Table 2.1**

Poverty line and welfare measure, MOPF and World Bank (2017b)

	Per adult equivalent	Per capita
Poverty Line	1303	1241
Food Poverty Line	850	805
Median expenditures	1644	1575
Median food expenditures	953	917

Note: all values are spatially deflated and in January 2015 kyat.

**Median total consumption expenditures in Myanmar are estimated to be 1644 kyat per adult equivalent per day in January 2015 prices, or approximately US\$1.60 (at 1025K=US\$1 on January 1st 2015). Median food consumption is 953 kyat per adult equivalent. Median expenditures in urban areas are 60 percent higher than those in rural areas, at 2362 kyat per adult equivalent per day compared to 1492 in rural areas. Articles for survival – food, clothing, housing, cooking fuels - dominate the expenditures of the poor and bottom 40 percent of the population, as would be expected; this is also the case for the third and fourth quintiles of the consumption expenditure distribution. The composition of household expenditure is discussed in greater depth in Chapter 4.**

The poverty measurement methodology is described in greater depth in the associated Technical Report on Poverty Measurement. All subsequent analysis in this poverty report uses the new consumption aggregate.

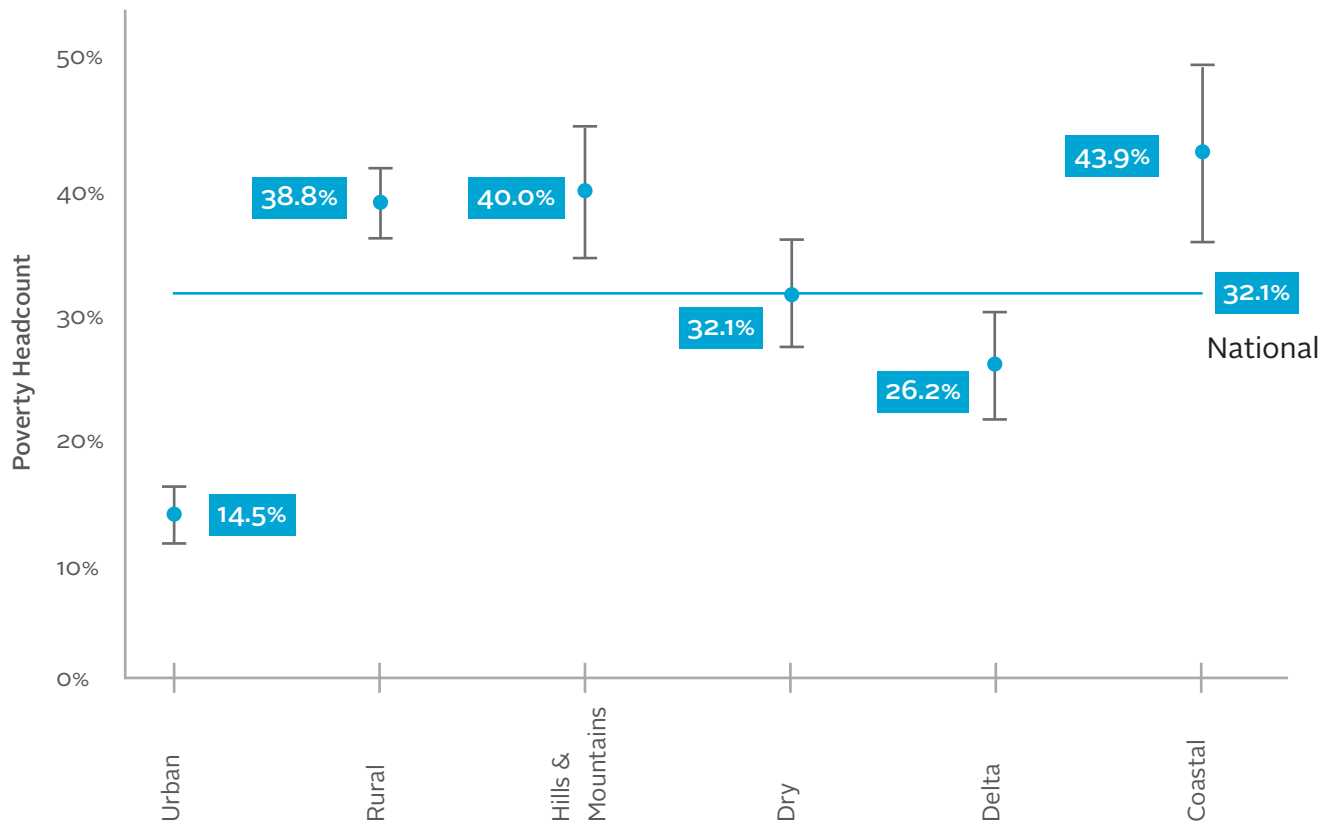
## Poverty estimate based on 2015 living conditions: level and trends

**A third of the population of Myanmar lived in poverty in 2015—their total expenditure per adult equivalent was less than the poverty line.** Using a new poverty line and consumption aggregate based in 2015 standards of living, we estimate that 32.1 percent of the population lived in poverty in 2015. Figure 2.1 shows national and sub-national poverty estimates in Myanmar.



Figure 2.1

Poverty headcount rate in Myanmar, by urban and rural status and agro-zone



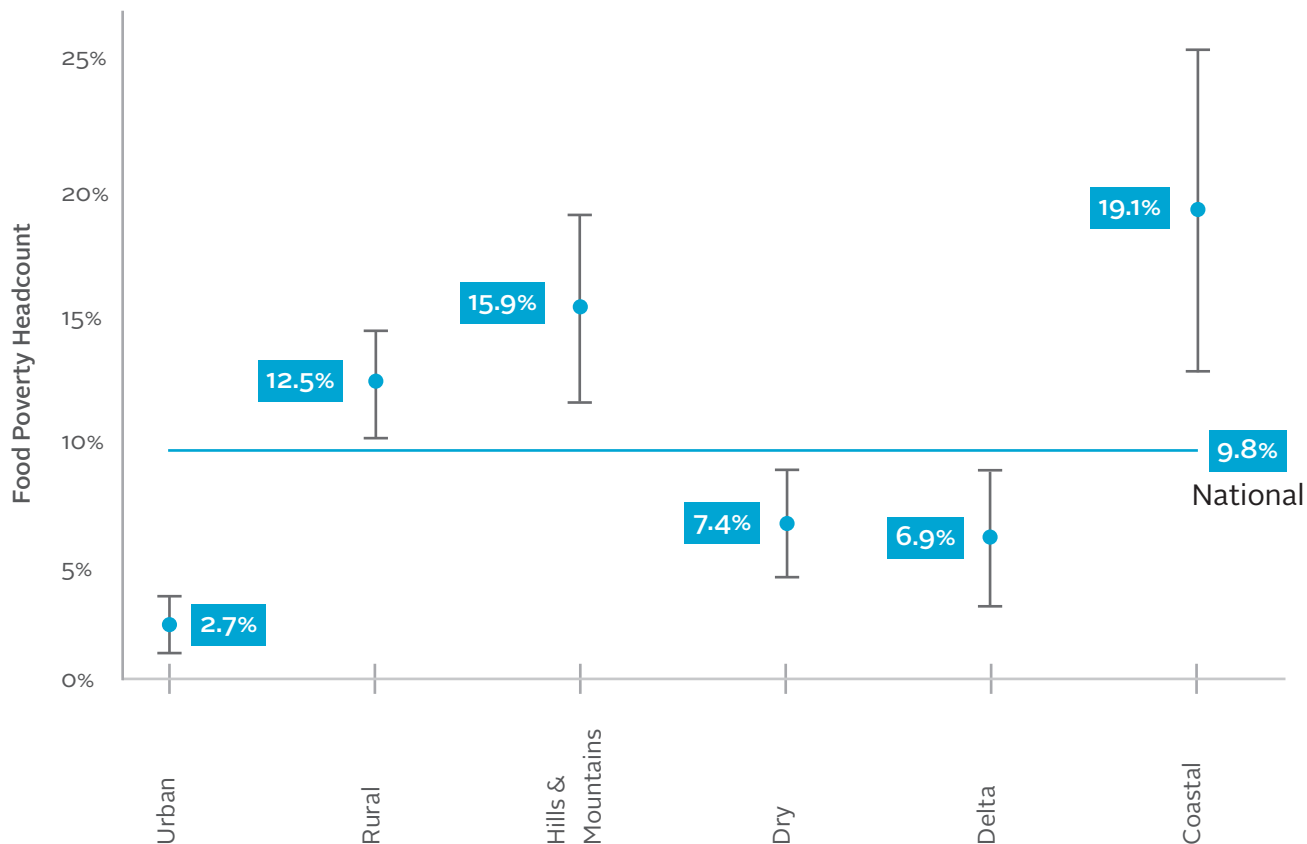
Poverty in Myanmar’s farms and villages (rural areas) is substantially higher than that in its towns and cities (urban areas). In rural areas, 38.8 percent of the population is estimated to be poor, compared to 14.5 percent of those in towns and cities. This amounts to 15.8 million poor in total, of which 13.8 million are found in rural areas and 2 million are found in urban areas.<sup>5</sup>

Ten percent of the population of Myanmar are food poor, meaning that their total consumption expenditures are not considered sufficient to cover their food needs. This measure of poverty captures a form of extreme deprivation, where even the most basic of food needs are not being met. Rates of food poverty are substantially higher in rural areas than in urban, with 12.5 percent of the rural population suffering from food poverty compared to 2.7 percent of the urban population. Food poverty rates are considerably higher in Hills and Mountains and Coastal areas, consistent also with their higher rankings in the poverty gap and poverty severity measures for both food and total poverty.

<sup>5</sup> The estimated number of poor is based on the enumerated and estimated non-enumerated populations living in conventional households, following the definition of the 2014 Population and Housing Census of Myanmar (Ministry of Immigration and Population, 2015). The estimated number of poor therefore includes all people living in conventional households in Myanmar, both those enumerated and not enumerated in the Census. The poverty estimates exclude however the 2.35 million individuals in Myanmar living in student dormitories, monasteries, convents, barracks and other such living arrangements.

Figure 2.2

Food poverty headcount, by urban and rural status and agro-zone

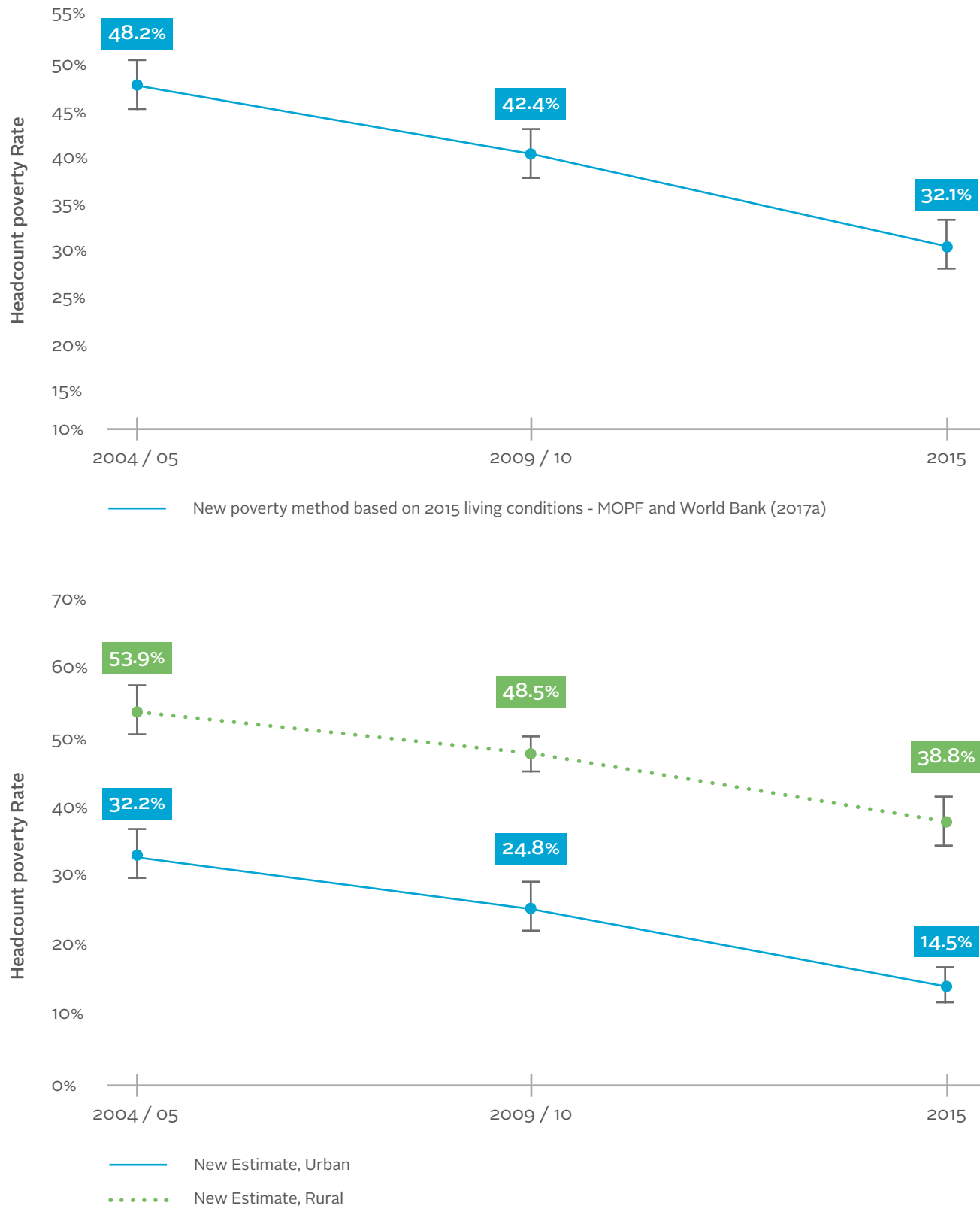


There are many near-poor in Myanmar, whose welfare is not sufficiently high to remove the threat of poverty. Beyond the 32.1 of the population who are poor, there are many people whose welfare levels place them in the near vicinity of the poverty line; for these people, unanticipated shocks to income or welfare, such as family illness, could be crippling and send them into poverty. Nationwide, 14 percent of the population live in households with estimated welfare within 20 percent of the poverty line – i.e. between the poverty line of 1303 kyat per adult equivalent a day and 1564 kyat per adult equivalent per day (20 percent higher than the poverty line). If we examine the population living within 50 percent of the poverty line (between 1303 kyat and 1954 kyat), we find 29.6 percent of the population. This means that 46 percent of the population live under a welfare line that is 20 percent higher than the poverty line, and 61.7 percent live under a welfare line 50 percent higher than the poverty line.

The decline in poverty reported in MOPF and World Bank (2017a) is mirrored in the new poverty estimate. Poverty is estimated to have declined from 48.2 percent in 2004/05 to 42.4 percent in 2009/10 and 32.1 percent in 2015, using the new methodology in which the poverty benchmark is based on living conditions in 2015 (MOPF and World Bank, 2017b). The decline in poverty can be seen in urban areas as well as rural.

Figure 2.3

Estimated trends in poverty rates, new estimate based on 2015 living conditions  
(MOPF and World Bank, 2017b)



Note: Imputation methods are used to restore comparability as far as possible in poverty estimation for 2004/05 and 2009/10. See Part One Report (MOPF and World Bank, 2017a) for a detailed discussion of the robustness of these methods.

## Broader measures of well-being: growth in mean welfare, vulnerability and poverty severity

**Among those who were still poor in 2015, welfare was higher on average in 2015 than in 2009/10.** The rise in welfare among the bottom 40 percent of the expenditures distribution can be seen when comparing the distribution of consumption aggregates across time using the new aggregate. There was relatively little change in well-being at the very bottom end of the distribution, however, which suggests that for the very worst off improvements in welfare were minimal. The increase in welfare among the poor can be seen in the decline in both the depth and severity of poverty between 2004/05, 2009/10 and 2015. Panel (b) of Figure 2.4 shows trends in the poverty gap, while panel (c) shows trends in the squared poverty gap index. These measures are important complements of the headcount poverty rate, allowing for a more robust depiction of the nature of poverty in Myanmar.<sup>6</sup>

**Despite improvements in living conditions, many continue to be at risk of poverty.** Individuals are considered to be near-poor or vulnerable to poverty if there is a non-negligible chance that they could fall into poverty. We capture this by looking at the population that lies within 20 percent of the poverty line. Panel (a) of Figure 2.4 shows the changes in vulnerability to poverty over time and the fraction of the population who are vulnerable to poverty by area. Although the fraction of individuals who live in poor or near-poor households has declined over time, from 61.9 percent in 2004/05 to 46 percent in 2015, using the new poverty measure, the high shares of the population living under the near-poor line signals substantial vulnerability to poverty. This high level of vulnerability can be seen in all of Myanmar's agro-zones, and clearly touches rural populations more than urban. Vulnerability is a key dimension of welfare, both in the present and in the longer term. The risk of impoverishment can cause insecurity, increase stress and increase the sense of defenselessness; it can result in individuals making decisions that they otherwise would not (Calvo and Dercon, 2013). In the longer term, uncertainty about future prospects can result in households postponing or reducing productive investments and can reduce investment in education.

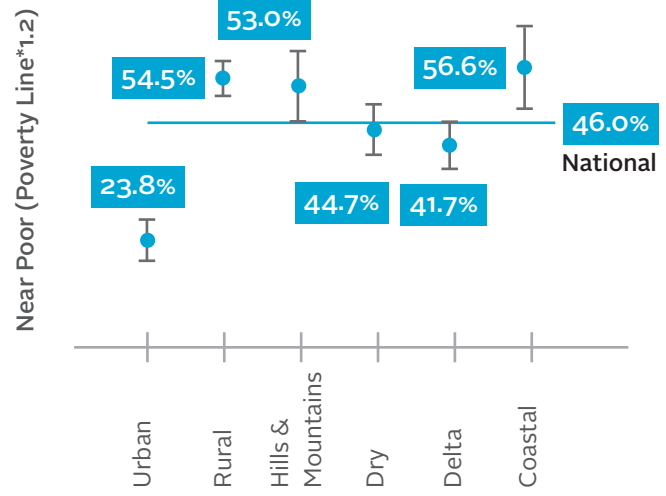
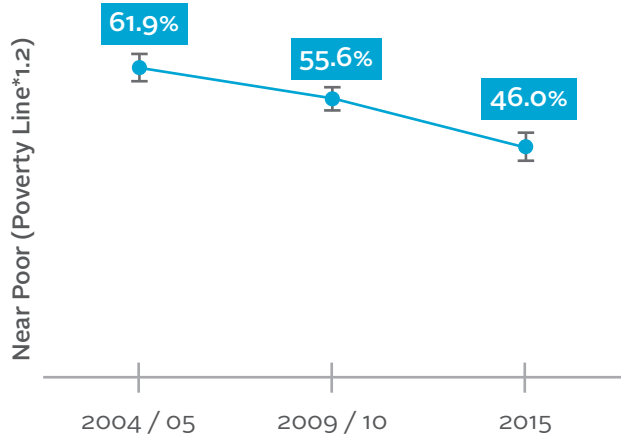
**There is substantial regional variation in the depth and severity of poverty, both of which are higher in rural areas than in urban.** The poverty gap describes how far below the poverty line a given population of poor in a specific area lives, where depth is captured as a percentage of shortfall from the poverty line. It can also be described as the cost of eliminating poverty (relative to the poverty line) since it shows the amount of resources, as a percentage of the poverty line, that would need to be transferred in order to eliminate poverty. Although the poverty gap has declined over time, it remains elevated and higher than the national average in some parts of Myanmar. The elevated depth of poverty in

<sup>6</sup> The MNPED et al. (2007) poverty measure, with a lower poverty threshold bench-marked on living conditions in 2004/05, shows a more moderate decline in the poverty gap and poverty gap squared, relative to that seen using the new measure, which uses a higher poverty threshold based on living conditions based in 2015. These results are discussed in greater depth in the accompanying technical report.

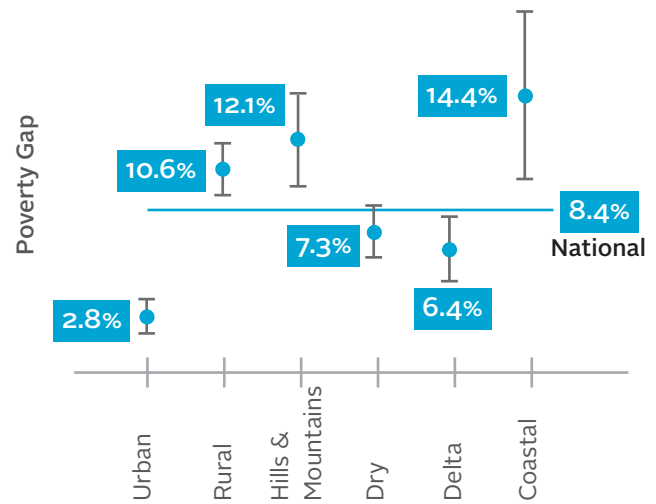
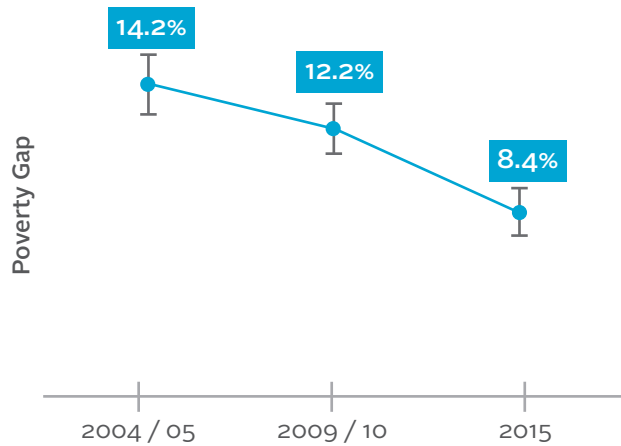
Figure 2.4

Trends in other welfare measures 2004/05 to 2015

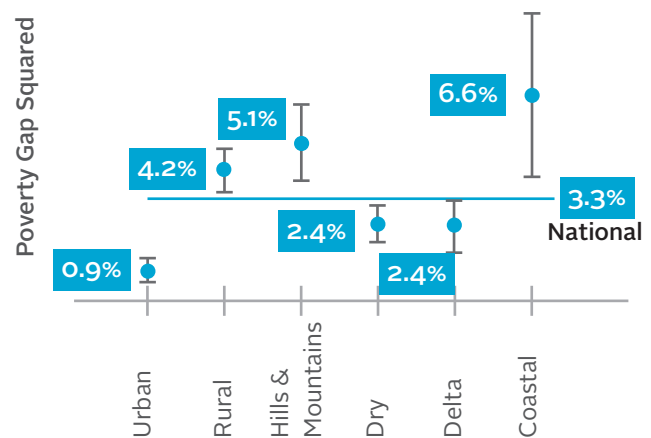
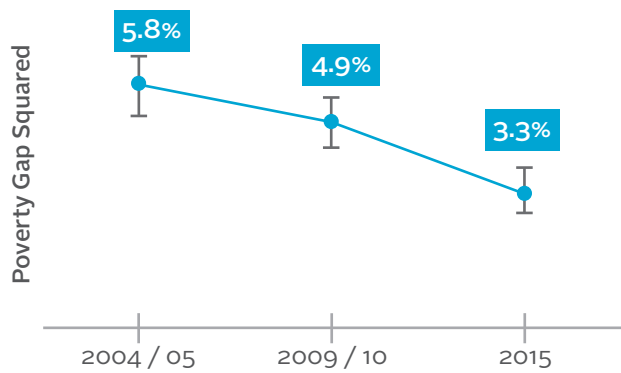
a) Near-poor



b) Poverty Depth – poverty gap



c) Poverty Severity



Note: All three panels use imputation methods to restore comparability as far as possible in poverty estimation for 2004/05 and 2009/10 (MOPF and World Bank, 2017a). See accompanying Technical Report on Poverty Measurement for a detailed discussion of the robustness of these methods.

rural areas, the Hills and Mountains and Coastal areas is a reflection of poorer households being, on average, further from the poverty line in these areas. The intensity of poverty in Coastal areas is higher than both the average in the union, and higher than in the Hills and Mountains. The severity of poverty gives more weight to the poorest of the poor and also highlights inequality between the poor. The higher depth and severity in these areas thus highlights both the greater depth of poverty and the greater fraction of very poor people.

**Real expenditure per adult equivalent has grown between 2004/05 and 2015 with higher growth in the last half of the decade.** Urban areas have experienced faster growth than rural areas. Estimates suggest increases in real per capita consumption of around 31.4 percent over a 10-year period, corresponding to an annualized growth rate of 2.8 percent.<sup>7</sup> Per adult equivalent growth of expenditures was faster in the last half of the decade, rising from 2.1 percent per annum between 2004/05 and 2009/10 to 3.5 percent per annum between 2009/10 and 2015. Growth in the last decade was slower in rural areas than in urban: 1.9 percent per annum compared to 4 percent. By contrast to the growth seen on average in the population, in rural areas there is no demonstrable change in welfare among the bottom 10 percent. In rural areas a similar increase in well-being can be seen for those above the 10th percentile.

## Inequality

**Inequality in Myanmar is at a similar level to that seen in other countries within the region. Higher inequality can be clearly seen in urban areas<sup>8</sup>.** The relatively low levels of inequality in Myanmar are a reflection of the compactness of the expenditure distribution – there are many individuals who live in poverty or near the poverty line. There are some households at the top of end of the distribution who show markedly different consumption patterns, in particular in their ownership of higher value durables. The majority of these households lives in cities, which contributed to increase the Gini coefficient in urban areas and cause an urban-rural gap in the level of inequality.

<sup>7</sup> Mean expenditures in each survey wave are estimated using survey-to-survey imputation to restore comparability. 3 observations of per adult equivalent expenditures greater than 80,000 kyat per day were treated as outliers and removed; including these observations growth is estimated to be 36.4 percent.

<sup>8</sup> See Part One Report (MOPF and World Bank, 2017a) for a detailed explanation on inequality measurement and relevant indicators.

Table 2.2

## Measures of inequality, 2015

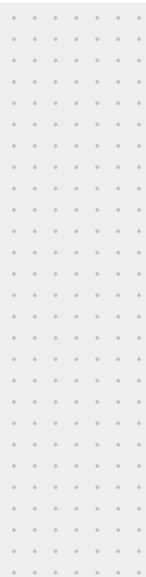
	National	Urban	Rural
Gini	35.0	38.6	28.3
Theil-o	20.7	25.0	13.4
Theil-1	25.9	32.3	13.9
Share bottom 20%	7.5	6.6	9.0
90/10	4.1	4.6	3.5
90/50	2.1	2.3	1.9
50/10	1.9	2.0	1.9

Note: Inequality estimates are based on MPLCS 2015 data and use the MOPF and World Bank (2017b) aggregate. There are three outlier observations in expenditure corresponding to households with expenditures of more than 80,000 kyat per day per adult equivalent in January 2015 Myanmar kyat attributable to high value durables, notably cars. The Gini coefficient is highly sensitive to the inclusion of these observations

## International Extreme Poverty

In October 2017, the international extreme poverty rate of Myanmar was announced (World Bank 2017). The international poverty line is set at US\$1.90 using the 2011 Purchasing Power Parity exchange rates (PPPs). Myanmar's international extreme poverty rate was estimated to be 6.5 percent in 2015.

**The principal difference between national and international poverty measurement lies in the poverty line used,** notably whether it is based on a country specific definition of poverty or in internationally comparable terms. International poverty and national poverty assessments should be treated separately and used for different purposes. While the international poverty line is used primarily to track global extreme poverty, and to measure progress on global goals, Myanmar's national poverty line reflects the basic minimum needs of the population and is far more appropriate for underpinning national policy dialogue or targeting programs to reach the poorest in Myanmar's context. In this Part Two Poverty Profile report, we discuss the profile of poverty using the national poverty measure.







# 03.

## Profile of poverty in Myanmar in 2015



## Key Messages:

- Poverty rates are highest in the Hills and Mountains and Coastal areas. However, two thirds of the poor are found in the densely populated Dry Zone and Delta areas.
- Poverty is associated with larger families, more dependents and limited productive assets – including lower education and landlessness.
- Female headed households are not poorer than male headed household, mirroring the results from previous poverty analysis in Myanmar. Greater work is likely needed to assess the type of female headed households that may need greater support.

**The poor in Myanmar are not a homogeneous group and poverty is not a single problem that can be solved with a uniform package of policy measures.** Part One of the Poverty Assessment (MOPF and World Bank, 2017a) shows that poverty has started to decline and that improvements of households' living standards have been combined with improvements in the other dimensions of well-being. Subsequently, this Part Two report introduces the rebased poverty estimate, calibrated on living standards of the population in 2015. Despite the positive changes, around one-third of the population of Myanmar continues to live in poverty, and an important proportion of the population in the poorest groups is likely to be trapped in persistent poverty. In order to instigate appropriate pro-poor measures, it is necessary to understand in detail the characteristics and profiles of the most disadvantaged groups and the different constraints they face. This chapter puts forward patterns of poverty.

**The demographic profile presented differs slightly from the previous poverty analysis in Myanmar.** This predominantly reflects the adult equivalence correction—both the norms used to adjust for the needs of children and the use of ex-post adjustment or normalization to align the adult equivalent and per capita poverty rates. This is discussed in greater depth in the Technical Report on Poverty Measurement.

## The geographic concentration of poverty

**Poverty is overwhelmingly rural, with 87 percent of the poor living in farms and villages.** Figure 2.1 shows the headcount rate of poverty in urban and rural Myanmar, and across the agro-ecological zones, while Figure 3.1 shows the share of poor in these areas. The headcount rate is higher in rural areas than in urban areas, at 38.8 percent compared to 14.5 percent. The majority of the poor and the majority of people in Myanmar are found in rural areas. Although fewer poor live in urban areas, the high population density in these areas means that the number of poor per square kilometer is likely to be higher in urban areas than in rural. Yangon, with 5.2 million urban residents that accounts for a third of the Myanmar's urban population, has a population density which is 10 times the national average (Ministry of Immigration and Population, 2015).

**There is extensive variation in the rate of poverty across agro-ecological zones.** The headcount rate of poverty is highest in the Coastal and Hills and Mountains area, at 43.9 and 40 percent respectively. These areas have the highest poverty intensity and severity indexes, consistent with the substantial food poverty also recorded in these areas. The headcount rate of poverty is lower in the Delta, at 26.2 percent, and the same as the national average in the Dry Zone, at 32.1 percent. Though the Delta and Dry Zone have lower poverty rates, 65 percent of the poor in Myanmar live in these areas due to the high population density of these areas. We are unable to currently estimate

state- or region-level poverty due to the small sample size of the survey. Small area estimates can be estimated through a subsequent small area estimation exercise.

**Poverty in the Coastal and Hills and Mountains areas is deeper and more severe than in the other agro-ecological zones.** This can be seen through the higher shares of food poor living in these areas, as well as through measures that capture the severity of poverty, such as the poverty gap and the poverty gap squared. Note that the standard error of poverty estimates in Coastal areas is considerable, likely reflecting the substantial diversity of its regions. Although poverty in Coastal areas is estimated to be higher than in the Hills and Mountains, due to high standard errors the difference between the two zones is not statistically significant. The deprivations seen in the Coastal and Hills and Mountains areas are also seen in a number of other indicators that are explored throughout this report.

Figure 3.1

Share of poor by location

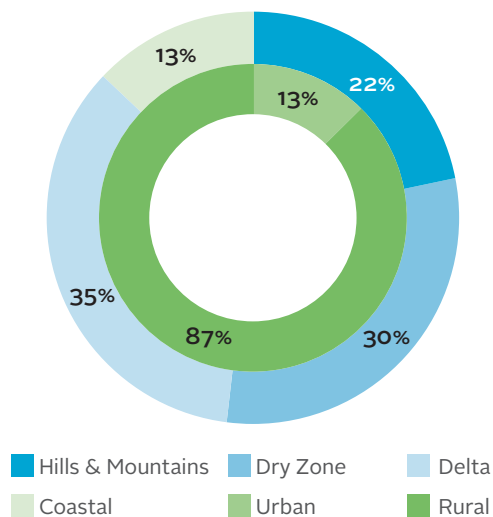
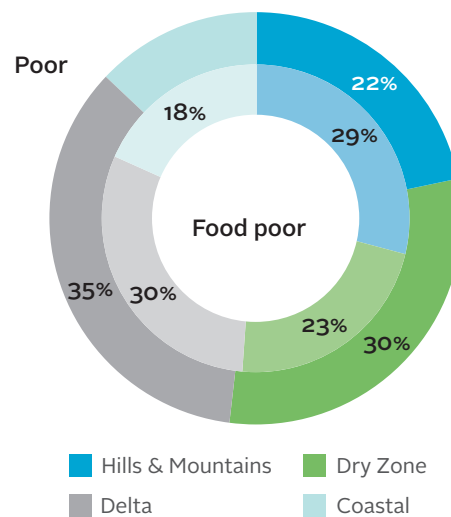


Figure 3.2

Share of poor and food poor by agro-ecological zone



**Geography is a catch-all for multiple the other factors that are linked to poverty.** In this case, it is also a blunt proxy since agro-zones are at a higher level of aggregation than Myanmar's states and reasons. There are multiple economic and social indicators that vary systematically across locations of Myanmar. For example, we know from the Population and Housing Census that there is a strong correlation between whether children aged 6 to 9 are attending school and the fraction of the population in that area who are not attending school. Similarly, we know that there is substantial diversity across Myanmar in the sources of lighting and energy. Although on average one in five household use candles as their main source of lighting, in rural Kayin and Rakhine more than half of households report doing so.

Where possible, this report examines the correlates of well-being taking into consideration the substantial diversity associated with location and urban-rural status.

## Demographics of well-being in Myanmar

**The demographic structure of a household is closely associated with poverty.** Some of the key links between family type and structure can be seen in Table 3.1 below. Larger household size and a higher share of children within these larger households has been found to accompany or to be associated with poverty in many lower income countries across the world (Lipton, 1995). Many have hypothesized and can observe however the opposite: that large households are not always poorer, rich households are often those that are able to support more individuals. This demographic paradox of poverty is partly explained by a number of factors (Lipton, 1983; Hrishnaji 1984). First, the relationship between family size and poverty is partly explained by household structure – notably that larger households tend to have more children, who are dependent on breadwinners. Second, although a larger number of members could result in economies of scale – for example, getting lower prices for food due to buying in bulk or sharing public goods – the scope for economies of scale has been found to be limited among poorer households in lower income countries. This is partly a consequence of the dominant role played by food, cooking fuel and clothing in these household’s expenditure basket (Lipton and Ravallion, 1995). The limited scope for economies of scale can be seen in Myanmar, where food, cooking fuel, clothing and soap account for nearly 80 percent of the expenditures of the bottom quintile.

Table 3.1

Demographics by geographic location, expenditure quintile and poverty status

	Household Size	Dependency Ratio	Working Age	No. children (0-14)	No. elderly (64+)	Head women (%)	Age of head (yrs)	No. adult men	No. adult women
All	4.53	57	3.42	1.75	0.33	18.2	51.2	1.56	1.87
Urban	4.56	46	3.82	1.46	0.40	23.1	53.3	1.72	2.11
Rural	4.52	61	3.27	1.86	0.30	16.3	50.3	1.50	1.77
Non-Poor	4.18	50	3.32	1.44	0.34	18.7	51.4	1.51	1.81
Poor	5.51	72	3.64	2.41	0.29	17.3	50.6	1.66	1.98

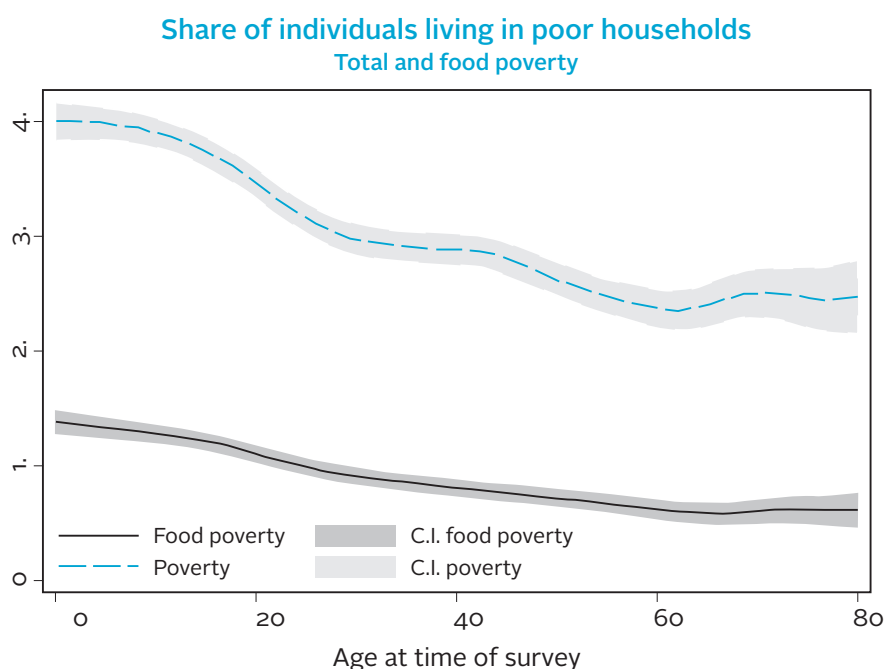
Note: The total dependency ratio is the ratio of dependents (people younger than 15 years and older than 64) to the population of working-age (age 15-64). Data are shown as the proportion of dependents per 100 working-age people. Three different measures can be calculated: total dependency ratio, child dependency ratio and old age dependency ratio

Children of all ages—babies and toddlers to young adolescents—are more likely to be living in poor households than individuals of working age and elderly individuals. Households with more children under the age of 15 are more likely to live in rural areas, have less educated and younger household heads. The relationship between the number of children and poverty can work in two directions. On the one hand, a larger number of children and dependents affects the ability of households to cover basic food needs and to move themselves out of poverty. On the other hand, poor households tend to have more children in order to compensate for their inability to invest in the human capital of their children and as an insurance strategy against infant mortality, trapping them in a circle of poverty. In Myanmar, household size dynamics are in part reflected in the rural-urban poverty split. Although household size is slightly larger in urban than in rural areas, the average number of children in rural households is greater than in families located in urban areas. The high rate of child poverty that we find takes into account the lower calorie needs of younger children—a baby, for example is assumed to require fewer calories than an adolescent or adult.

Poorer and rural households have a substantially higher share of dependents relative to the working age population, but also have a higher number of workers and working age individuals. Poverty does not appear to be related to inactivity, but to low returns to activity. Dependency ratios capture the ratio of dependents—those aged less than 15 or more than 64—to the population of working age, aged 15 to 64.<sup>9</sup> The indicators shown in the table are expressed as the proportion of dependents per 100 working-age individuals. Although poorer

Figure 3.3

Share of individuals of a given age living in households classified as poor or food-poor



<sup>9</sup> The dependency ratio captured in the MPLCS, of 57, is slightly higher than that captured in the census – 52.5. This may partly reflect differences in the definition of a household between the two sources.

households have on average more individuals of working age and indeed more members who are working, they also have more dependents per working age and per working person. In Myanmar, household dependency ratios are strongly correlated with education even after taking into account location, household size and the age of the household head. As such, these households face the double challenge of more limited earnings, as a result of lower human capital, and needing to stretch the resources that they earn even further to cover the needs of more dependents.

**There does not appear to be a significant relationship between the gender of household head and the economic welfare of the household.** The proportion of households headed by women is similar among poor households and the general population. This finding from the MPLCS on the relative poverty of female-headed households mirrors that from the IHLCA-I and -II (MNPED et al, 2007 and MNPED et al, 2011). While many might assume that female-headed households fare worse than male-headed ones, this relationship could not be detected in a regression analysis of the determinants of poverty. Female-headed households are predominantly headed by widows (75 percent for female-headed households, compared to 5 percent of male-headed households) or women who are divorced or separated (6 percent for female-headed households, compared to less than one percent for male-headed households). They are also more likely than male-headed households to be found in urban areas, and have older household heads.

**Further analysis is needed to assess how welfare varies across different types of female-headed households.** Female-headed households can be separated into various categories, for example (i) older widows, often non-working and living with working age family members; (ii) younger single women working in urban areas; and (iii) younger widows with dependents to feed. It may be that some types of female headed households suffer from much higher levels of poverty as compared to the other groups.

## Education, and its relationship with well-being

**Poverty is associated with lower levels of education of the household head.** Education is strongly linked to income-generating opportunities, as a reflection of an individual's skill set to enter different sectors and of the asset profile of the household from which they came. The incidence of poverty declines considerably among households whose head has attained some grade of middle school or above (Figure 3.4). For those with primary and below, poverty rates remain at or higher than average. Even after taking into account various other socio-demographic effects in a regression model, education of the household head is significantly positively associated with consumption, and the returns to education increase with higher levels of the head's schooling.

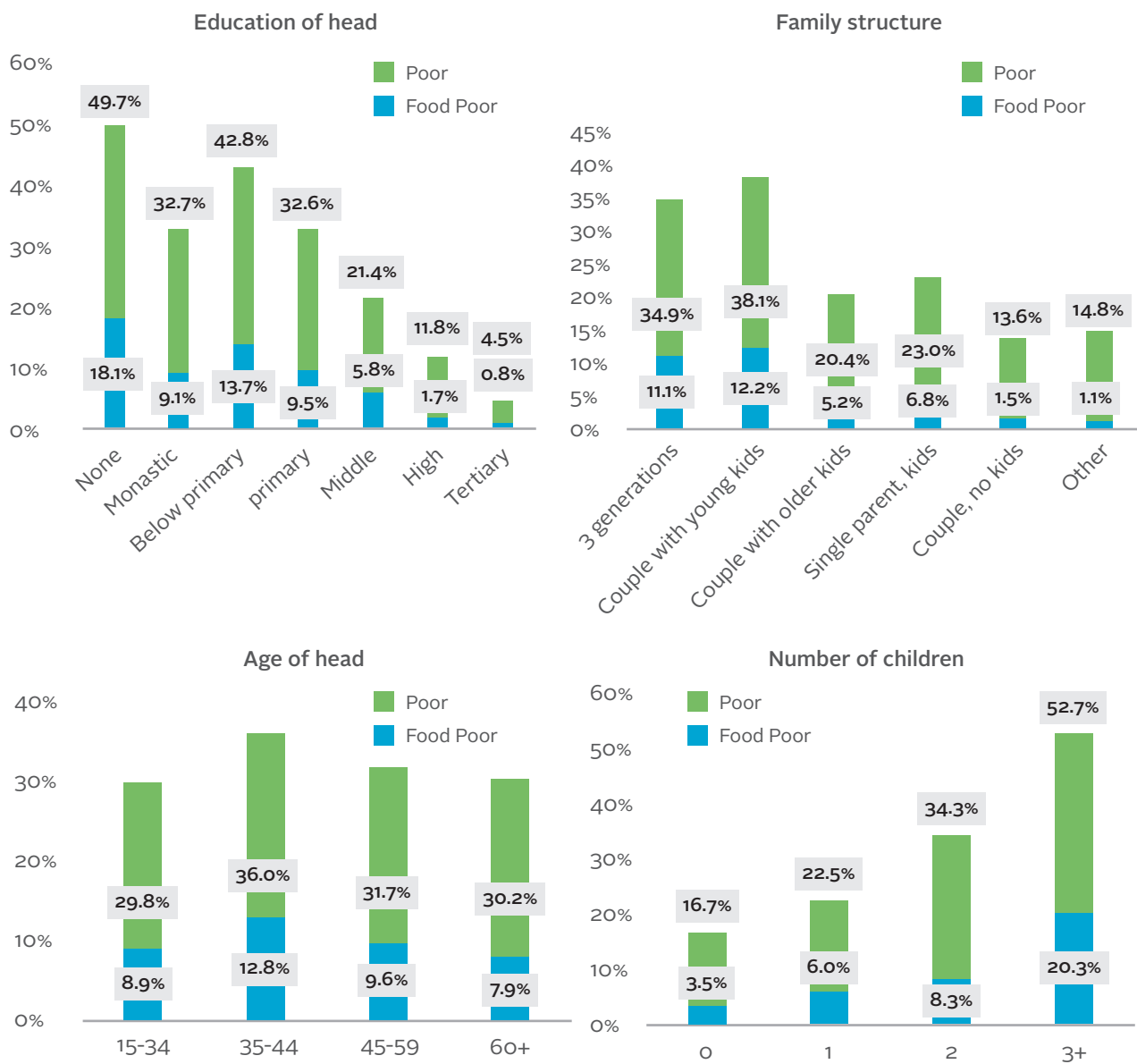
**Education affects living standards through two primary channels.** First, the cognitive and non-cognitive (soft) skills acquired through education increase the productivity of a person's time (Hanushek and Woessman, 2007; Heckman et al, 2011). For example, they can make better choices on the technology to adopt in agriculture and be more efficient in its usage (for example, using chemical

fertilizer at the right time of year and in the correct quantities), they can bring needed knowledge to a workplace (for example, as a doctor, teacher, lawyer) or they can invest their money wisely as an entrepreneur. Second, education has also been found to have significant gains through other aspects of living standards that are of value in their own right as well as having links to individual productivity, such as improving health, sanitation, social integration and so forth.

The positive relationship between higher levels of education and consumption is stronger in urban areas than in rural areas. The link between education and expenditures in urban areas is likely a reflection of the active labor market for the higher order cognitive and non-cognitive skills associated with more schooling. This is related to the broader range of income-generating

Figure 3.4

Snapshots of poverty through the characteristics of the household head



Note: The figures above are population weighted. Each figure depicts the fractions of the population that lives in households with certain characteristics.



opportunities in sectors and occupations that use skills gained through formal education in urban areas. The positive relationship between education and welfare is however also clearly seen in rural areas and when restricting the analysis to only agricultural cultivators.

**Secondary education appears to be the most closely associated with higher living standards in both rural and urban areas.** Monastic education raises welfare in rural settings to an extent equivalent to completing primary schooling. In urban settings, households whose head has completed monastic or only some primary grades have a similar welfare and poverty level—all other things equal—to those who have completed no schooling. This likely reflects the different structure of rural and urban labor markets, with a greater premium in urban areas on the numeracy and literacy skills that are associated with completing primary school. It should be noted that, even within urban areas, the return to education in wage labor markets is below that found in neighboring countries; this is discussed further in Chapter 9.

## The productive and financial asset base of the poor

**Poor households are less integrated into the formal economy and possess fewer formal claims to possessions and entitlements.** Compared to the non-poor, poor households report lower possession of titles for their dwellings and for any agricultural land cultivated by them. They also have lower access to formal banking—while 30 percent of the households in the richest expenditure quintile have a bank account open, 10 percent in the poorest quintile and bottom 40 do. Non-poor households also have higher rates of possession of identification cards compared to poorer households. Access to these official documents can serve as enablers to households for accessing public services, enforcing their claims and rights, and for undertaking secure market transactions. Without full access to formal documents, many (poor) households may be compelled to operate on the margins of the formal economy and under difficult conditions, with lower access to remedy grievances and settle disputes.

Table 3.2

Access to formal entitlements by expenditure and poverty status

	Household has title for land cultivated	Household has legal title for dwelling	Someone in household has a bank account
Total	64.8%	36.9%	15.7%
Urban	67.9%	71.7%	18.1%
Rural	64.6%	26.3%	14.7%
Non-Poor	71.7%	40.8%	18.0%
Poor	51.5%	28.8%	10.8%

Note: The estimates in this table are population weighted. Each figure depicts the fraction of the population that live in households with a title for land cultivation, a title for their dwelling or a bank account.

**Poor households have a weaker productive and financial asset base.** Asset ownership reflects the productive potential of household units, and therefore is an important component of poverty reduction. This is particularly the case in economies where credit markets are thin, reducing the ability of households to borrow for investment and resulting in a greater reliance on own-capital accumulation for investment. Asset ownership—both in terms of numbers and value - is lower among poorer households and those in the lower expenditure quintiles. This is true for household and business assets, as well as for land – the most important asset owned by agricultural households, who dominate the poor.

**Land is the most important factor for agricultural production, and often the most valuable asset owned by rural households engaged in farming. Poor households are less likely to own land, are more likely to rent land in and to cultivate smaller plots.** The greater the land available to a household, the more farm income they can generate. Average farm sizes in Myanmar are relatively large – 6.6 acres. The estimated farm size from the MPLCS is similar to the average for Myanmar from the 2010 Agricultural Census, estimated at 6.34 acres. Poor farmers are less likely to own the land that they farm than non-poor households, and are less likely to hold a land title for the land that they do own. The cultivating households who do not own land are renting in the land that they are farming. Land rental markets are however thin; very few households rent and the average size of plots rented is small. The thinness of land markets is likely to be related in part to incomplete titling, which limits the exchange of land for rent or sale on markets.

Table 3.3

Asset ownership by area and poverty status

	Any home asset	Number of home assets	Value of assets	Cultivator owns land	Landless Cultivator	Acres of land farmed
Total	90.9%	5.232	171,000	84%	16%	6.59
Urban	98.5%	8.727	374,000	-	-	-
Rural	88.0%	3.891	100,000	84%	16%	6.47
Non-Poor	95.5%	6.367	270,000	88%	12%	7.58
Poor	81.1%	2.827	32,000	77%	23%	4.66

Note: The median current value of assets is reported; all other reports reflect the mean. 4 outlier observations with asset value greater than 2 trillion kyat are excluded from the table. A cultivator is defined as owning his or her land if he or she signals that it is owned; land titles were not physically examined and verified during the interview.



# 04.

More and better  
quality food needed for  
the people of Myanmar



## Key Messages:

- Food accounts for the majority of the welfare aggregate for the majority of households.
- The diet that defines the food poverty basket – which reflects the cost of basic minimum food needs – is, in fact, basic. The relatively limited dietary diversity in the food basket of the poor reflects the dominance of rice in the consumption basket of all households in Myanmar.

## Composition of total household expenditures

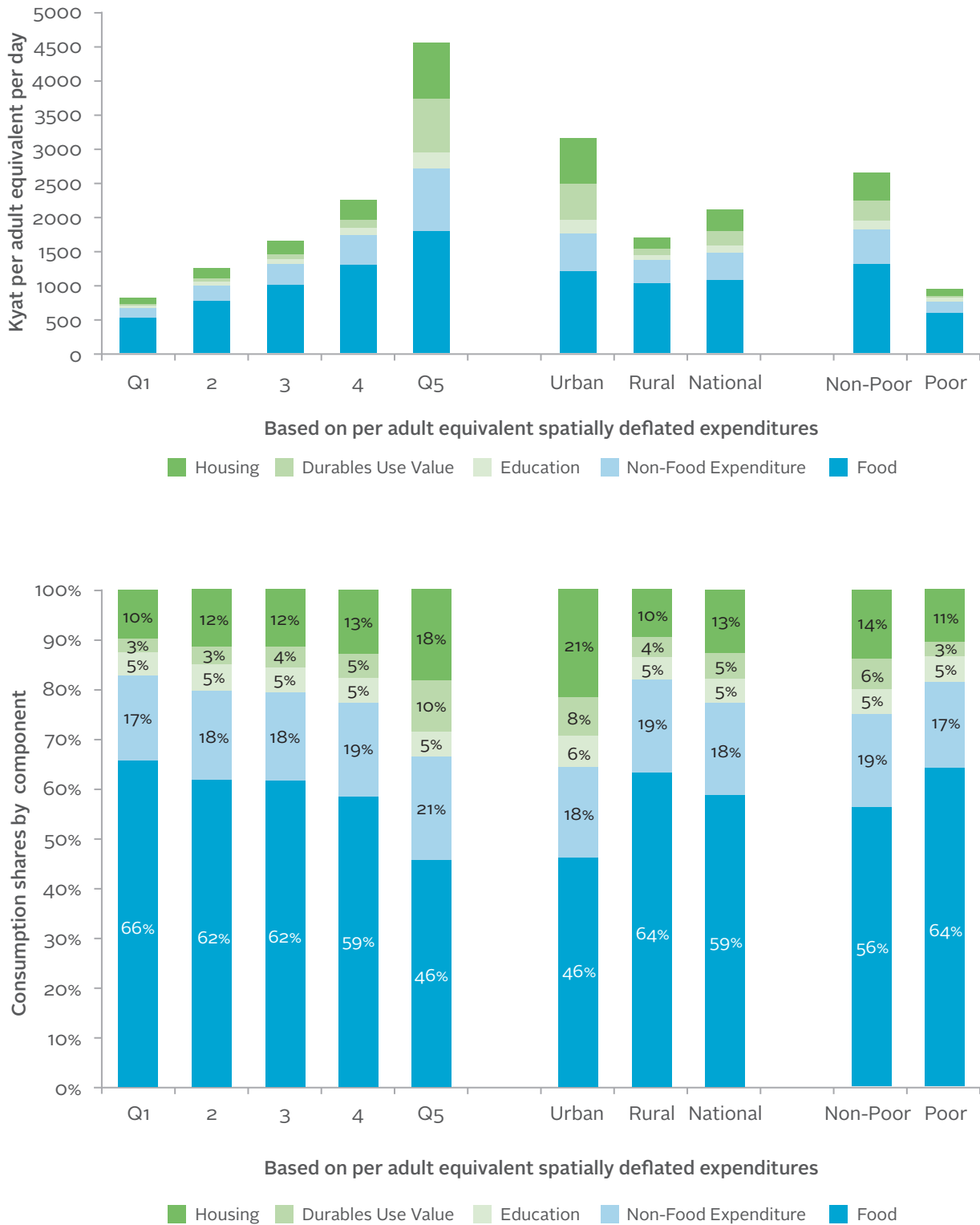
Figure 4.1 shows total consumption expenditures separated into spending on food items, non-food items, education, housing and durables use value.

**The consumption basket of the majority of the population is dominated by survival items—food and basic non-food necessities. Food accounts for over half of consumption expenditures for individuals living in the bottom 80 percent of households.<sup>10</sup>** Households in the bottom 20 percent devote 66 percent of their total expenditures to food, and those between the 20th and 80th percentile devote between 59 and 62 percent. The share of food drops to 46 percent for the top quintile, but remains the largest single component of total consumption for this group. The share of spending devoted to non-food expenditures, excluding education, remains fairly constant across the distributing, rising moderately from 17 percent for the bottom quintile to 19 percent for the fourth.

<sup>10</sup> These shares are consistent with those depicted in the second panel of Figure 4.1. they are estimated from the mean expenditure shares of different categories of goods among, for example, the poor or non-poor. As such, they are reflective of democratic weights.

Figure 4.1

Total consumption and consumption share per adult equivalent, by components



Note: Based on spatially-deflated adult equivalent expenditure using population weights.

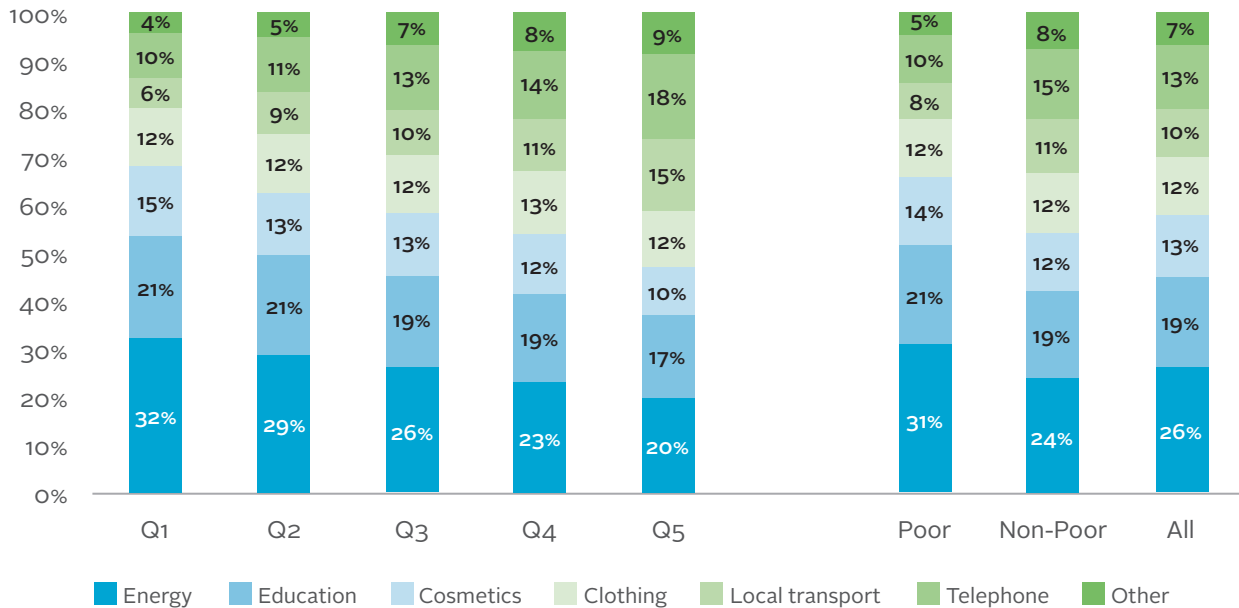
**Basic necessities such as energy and personal apparel dominate spending on non-food items for the majority of households.** Non-food items span a wide range of goods and services, including expenditure on energy and fuel, education, transportation and clothing. Necessities such as cooking fuel and personal apparel, notably cleaning and sanitary products, dominate the baskets of the poor. Among those living in the bottom 20 percent of the expenditure distribution, 32 percent of total non-food expenditure is devoted to energy, which includes electricity from the national grid, electricity from a private source, firewood, fuels and candles. The share of non-food expenditures devoted to energy is substantially higher in rural areas than in urban, on average as well as among richer and poorer households. The share of non-food resources devoted to energy in rural areas remains above 20 percent for all households, while in urban areas it drops to 13 percent for individuals living in the richest 20 percent of urban households from 27 percent among those living in the poorest 20 percent of urban households. Relatively few households in rural areas are connected to the public electricity grid, resulting in a diversity of spending on alternative sources of energy.

**There is substantial variation across households in the composition of energy spending.** Individuals living in households in the top expenditure quintile report spending approximately 24661 kyat per month on energy, just over 2.5 times as much as those at the bottom end of the distribution. The composition of energy spending differs across these households. Where there is access to the public grid, energy spending for the poor and non-poor appears to be dominated by the cost of grid electricity and cooking fuel (charcoal and firewood). Individuals living in poorer households tend to cook with firewood while among those living in richer households, who have better access to grid electricity, firewood and electricity are the two most common cooking fuels. For those living in poor households that are not connected to grid electricity, just over 60% of energy resources (in cash and kind) is devoted to firewood for cooking purposes and 10% of energy spending goes to candles for lighting. Individuals living in non-poor households with no public grid access devote nearly 10% of energy resources to private grid electricity and a further 26% of spending to fuels and batteries that could be used to power lamps or a mini-generator.

**The share of non-food expenditures devoted to transportation rises substantially with total expenditures while the share devoted to energy sources declines.** Spending on transportation (excluding maintenance costs) increases from 6 to 15 percent across the expenditure distribution. The rise in spending across expenditure quintiles is seen in both rural and urban areas. The share of spending devoted to education remains stable across the expenditure distribution, although it increases in absolute value—from 6656 kyat per household per month in the bottom quintile to 28495 kyat per households per month in the top quintile. Among individuals living in richer urban households, education expenditures are the largest single category of non-food expenditures closely followed by transportation.

Figure 4.2

Non-food expenditure composition



Note: The share of expenditures on different non-food items are estimated by taking population weighted average share that households devote to various expenditure categories. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using .population weights

**There has been a substantial rise in the share of individuals living in households in Myanmar owning household assets.** The rise in asset ownership can be seen in a number of assets, from higher value motor-cycles to bicycles. Although the ownership of electrical goods is highly dependent on electricity access, the share of households with televisions is higher than the share with access to the public grid – a reflection of the diverse ways that the people of Myanmar meet their energy needs through off-grid solutions. This is discussed further in Chapter 7. Durable use value rises sharply across the expenditure distribution, consistent with the high expenditure elasticity of these goods, with more valuable assets associated with transportation—bicycles, e-bikes, motor-cycles and cars—as the greatest area of growth.

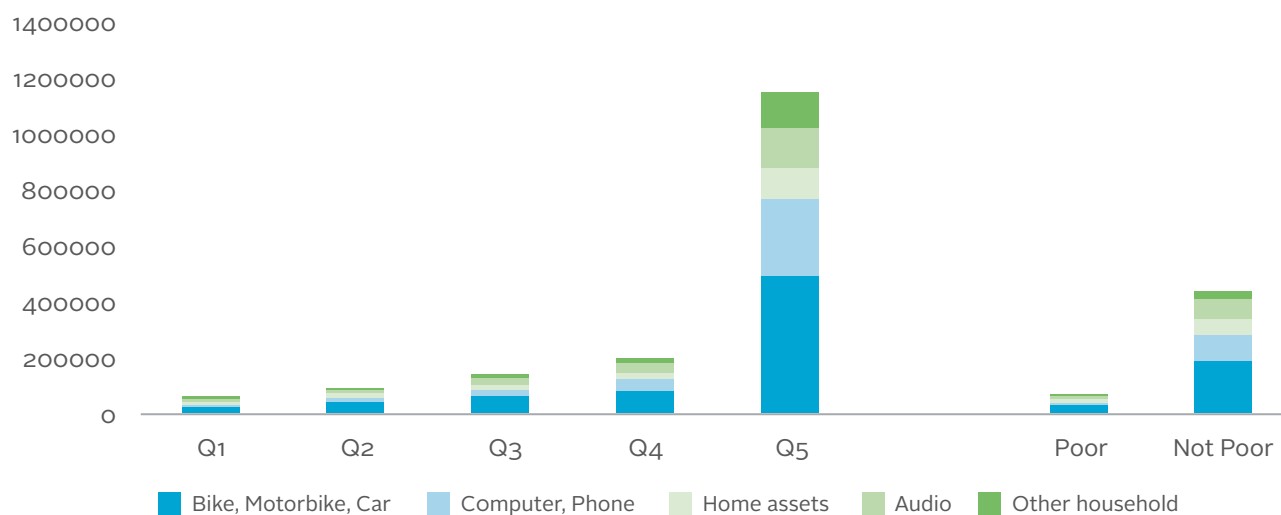
**The rise in durables is likely to have been an important factor behind rising welfare inequality, as ownership of more expensive assets in particular is highest among richer households.** The figure below shows selected durables ownership by expenditure quintile (Figure 4.4). The ownership and value of assets in general, and of vehicles in particular, expands while moving up the distribution. Richer households are far more likely to own mobile phones, motorbikes, bicycles, televisions, gas and charcoal stoves. Forty-two percent of poorer households report owning a vehicle compared to 71 percent of richer households. The composition of vehicles changes along the expenditure distribution. Poorer households own bicycles and motorbikes with equal shares, while richer households are more likely to own motorbikes over bicycles. Cars are only owned by the richest households, among whom 17 percent own a car. Car ownership is dominated by urban dwellers—32 percent of the top quintile



of urban households report owning a car, compared to 4 percent of the top quintile of rural households. In contrast, motorbike ownership is common in both rural and urban richer households.

Figure 4.3

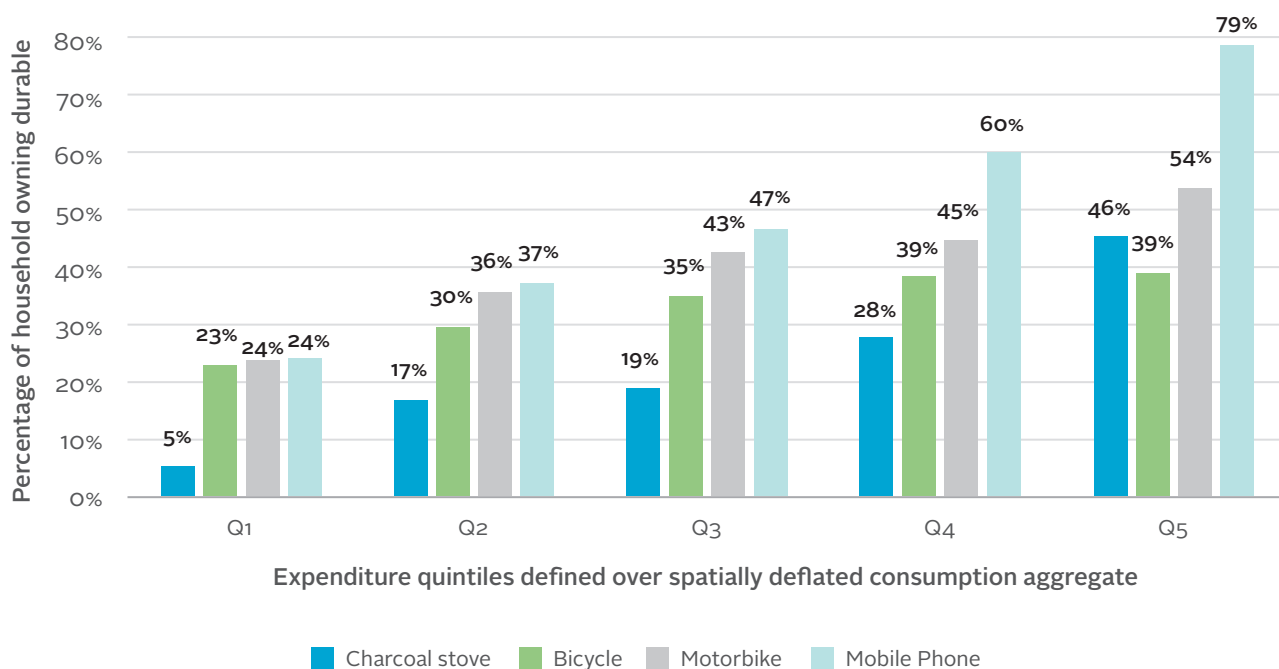
Durables composition across expenditure distribution and by poverty status



Note: Analysis conducted using population weights. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

Figure 4.4

Durables ownership per quintile



Note: Analysis conducted using household weights. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

## Food expenditures

**Food dominates the expenditures of the majority of households. Dietary diversity is more limited among the poor and in rural areas.** Figure 4.5 shows the share of expenditures devoted to these various food products by expenditure per adult equivalent quintile and across the poor and non-poor, and Figure 4.6 shows food expenditures by item. Individuals who live in bottom quintile households spend on average 538 kyat per day per adult equivalent on food, compared to 1814 kyat among the top quintile of the expenditure distribution. The share of spending from rice and pulses drops as one climbs the food expenditure distribution, while the share of expenditure devoted to more protein and fat intensive foods, such as fish, meat, dairy and eggs, rises. Dietary diversity is lower in rural areas than in urban. Households in rural areas spend more on rice and pulses than those in urban areas—both in absolute terms and as a percentage of total expenditures – and less on meat, dairy, fish and eggs. Food away from home is also an important share of expenditure for urban households, where it accounts for 13 percent of total spending.

**Rice is the calorie staple in Myanmar for rich and poor.** While richer households can afford to eat a diverse set of foods while maintaining this staple, poorer households focus more spending to meeting this basic food need. Calorie consumption of rice, pulses, beans and nuts (predominantly rice) is remarkably stable throughout the expenditure distribution in Myanmar: approximately 1400-1500 calories per adult equivalent per day. Individuals living in poor households need to devote a third of their food expenditures to meet their rice needs. There is also a clear wealth gradient in the type of rice consumed, with higher value aromatics consumed by better-off households.

**The low food expenditures in the bottom quintile in Myanmar is mirrored in calorie consumption.<sup>11</sup>** Within households in the bottom quintile, individuals consume an average of 1959 calories per adult equivalent per day, compared to an average of 2463 calories nationally. The lowest calorie consumption occurs in the Hills and Mountains, where individuals consume an average of 2255 calories a day. Approximately 41 percent of households consume less than 2238 calories per adult equivalent per day, the calorie norm used to define the poverty line. Calorie consumption in urban areas is lower than that in rural areas, reflecting multiple factors, including higher physical activity levels in rural areas linked to manual labor.

<sup>11</sup> For some items, the calories attributed to each food differ from those used in previous poverty estimations in Myanmar. This reflects a shift towards edible portions, where wastage factors are taken into consideration to account for non-edible components of foods such as bone and peel. See the accompanying Technical Report on Poverty Measurement for further detail.

Figure 4.5

Share of food consumption expenditure by item

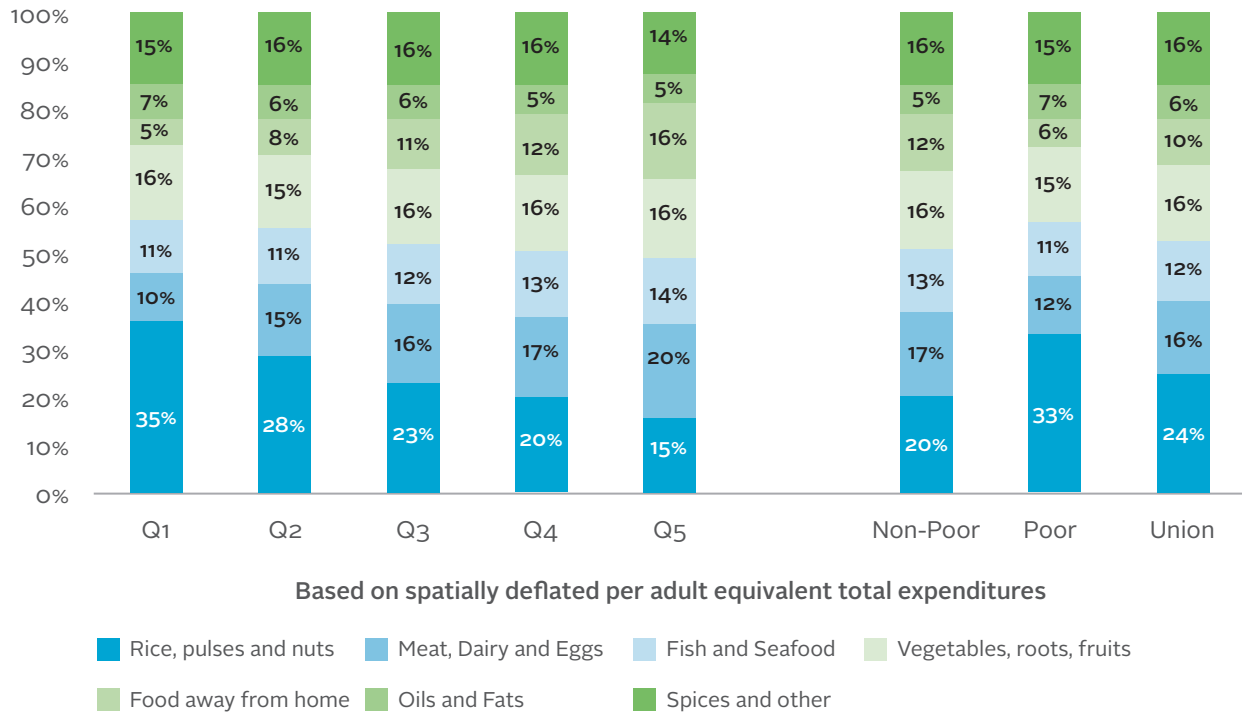


Figure 4.6

Food expenditures by item

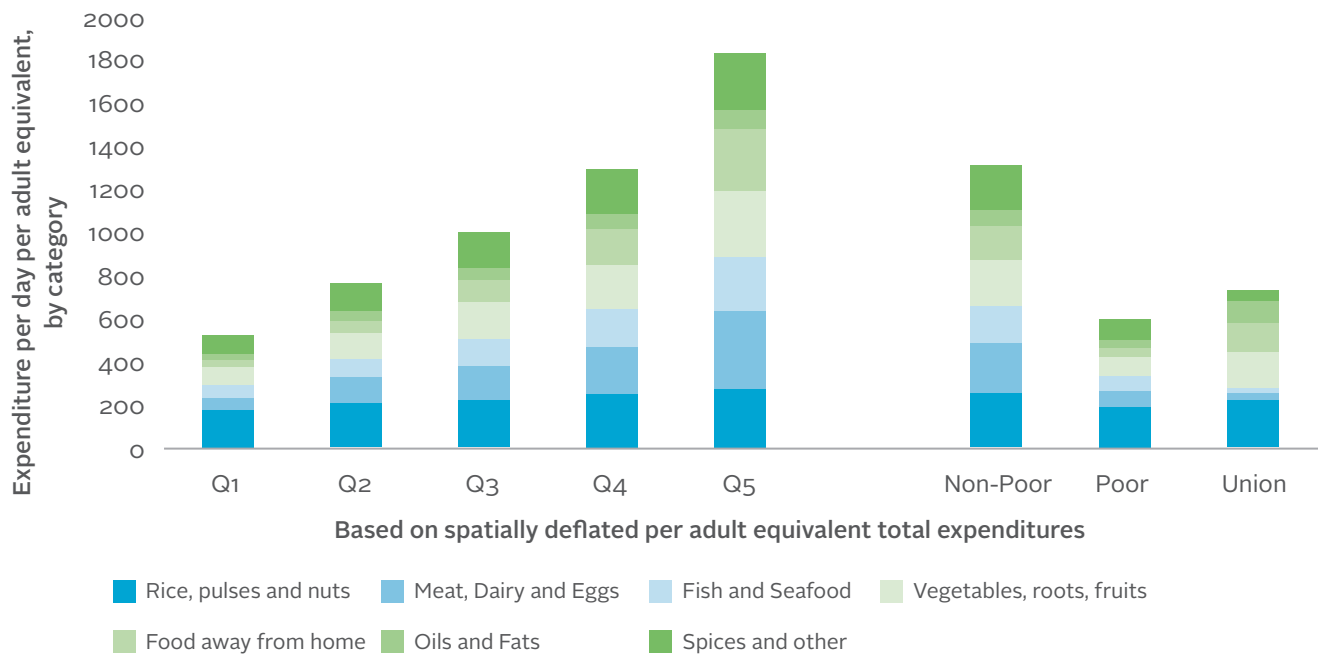
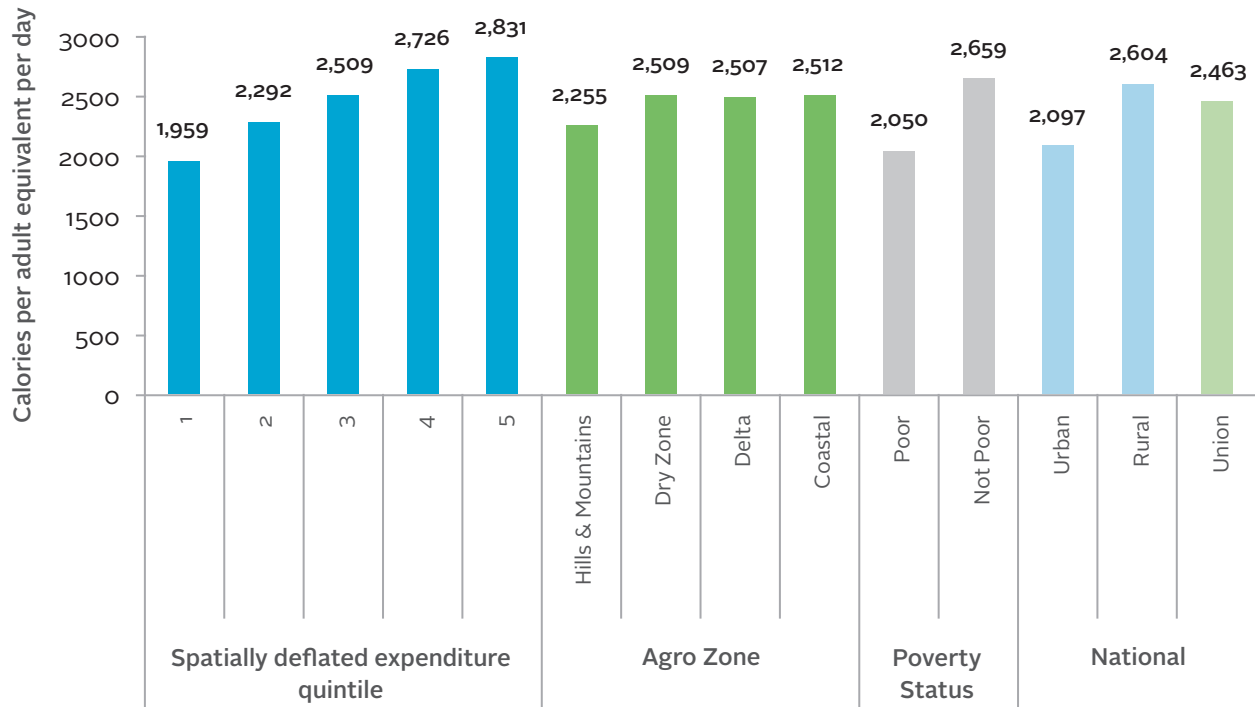


Figure 4.7

Calories per adult equivalent

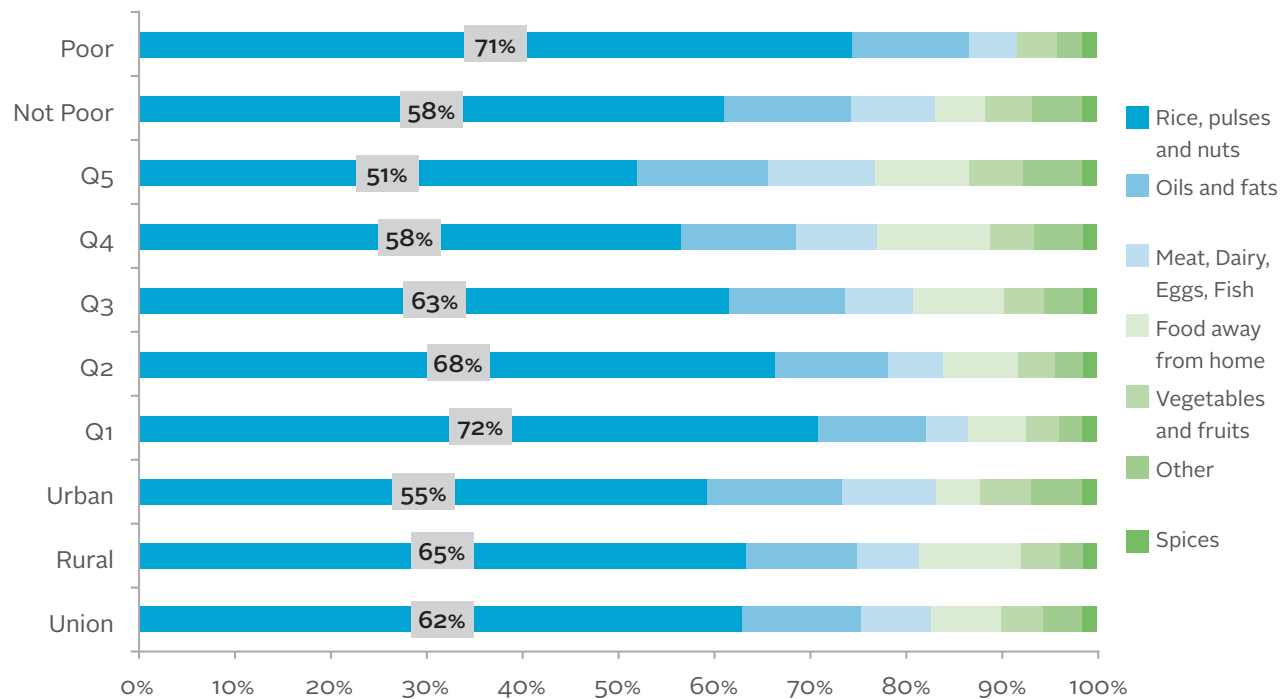


Note: Analysis conducted using population weights. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

Despite higher calorie consumption in rural areas, food expenditures are higher in urban areas. This is a reflection of the basket of foods consumed in urban areas, which have a greater share of calories coming from meat, dairy, eggs, fish, vegetables and oils. Figure 4.8 shows the share of calories derived from various food groups across households. The share of calories from rice drops monotonically across quintiles, while the share of meat, eggs, dairy and fish rises from 5 percent of calorie consumption to 11 percent. The share of calories derived from oil and fats remains constant across the expenditure distribution, at approximately 11 to 13 percent of total calories.

Figure 4.8

Share of calories from different food groups



Note: Analysis conducted using population weights. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

## Food adequacy

The MPLCS contains a number of questions used in the measurement of a household hunger scale, to assess household perceptions of food adequacy. The purpose of these questions is to derive an indicator of subjective household access to sufficient food quantity and quality. The MPLCS survey was only fielded during a four-month period (from January through April 2015) and therefore does not capture seasonal variation in food adequacy. The questions related to food adequacy refer to a 12-month period over which households were asked to report whether they limited the quantity or quality of household food intake due to a lack of resources.

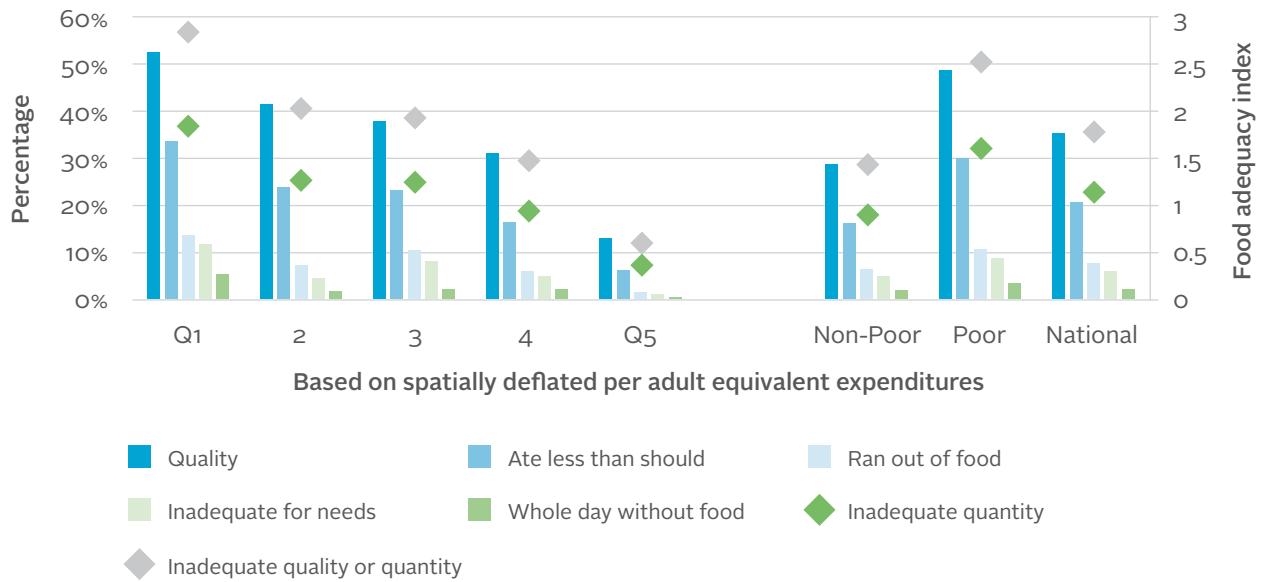
An index of food severity was constructed using questions that capture limited quantity of foods—the most severe indicator of food insecurity—while a second index captured both quality and quantity dimensions of inadequacy. It should be noted that the questions in the MPLCS deviate from those used in the Household Hunger Scale in two ways. First, questions that relate to anxiety about the quality and quantity of food were not included and the full battery of questions relating to adequacy of quality and quantity were not used. Secondly, households were asked to simply respond “yes” or “no”, rather than responding on a scale signaling severity.

Half of households in the bottom quintile of the expenditure distribution reported that their food intake was inadequate for their needs. Figure 4.9 shows the fraction of the population living in households reporting food inadequacy due to being unable to eat sufficiently healthy food (quality), or who reported that they had inadequate food quantity due to eating less than they felt they should, running out of food, skipping a meal due to resource constraints or going a whole day without food. Two food inadequacy scores are shown: the quantity score focuses on the number of quantity inadequacy reports per household while the quality or quantity score brings together reports of both inadequate quality and quantity into one index. The food inadequacy score for the bottom quintile suggests that they were reporting inadequacy on two dimensions on average. Similar numbers reported that there were times in the year where they had to restrict the variety of food that they ate due to a lack of resources. The fraction of households reporting food inadequacy decreases monotonically across the per adult equivalence expenditure distribution.

The self-reported inadequacy of consumption questions suggest that serious shortfalls are rare but that many households face a persistent and gnawing inadequacy. Approximately 5 percent of the bottom quintile report going for a whole day without food and 14 percent report running out of food. However, many households report inadequacy of a less intensive but persistent nature, including eating less than they felt they should and not eating when hungry when resources are low.

Figure 4.9

Reports of food adequacy



Note: Analysis conducted using population weights. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

**Malnutrition is a substantial concern in Myanmar and across the world.**

Undernourished children are more likely to suffer from illness, and to have recurring sickness and more limited physical growth. The most recent figures suggest that 29 percent of under-5-year-olds in Myanmar are moderately or severely stunted, while nearly one in five (19 percent) are moderately or severely underweight (Ministry of Health and Sports (MOHS) and ICF International, 2016). The Democratic Health Survey (DHS) conducted by the Ministry of Health and Sports and UNICEF collected information on the asset profile of households, allowing for a wealth index to be constructed. Stunting rates were highest for households in the bottom quintile of the wealth ranking.

**Nutrition outcomes are determined by a combination of factors (IFPRI, 2015).**

First, a person needs both food in sufficient quantity and of sufficient quality, with adequate macro and micro-nutrients. Second, good access to safe water and sanitation facilities, and good hygiene practices are crucial for ensuring the absorption of nutrients in the food that is consumed. Myanmar's favorable climate offers the potential for multiple diverse types of food to be grown year-round, but the climate can also reduce the quality of food consumed. Food quality is affected by high temperatures and by extreme weather events that create a more favorable environment for food-borne pathogens, such as campylobacter and salmonella, which reduce sufferers' ability to absorb nutrients. Climate plays an important role in the transmission of many human parasitic, viral, and bacterial diseases (such as malaria, dengue, and cholera, respectively). Rainfall and temperature determine the spatial and seasonal distributions of these diseases, and influence year-to-year variability, including epidemics.

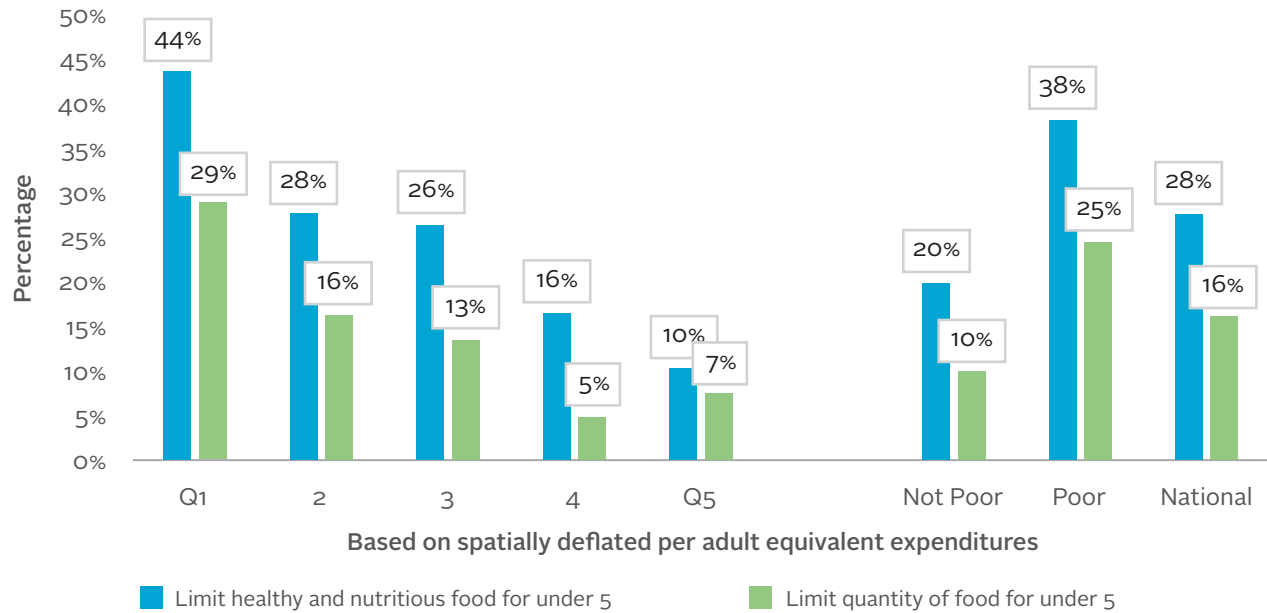
**A root cause of malnutrition is a lack of adequate food of sufficient nutritional quality.**

Parents with children under the age of 5 were asked in the MPLCS whether, in the course of the last year, there were times when their children did not eat nutritious or healthy food due to a lack of resources. They were also asked to report whether there were periods when their children were hungry but did not eat due to a lack of resources. Over a quarter of households report having to limit nutritious and healthy food due to financial constraints, while in 16 percent of households children were at times hungry but did not eat due to a lack of resources. In the poorest quintile, 44 percent of households reported having to limit nutritious food and 29 percent reported children going hungry.

Further factors of malnutrition are discussed elsewhere in this report. Water and sanitation are discussed in Chapter 7, and seasonality of income is discussed in Chapter 9.

Figure 4.10

Share of households reporting having to limit food for young children



Note: Analysis conducted using population weights. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

### From farm to table

Although consumption of self-produced rice, fruits, vegetables and cereals is common, its share is relatively low, suggesting that households are engaging with markets and thereby benefiting from greater dietary diversity than they themselves are able to produce. This analysis was conducted through examining the agriculture module and community as well as food consumption; we found mirrored results on self-consumption in these modules. The MPLCS asks households to report how much of their consumption in the last 7 days came from own-production, i.e. was farmed or harvested by the household. Households are also asked to report consumption from in-kind transfers, for example payment for labor services or gifts. The consumption items that are either self-produced or received as gifts/in exchange for labor are priced using the most geographically proximate price, using administrative structures to determine proximity. The share of consumption expenditures coming from self-production of foods or in-kind transfers is relatively low on average: 12 percent of total food expenditures come from self-production while 3 percent come from in-kind transfers. The highest consumption of self-produced food comes from rice and among agricultural households.

Agricultural households, the rural poor and those with less access to markets are more likely to consume their own production. The share of food expenditures from self-production is predictably higher in rural areas (16 percent) than in urban areas, where it is negligible. The share of consumption of self-produced foods is higher for cultivators and declines with farm size, with



larger farming operations with greater surplus production and integration into markets consuming a lower share of their diet from their own production than poor cultivating households. The share of expenditures from own-production rises with distance from township center and is higher for those with more limited access to paved roads.

Figure 4.11

Share of food expenditures self-produced and received in-kind

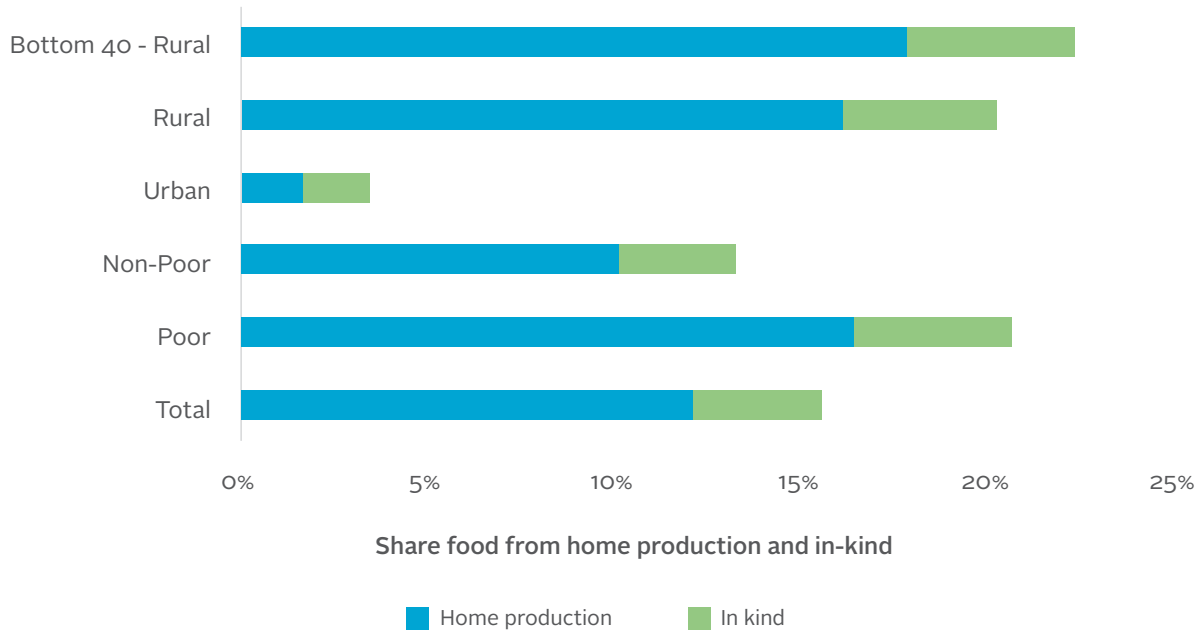
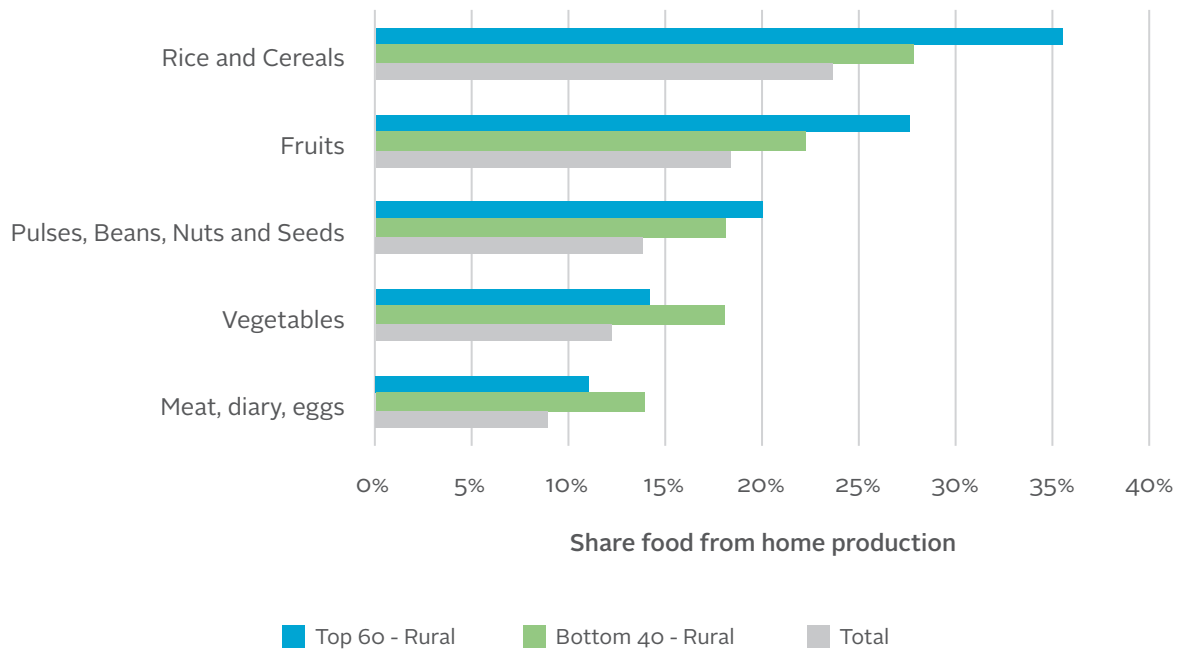
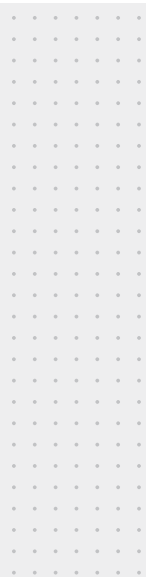


Figure 4.12

Top 5 categories of self-produced food







# 05.

Inclusive and better  
education for all



## Key Messages:

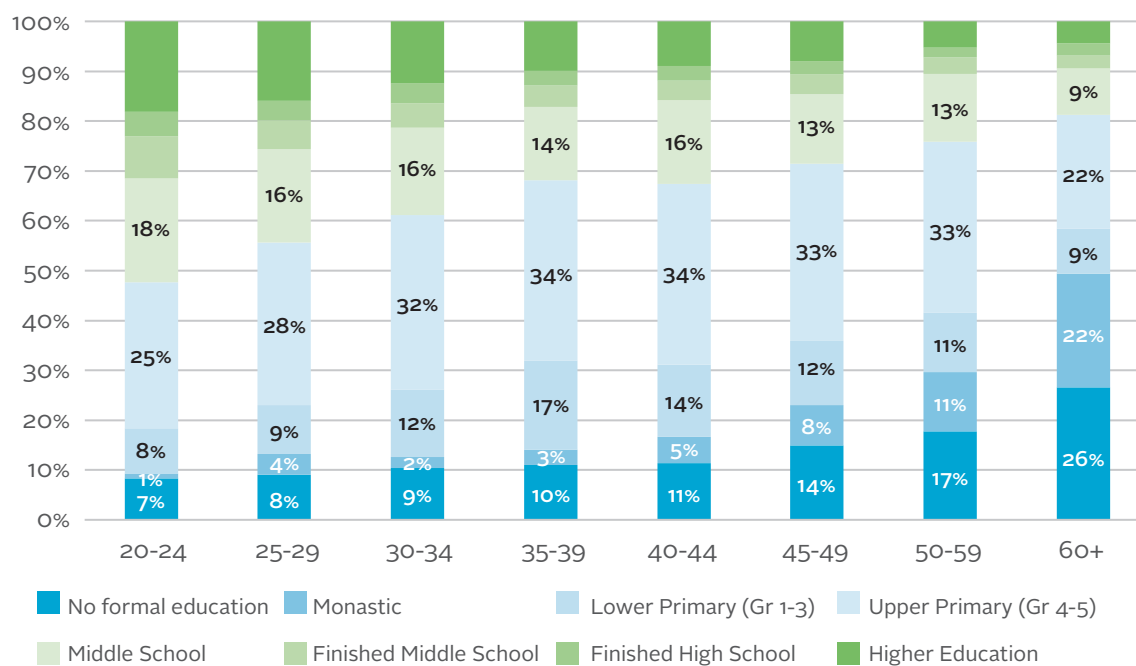
- There has been a substantial rise in grade completion over generations. The share of adults with no formal schooling has dropped from 28 percent for those aged 50 to 59 years to 8 percent for those aged 20 to 24 years.
- Women historically had less education than men. Gender gaps in grade completion have narrowed, but regionally some gender gaps remain.
- Net total enrollment rates for primary and secondary school are higher than the net enrollment rates measured in 2009/10.
- Children drop out in large numbers throughout lower- and upper-secondary school. Children typically start falling behind at lower-secondary school, and drop out towards the end of lower-secondary.

## Adult education, an analysis of successive generations

Educational outcomes in Myanmar are below potential but have shown some signs of improvement in recent decades. Older generations were less likely to attend school and, for those who did go to school, they completed fewer years of education (Figure 5.1). Among those who were 60 years of age and above in 2015, just under half (47 percent) reported not having completed any formal education. Individuals who fall into this category are those who did not complete a single grade of school (26 percent) and those who attended only monastic school (22 percent). Monastic schooling as the only source of schooling is no longer prevalent among younger generations; among those born after 1970, less than 5 percent report this as their only source of schooling. Among 20- to 24-year-olds, 8 percent did not attend any school.<sup>12</sup> The high literacy rates across age groups may be creditable to the significant role of the monastic education in the country education system, especially in the case of men (Figure 5.2). As a consequence, more men than women were likely to have had the opportunity to learn to read and write, even among those who did not complete a single grade of formal education.

Figure 5.1

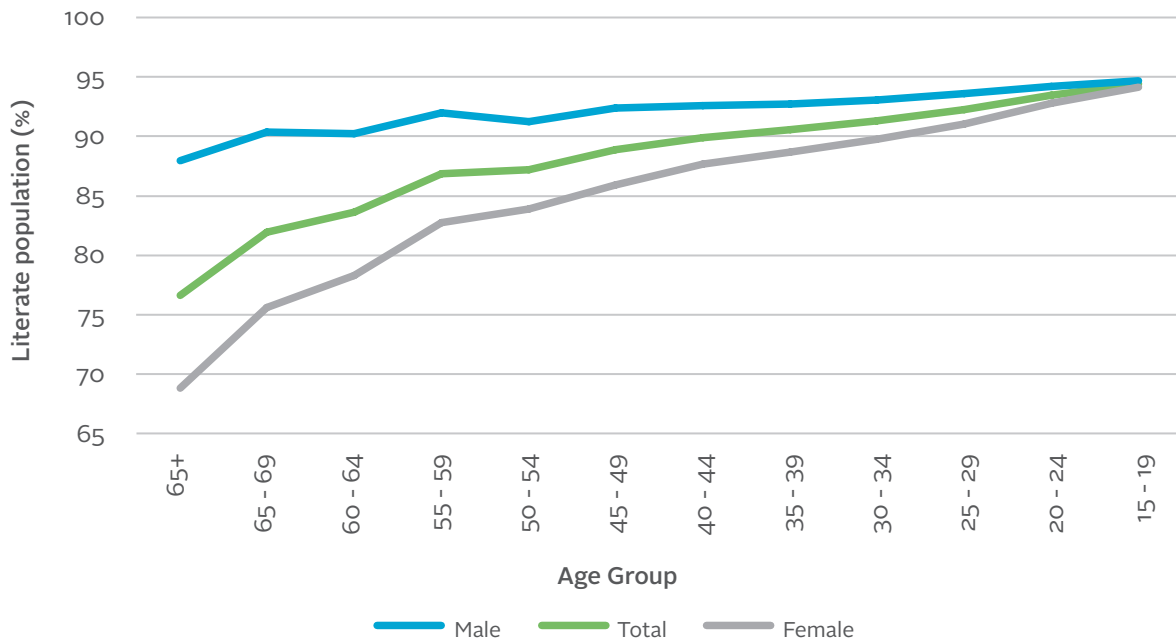
Level of schooling completed, by age group



<sup>12</sup> The Population and Housing Census finds that 7.4 percent of the population aged 20 to 24 has not attended any school.

Figure 5.2

Literacy by age group and gender



Source: Population and Housing Census 2014 data, published in Ministry of Immigration and Population (2015).

In previous generations, attending lower-secondary school was the privilege of a few but, for more recent generations, it has become a possibility for nearly half of individuals. According to the 2014 Census, the share of individuals who have completed primary schooling increased from 45 percent among those aged 50 years and over (born in or before 1960) to 48 percent for those aged 35-39 years (born in 1975-1979). Likewise, the percentage of the population who have completed middle school (grade 6-9) went from 14 percent to nearly 20 percent when comparing the same age groups. The number of grades of formal basic education completed has risen over generations, from an average of 4.2 for 50- to 59-year-olds to 6.9 for 20- to 24-year-olds. The share of individuals passing to lower-secondary increased only gradually over time for those aged 35 or over; the increase in completion of lower-secondary and above was more marked among those aged between 20 and 34 years, reflecting a more recent change in education completion rates for those born between 1980 and 1995.

The fraction of individuals who enroll in and complete lower-secondary and upper-secondary has risen across generations, but there continue to be many who start and do not make it through. The number and share of individuals who completed lower-secondary education is higher among more recent cohorts, and in particular for those born in 1980 and after. Although younger adults are more likely to have some lower-secondary education, only the minority complete lower-secondary.

Figure 5.3

Share of population with some lower secondary or above

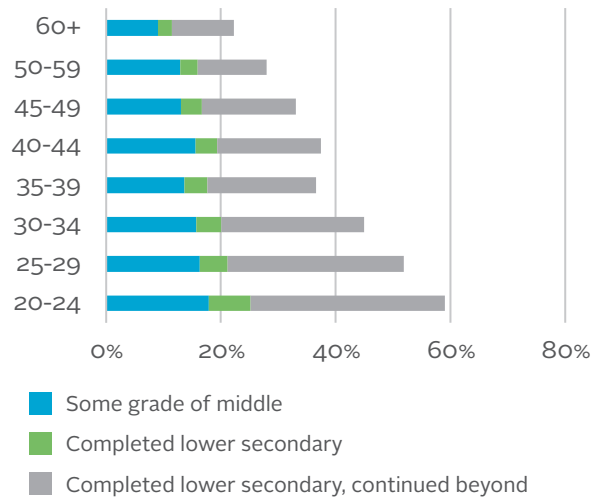
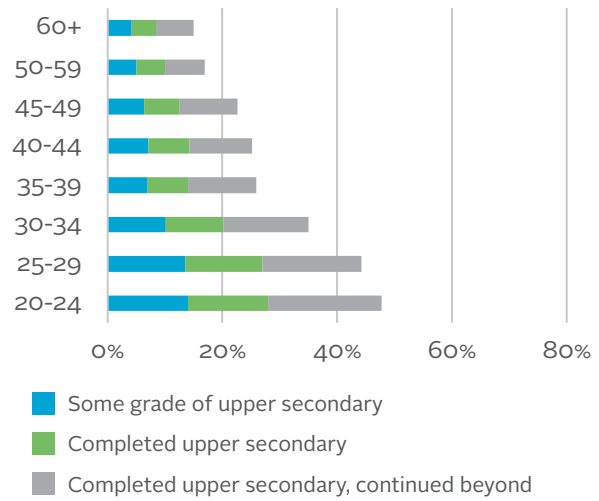


Figure 5.4

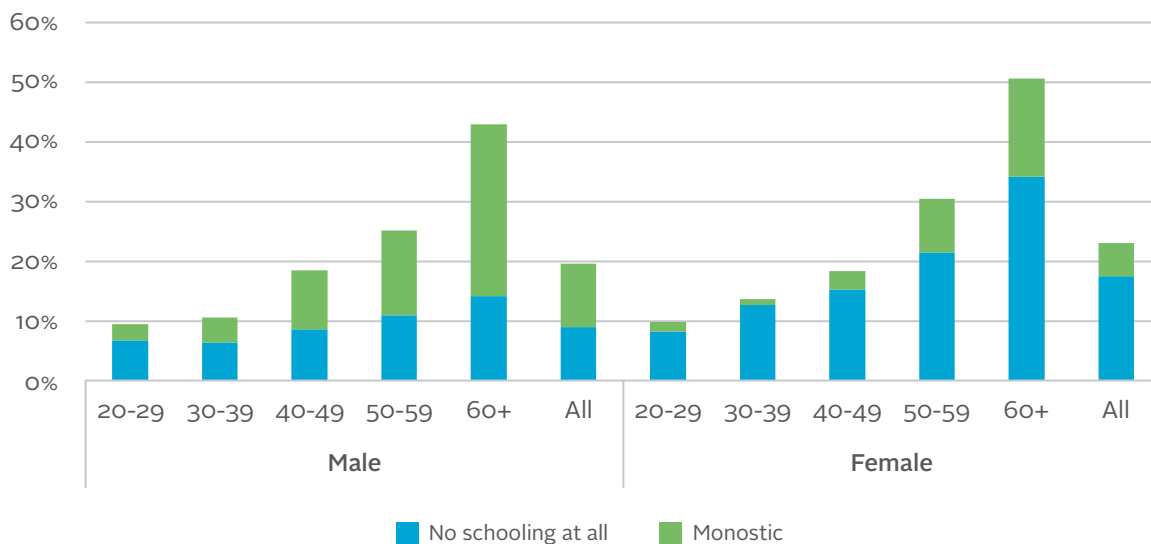
Share of population with some upper secondary or above



**The gender gap in grade completion has narrowed over time.** Among older generations, women completed on average one grade of formal education level less than men. Over successive generations the gap narrowed until, for adults aged 20-24 years, it was no longer visible. The share of those who have no education has declined over generations for both men and women (Figure 5.5). Women have historically had quite different education patterns from men, who were more likely to be enrolled in monastic schooling. As a consequence, even among those who did not complete a single grade of formal education, more men than women were likely to have had the opportunity to learn to read and write through the monastic system.

Figure 5.5

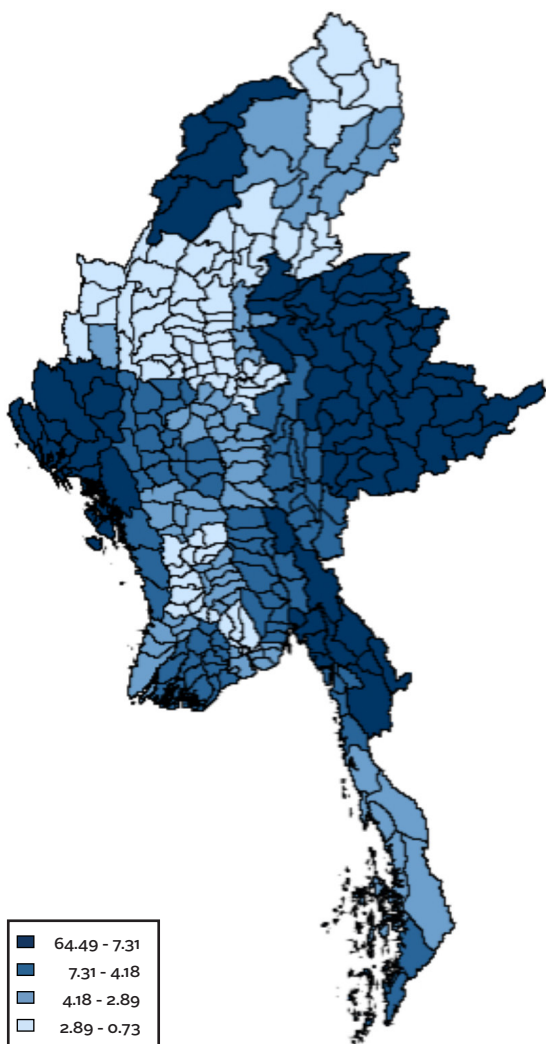
Share of population with no schooling or only monastic schooling



Despite the improvements in educational attainment among generations, there is still significant diversity at the regional level. According to Census figures, the percentage of the population aged 15 to 24 who had never attended any educational level varies substantially across states and regions, as depicted in Figure 5.6. The gap in the non-attendance rates for those aged 15 to 24 years in 2014 between the state with the highest prevalence of non-attendance (Shan State, 26.5 percent) and the region with the lowest (Yangon, 2.2 percent) is nearly 25 percentage points. Interestingly, the states and regions with the lowest educational attainment do not display particularly high levels of gender disparity in non-attendance (Figure 5.7). For instance, in Shan South and Kayin State (two of the states or regions with the highest proportion of individuals reported not having attended any school) the ratio between the proportion of women who had not attended school relative to men is 1.03 and 0.86 respectively. These figures could be reflecting lower attainment among men, rather than higher attainment among women.

Figure 5.6

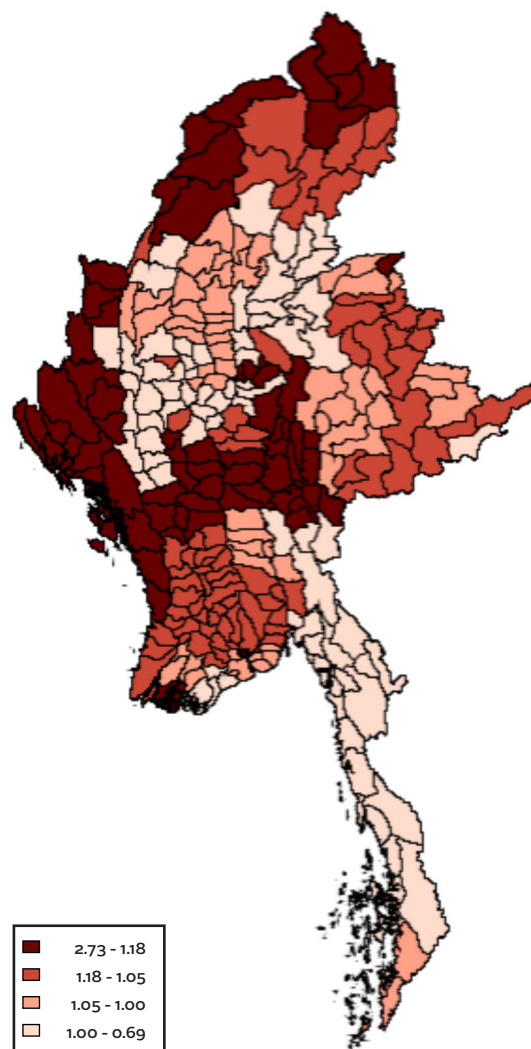
Percentage of population 15 to 24 years old who had not attended school



Data: World Bank ests. based on Census

Figure 5.7

Ratio females to males aged 15 to 24 years who had not attended any school



Data: World Bank ests. based on Census

Source: Population and Housing Census 2014 data, published in Ministry of Immigration and Population (2015).



## Educational outcomes among the children of Myanmar in 2015

The analysis of education presented in this report differs from previous analysis done in Myanmar, in part due to differences in questionnaire design. Unlike previous analysis of education in Myanmar, the estimates presented below account for age at the start of the school year. There are 5 years of primary school in Myanmar followed by 4 years of middle school and 2 years of high school. The school year starts in June, and children who are aged 5 or older on June 1st are eligible to enroll in the first grade of primary school. All of the figures below use the age of the child calculated at June 1st 2014 as their school age.

**Enrollment rates in Myanmar are highly sensitive to the use of the appropriate age indicator - the age of the child at the start of the school year.** Estimates based on reported age have two sources of bias. First, they are pulled down by including children who are not eligible to be at school (children aged 4 at the time of school year start, but aged 5 at the time of the survey). Second, they may be pushed up by including lagging children who are no longer of primary school age but still attending primary school. The net primary enrollment and net primary total enrollment rates based on age rather than school age are both 83 percent, nearly 10 percentage points lower than those based on school age. This is in part a reflection of the timing of the MPLCS survey, the age of children will be different from school age for approximately three quarters of the children interviewed, since the enumeration was conducted between 7 and 10 months after the start of the school year.

**Enrollment rates are also sensitive to including those who have surpassed the grade expected of them given their age.** Some children in Myanmar, mostly found in urban areas, are passing through school at a rate that is somewhat faster than expected given their age progression. This may be a reflection of having started school at age 4, if deemed sufficiently physically and mentally mature, or a reflection of having high achievement potential. Net primary enrollment rates consider a child of school age 10 in lower-secondary school to not be enrolled, since they are not enrolled at the correct level for their age. Using this more restrictive definition, we estimate that 86 percent of children of primary school age are enrolled in primary school. A more comprehensive measure - net primary total enrollment - includes this child as enrolled. We estimate that 92 percent of children of primary school age are enrolled in primary school or higher in Myanmar. As the more comprehensive indicator, we report net total enrollment rates in the analysis below.

**In terms of coverage, Myanmar (along with Brunei Darussalam and Indonesia) has one of the lowest enrollment rates in the region at all levels of education.** As discussed below, primary education enrollment is high but enrollment drops drastically at lower-secondary and upper-secondary levels. Basic education includes primary schools (grade 1 to 5) and secondary schools. Secondary schools are divided into middle schools (grade 6 to 9) and high schools (grades 10 to 11).

**Net total enrollment in primary school is high in Myanmar—93 percent on average, an increase from the 88 percent net enrollment rate estimated in 2009/10.** Unfortunately it is not possible to construct school-age appropriate enrollment rates using the IHLCA data, reducing comparability of these estimates over time.<sup>13</sup> Net total primary enrollment captured whether children aged between 5 and 9 years on June 1st 2014 were enrolled in primary school or above during the 2014-15 school year. The IHLCA survey estimated net enrollment rates using age at the time of survey (December 2009). Net total enrollment is lower in rural areas than in urban, but both urban and rural areas have registered an increase in enrollment indicators over time. In urban areas in 2010, net enrollment stood at 92 percent and has since risen to 95 percent while in rural areas net enrollment stood at 87 percent and has since risen to 91 percent.

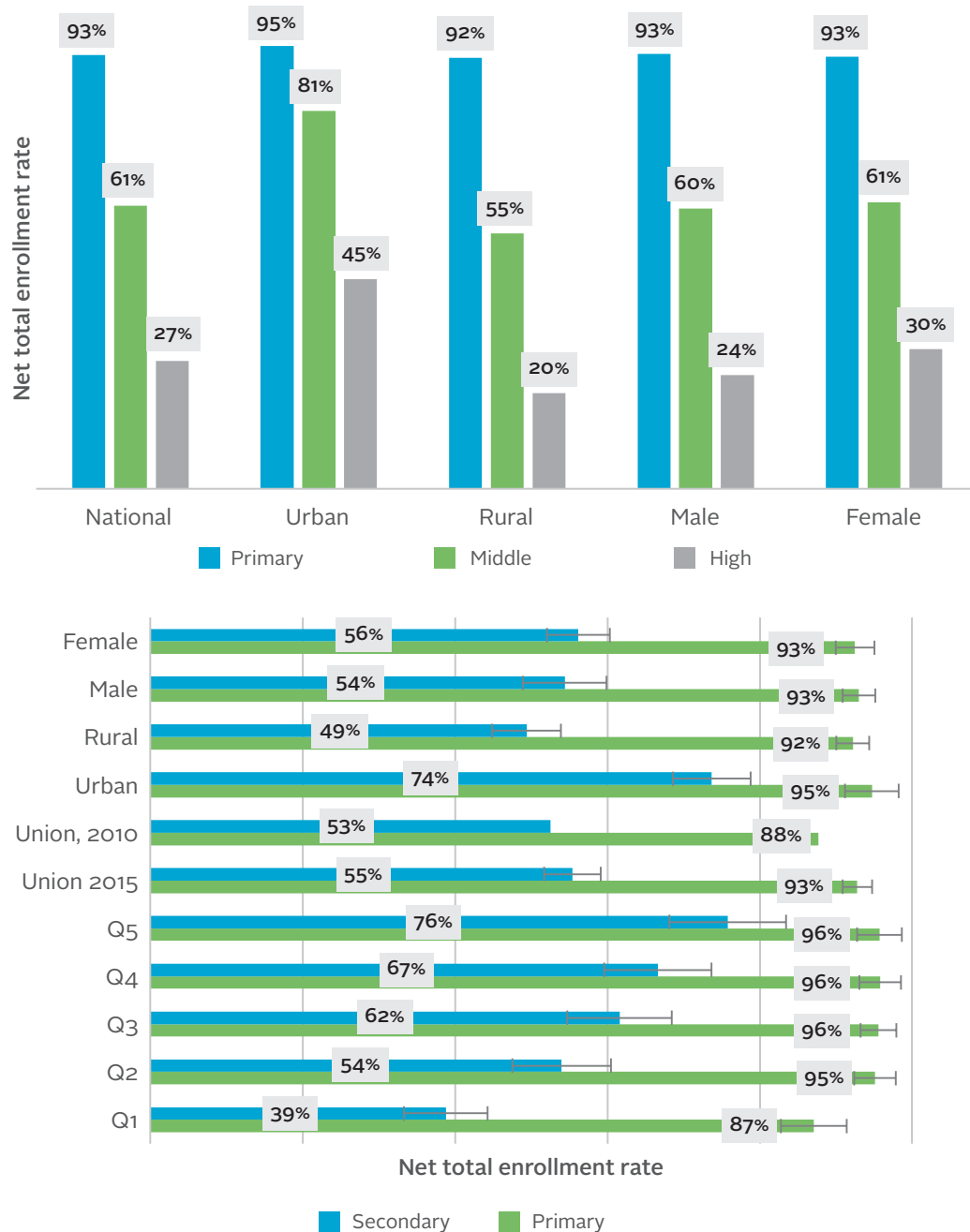
**Secondary school net total enrollment is substantially lower than primary, although a moderate improvement has been registered over time—from an average of 53 percent in 2010 to 55 percent in 2015.** The rise has been predominantly seen in rural areas, where net secondary enrollment rates have risen from 46.5 percent in 2010 to 49 percent in 2015. In urban areas, secondary enrollment has dipped slightly from 76 percent to 74 percent.<sup>14</sup> Middle school enrollment, covering grades 6 through 9, is substantially higher than high school enrollment. Sixty-one percent of children aged between 10 and 14 years on June 1st 2014 were enrolled in middle school or above. Only 27 percent of children aged between 15 and 16 years on June 1st were enrolled in high school or above. Net total enrollment levels are greater in urban areas at all levels, and particularly at the high school level, at which point they are more than double those found in rural areas. The pronounced differences between urban and rural area enrollment at the secondary level suggests that access to secondary school may be a factor driving dropouts.

<sup>13</sup> Using school age, net total primary enrollment rates are 83 percent in rural areas and 84 percent in urban areas. Using school age and focusing on net primary enrollment rates (not total enrollment rates), the corresponding rates are the same – 83 percent in rural areas and 84 percent in urban areas. Taking into consideration the age the child was at the start of the school year is likely the most important factor for the difference between definitions over time. Unfortunately, since the IHLCA did not collect information on the month of birth, we cannot construct comparable estimates over time.

<sup>14</sup> The figures cited in the text for 2015 use net total enrollment rate, while the figures cited for 2009/10 draw upon the IHLCA report that uses net enrollment rates. Net enrollment rates are slightly lower than those cited in the text in urban areas, but unchanged in rural areas: 73 percent of urban children of secondary school age are enrolled in lower-secondary or upper-secondary school.

Figure 5.8

Enrollment rates in primary, middle and high school



Note: 2010 estimate from MNPED et al (2011). Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

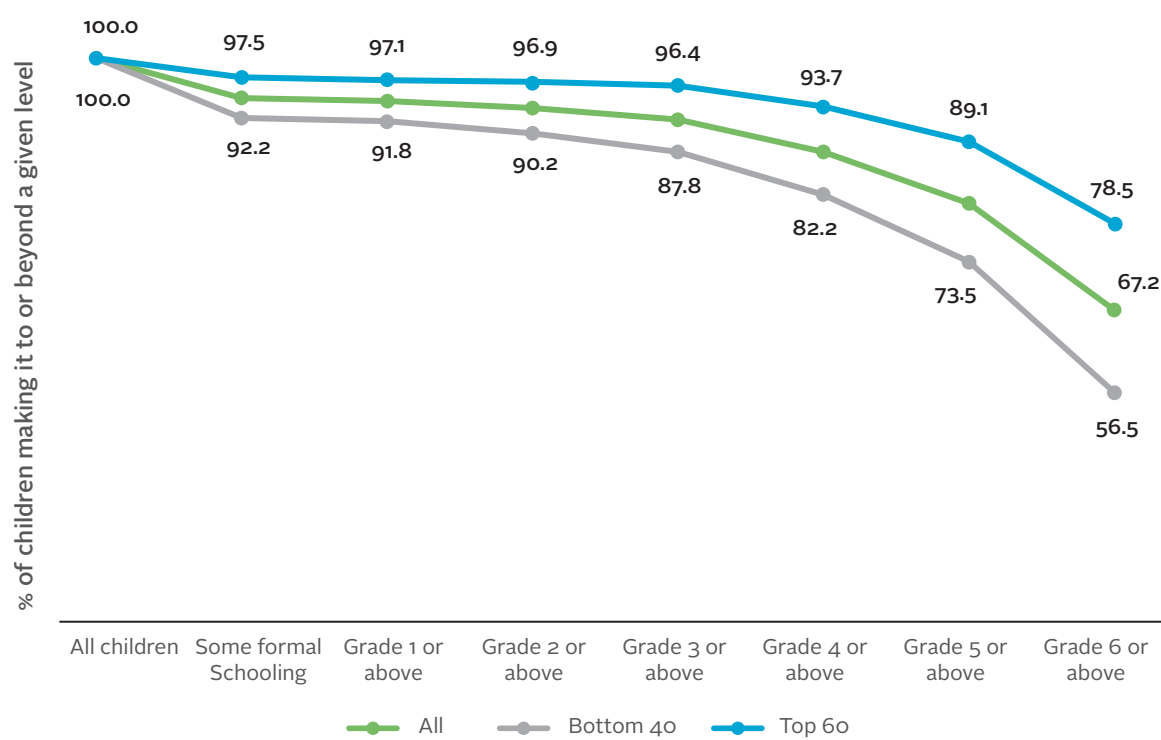
**The differences between children from poorer and better off families become more pronounced at a secondary level.** Among children of secondary school age, aged between 10 and 14 at the start of the school year, 54 percent were in secondary school or above in the second quintile and 39 percent in the bottom quintile compared to 76 percent of those from richer households. Poverty is the most important factor explaining lower primary school enrollment. Enrollment levels are lowest for children in the bottom quintile—among these households only 87 percent of primary school-aged children are enrolled in primary school or above.

Myanmar achieves gender parity in enrollment at primary and middle school levels, but gaps in net enrollment rates widen at high school. Boys are either dropping out or falling behind at a faster rate than girls at high school. Girls have slightly higher enrollment rates at high school than boys in bottom 40 percent as well as top 60 percent households, and these gaps can be seen in urban as well as rural areas. The gaps between boys and girls are however substantially smaller than gaps between richer and poorer households.

A handful of children do not make it to the school gate. Among 7- to 12-year-olds nationwide, only 3 percent have not attended school. In the bottom 20 percent, however, 6 percent of 7- to 12-year-olds have not attended school. This figure remains quite stable when changing the age range used, suggesting that there needs to be a concerted effort to get the poorest children to enroll in school. Over half of all children aged 7 to 20 who did not attend school at all signaled that the main reason for not attending was related to cost. Disability or illness was the second most important reason, accounting for 13 percent of those who could not attend.<sup>15</sup>

Figure 5.9

Grade completion rates among 13- to 18-year-olds in 2015



Note: The bottom 40 percent and top 60 percent of the expenditure distribution are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

<sup>15</sup> Since we observe limited numbers of children aged 7 to 12 years who are not in school, when we examine the reason for not attending school we expand the age range to 7 to 20 year olds. In this age range there are 192 individuals who have never attended school. Our results are not sensitive to the expansion or contraction of the age range—costs are reported as the primary reason for not attending school regardless of the age range chosen.

**On average, fourteen percent of all children aged 13 to 18 who started school stop before completing primary school.** The high levels of primary school enrollment in Myanmar masks lower levels of completion for many, particularly among children who live in bottom 40 households. In total, 20 percent of those who started school, or 26.5 percent of all children, in the bottom 40 percent do not complete primary school (i.e. they do not complete grade 5 but complete grade 4 or less). The low rate of primary school completion amongst the poorest children is a reflection of fewer children from these households making it to school and higher rates of dropout along the way. Eight percent of children aged 13 to 18 from these households did not make it through formal school at all, predominantly because they did not start. A further 4 percent only complete either grade 1 or grade 2 before dropping out.

**Dropouts are substantial between primary and lower-secondary school.** They are higher in poorer households but are also substantial among children raised in better off households. Among those who made it to the end of primary school, seventeen percent drop out before completing a grade of lower-secondary school. Among households in the bottom 40 percent of the expenditure distribution, just over one in five (23 percent) of primary school graduates do not manage to complete a grade of lower secondary; in the top 60 percent households, these figures are lower, but still substantial at nearly one in ten primary school graduates (12 percent). The high dropout rates between primary and lower-secondary school can also be seen among older cohorts aged 19 to 25. Progress has been made in keeping children in school longer within primary school, particularly for those from poorer backgrounds. Among 19 to 25 year olds, 76 percent of children completed grade 5 or higher compared to 81 percent of children aged 13 to 18 in 2015. Among these older cohorts, dropout between grades 4 and 5 as well as between primary and secondary was also substantial.

## Factors contributing to dropping out of school

**In order to address increasing school enrollment, we must understand the factors responsible for children—and particularly poorer children—not going to or dropping out of school.** We explore this question in multiple ways, through examining the reported reasons for dropping out and then trying to understand which factors may be the most influential.

**Costs—both direct and indirect—are the main reasons given for discontinuing school.** Direct costs include transportation costs, materials (e.g. uniform, books, stationary), school and tuition fees, and subsidiary contributions (e.g. parental contributions to the school). Indirect costs are the “opportunity costs” of schooling, notably the foregone earnings from working for the child or needing to stay at home to care for a family member. Both costs typically rise with age and schooling level. Secondary school is typically more resource intensive than primary, requiring more materials and often farther travel. Indirect costs also rise with age: as a child physically matures they are able to contribute more to the labor market or family care, and subsequently to earn higher wages.

**Among 10- to 22-year-olds, direct costs were cited as the most common reason for dropping out of school, followed by a lack of interest.** Among children who dropped out before reaching the end of primary or middle school, not being able to afford the direct cost of schooling was cited as the primary reason for dropping out by 38 percent of 10- to 22-year-olds. Only one in twenty children report having to leave school due to having to work, while nearly three in twenty report having to take care of their families.

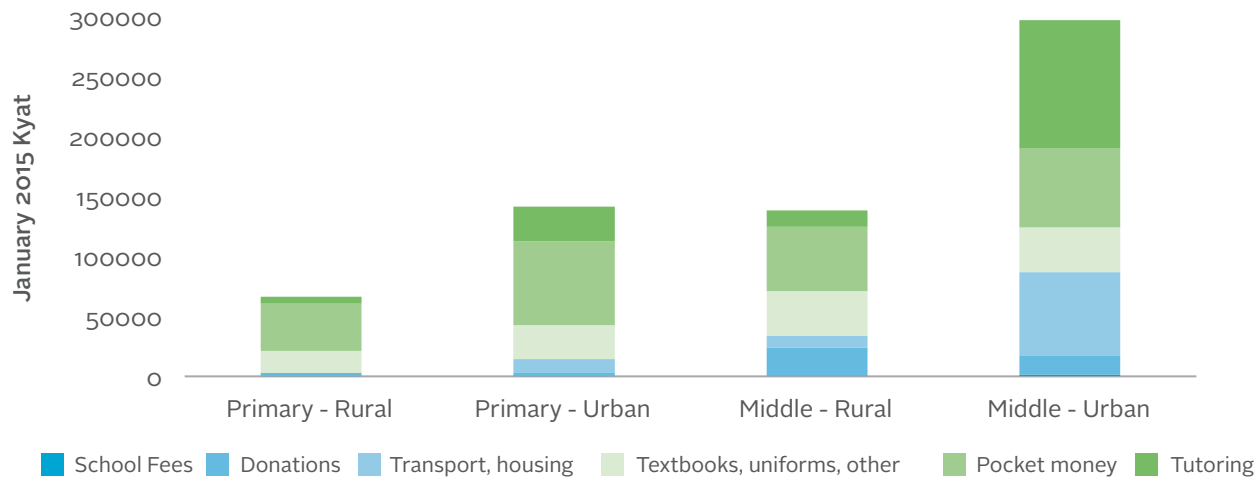
**Schooling costs are substantially higher in urban areas than in rural areas, and increase markedly as children advance from primary to middle school.** Unfortunately the MPLCS survey was unable to capture fully the cost of high-school due to non-reports of the disaggregated cost of schooling by households at this level. The average total cost of high school was however reported to be double the cost of middle school – 407,000 kyat per student enrolled in high school compared to 181,000 kyat per student enrolled in middle school and 78,000 kyat per student in primary school. It should be noted however that the greater reported cost of high school is likely to also reflect the greater spending power of those families who have managed to keep their children in school until this point. Greater analysis of the cost of schooling needs to be conducted with a bigger dataset, to allow for disaggregation of the cost of schooling across better off and worse off households.

**School fees are negligible in government schools, consistent with the free education policy of the Government of Myanmar.** Households are however paying substantial amounts of money for tutoring, and “pocket money” is a major expense in both urban and rural areas. While pocket money refers to a more optional expense directed at students to get snacks and small supplies, tutoring is emerging as a major expense for those in middle school in urban areas. The MPLCS likely under-captures the extent of tuition, since expenditures are captured for the course of the school year and thus does not capture the tuition happening during school vacations.

**Urban households are spending more on schooling at every level, and spend more on three key areas: transport, pocket money and tutoring.** Transport is small as an expenditure item in rural areas, while in urban areas for middle school this is a substantial expense. This may reflect choice as much as access, with households choosing to send their children to schools that are deemed to be better quality but further away. It may also however reflect the reality of urban living: in rural areas where transportation options are more limited, children are likely to be walking longer distances to school.

Figure 5.10

Expenditures per child enrolled, by school level

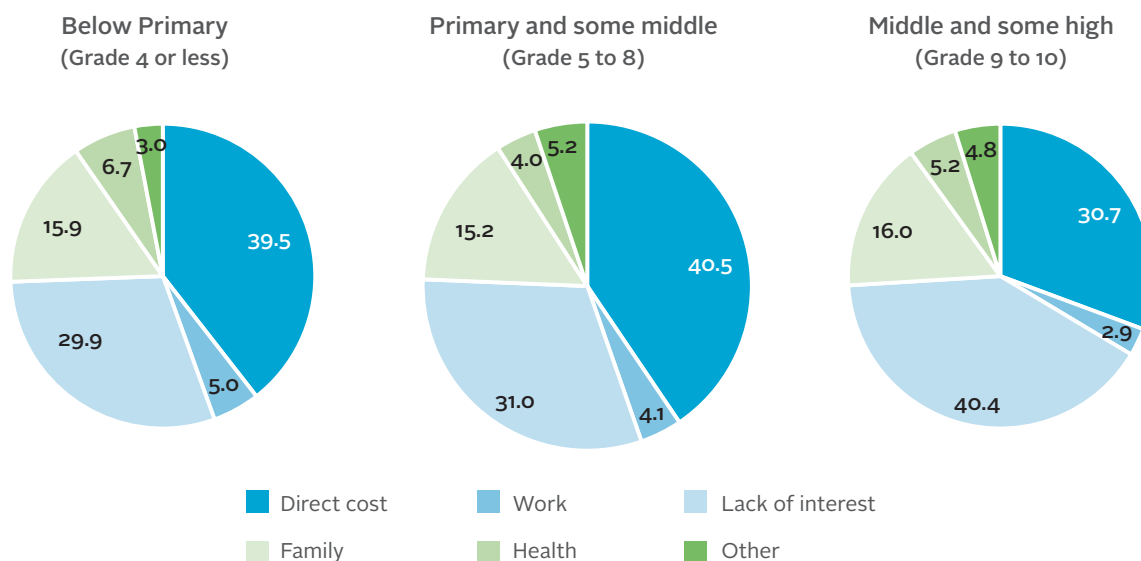


Note: School expenditures are asked for each child enrolled in school during the last school year.

**Lack of interest is a major factor for dropping out of school, particularly for those who dropped out during their high school years.** A “lack of interest” has been found in other contexts to be related to curriculum gap, where a child who successively falls behind at school loses the motivation and interest to continue their studies. It can similarly be related to not viewing the return of schooling, in the labor market or beyond, as worthwhile. Among those who dropped out after reaching middle school, 40 percent cite a lack of interest as the primary reason for discontinuing their studies. A lack of interest is the primary reason for discontinuing their basic education among children in top 60 households, cited by 38 percent of 10 to 22 year olds compared to 26 percent of those in bottom 40 households.

Figure 5.11

Reason for dropout by school level, among 10- to 22-year-olds



Note: N=377 for below primary, 814 for primary and some middle and 386 for middle and some high.

**Half of children from poorer households explain that they were unable to afford the direct costs of schooling.** Among children who stopped school before reaching the end of middle school—those who completed grade 8 or less—4 in 10 signaled that direct costs were the main factor for dropping out. Three in 10 indicated that they dropped out due to a lack of interest. The cost of schooling poses a greater challenge for poorer households, who are more likely to report costs as the reason for dropout than richer households. Among the bottom 40 percent, not being able to afford the cost of schooling is cited as the primary reason for dropout by 45 percent of 10- to 22-year-olds who did not complete high school, compared to 29 percent of those in the top 60.

**Although the levels of dropout are broadly similar across boys and girls, the cited reasons are quite different.** Boys are more likely to report a lack of interest than girls—37 percent for boys compared to 24 percent for girls. Girls are slightly more likely to report direct costs as a concern—39 percent for girls and 34 percent for boys. Similar shares of boys and girls report needing to support their families as the main reason for dropout, suggesting that gender differences in caring patterns do not factor into education choices at the national level.

**The second significant factor driving dropout rates is that children are falling behind before falling out.** Children are not always in school at the correct grade for their age. This partially reflects late starters. Figure 5.13 shows the fraction of students of a given age who are in the correct grade for their age, who are behind, ahead or not enrolled in school. Approximately a fifth of children aged 5 years at the start of the school year were not yet enrolled in primary school. These children appear to be enrolling a year late; among 6- to 9-year-olds few children are not enrolled in school. The number of children who are in a lower grade than that suggested by their age rises from 23 to 46 percent among children aged 6 through 10 years before falling. The number of children out of school rises with age, with a sharp increase at age 10 when children transition to lower-secondary school. The rise in dropout after age 10 coupled with the decline of children behind for their age suggests that children who were behind at school are more likely to be dropping out.

**Low net enrollment rates at middle and high school reflect children dropping out of school as well as children being behind for their grade.** Net enrollment captures the share of children at school enrolled in the level appropriate for their age; net total enrollment includes those who are enrolled in a level higher than their age would suggest. If a child of middle school age is attending primary school rather than middle school, this would lower the net enrollment rate. School-age specific enrollment figures can be seen in Figure 5.12. Among children aged between 10 and 15 years on June 1st 2014, 70 percent were enrolled at school. Enrollment among secondary school age children is substantially higher than net secondary enrollment. This is because there are many children of secondary school age in school, but they are not in school at the right grade for their age.

**The rural-urban gap in enrollment rates partly reflects slower grade progression in rural areas, with children more likely to start late and to lag behind at school.** Among students of middle school age, 31 percent of those in rural areas were enrolled in primary school compared to only 8 percent of



urban students. Enrollment rates in urban and rural areas overlap until the start of middle school and become more pronounced at age 14 or grade 10, when a child is due to transition into high school. In urban areas, 88 percent of students of middle school age were enrolled while in rural areas 80 percent were enrolled in school. However, only 65 percent of rural children were enrolled at the right level, compared to 82 percent of urban children. Among students of high school age, slippage in grade progression during middle school can be seen in both urban and rural areas: 26 percent and 46 percent of high school age students in urban and rural areas respectively are still in middle school.

Figure 5.12

Share of individuals between 5 and 20 enrolled in education

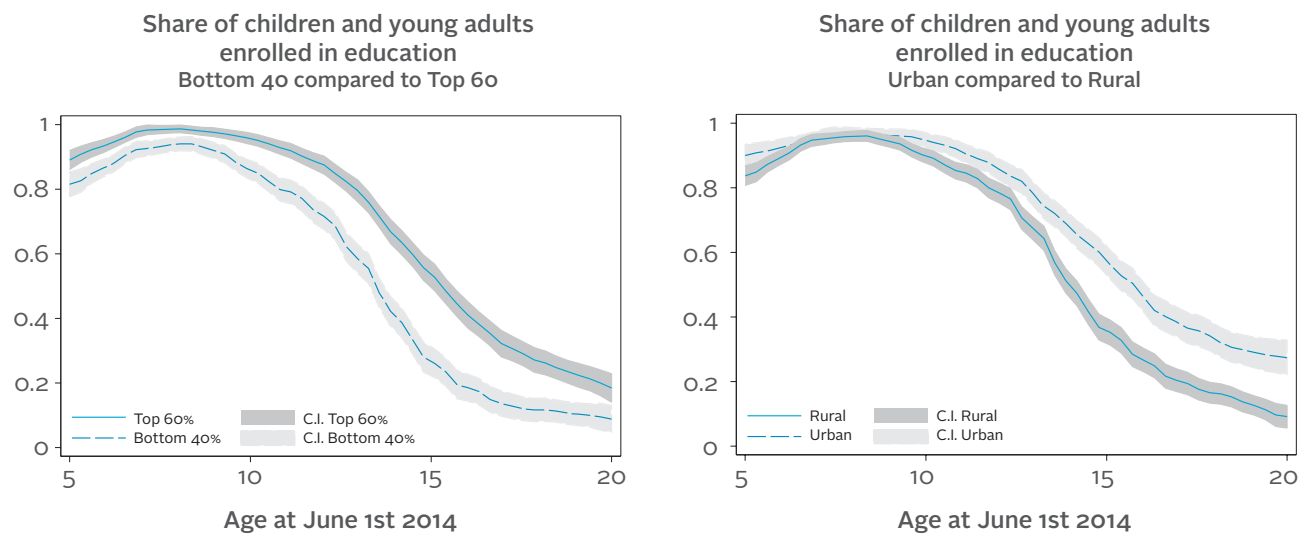
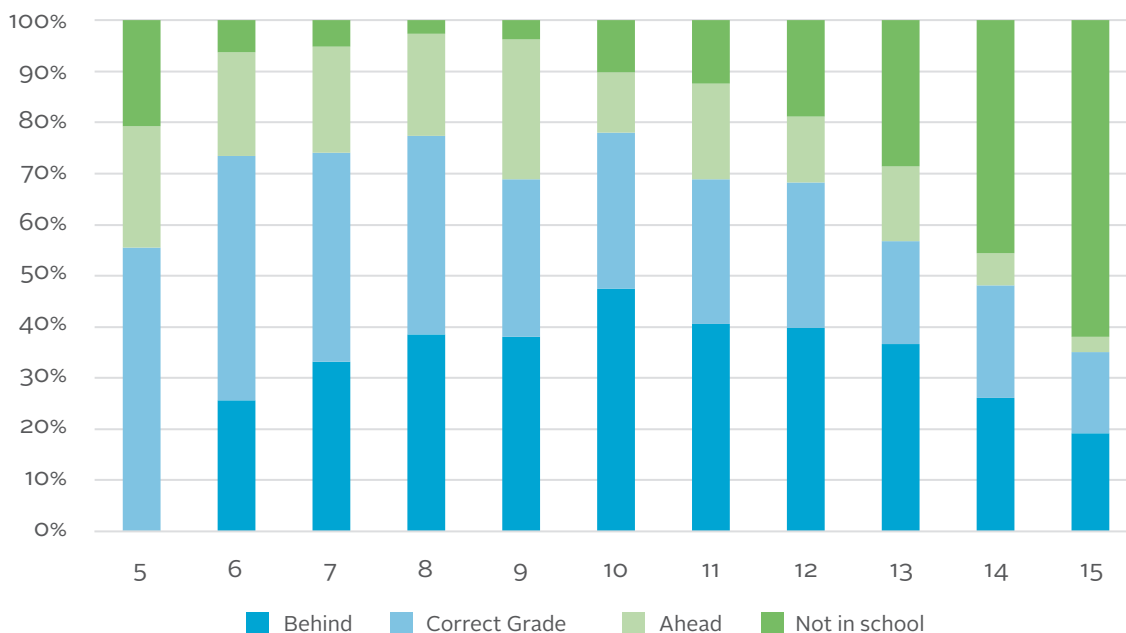


Figure 5.13

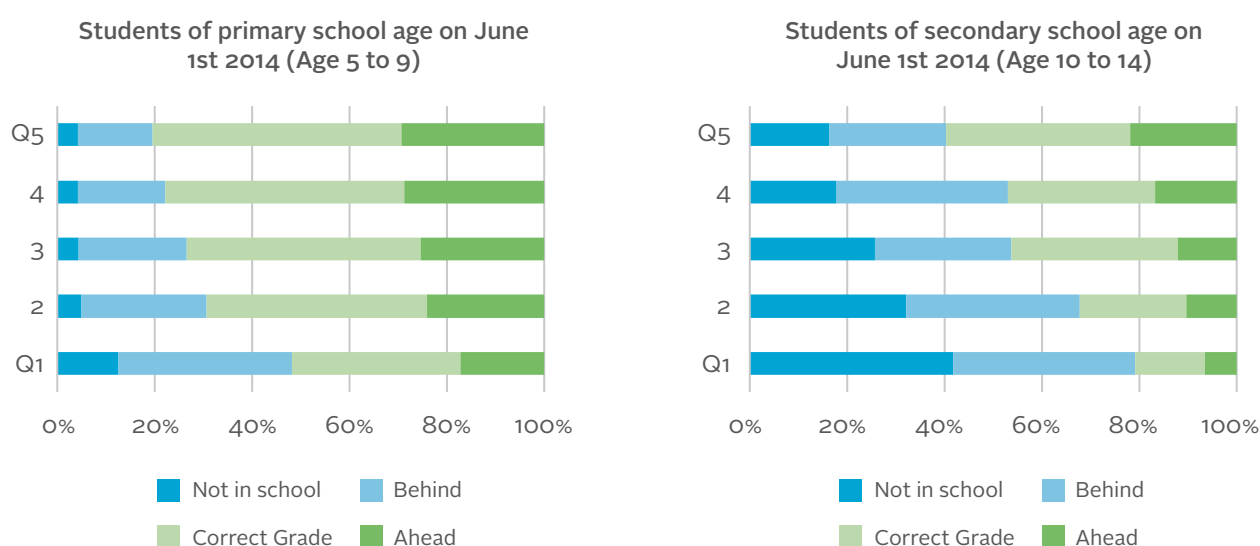
School grade status, by age and grade



**Children from poorer backgrounds and in rural areas are more likely to fall behind before they fall out.** Children from poorer households are more likely to start school late and to be in a lower grade than that indicated by their age at primary school, while children from richer households are more likely to be ahead. Poorer children also account for the majority of primary school students who are not at school—13 percent of primary school age children in the bottom 20 percent of households are not in school, compared to less than 6 percent for all other quintiles. This partly reflects a difference between urban and rural areas: poorer households are more likely to be found in rural areas. Children in rural areas are twice as likely to be behind the grade for their age at primary school: 30 percent of rural students are behind, compared to 13 percent of urban students.

Figure 5.14

Primary and secondary school progression, by quintile

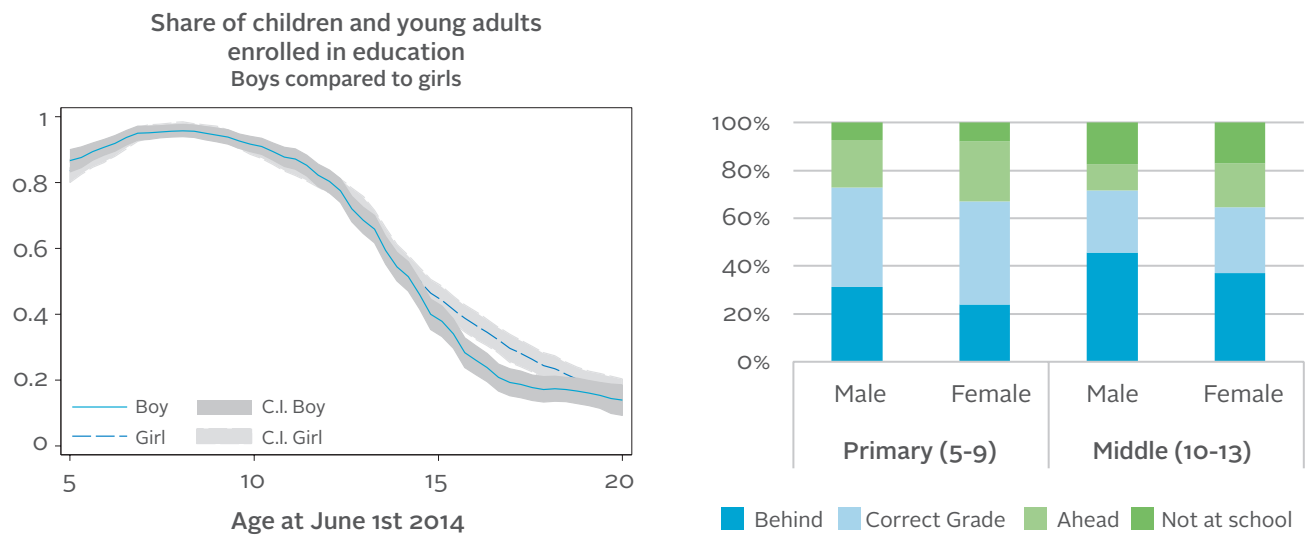


**A number of children are ahead for their age, particularly in urban areas. This is likely to reflect early starters.** Among those who are ahead at school, the majority (55 percent) are born between June and September. Within the Myanmar education system, a head teacher is enabled to allow students to start primary school at age 4 if they are deemed sufficiently physically and intellectually mature. This is more likely to be the case for those born at the cusp of the school year. We note that being “ahead” or “behind” in terms of grade progression does not necessarily mean that students are ahead or behind in their school outcomes.

**Gender gaps in net enrollment rates can be traced to boys being more likely to drop out of school after age 14 and to more boys falling behind at school.** These factors are potentially linked to their earlier engagement in labor markets. Boys and girls are enrolled in similar proportions between age 5 and 14, an impressive indicator of gender parity at lower levels of education. However, boys are more likely than girls to be behind at school: among those children at secondary level, 53 percent of boys of secondary age are behind at school compared to 42 percent of girls.

Figure 5.15

Gender differences in enrollment and progression







# 06.

The difficulties  
associated with bad  
health in Myanmar



## Key Messages:

- Health expenditures are high and almost exclusively out of pocket, placing a large burden on households.
- Sixteen percent of households in our sample faced catastrophic health care expenditures, accounting for more than 10 percent of total consumption expenditures.
- Households employ negative coping mechanisms in response to health shocks: they borrow (at relatively high interest rates) and sell productive assets.

This chapter presents an analysis of selected aspects of the health situation in Myanmar.

**Poor health cuts across all aspects of well-being in Myanmar: the population bears a substantial burden from ill-health, and the coping strategies to deal with ill-health may contribute to cycles of deprivation.** Health expenditures are high and almost exclusively out-of-pocket, placing a large burden on households in Myanmar. Sixteen percent of households in our sample face catastrophic health care expenditures, accounting for more than 10 percent of total consumption expenditure. Health shocks are the most frequent type of shock reported by households in the 12 months preceding the survey. Households respond to these with costly coping strategies that frequently involve the sale of productive assets and borrowing at high interest rates, thus increasing risks to future income. Access to public health facilities is limited. Community health workers reach a relatively large share of communities, but their visits are often infrequent and treatments limited.

## Self-reported health

**Self-reported morbidity is high, with a sixth of all individuals reporting that they are impacted by injuries or health complaints in the thirty days preceding the survey.** The concept of morbidity describes the rate of sickness in a specific community. We consider household members to be morbid when they declare having had any injuries or health complaints that caused them to stop their normal activity for at least one day during the thirty days preceding the survey. It should be noted that any self-reported sickness measures likely contain measurement error and systematic biases, as different groups within the population apply different standards when replying to the questionnaire.<sup>16</sup> Survey response may be related to poverty status, age, and occupation. For example, non-poor households may apply stricter standards for what constitutes sickness than poor households. This would increase reported morbidity among the poor.

**Among all individuals, age and location are the strongest predictors of reporting sickness.** We use a simple regression model to explain self-reported sickness using age, location of household, consumption expenditure, and household sanitation status.<sup>17</sup> We then calculate predicted probabilities for the average individual. Consistent with the analysis above we find that age is by

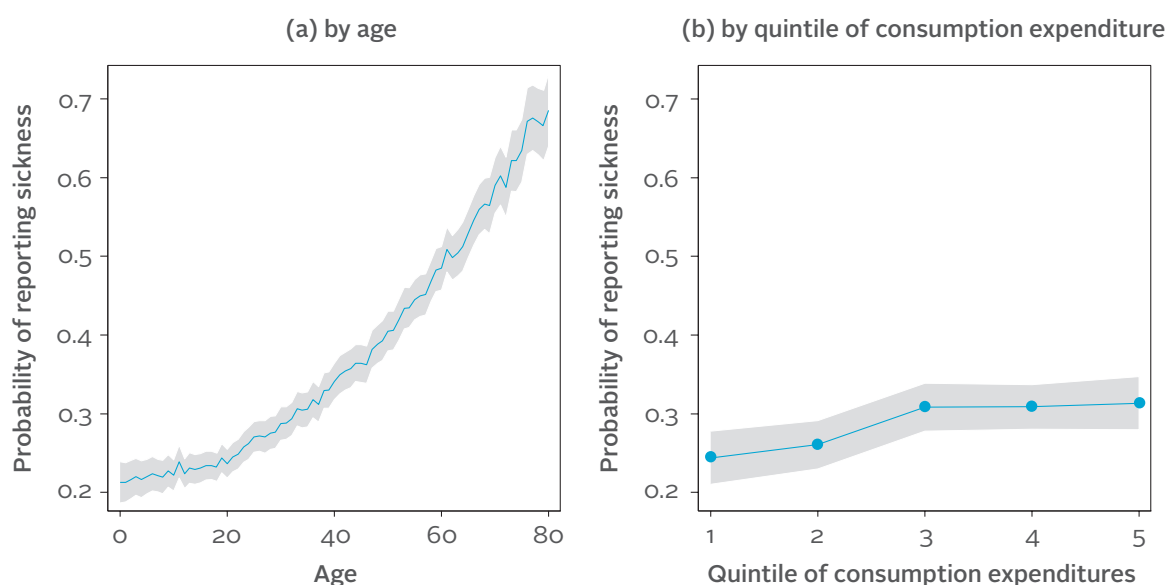
<sup>16</sup> See, for example, Butler et al. (1987).

<sup>17</sup> We estimate a weighted probit model with an indicator for self-reported sickness 30 days preceding the survey as the dependent variable. We include as predictors individual age, age squared, quintiles of the per capita household consumption expenditure distribution, rural/urban area, agro-ecological zone, and a dummy for improved sanitation according to the MDG definition. We then calculate marginal effects with probabilities evaluated at the averages of all variables.

far the strongest predictor of reporting sickness, with older individuals more likely to report sickness than working age and younger individuals (Figure 6.1, panel a). Location of the household matters: holding everything else constant, the model predicts that an average individual in the Dry Zone has a 36 percent chance of suffering from sickness in the thirty days preceding the survey, compared to 21 percent in the Hills and Mountains region. The relationship of household consumption expenditure and the likelihood of reporting sickness has a positive but not statistically significant relationship in our simple model (Figure 6.1, panel b).

Figure 6.1

Predicted probabilities of individuals reporting sickness, by age and quintile of consumption distribution



Note: Shared areas denote 95 percent confidence intervals.

The MPLCS finds higher levels of self-reported morbidity in Myanmar than previously found in the IHLCA. The patterns of morbidity are similar to those seen in IHLCA, but the reported rate of morbidity from the MPLCS (16.6%) is 3 times higher than that previously estimated in the IHLCA (5.3%). This is very unlikely to reflect a deterioration of health in the population, but instead is a reflection of the types of illness captured in the two surveys. The question on ill-health as phrased and enumerated in the IHLCA likely picked up more severe forms of illness, while in the MPLCS respondents were prompted to report less severe and more common incidents of sickness, such as diarrhea and fever. To avoid capturing mild sickness that has limited impact on an individual, we only include those who have lost at least one day of normal activity due to the reported sickness in this analysis. Nearly a third of the population (32%) report some incident of sickness in the last 30 days but only a half of these report taking time from their normal activities as a consequence of the sickness.

Levels of self-reported morbidity vary slightly between agro-ecological zones. Morbidity varied between 12 percent in the Hills and Mountains region and 18.9 percent in the Dry Zone. Similarly, the frequency of reporting an illness—i.e. an injury or health complaint that does not require a reduction in

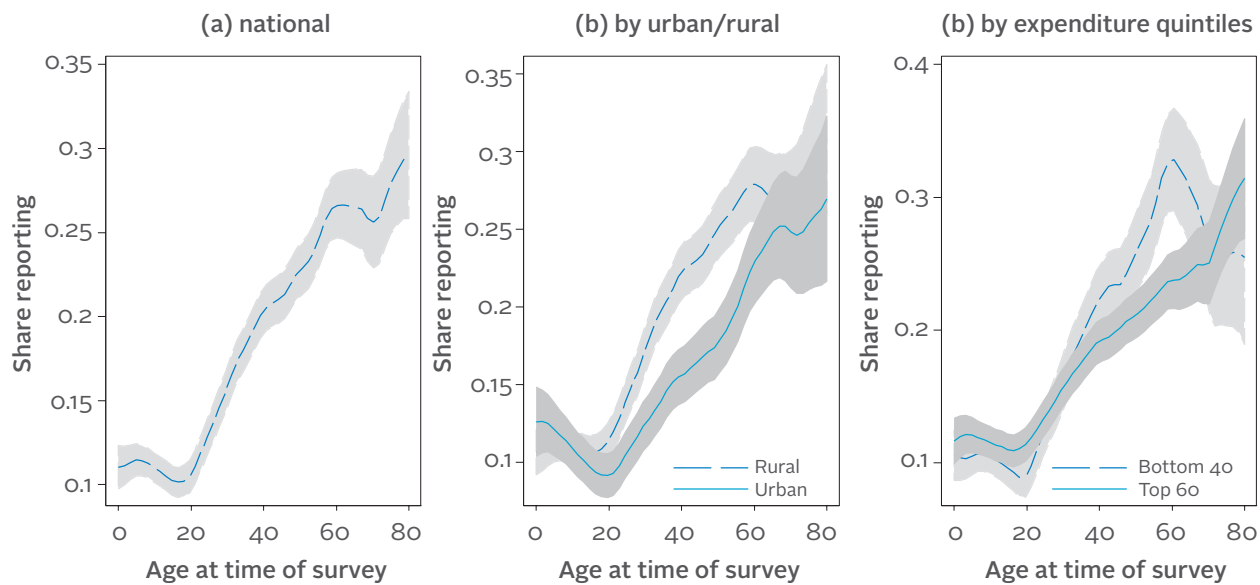


normal activities—was lower in the Hills and Mountains region at 23.7 percent and the Coastal region at 26.6 percent relative to reported illness in the Dry Zone at 39 percent and the Delta region at 35 percent.

**Older individuals and individuals in rural areas are more likely to report morbidity.** Age is the most important determinant of individuals reporting morbidity (Figure 6.2, panel a). Notably, working-age individuals in rural areas are significantly more likely to report morbidity than working-age individuals in urban areas (panel b). This appears not to be driven by a larger share of individuals reporting sickness, but by larger share of sick individuals reporting an adverse impact on normal activity. Household poverty appears to play a minor role in individuals self-reporting morbidity (panel c).

Figure 6.1

Share of individuals reporting morbidity, by age



Note: Shaded areas denote 95 percent confidence intervals

**On average, individuals who reported being morbid stopped their normal activities for seven days.** We examine the characteristics of those who take any time off for dealing with sickness and, for those who have taken time off, how much time was taken. We take into consideration age, sex, household expenditures (excluding health spending, which would be highly correlated with more severe health incidents), location and the education of the individual, as a proxy for the type of activity they are engaged in. We restrict our analysis to individuals of working age. We find that the fraction of the population who take time off to deal with a health incident is quite different to those who do not; this may of course reflect differences in self-reporting of health incidents across different parts of the population as well as their coping strategies to deal with ill-health. Women are substantially less likely to take time off their normal activities and take less time when off: this may partly reflect the greater focus of work on domestic work, explored in greater depth in Chapter 9. The amount of time taken off to cope with sickness is similar across rural and urban areas and people of different ages.

**Better off households appear to be less likely to suffer days lost due to illness and, when they do need to take time off their normal activities to recover, they take less time.** The relationship between taking time to cope with sickness and education is strong, but only kicks-in after middle-school level. Those with post-high school training and in richer households are less likely to take time off work and, when they do, they take 2-3 fewer days off. The relationship between education, wealth, sickness and the loss of normal activity is complicated: it likely reflects both the propensity of these individuals to self-diagnose themselves as sick, and what their normal activity is – for example, activities that involve manual work require greater physical fitness than running a small shop or working in an office. Better off and more educated individuals are also more likely to afford access to treatment that can limit the duration of sickness, and are more likely to be found in or near towns, where access to health care services is greatest.

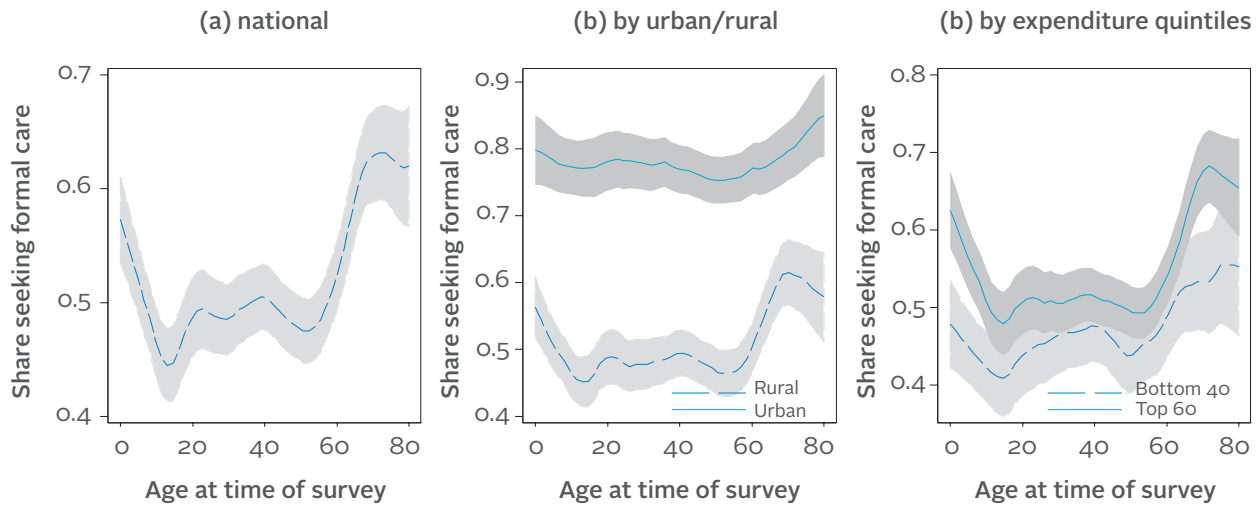
**We see mirrored results in the labor force module and shocks module, signaling that ill-health limits households' income earning potential.** Ill-health is likely to have substantial costs for Myanmar, both due to high out of pocket payments among households reporting health issues and due to the lost time in productive activities. In the labor force module, a fifth of working age individuals who were not working in the last week said this was because of ill-health: 10.5 percent of working age individuals reported not working because of temporary illness, while 9.5 percent reported not working due to longer term illness or disability. The majority of those with short-term health problems (70 percent) were working during the course of the year, suggesting that this is not an inactive but incapacitated part of the workforce.

**Myanmar lost 4 percent of potential work days due to ill-health.** We examine how many days of normal activity were lost in the 30 days prior to the survey. We assess this for the population who reported working in the year prior to the conduct of the survey. In the 30 days prior to the survey, we estimate that nearly 3 million days of work were lost due to ill-health out of the nearly 74 million potential work days. Households in the bottom quintile of the expenditure distribution lose a slightly higher fraction of workdays than those at the top end of the welfare distribution (4.5 percent versus 3.6 percent); this difference is however statistically significant at the 90 percent level rather than the 95 percent, therefore requiring further verification.

**The fraction of sick individuals seeking formal care is significantly lower among poorer households, across all ages, suggesting that costs play an important role in access to health care.** Only 4 percent of those who reported being sick did not respond to their illness. Nearly one in four individuals took informal approaches to responding to their illness, including using medicine at home (17 percent) and going to their local pharmacy or medicines-vendor (22 percent). Half of individuals (48 percent) sought formal care, which we define as going to a public or private health care center, or to a hospital. On average across Myanmar, the highest share of sick individuals reporting that they sought formal care are children under the age of 6 (Figure 6.3, panel a). This is particularly true of households in the top 60 percent of the consumption expenditure distribution. Location of households appears to also play a role in whether individuals seek formal care (panel b), although the differences are not statistically significant for most ages.

Figure 6.3

Share of individuals seeking-formal care if reporting sick, by age



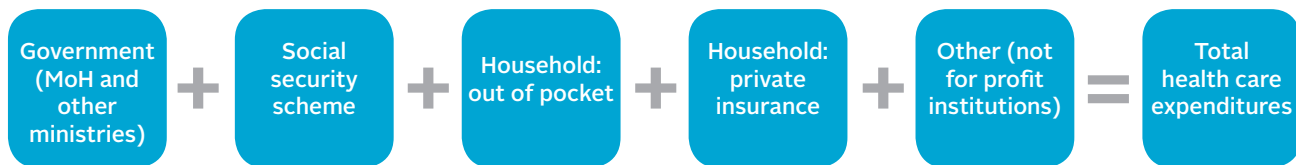
Note: Shaded areas denote 95 percent confidence intervals

## Private health expenditures

There are three main sources of health financing in Myanmar: public, private and external. Public spending includes general government revenues, which flow through the budgets of the Ministry of Health and Sports, other ministries and departments, City Development Committees and through the Social Security Scheme (World Bank, 2015). Private funding mostly includes out-of-pocket payments made by households. Private funding also flows, in small amounts, to the Social Security Scheme and through private insurance providers. Finally, other sources of health financing include external funding, mostly Official Development Assistance that is channeled through government and not-for-profit providers.

Figure 6.4

Components of health care expenditures



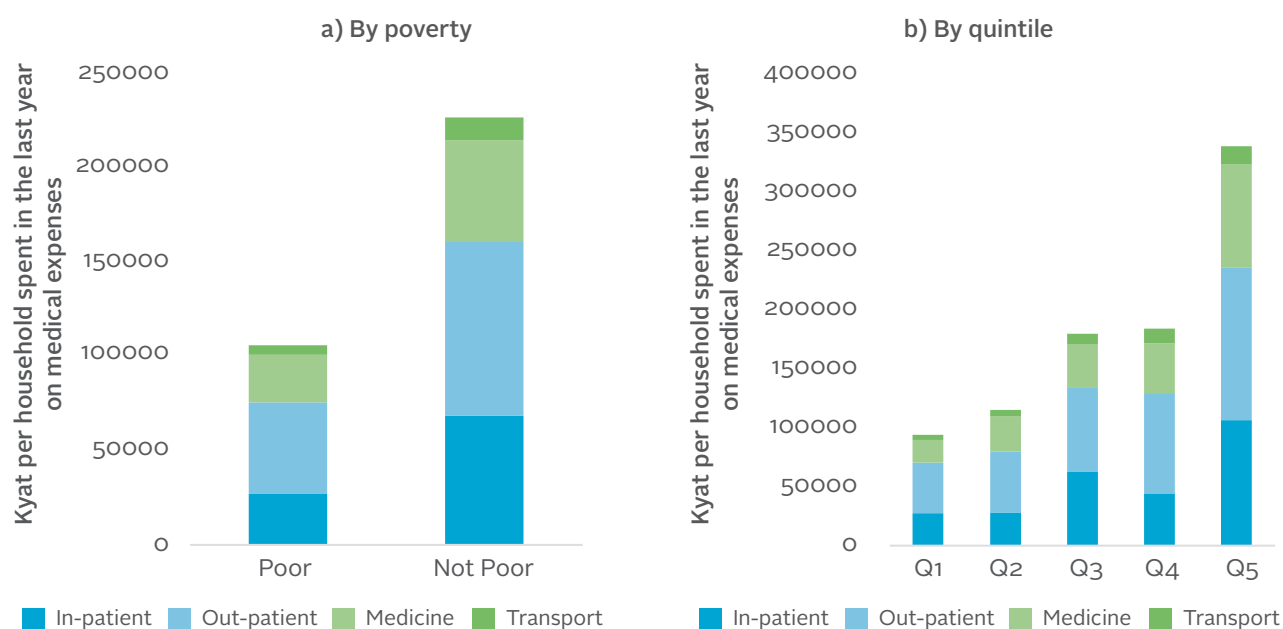
Private financing of health care costs is high in Myanmar and rise with overall household consumption expenditure. Private financing has historically been the biggest source of health sector funding in Myanmar (World Bank, 2015). We estimate that households are spending on average 190,000 kyat per year on health care, with substantially higher spending by richer households who

tend to go to private clinics and hospitals.<sup>18</sup> In total, households are spending 2.2 trillion kyat on health care expenditures, of which 0.1 trillion is spent on transportation to and from the medical facility, 0.9 trillion is spent on outpatient care, 0.7 trillion is spent on inpatient care and 0.5 trillion is spent on medicines. It should be noted that expenditures on medicines within inpatient or outpatient care are not reflected in the expenditure to medicines, but are subsumed under the total cost of inpatient and outpatient care respectively.

**Poorer households face a dramatically lower capacity to finance health care.** This pattern holds across poverty status, quintile of the household consumption expenditure distribution, and the location of the household (Figure 6.5). The shares of outpatient, inpatient, transport and medicine expenditures in total household health spending are roughly constant across all households. Transport expenditures account for about 5 percent to 7 percent of total health spending and expenditures on medicines are between 21 and 26 percent. Outpatient expenditures account for about 39 to 46 percent while inpatient expenditures make up between 24 and 36 percent of total health spending. Among the 21 percent of individuals who did nothing or self-medicated in response to their sickness, 17.5 percent cited being unable to afford the treatment or transport costs as the main reason for not seeking treatment.

Figure 6.5

Household annual health expenditures, by poverty status, quintile of expenditure distribution, and location



Note: Five outliers with health care shares greater than 2 were not included in this analysis.

<sup>18</sup> This estimate of health care costs excludes 7 households who report paying above 1000 lakh (10 million kyat) in the last year. Although these high expenditures align with the overall expenditures of these households - five of these households are in the top 5 percent of the expenditure distribution, excluding health care expenditures, and the remaining household is in the top 10 percent - they substantially impact mean total expenditures and are thus removed. Average spending with these households included is 191,253 kyats per household per year.

**Private health care spending of the average household in Myanmar amounts for about 6.0 percent of total household consumption expenditures (excluding health).**<sup>19</sup> The share of spending on health care across rich and poor households is similar. The average poor household spends less (about 5.8 percent of total) than the average rich household (about 6.0 percent). This share is also relatively constant across rural and urban areas.

**The seemingly low average however hides a large number of households that face catastrophic health expenditures.** Sixteen percent of households in our sample spend more than 10 percent of total consumption expenditure on health care. Such catastrophic spending results from large out-of-pocket expenditures and may push households into poverty. We again use a simple regression model to estimate the likelihood that a household is facing catastrophic health care expenditures. We find that living in a household below the poverty line does not greatly affect the probability of facing catastrophic expenditures. The finding may reflect the observation that poorer households are at a constrained optimal—they are simply unable to finance the health care expenditures that they need, and hence do not even pursue any medical care.

**Social assistance and health insurance programs cover only a very small percentage of the population and account for a negligible amount of health care spending.** Myanmar has a mix of contributory and non-contributory social security programs for a very small share of the population in the formal economy and the public sector (Dutta et al, 2015). In addition, a small number of NGOs offer various assistance programs. The vast majority of workers are not covered by any formal scheme. Our survey finds that about 17.9 percent of the individuals who reported seeking treatment for ill health had some share of health care expenditures covered by a social assistance program. This figure likely overstates actual population coverage since our analysis is focused on the approximately 80 percent of all surveyed households reporting such data. We only know if some part of an expenditure was covered, but are not able to quantify the amount that households potentially received from social programs or insurance schemes. Even under the optimistic assumption that all expenditures reportedly covered by a program were fully paid for, the covered amount only represents 6.2 percent of total health care spending on average across all households. Among households below the poverty line, the share of health expenditures potentially covered is even lower at about 3.7 percent. This means that even under the most optimistic assumption, out-of-pocket expenditures still represent 93.8 percent of all private health spending in Myanmar.

**To cope with high costs, 32 percent of households who faced inpatient or outpatient costs took up a loan to cover medical expenses in the year preceding the survey.** This rate is marginally higher for poor households.<sup>20</sup> We explore the type of loans used to cover medical expenses in greater depth in

<sup>19</sup> Five outliers with health care shares greater than 2 were not included in this analysis. Including these outliers by top-coding them to 2, the share of health in expenditures rises to 6.3 percent, and including them without adjustment results in an estimated 6.6 percent of spending devoted to health expenditures.

<sup>20</sup> Compared to 29.9 percent of non-poor, 37.4 percent of poor households borrow to take up loans. The difference is statistically significant at the 95 percent confidence level.

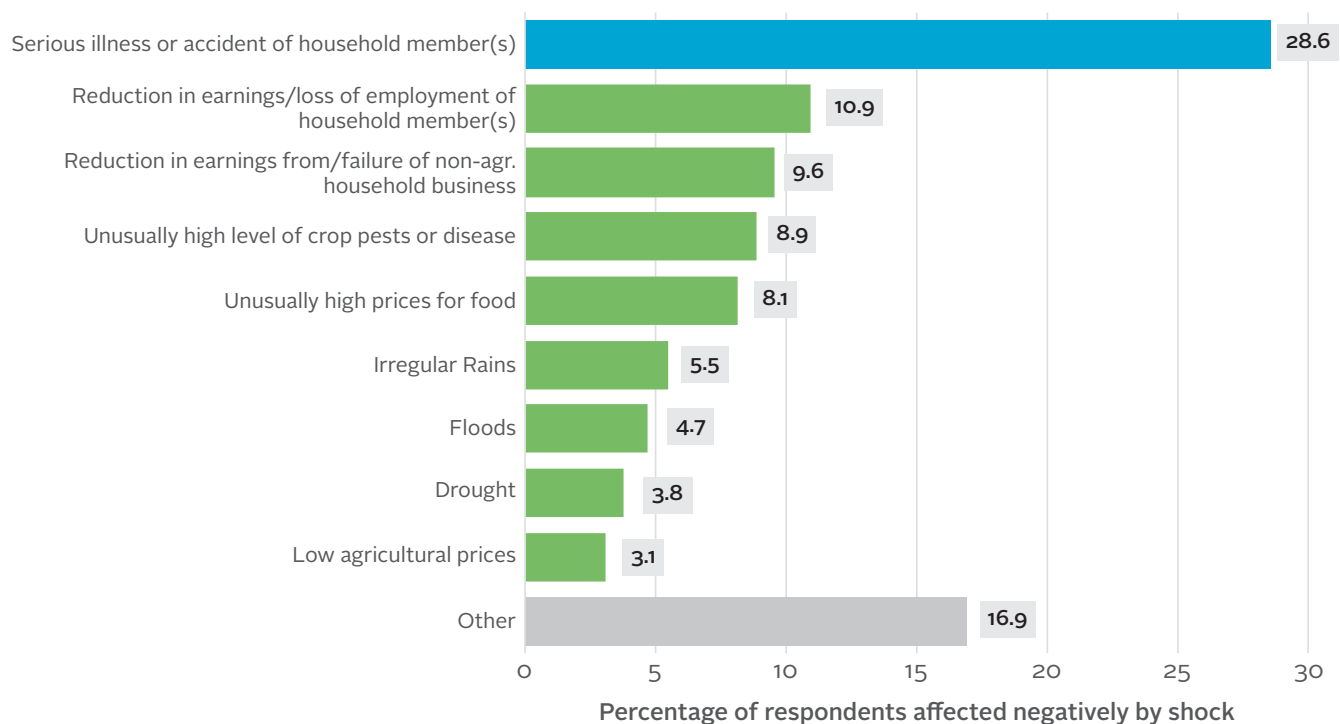
Chapter 8. We find that poorer households are more likely to be borrowing from informal sources at high interest rates, likely a reflection of their more limited access to formal finance and the mirrored socio-economic circumstances of their communities. Consistent with the analysis above, the high private costs suggest that poorer households may be less likely to seek medical treatments. High out-of-pocket costs, high prevalence of borrowing to cover these costs, and strategies that forego treatments all exacerbate risks to future income.

## Coping with health shocks

**Health shocks are the most frequently reported type of shock encountered by households in Myanmar.** 80 percent of households in Myanmar report health care costs related to inpatient or outpatient care and, of these, nearly a fifth reported that the health shock faced by their household had a severe negative impact on welfare. Health shocks result in welfare losses to households through two primary channels: (i) increased medical expenditures; (ii) a reduction in labor supply reducing earnings through foregone opportunities and/or a decrease in the return to labor (Gertler and Gruber, 2002). Health shocks were the most commonly reported shock experienced by households in Myanmar. Just under half of households in Myanmar reported an unanticipated shock that impacted their welfare. Among these households, 28.6 percent of households reported having encountered a serious illness or accident as the worst shock in the 12 months preceding the survey. Health shocks were the single most frequently encountered shock and are more prevalent than the three next most frequently encountered types of shocks combined.

Figure 6.6

Types of shocks that most commonly affect households

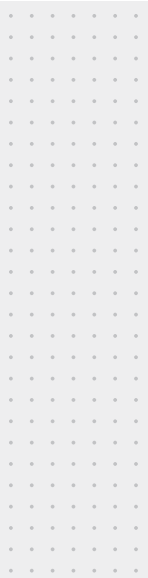


**In response to health shocks, households resort to detrimental coping strategies that make them even more vulnerable to poverty in the future.**

Loans are the most common way of coping with the shocks – these are examined in greater depth in Chapter 8. Beyond borrowing money, households display a wide variety of coping strategies that are likely to reduce their welfare, both in the shorter- and longer-term. Among all households that report having experienced a serious illness or accident as the worst shock in the year preceding the survey, 14.5 percent used the sale of a productive asset as a coping strategy and 20.7 percent of households reduced their consumption expenditure, which predominantly reflects changing their food consumption habits. The percentage of households responding to shocks with the sale of productive assets is higher when encountering health shocks than when encountering any other type shock.<sup>21</sup> When experiencing health shocks, poor households tend to respond by reducing or changing current consumption, while non-poor households tend to sell productive assets that could otherwise reduce the risk of falling into poverty in the future. Overall, these coping mechanisms are highly costly, undermine livelihood strategies, and make households even more vulnerable to future income risks.

**The high prevalence of health shocks combined with substantial out-of-pocket costs means that households are highly vulnerable to falling into poverty.** Frequent illness and accidents can imply devastating income losses. Our analysis underlines the need for social insurance programs that cover the poor and vulnerable.

<sup>21</sup> On average across all shocks other than health, 10 percent of households report using the sale of productive assets as a coping strategy. The difference is statistically significant at the 95 percent confidence level.







# 07.

Unmet water,  
sanitation and energy  
needs



## Key Messages:

- Higher expenditures do not necessarily translate into better drinking water, sanitation or energy access.
- There is substantial geographic variation in access to improved drinking water, in part reflecting differences in natural endowments across Myanmar.
- Although only a third of households have access to the public grid, only 16 percent are without modern energy as their main source of lighting. Communal grids and household solar systems are filling the gap in rural areas.

**There continue to be many people in Myanmar who have yet to meet their basic water, sanitation, housing and energy needs.** Although richer people who live in urban areas tend to have better access to all of these basic services, deprivations in Myanmar tend to be as related to geography as they are to incomes. The climate of Myanmar varies geographically, with colder winters and summers in the Hills and Mountains compared to hotter and more humid weather almost all year round in the Delta. Housing conditions, sanitation and water facilities in Myanmar display substantial regional diversity, varying with climate as well as access to building materials. Although the MPLCS is not representative at a state or region level, we are able to present figures at an agro-ecological zone level.

## Access to improved drinking water

**Nearly 7 in 10 people in Myanmar have year-round access to improved drinking water, while 79 percent of people live in households with access in at least one of the three seasons—wet, dry and cool.**<sup>22</sup> The definition of safe water access reported in the MPLCS differs from previous definitions in three ways that have a tangible impact on the reported indicator.<sup>23</sup> First, the MPLCS asks households about their primary drinking water source in the dry, rainy and cool season. Drinking water access varies substantially across seasons in rural areas. Many households are reliant on rainfall as their primary water source in the wet season. In the cool and dry seasons when rainfall is limited households need to seek alternative, and often unimproved, water sources to meet their needs. In urban areas, household water sources are less susceptible to seasonal fluctuations. Second, in this analysis bottled water is treated as an improved water source if a second improved source is available, following the MDG guidelines. In earlier IHLCA estimates, bottled water was treated as an unimproved drinking source. In Myanmar, approximately 90 percent of households who report drinking bottled water report a second improved drinking water source used for cooking. Finally, in the previous IHLCA report a household was defined as having access to a safe water source if they lived within a 30-minute walk of the source. Rather than combine these parameters into a single indicator, the analysis of the source of water is separated out from distance.

<sup>22</sup> A household is defined as having access to a safe drinking water source if their drinking water comes from: (i) a public tap; (ii) the public water system; (iii) a tube-well or borehole; (iv) a protected well or spring; (v) rain water or (vi) bottled water. Water is categorized as coming from an unsafe source if it comes from: (i) an unprotected well or spring; (ii) a pool, pond, lake, dam or stagnant water source; (iii) a river, stream or canal; or (iv) a tanker/truck.

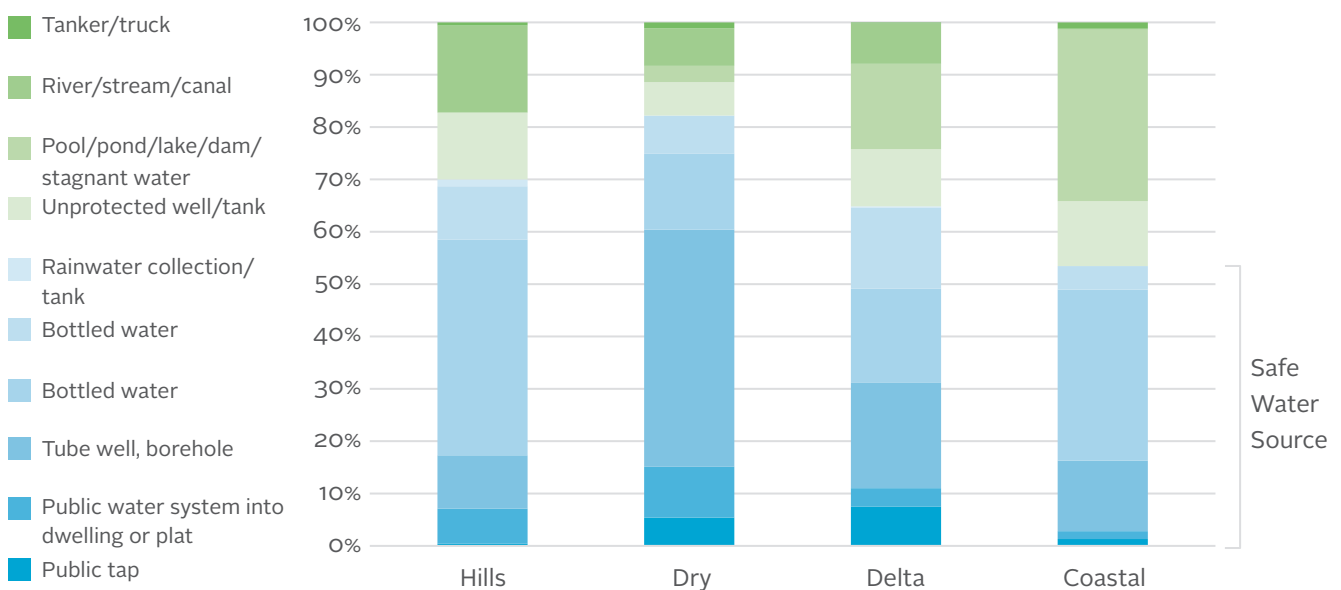
<sup>23</sup> The structure of questions on the MPLCS housing module closely resembles that of the 2014 Census. Some indicators in the MPLCS have greater comparability with the Census data than with the IHLCA data. A detailed comparison of indicator definitions is provided in the Technical Report for Poverty Measurement.

**Access to a safe drinking water source varies substantially across Myanmar.** Individuals living in the Dry Zone have the highest access to safe water, with 45 percent accessing water by means of a tube or bore well and a further 15 percent accessing water via a protected well or spring. Access to safe drinking water is lowest in Coastal areas where half of individuals live in households that rely on surface water (river, dam, lakes, etc.). Eighty-five percent of urban individuals have access to year-round safe drinking water compared to 62 percent of rural individuals. The most important source of safe drinking water in urban areas is bottled water, consumed by 31 percent of all individuals.

**In the Delta region—Ayeyarwady, Bago and Yangon—safe drinking water access varies substantially according to season.** Outside of the wet season, rainwater harvesting is replaced with water collection from ponds and rivers for the majority of these households. A third of individuals in the Delta live in households that rely upon rainwater collection as their primary drinking water source. During the dry and cool season, two thirds of these households switch to alternative unsafe surface water sources.

Figure 7.1

Source of drinking water in the dry season



Note: Figures are population weighted, and therefore reflect the share of individuals living in households with various sources of driving water.

**Households are treating their water, although not all treatment types are able to remove pathogens from the water.** Although the MPLCS does not contain information on water treatment, a survey conducted by LIFT (2015) found that 90 percent of surveyed households in rural areas treated their drinking water, often using multiple treatment methods. The main treatment method was to strain the water using a cloth. The second most common method was to boil the water; this method is used by two thirds of surveyed households.

**One in ten households in Coastal Myanmar face more than a thirty-minute roundtrip to fetch water.** The time taken to fetch drinking water varies substantially by location and across urban and rural areas. In urban areas, nearly

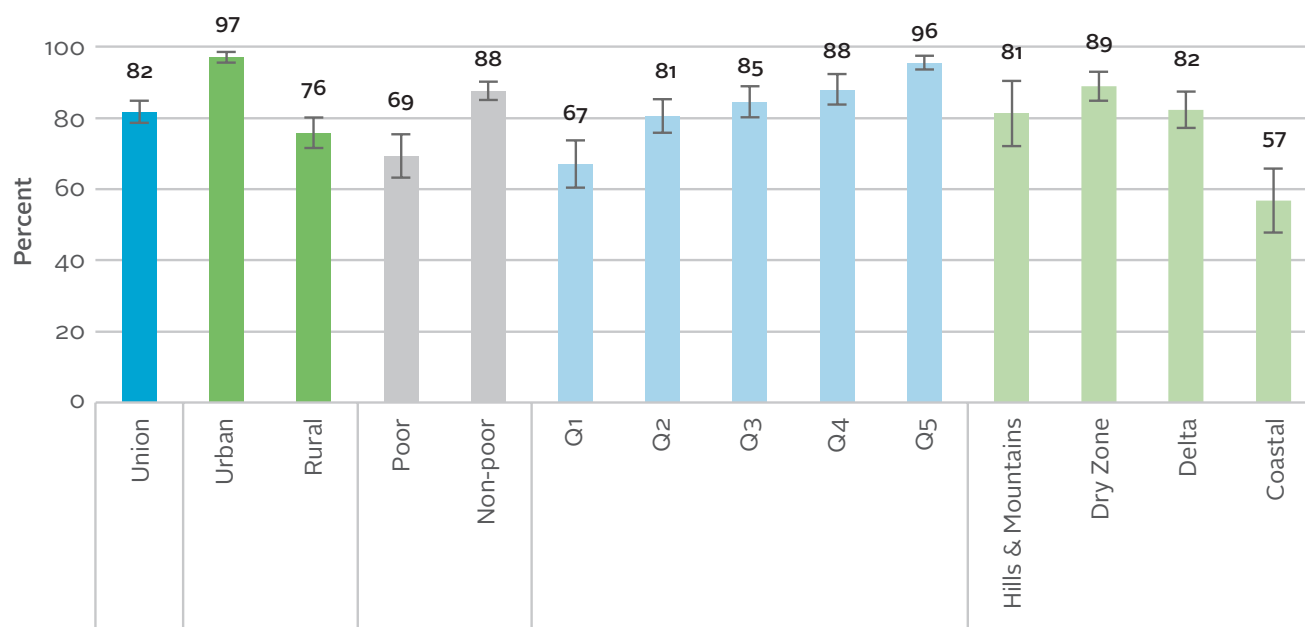
three quarters (73 percent) of households report having their drinking water source in their dwelling compared to just over a third (36 percent) of rural residents. The time travelled to water sources are furthest in Coastal areas and display little seasonal fluctuation here, unlike in the Delta. Only 30 percent of households in Coastal areas have access to water within their homes, and just under half (46 percent) of households have a 10 minute or more roundtrip to fetch water. Nearly one in ten households (9 percent) in the Coastal region reports a 30-minute roundtrip to fetch water during the dry season, double the one in twenty seen in other parts of Myanmar.

## Access to improved sanitation facilities

One in four individuals in rural areas lacks access to an improved toilet facility while universal access to sanitation is almost satisfied in urban areas. A safe and sustainable access to the improved sanitation is fundamental for a healthy life and well-being. The absence of proper sanitation facility at households leads to major diseases such as diarrhea, cholera and trachoma and threatens the health of vulnerable individuals, especially the elderly and children. Overall, rural residents do not have adequate access to the basic sanitation. One in six (16 percent) of rural households have no toilet facility at all. Moreover, in the Coastal areas, there are three times more individuals (37 percent) without access to any toilet facility compared to the national average of 12 percent.

Figure 7.2

Access to improved toilet facility



Note: Figures are population weighted, and therefore reflect the share of individuals living in households with access to the improved toilet facility. The improved toilet facility includes flush toilet and improved pit latrine.

## Diversity in energy sources

**Although only 32.5 percent of individuals live in households with access to the public grid, there are many alternative sources of energy that households use to light their homes.** Households were asked to report their main source of electricity, and to also report their main energy source for lighting and cooking. Overall, 16 percent of individuals live in households have no source of electricity at all while 57 percent have no access to public, communal or non-state grids.<sup>24</sup> Households with no electricity source reported being reliant on candles and kerosene for their lighting. The main energy sources that a household draws upon are determined primarily by where a household lives. There is substantial diversity in the sources of energy used, particularly in rural areas where the stretch of the public grid is limited.

**The poor are less able to shield themselves from not having access to public or communal grids through sourcing alternative energy sources.** The most significant factors driving having any source of grid electricity, public or communal, is living in or close to urban areas (with similar rates of access for poor and non-poor in urban areas) or living in a better off household. Grid electrification decreases as communities get further away from township centers, even after controlling for poverty and consumption. Since grid electricity provision is clustered within communities, this suggests that rural areas with better off residents are investing in localized grids, while poorer communities are not. Although there is variation in grid access across agro-ecological zone, this pales in comparison to variation in access across rural and urban areas. In those communities without public or localized grids, households, and in particular better-off households, are able to shield themselves from the lack of grid access by investing in solar systems, generators and rechargeable batteries. Although households close to township centers have substantially better access to grid electricity, there does not appear to be any relationship between distance from township center and access to non-grid electricity sources.

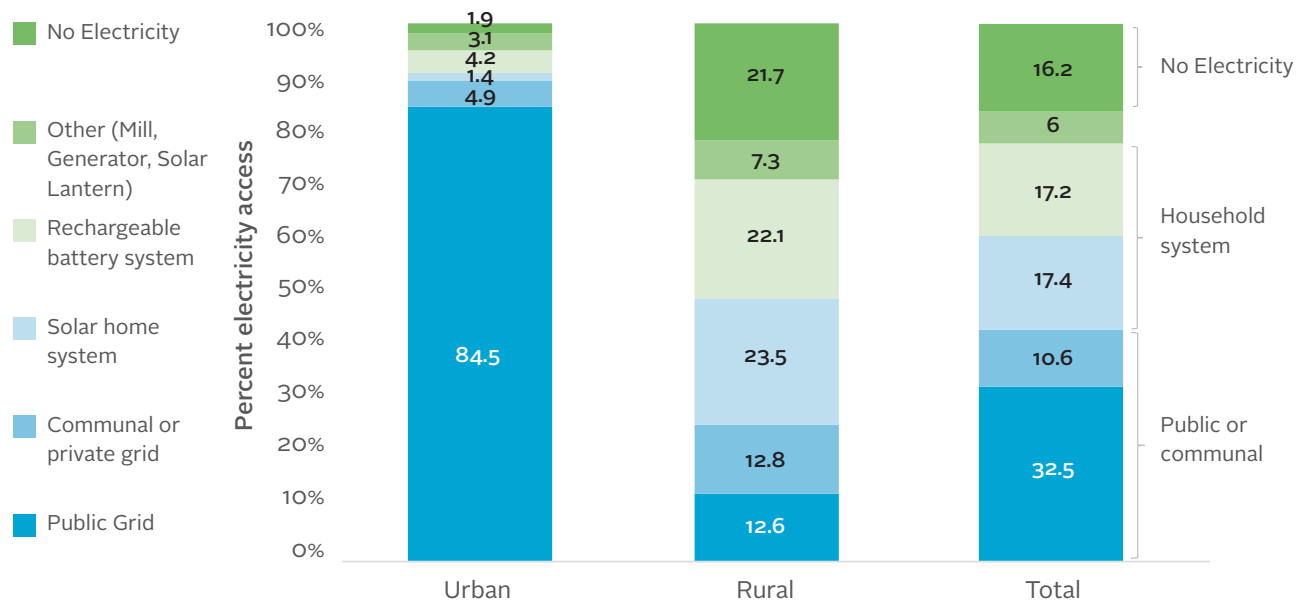
**Urban dwellers, richer as well as poorer, have a source of electricity and are predominantly connected to the public grid.** One in five individuals living in rural areas (21.7 percent) has no electricity access at all, compared to only 1.9 percent of urban dwellers. The gap in access between richer and poorer is of similar magnitude and highly correlated to the gap between urban and rural. Overall, 30 percent of individuals living in poor households have no source of electricity compared to 10 percent of those in non-poor households. Individuals living in poor households in urban areas are significantly more likely to have access to electricity than rural households overall—only 6.5 percent report no electricity source whatsoever. In urban areas, 85 percent of the population reported electricity from the public grid as their main source of electricity and a further 5 percent of urban dwellers relied upon a communal or private grid. Public and private grid connections are lower for poorer urban households: among bottom 40 percent of households in urban areas, 79 percent have access to public or private grid electricity resulting in greater diversity across alternative energy sources. Only 2 percent of urban residents reported having no primary electricity source.

<sup>24</sup> These figures use population weights to determine the share of the population with access to grid electricity. The household weighted figures are similar, with 32.1% of households estimated to have a connection to the public grid and 16.9 of households with no electricity source.

Outside of urban areas, access to electricity through the public grid is limited and both the rich and the poor need to find alternative sources of electricity. Only 12.6 percent of rural residents cite the public grid as their main electricity source. Communal grids are as widespread as public grid provision, with 12.8 percent of households relying upon a communal or private grid. Rural respondents do however for the most part access some electricity source, with 45 percent of people reliant upon solar home systems and rechargeable battery systems. These systems can be used to power lighting, televisions and small electronic products but could not be used to power more energy intensive products such as refrigerators. By providing basic lighting, they however equip rural residents to lengthen their days and to connect themselves to broader Myanmar through televisions and telephones.

Figure 7.3

Source of electricity in urban and rural areas

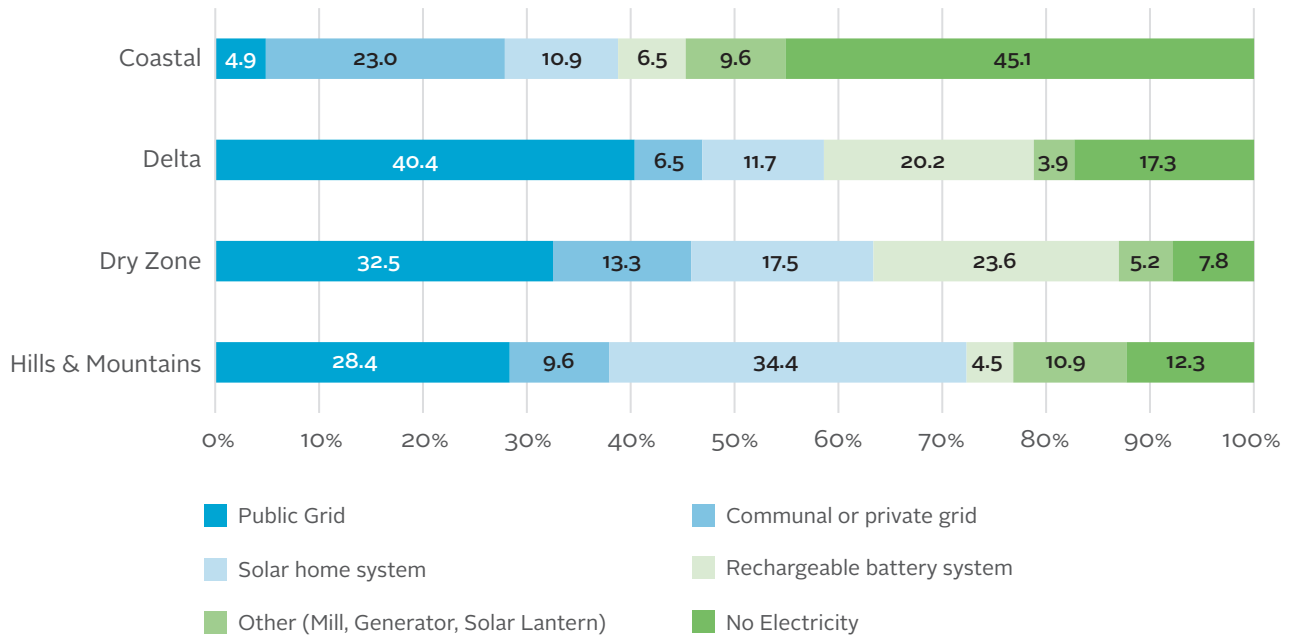


Note: Figures are population weighted, and therefore reflect the share of individuals living in households with various energy sources.

**Coastal areas have the most limited access to electricity: Forty-five percent of the population of these areas do not report a source of electricity, and only 5 percent of the population in these areas report being on the public grid.** Communal grids are thus a source of electricity for 23 percent of residents in Coastal Myanmar. This finding is corroborated by the data on electricity access collected by the Census, which also signals that relatively few households in the Coastal states of Rakhine and Taninthayi are able to rely upon communal or grid electricity as their primary energy source for lighting. Solar usage is highest in the Hills and Mountains, potentially due to higher availability of panels due to cross-border trade with China.

Figure 7.4

Source of electricity, by agro-zone



Note: Figures are population weighted, and therefore reflect the share of individuals living in households with various energy sources.

## Housing stock disparities

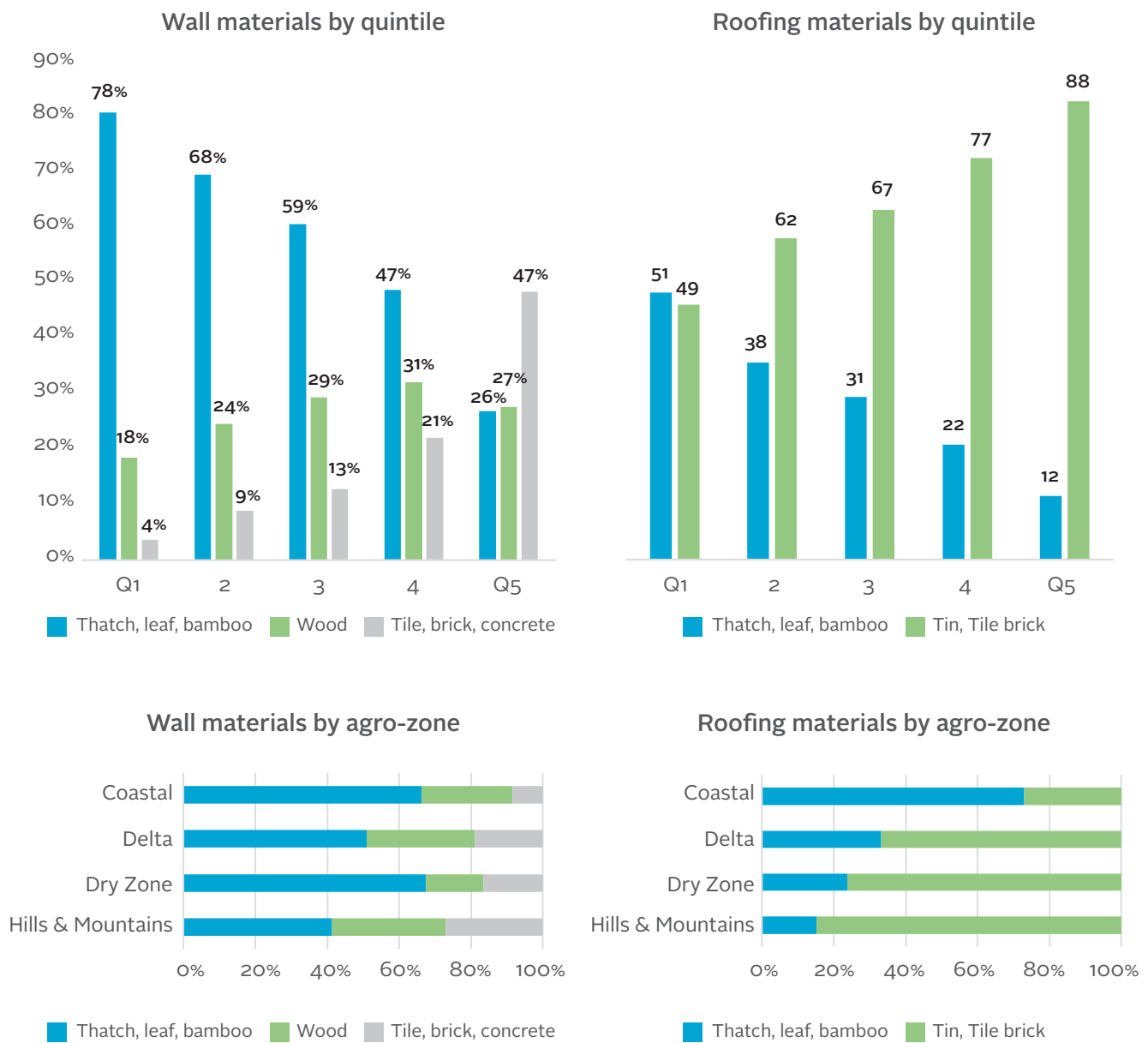
There is great disparity in housing stock reflective of economic well-being as well as climatic needs and availability of materials. Poorer households have lower quality housing materials that are more permeable and easily damaged, such that in the event of disaster, they are likely to sustain far greater damage to housing stocks.

Geographic variation in housing is substantial, partly reflecting climatic variation. Households in coastal areas are the most likely to have houses constructed with walls or roofs made of dhani, theke, bamboo or leaves while those in hilly and mountainous areas are the most likely to have more resilient housing materials. Although part of the variation in materials is likely to be attributable to climate, the greater usage of tin for roofing is also likely to be affected by access to tin roof imports coming from China. The substantial geographic variation in housing materials captured in the MPLCS is mirrored in the Census, which allows for further geographic disaggregation of the needs of the population.



Figure 7.5

Housing materials by quintile and zone

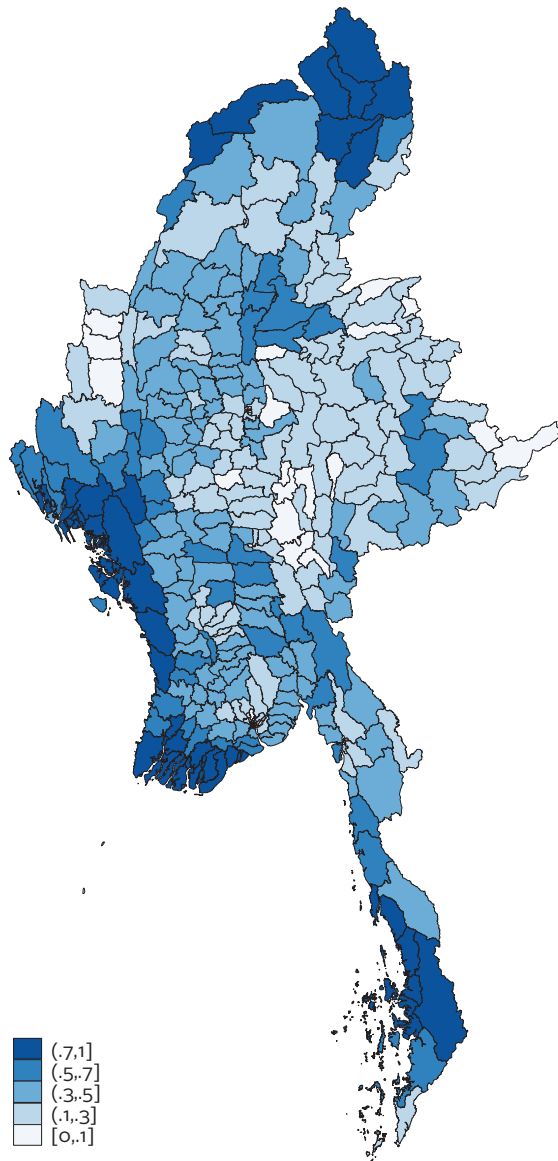


Note: Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

Figure 7.6

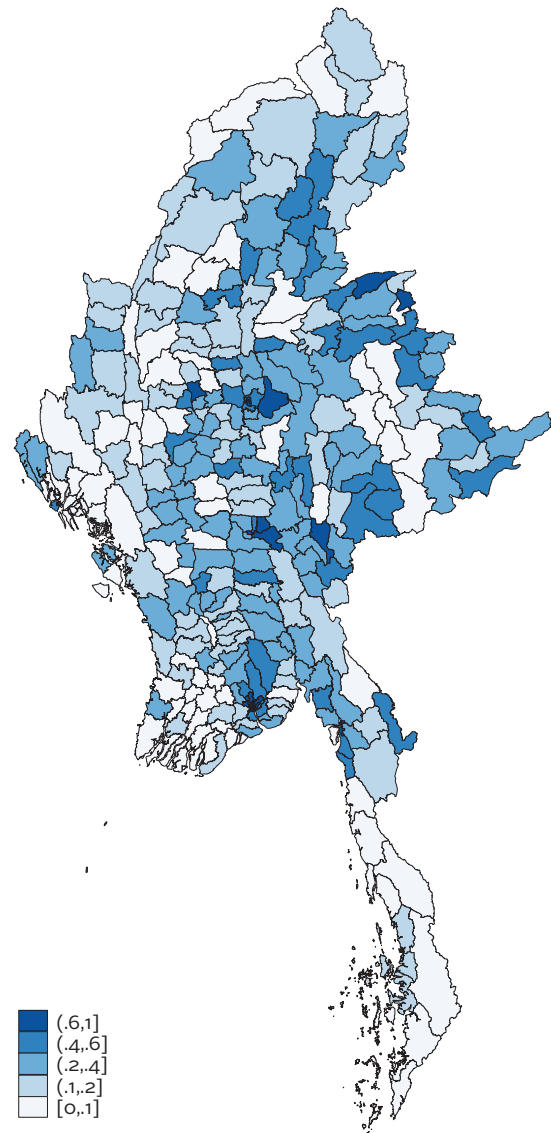
Variation in resilience of housing and access to grid electricity

Share of Households with a Simple Roof,



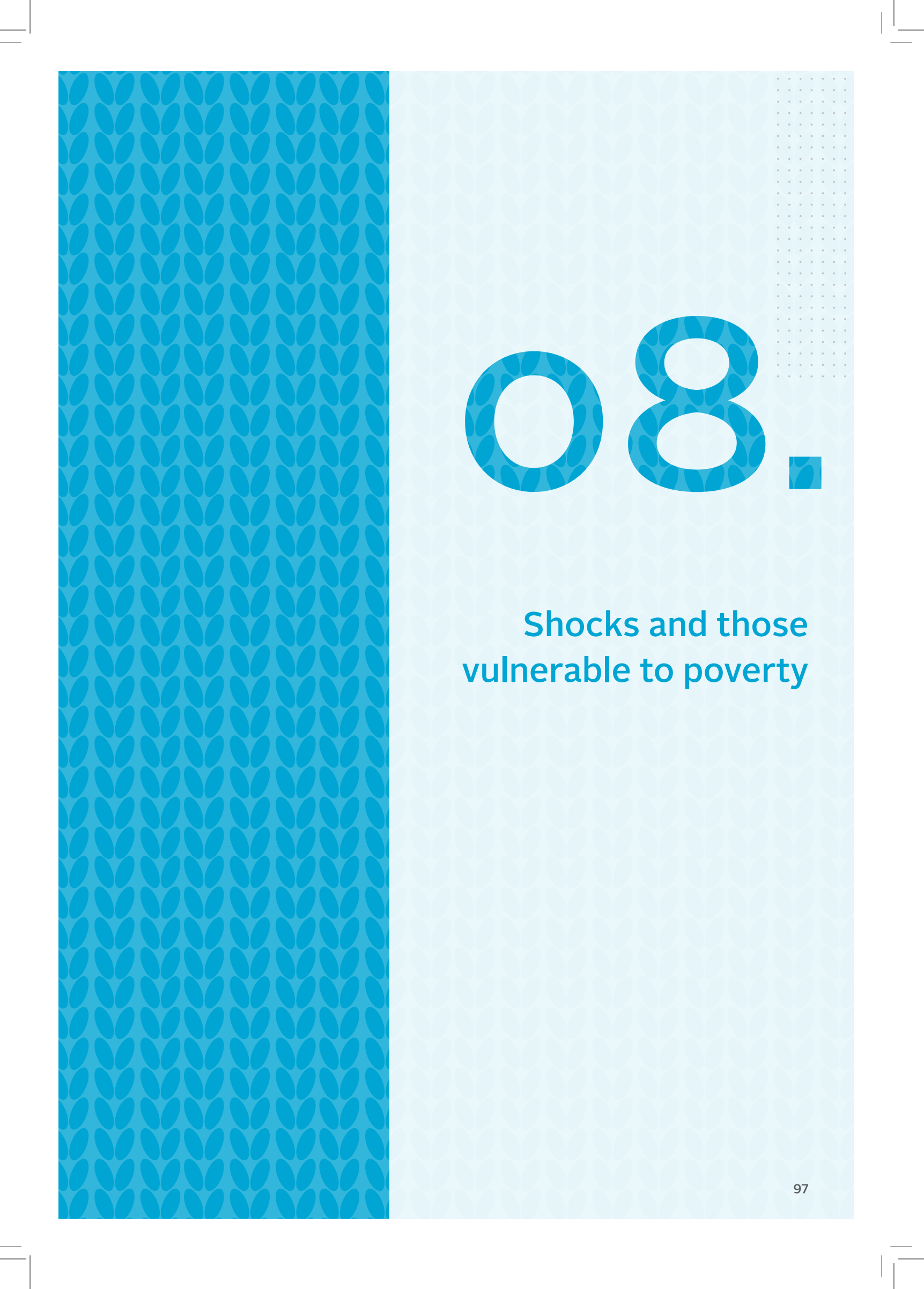
Data: World Bank ests. based on Census

Share of Households with Public or Communal Grid Electricity



Data: World Bank ests. based on Census

Source: Population and Housing Census 2014 data, published in Ministry of Labour, Immigration and Population (2015).



# 08.

## Shocks and those vulnerable to poverty



## Key Messages:

- Households were asked to report shocks that negatively affected their welfare in the last 12 months. The analysis in this chapter uses household perceptions of self-reported shocks.
- Households reported facing high levels of idiosyncratic and covariate shocks in Myanmar—about half of all households reported facing one or more negative shocks over a 12-month period.
- Exposure to shocks is high among the poor as well as large sections of the non-poor. Continued exposure to shocks may make the near poor vulnerable to falling into poverty.
- Over a third of all households signaled that they were not able to deploy any coping strategy in response to the shock that they faced.
- Among those households that were able to use alternate coping strategies in response to shocks, 62.7 percent used a coping strategy that can potentially damage long-term economic prospects.

**Households in Myanmar report facing considerable insecurity.** In this chapter, we provide preliminary evidence about the shocks that households report facing, and their approaches to cope with these shocks. We find evidence that households have to focus on short-term urgent problems such as illness, crop failures and natural disasters at the expense of longer-term investments. This chapter explores the incidence of shocks as well as the coping mechanisms that households in Myanmar use to manage shocks.

## The risks facing households in Myanmar

**Households in Myanmar are vulnerable to fluctuations in their well-being that they report to affect their welfare, both in the present and in the longer term.** Risk is a central part of life for many households across the world, and Myanmar is no exception. Vulnerability affects households through unanticipated fluctuations in incomes, for example through bad harvests or limited fishing catches. Unanticipated declines in income impact a household's well-being if they are unable to cushion the shock and can feed through into their long-term well-being if they cushion the shock through damaging coping strategies, such as selling income generating assets.<sup>25</sup> Changes in incomes can reduce investment in productive assets, and can affect the education of future generations. Beyond the hardships caused by falling into poverty, the very risk of impoverishment can cause insecurity, increase stress and increase the sense of defenselessness; it can result in individuals making decisions that they otherwise would not (Calvo and Dercon, 2013). In the longer term, uncertainty about future prospects can result in households postponing or reducing productive investments and can reduce investment in education.

**Shocks can arise from natural or man-made conditions.** “Shock” refers to unanticipated events, such as illness or drought, which cause distress to the household through reducing household welfare and living conditions. Shocks are classified as idiosyncratic or covariate. A shock is idiosyncratic if it affects particular individuals or households; for example, an individual illness or accident would be considered an idiosyncratic shock. Covariate shocks affect the wider economy or community; for example, a flood or landslide.

<sup>25</sup> There is an active research literature and wealth of analysis of the short- and long-term implications of shocks on household welfare, broadly defined. Studies examine the negative effects of everyday shocks such as death or illness as well as natural disasters and economic crises (Heltberg and Lund 2009). Households have been found to make risk and return reducing adjustments to their income generating activities through taking ex-ante action to shield themselves from risk (Rosenzweig and Wolpin, 1993; Dercon and Christiaensen 2011).

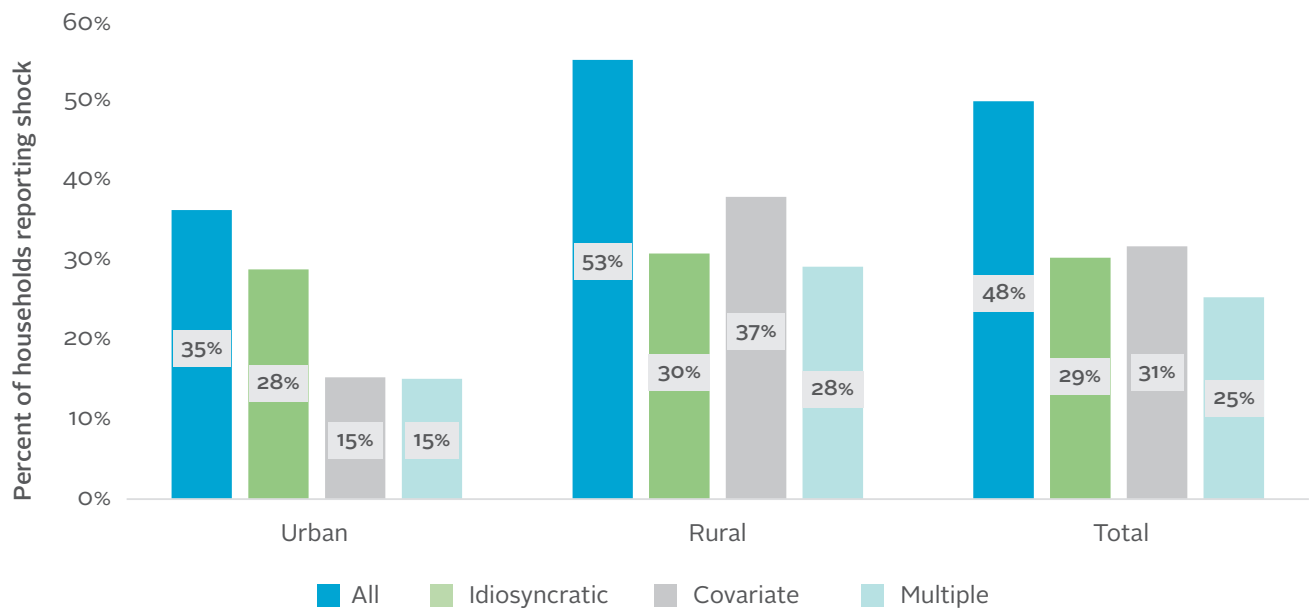
Households were asked to report shocks that negatively affected their welfare. It should be noted that the analysis in this section relies upon self-reported shock data, and not on actual measurement of shocks that have affected households.<sup>26</sup> Households were asked if they experienced a particular type of shock and, if so, what they did to resolve the situation. We are unable to gauge any information from this module on the depth of shocks, therefore it should be noted that a household who does not display any response to a shock may do so because it was not a serious enough event to anticipate action.

The levels of self-reported shock exposure of households in Myanmar is high: 48 percent of all households reported at least one shock during the year preceding the MPLCS. An analysis of reported shocks in 15 countries across the world suggests that the incidence of shocks reported in Myanmar places households among the more vulnerable (Heltberg et al, 2013). 29 percent of households in Myanmar reported suffering from an idiosyncratic shock, while 31 percent of households witnessed a covariate shock. A quarter of households reported multiple shocks, with twice as many rural households reporting multiple shocks as urban households.

Rural households are substantially more likely to report shocks, and shocks from different sources, than urban. While idiosyncratic shocks appear to be experienced by rural and urban households in equal magnitude, rural households are twice as likely to be affected by community-level shocks: only 15 percent of

Figure 8.1

Prevalence of shocks reported by households



Note: Analysis conducted using household weights.

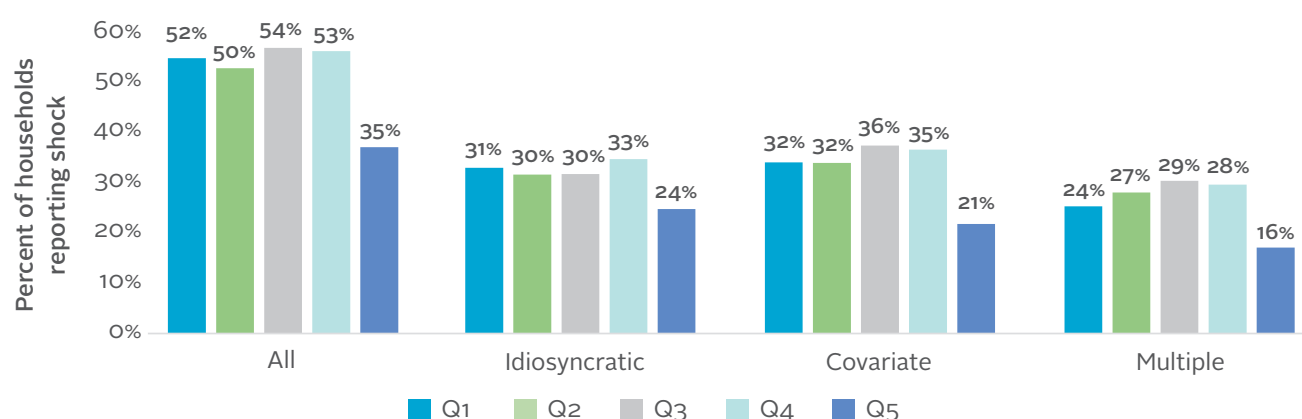
<sup>26</sup> In countries with high frequency and geographically disaggregated weather data it is possible to examine the incidence of actual extreme weather events or to combine sources of information on natural disaster incidence with household data.

urban households reported experiencing a covariate shock in the 12 months preceding the survey compared to 37 percent of rural households. The greater prevalence of covariate shocks in rural areas reflects a substantial reliance on rain-fed agriculture. Households in agriculture are impacted by adverse weather—irregular rain, drought and floods—as well as by crop disease and variability in the price of agricultural inputs. For both rural and urban households, idiosyncratic shocks are largely driven by poor health as well as employment loss.

**The incidence of reported shocks is high among the poor as well as among large sections of the non-poor population.** A high incidence can have serious implications for poverty reduction as continued exposure to negative shocks can lead many non-poor households to fall below the poverty line. However, since it is not possible to understand the depth of shocks using the data from a single cross-sectional household dataset, it may also reflect persistent but low lying difficulties facing the household. Figure 8.2 below shows a high average shock exposure to both idiosyncratic and covariate shocks in the first four expenditure quintiles, only showing a considerable reduction for the top 20 percent of the expenditure distribution.

Figure 8.2

Shock exposure by expenditure quintiles and poverty status



Note: Analysis conducted using household weights. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

**The high levels of shock exposure combined with the earlier finding of substantial clustering around the poverty line, points to a high degree of exposure to risk and to poverty.** This finding is reinforced by examining the distribution of welfare near the poverty line—62 percent of individuals live under or near the poverty line, indicating substantial vulnerability to poverty.<sup>27</sup>

<sup>27</sup> Vulnerability to poverty is typically measured using more nuanced analysis techniques, based on econometric methods to estimate the probability of becoming poor (Kozel, Fallavier and Badiani, 2008). These techniques separate the near poor who have a substantial risk of falling into poverty given their human and physical characteristics from the better off or more resilient near poor (Calvo and Dercon, 2013). In the absence of repeated comparable cross-sectional or panel data, we are unable to employ these techniques and instead examine proportions of the poverty line to identify individuals whose current consumption levels fall close to the poverty line. We examine the share of the population that are near poor using two benchmarks—living within 20 and 50 percent of the poverty line— and refer to this population as vulnerable to poverty.

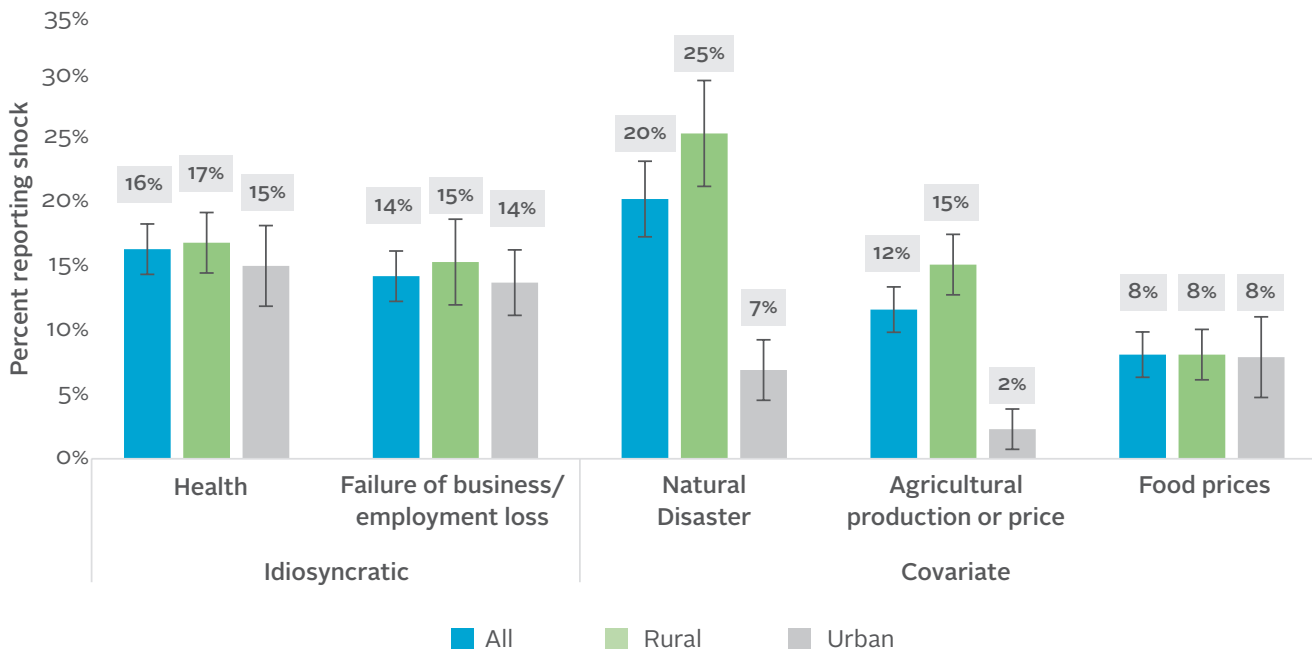
Alongside the 32 percent of the population that live below the poverty line in Myanmar, a further 30 percent live within 50 percent of the poverty line.

**Moving households above the poverty threshold is likely to be insufficient to keep poverty at bay in the context of regular climatic and health-related shocks with limited insurance mechanisms.** The group of poor in Myanmar is likely to be highly porous with shocks sending near-poor households into poverty. These households stand a good chance of being poor in the short-to medium-term as they are vulnerable to unanticipated negative shocks that could send them into poverty. Households near the poverty line are also likely to experience deprivations of one form or other, since the basic minimum needs poverty line is exactly that—basic, reflecting the dietary composition of the poorest households in Myanmar.

**The main shocks reported by households in Myanmar include health and climate related shocks.** Sixteen percent of the population reported experiencing health shocks, while a fifth of all households experienced climatic fluctuations or natural disasters (including drought, irregular rains, floods, landslides, earthquakes and forest fires). Further, 11.6 percent of households reported facing agriculture-related shocks (including crop and livestock disease, and unanticipated input or output price variation). Just over 8 percent of households experienced unusually high prices for food that reduced their purchasing power and overall welfare. In comparison, a very small share of households (less than one percent) reported experiencing violent conflict.

Figure 8.3

Types of shocks faced by households in Myanmar



Note: Analysis conducted using household weights.



## Households strategies to cope with risk and shocks

**Across the world, households weathering insecurity take actions to reduce their exposure to risk or to reduce the impact of shocks.** Some of these risk mitigation or coping strategies can affect long term growth and also impact their ability to bounce back. Uncertainty impacts households through the welfare losses associated with shocks and their often costly responses to shocks—these losses are documented in this chapter. Uncertainty also affects households through their adjustments in the face of risk (ex-ante responses), for example investing in less profitable but lower risk income generating activities (Morduch 1995, Kochar 1995, Ligon and Schechter 2003, Christiaensen and Subbarao 2005). Households respond to the occurrence of shocks using a multitude of coping strategies or ex-post responses, including borrowing, increasing labor supply, and reducing expenditures on food, health and education. These are measures that households undertake to eliminate or reduce the extent to which their levels of consumption are likely to be hit by the exposure to shocks. Both ex-ante responses and ex-post responses can be damaging to longer-term welfare.

**Households deal with shocks in multiple ways in Myanmar, most commonly borrowing money, increasing labor supply and reducing food expenditures.** Half the households affected by a negative shock reported obtaining credit as a coping response, 27 percent increased labor supply and a fifth reduced development expenditures (food, health, education). Within development expenditures, households predominantly cut food consumption—19 percent of those exposed to a shock respond in this way. Reducing food expenditures is more prevalent among the urban poor, likely a reflection of their greater reliance on purchased rather than home-produced food. Households can cut food expenditures in many ways, from reducing the amount that they eat to reducing the quality of their diet. We discuss this in greater depth in Chapter 4.

**Even as households display a wide array of responses to shocks, a very large number of households reported not doing anything to cope with the shocks they witnessed.** Over a third of those experiencing a shock signaled that they did not or were unable to deploy a coping strategy to mitigate the impact of the shock. This indicates that the ability to protect consumption levels in the face of shocks may be severely limited for some households and that risk remains uninsured even through informal coping mechanisms. It should be noted that without information on the depth of the shock experienced, it is not possible to disentangle whether households were simply unable to take action to cope with the shock, or whether the shock was considered to not be severe enough for action.

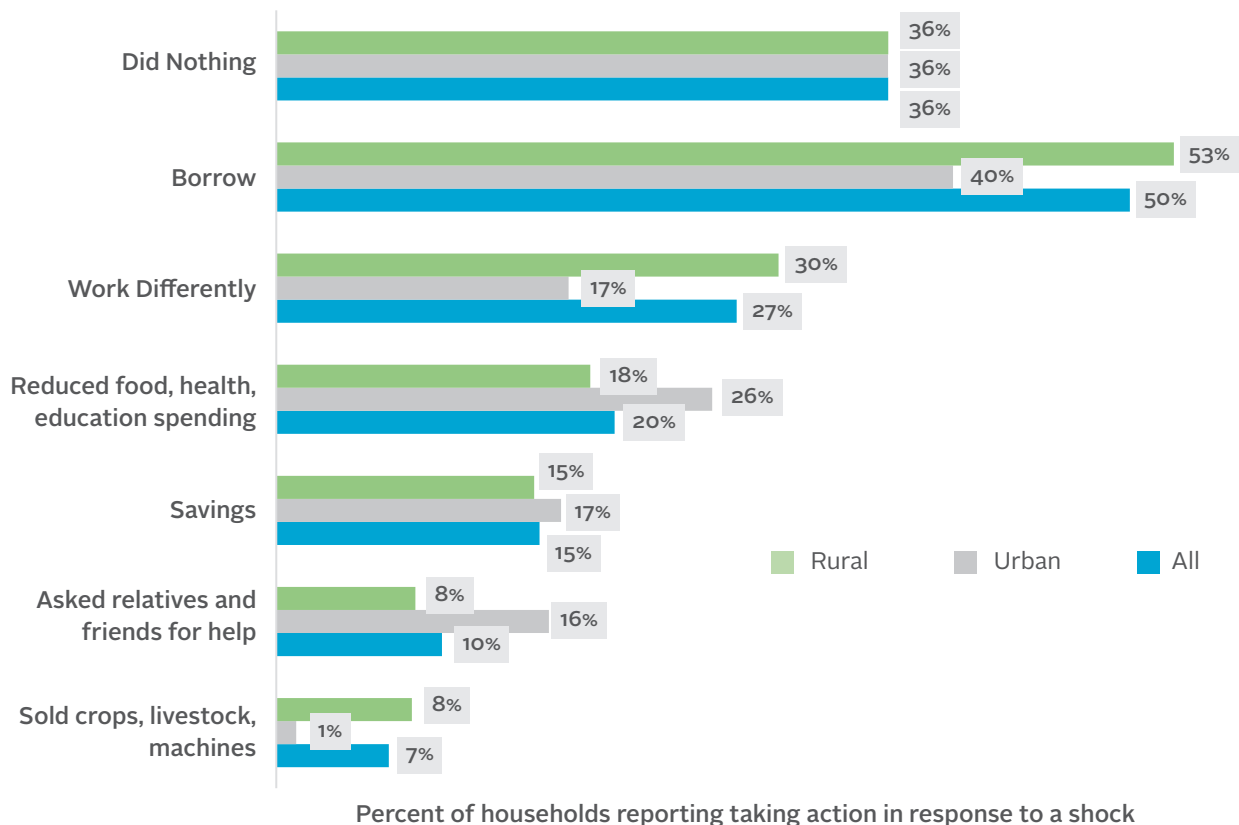
**Households appear to have more limited means of dealing with covariate shocks that affect entire communities, speaking to the need for insurance or sources of support external to the community.** Household responses to shocks differ markedly for covariate and idiosyncratic shocks. In the face of a covariate shock, 41 percent of households had no coping strategy compared to 20 percent of households facing an idiosyncratic shock. This may reflect

differences in the gravity of the shock; households may be forced to react to a health shock and not to crop pest or disease. However, since households were asked to report shocks that reduced welfare, the lack of coping mechanism in response to a shock may reflect an absence of ability to shield oneself from the shock. Covariate shocks that affect the entire community limit the ability of households to draw upon others in the community or to sell assets or products in local markets, since prices are likely to decline in the face of an influx of households following similar coping strategies.

**Households rely heavily on friends and relatives, while support from government aid, NGOs and religious institutions is limited.** Less than one percent of households that faced any shock reported receiving government aid as a means to cope with the shock, while 1.2 percent reported receiving aid from an NGO or religious institution. However, a larger share of households reported receiving assistance from relatives and friends—8.1 percent of households that suffered any shock, and 12.7 percent of those that suffered a health shock reported receiving assistance from relatives and friends. Households are substantially more likely to ask for support from relatives and friends in urban areas and in the face of idiosyncratic shocks. When shocks are covariate, the ability of geographically proximate households to shield each other is reduced.

Figure 8.4

Choice of coping strategies in response to experiencing a shock



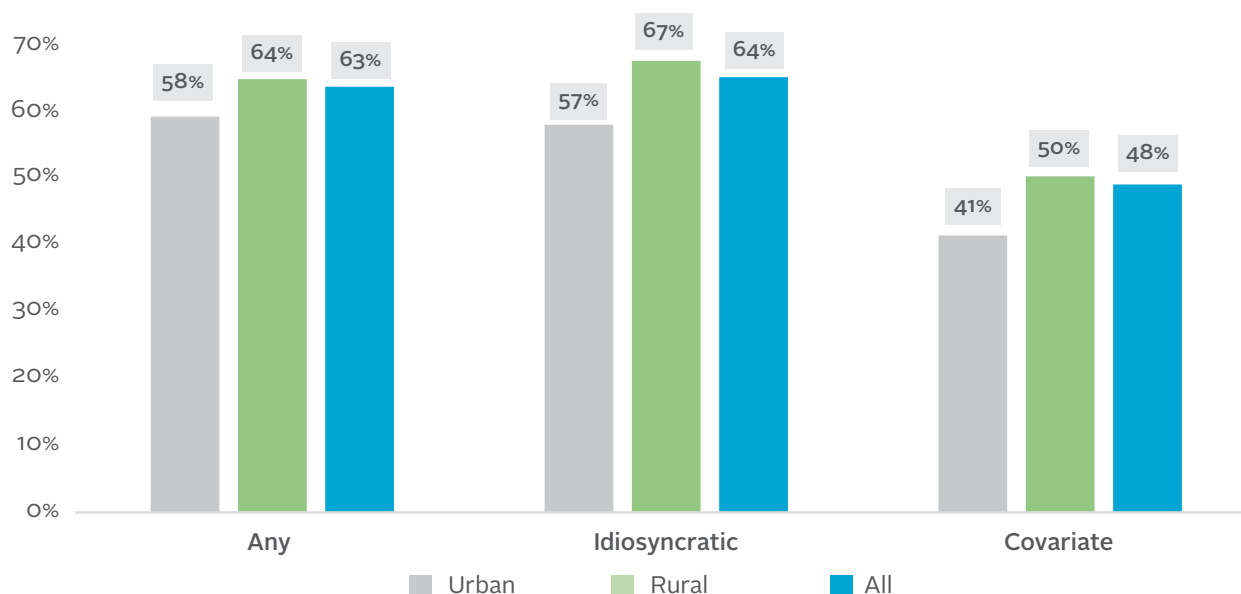
Note: Analysis conducted using household weights.

**Households' choice of coping strategies may depend on their economic status.** Poorer households (in the bottom 40 percent of the income distribution) appear to use past savings less frequently than those in the top 60 percent. Further, when faced with idiosyncratic shocks, poorer households appear to take on loans, cut development expenditures and increase labor supply more frequently than richer households. It may be argued that the poor are constrained to adopt more costly coping strategies.

**We estimate that the use of harmful coping strategies in response to shocks is high in Myanmar.** We define harmful coping strategies as those that negatively affect the household's future economic and development potential, and specifically include under this definition the following coping strategies: altered eating patterns (eating less preferred foods, reduced proportion or number of meals per day, skipped days of eating, etc.), children's entry into the workforce, reducing expenditures on health/education, taking on (likely informal) loans, selling agricultural assets, and taking children out of school. Of all households that faced any kind of shock, 63 percent reported using one or more of these harmful coping strategies. The use of harmful coping strategies is very high for idiosyncratic shocks (64 percent), driven by health shocks in particular (63 percent). This suggests that it is not shock exposure alone, but also (constraints on) the means of shock response that determine how pernicious the effects of shocks on human development and poverty may be.

Figure 8.5

Use of harmful coping strategies in response to shocks



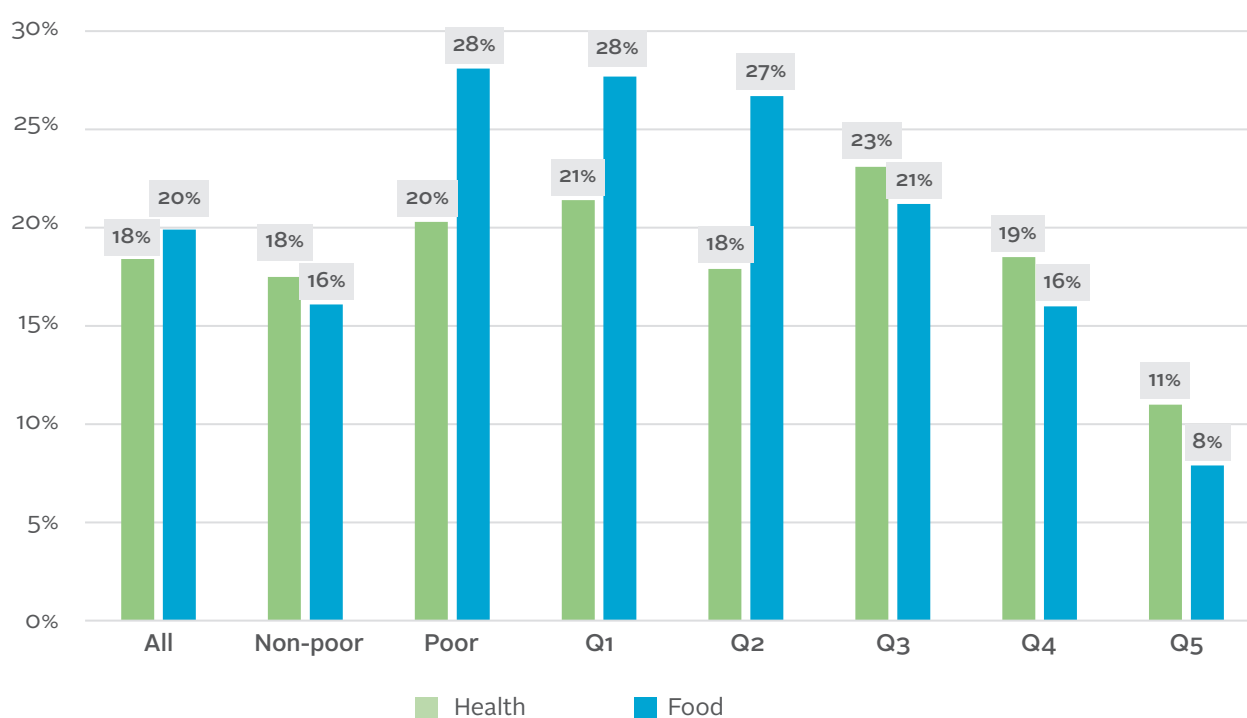
Note: Analysis conducted using household weights.

**It is not always straightforward to assess, a priori, whether or not a particular coping strategy may be harmful to the household in the long term.** While the case of withdrawing children from school, or reducing nutritional intake of household members may have unambiguously negative effects, the direction of the effects of asset sales, and of taking loans, on household well-being may be harder to establish without sufficiently understanding the context in and arrangements under which such strategies are deployed.

Informal credit, while offering a solution to pressing liquidity constraints, may in some cases lock households into long-term exploitative and debilitating contractual obligations. Loans can help poor and rural households to access credit in times of need, and can be paid back as the household's economic situation improves. In many situations, including in much of rural Myanmar, however, informal loans are offered at very high rates of interest, such that households struggle to repay them for long periods of time. The shock-affected household, simultaneously facing pressing material needs and few alternative sources of lending (owing to the incomplete reach of formal banking, its own low creditworthiness, and likely monopolies of local money lenders) may be constrained to obtain credit from such sources and to repay the amount with interest charged at exorbitant rates. These repayments of interest constitute a drain of resources from the household away from productive expenditures it could make in human and physical capital, and enterprise. Therefore, the extent to which taking loans to cope with shocks can be considered harmful to the household will depend on whether the loans have been taken as a normal practice to ease liquidity constraints, or in fact are taken at exorbitant rates in the informal market that will likely lock households into a long and costly repayment contract. Therefore, the precise nature of loans taken by (shock-affected) households must be examined to assess their likely harmfulness. This merits deeper exploration.

Figure 8.6

Percent of households borrowing money to cover health expenditures or food needs



Note: The data for this figure come from Module 11 in the MPLCS, which asks households to report all loans that they have taken in the last 12 months. Households were asked to report the main purpose of the loan as well as the source, interest charged and terms. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

**Households appear to be using credit as a mechanism to support themselves during lean times, leading to some households becoming indebted.** The most common approach for dealing with a health shock is to borrow money to cover the cost of treatment—half of the households that experienced a shock reported using this as their main strategy to restore their level of well-being. Partly as a consequence of substantial vulnerability to shocks, 60 percent of the households borrowed in the 12 months prior to the survey. Twenty percent of households took out more than one loan. A fifth of households in Myanmar are estimated to be over-indebted, defined as having a debt-to-asset ratio equal to or larger than 0.5 (Schicks, Rosenberg, 2011; Khandker, Faruquee, Samad, 2013).

**Nearly one in five households report taking out a loan to cover basic food needs.** Poorer households and those found in the bottom 40 percent of the income distribution are substantially more likely to have taken at least one loan in the last year to cover food consumption. This practice is substantially more prevalent in rural areas, and among food-poor households. Among those who borrowed to finance their food needs, only 26 percent had access to formal credit compared to 40 percent of the other households who have taken a loan in the last year.

**Loans to cover food and health come evenly from family and money lenders.** Of the 19 percent of households who report borrowing money for food consumption, the majority report borrowing from family and friends or money lenders with only a limited number of households diverting resources from formal sources notably from the Myanmar Agriculture Bank and Micro-Finance. The split between family and friends, and money lenders is quite even: 14 percent of households report borrowing for food from family and friends, while 13 percent borrow from money lenders and pawn shops. The financial implications of these different sources of loans are quite different: over half of the loans from family and friends do not charge interest, while the vast majority of those from other informal sources do. The burden of interest repayment for loans from money lenders and pawn shops can be substantial. There is extensive data on this in the MPLCS that requires further analysis.

**Similarly, asset and livestock sales can be either an anticipated coping response, or a mark of distress that reduces household productivity in the future.** Livestock and asset stocks can sometimes be built specifically to liquidate during times of need, as households anticipate shock risk and use asset and livestock holdings as a buffer (Dercon, 2002; Fafchamps, 2003). In other cases, however, households may be driven by a shock to liquidate assets to sustain consumption, with the effect of also reducing income and productivity in the future. There is evidence of both of these motivates in Myanmar. Among those who have livestock, 37 percent of households report that their major purpose of owning livestock is to cope with unexpected expense or as a form of savings. Livestock sales were also used to cope with shocks among households who had signaled that livestock were kept for productive purposes—either to generate income through livestock and by-product sales, or for use as draught animals.





# 09.

Incomes are diverse  
but productivity and  
wages are low



## Key Messages:

- Myanmar has high labor force participation rates but low returns to education.
- Although unemployment rates are low, underemployment remains substantial. There is also evidence of substantial hidden unemployment, partly as a consequence of substantial seasonality and ill-health. Many are not inactive, they are incapacitated due to poor health.
- Female labor force participation is lower than male, although the gaps are narrower than previously estimated. Women in Myanmar face a trade-off between work in the domestic sphere and income generating sector.
- Child labor in poor households is twice that in non-poor households.
- Income is diversified: households are often engaged in multiple activities that span the agriculture and allied sector - farming, livestock raising, fishing – and non-farm sector.



**The MPLCS included questions on income, allowing for a holistic analysis of income generating activities to be presented for the first time in Myanmar.** This chapter presents an initial analysis of household income sources. The results of this analysis suggest that there is substantial diversity in income generating activities. There is more diversity than has been previously signaled in analysis on income generating opportunities from labor modules that do not fully capture the diversity of incomes in Myanmar. It is also necessary to focus on a household as the unit of analysis rather than the individual, since diversity enters through members engaging in different income generating activities. Households and individuals appear to be straddling multiple activities, although with low productivity rates their incomes remain suppressed. Subsequent follow-up work is recommended to better capture and understand the diversity in activity and to understand and target productivity issues.

## Labor force participation and seasonality

**Close to two thirds of Myanmar's population are of working age, and the labor force participation rate is high.** Labor force participation rates of the population of working age, those between 15 and older, were 63 percent in Myanmar in 2015, close to the average of 64 percent seen in South East Asia (WDR, 2016). The definition of labor force participation used covers those who are: (i) working; (ii) looking for a job in the last 4 weeks and available to start; and (iii) temporarily being absent from work due to health reasons. The evidence from the MPLCS on labor force participation aligns with the rates seen in the IHLCA-I in 2009/10, which found that 67 percent of those aged 15 and above were in the labor force, and the 67 percent participation rate seen in the 2014 Census (for the population aged 15 to 64). Labor force participation rates are similar among the poor and non-poor: 62.3 percent of those aged 15 and over are participating in poor households compared to 63.3 percent in non-poor households. There is a slight gradient in labor force participation across expenditure quintiles: in the bottom quintile, 62 percent of those 15 and above are working compared to 64.4 percent in the top quintile. This gradient appears to be driven by poorer individuals, and in particular by women, being more affected by seasonality. Our analysis suggests that what an individual does is more important than participation for supporting improvements in welfare.

Table 9.1

## Selected labor market indicators based on last 7-day activity

	All	Rural	Urban	Male	Female
Total population	100.0%	100.0%	100.0%	100.0%	100.0%
A. Not working age (less than 15 years)	29.3%	31.5%	23.5%	31.8%	27.1%
B. Working age population (aged 15 plus)	70.7%	68.5%	76.5%	68.2%	72.9%
B.1 Active (out of the working age population)	63.0%	63.3%	62.3%	77.2%	51.4%
B.1.1 Employed (out of the active)	98.5%	98.7%	97.9%	98.2%	98.8%
B.1.2 Unemployed (out of the active)	1.5%	1.3%	2.1%	1.8%	1.2%
B.2 Inactive (out of the working age population)	37.0%	37.0%	37.0%	37.0%	37.0%

Note: The labor market indicators are based on last 7 day activity. The labor force is the supply of labor available for producing goods and services in an economy. The definition used in this report follows the principles set out in the Labor Statistics Convention, 1985 (no. 160). The labor force comprises those who are employed and those who are unemployed, according to the definitions given in this note. Inactive persons are not considered part of the labor force. Those who are employed during the reference week performed some work for wage or salary, or profit or family gain, in cash or in kind or were temporarily absent from their jobs. It is important to note that employment includes activities which are paid or unpaid and activities producing goods and services which are either sold in the market or not. The unemployed are those who, during the reference week, were without work and currently available for work in the two weeks after the survey and seeking work, during the four weeks prior to the survey. The inactive are those who were neither employed nor unemployed during the reference period.

**Average labor force participation figures, captured using a standard 7 day reference period to define participation, mask the substantial diversity of in Myanmar. Five key patterns emerge.**

### *Seasonality*

**Labor force participation displays substantial dynamism throughout the course of the year.** There are two ways of capturing employment in the MPLCS. Individuals were asked first if they worked in the seven days prior to the survey, and subsequently were asked if they worked in the 12 months prior to the survey. The employment-to-population ratio is substantially higher over a one-year period than over the seven days prior to the survey enumeration, consistent with a latent workforce in Myanmar who work at some points in the year and not at others.

**Seasonality is particularly prevalent in rural areas, where agricultural dominates.** When taking into account employment in the last year instead of the last week, labor force participation rises 7 percentage points (from 63 percent to 70.1 percent). The impact of employment shifts across seasons is particularly visible in rural areas, where employment shifts from agriculture to inactivity during the parts of the year that are less productive for cultivation. This seems to affect men and women in a similar way. While 37 percent of individuals aged 15 and above spent most of their months working in agriculture in the past 12-months, only 27 percent of those interviewed in the MPLCS did so in the last 7 days. This is a clear indication of the seasonality captured by the timing of the MPLCS survey, which took place during the times of year when agricultural activities are less intensive, the “cool” and “dry” seasons. In urban areas, there is greater stability in employment over the course of the year.

### Gender gap

There is a substantial gap in labor force participation across men and women. The gender gap in employment-to-population ratios and in labor force participation appears at all ages, in urban as well as rural areas. Annual employment participation is 59 percent for women aged 15 and over, compared to 84 percent for men. Labor force participation of women rises by 17 percent when taking an annual rather than 7-day perspective of labor force participation. This is a remarkable rise in participation rates of women, and points to the need to investigate further the productive lives of women in Myanmar to understand how they can be better supported.

Table 9.2

Employment to Population Ratio, by gender and area, reference period

	Working - last 12 months			Working - last 7 days		
	Men	Women	All	Men	Women	All
All	84.1%	59.1%	70.4%	75.8%	50.7%	62.0%
Rural	86.6%	61.6%	73.0%	76.5%	50.9%	62.5%
Urban	78.2%	53.5%	64.4%	74.3%	50.4%	60.9%

Note: These employment to population ratios are based on last 12 months and last 7 days activity. Employment in the last seven days is defined in the note under Table 9.1. Last 12 months includes all individuals who declare having worked for pay, profit of family-gain, in cash or in-kind, in the last twelve months.

Figure 9.1

Labor force participation in the 12 months preceding the survey, by gender

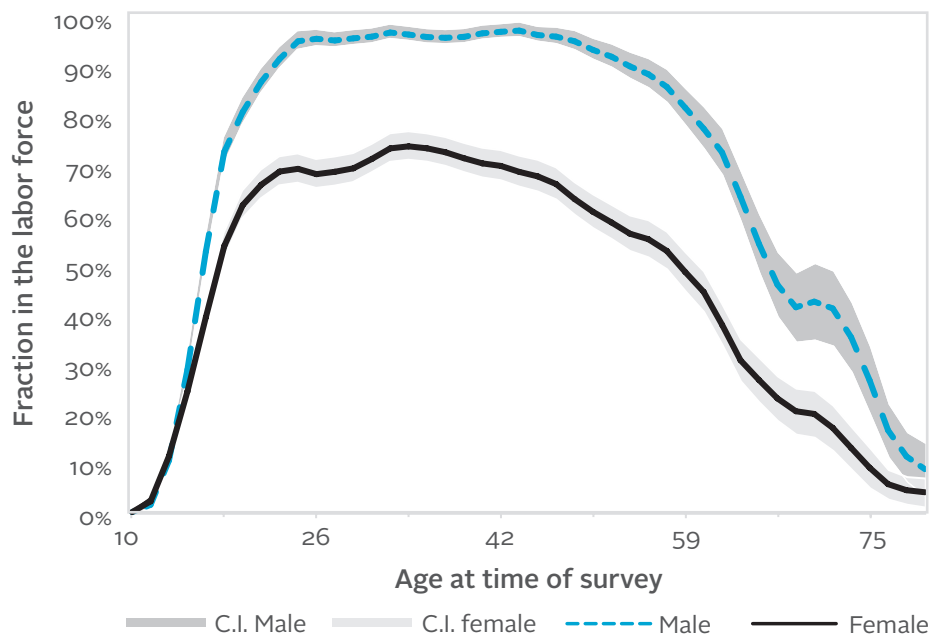


Figure 9.2

Urban labor force participation in the 12 months preceding the survey, by gender

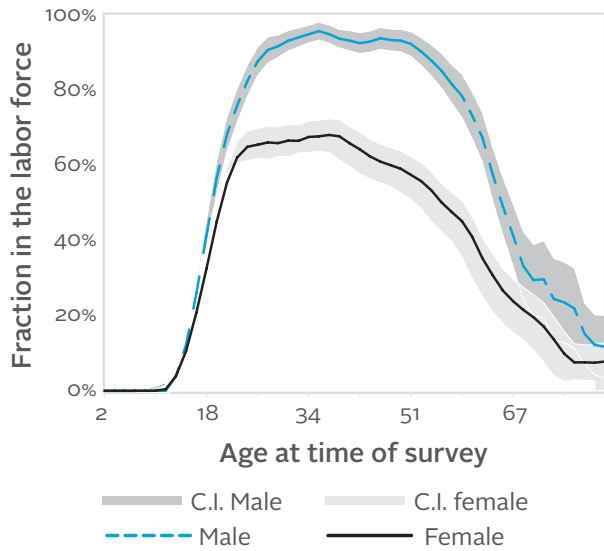
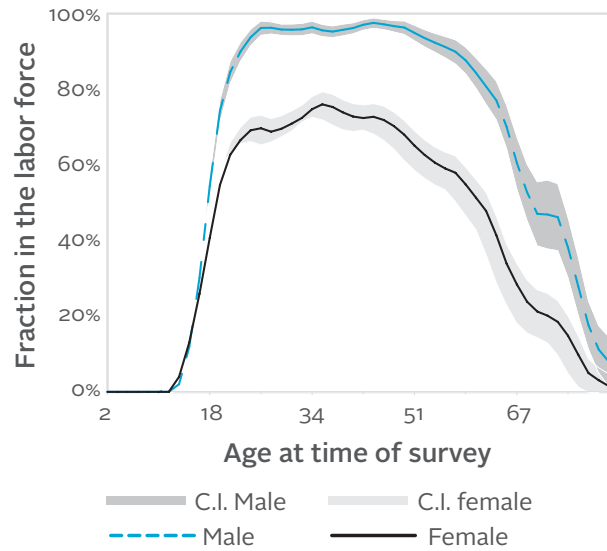


Figure 9.3

Rural labor force participation in the 12 months preceding the survey, by gender



Note: Labor force participation in the last year is defined as all those: (i) who are considered part of the labor force using a seven day recall and; (ii) those who were not in the labor force in the last seven days but worked for pay, profit or family gain in the last year. It does not include all those who were seeking work in the last year and who were not in the labor force in the last 7 days or working in the last 12 years; we do not have the variables in the MPLCS survey to include these individuals.

**The gender differences in labor force participation measured with the MPLCS are not as stark as those captured in the Census data.** The way that the labor force questions are asked in both instruments leads to meaningful differences in terms of the labor force participation for women whose working lives straddle home and the labor market. In the Population and Housing Census in which individuals were asked to report their main activity status, 34 percent of women aged 10 and above reported working in the household as their main activity. By contrast, in the MPLCS individuals were asked if they worked even one hour in the last week and in the last 12 months. Some women who are in the labor force may well consider their primary activity to be home-production orientated, but since they did some work during the last 7 days or year they are classified as employed.

**Lower rates of female labor force participation are seen in most countries across the world, and reflect social and economic factors, and gender norms.** Lower participation rates reflect in part a trade-off between household and market work: gender norms related to household work typically reduce the amount of time that women can devote to labor market activities, and also impact the type of labor market activity that they can be involved in (World Bank, 2012b). Female labor force participation is influenced by a variety of factors, from their home environment, such as the presence of children, marital status, educational attainment, income and age, as well as the broader economic environment, such as a country's stage of development (World Bank 2012a, b; Angrist and Evans, 1998). Male labor force participation is less affected by changes in home environment, but can be strongly influenced by the broader economic context.

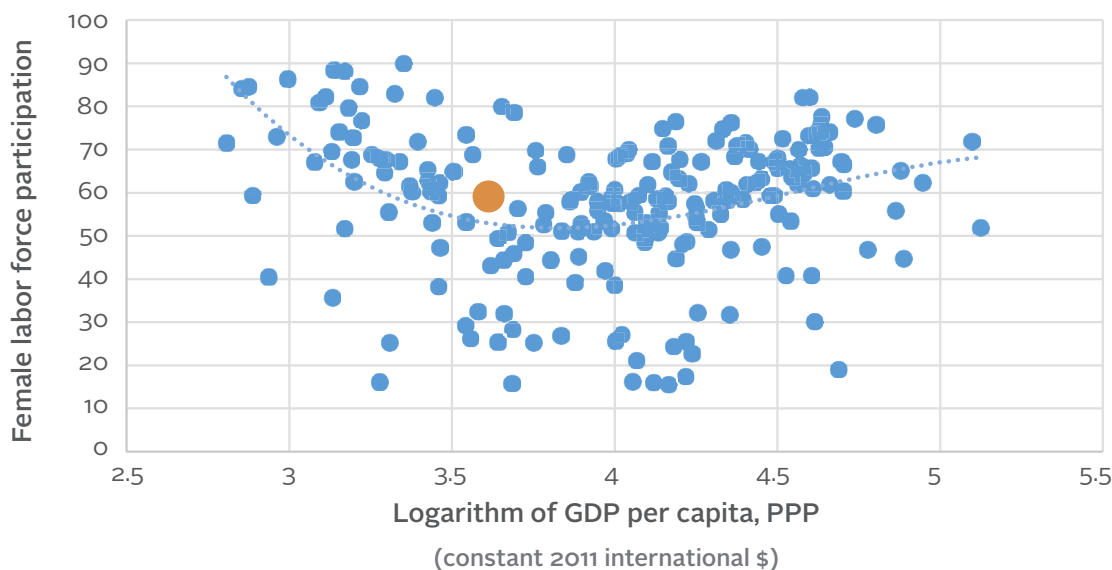
**Women's lower labor force participation in Myanmar is more fluid than men's, partly a reflection of the substantial domestic work done by women.** This is

partly a consequence of the dual nature of women's life, where women face a trade-off between household and market work. Women in Myanmar are the primary caregiver for children, and also the primary household member responsible for cooking, domestic work and related chores. Full-time housework or family responsibilities are the main reason for women not working in the 7 days preceding the MPLCS survey, and account for 53 percent of the inactive women. In contrast, only 5 percent of the inactive males do not work because of housework or family responsibilities.

**Although women's labor force participation in Myanmar is lower than that of men, it does not stand out globally after taking into account Myanmar's level of development.** Figure 9.4 below shows the relationship between labor force participation and GDP across the world. Myanmar's participation figures are slightly higher than would be expected given its levels of development and by the standards of other South East Asian countries. As countries develop, female labor force participation displays a U-shaped trajectory. Female labor force participation usually declines as incomes rise and opportunities in the labor market become less attractive to female workers; it then increases again when more attractive employment opportunities emerge (Bloom et al. 2009; Chaudhuri 2009; Goldin 1995; Sinha 1967, cited in Mammen and Paxson 2000; Tam 2011). In poorer, agricultural economies, female participation tends to be high because agricultural work and family responsibilities can easily be combined. However, in middle-income countries dominated by the manufacturing and service sectors, female participation declines, in part because most new jobs are difficult to combine with family responsibilities. Female participation rates are higher in high-income countries that have large service sectors and a highly educated workforce. This finding holds both across and within countries over time (Fatima and Sultana 2009; Fuwa 2004; Juhn and Ureta 2003; Tansel 2001).

Figure 9.4

U-shaped relationship between female labor force participation and GDP



Source: Data are from the World Development Indicators. GDP per capita for Myanmar is in US dollar terms, using an exchange rate of 1025 kyat to the dollar.

### Child Labor

One in ten children aged 10 to 14 are working. Children from poor households are almost twice as likely to be working as those from non-poor households. The MPLCS asks those aged 5 and above whether they were working in the last 7 days or year. The share of children involved in working activities increases with age, likely reflecting the greater labor market possibilities for children as they physically mature. Less than 1 percent of children aged 5 to 9 report working in the last year and, among those who did work, the majority were enrolled in school. The fraction of children working increases substantially at age 10 and 11, near the end of primary school. Among children aged 10 to 14, 12 percent reported working in the last year. Children in poor households were almost twice as likely to report working at this early age than children in non-poor households. Broadening the age range to children aged 10 to 17, we find that one in five children and one in three poor children work rather than go to school, mirroring the results of the Population and Housing Census.

There is a clear tradeoff between education and child labor for older children. Seventy percent of the children aged 10 to 14 who worked for at least one hour in the previous year are not in school. Of the 30 percent who remain in school, approximately half are falling behind the adequate level given their age. As discussed in Chapter 5, the transition between primary and lower-secondary school – the point at which child employment starts rising - is the moment at which dropout from school becomes substantial, particularly among poorer households and those living in rural areas. The mirrored education and labor market analysis signals that both direct costs of schooling and the indirect costs of foregone wages are likely to play an important role in this dropout pattern.

Table 9.3

Fraction of children who report working for pay, profit or family gain for at least one hour over the last 12 months

Working - last 12 months							
Age	Total	Rural	Urban	Boys	Girls	Not poor	Poor
5 to 9	0.9%	1.1%	0.2%	0.8%	1.1%	1.2%	0.5%
10 to 14	12.0%	13.4%	7.7%	12.3%	11.8%	9.3%	16.2%
10 to 17	25.0%	27.0%	19.1%	27.0%	19.1%	22.0%	29.8%

### Unemployment

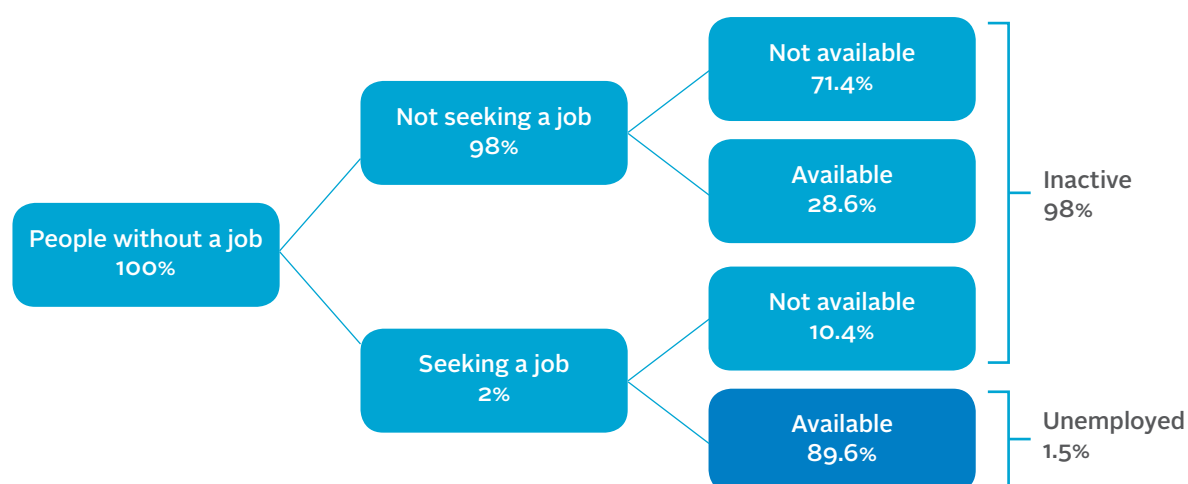
In contrast to the high labor force participation rates, unemployment rates based on a 7-day recall were found to be relatively low. This does not mean that households have sufficient work and labor income to satisfy their needs. Only 1.6 percent of those in the labor force and of working age were not working and were actively searching for jobs or ready to take up a job when it comes

available.<sup>28</sup> The estimated unemployment rate is of a similar magnitude to that found in the IHLCA-II survey, where the unemployment rate was found to be 1.7 percent based on a 6 month recall, but is lower than the rate of 4 percent presented in the Census. The unemployment rates estimated from household surveys in Myanmar are low when compared with the rest of Southeast Asia (where the male and female unemployment rates are 3 percent and 3.5 percent, respectively) and with the rest of the world (where unemployment averages around 6 percent) (WDI, 2016). Similar to the patterns seen in the Census and IHLCA, unemployment rates are found to be slightly higher for youth aged 15 to 29 and lower for those aged 20 to 64, and for individuals living in poor households. Given the low unemployment rate seen on average, however, there is fairly limited diversity in these numbers.

**The unemployment rates in Myanmar reflect limited efforts to search for work, potentially due to the seasonal nature of job opportunities in some parts of the country.** Unemployment would rise to 6.5 percent if we included those who could start working if an opportunity became available. Twenty nine percent of the individuals of working age in Myanmar are not working. We classified an individual as unemployed if they are actively seeking a job in the last 7 days and ready to take up a job in the next two weeks should one arise. Approximately 30 percent of those who are not working signal that they are available to take up work if the opportunity arose; few of these individuals are however searching, leading to low unemployment rates. If we expand the definition of unemployment to include those who do not have a job, are not actively searching and are ready to take up a job in the next two weeks, the unemployment rate would increase to 6.5 percent. Using this broader definition of unemployment, we see that youth unemployment is approximately 50 percent higher than the average unemployment rate. Seasonality also appears to be hiding an important share of the unemployed. The majority of individuals (65 percent) who are not searching for employment but are ready to work are waiting for the busy season.

Figure 9.5

Hierarchy of criteria used to classify those who are unemployed and those who are economically inactive



<sup>28</sup> We also include individuals who are temporarily absent from their work as being in the labor force. The unemployment rate increases to 1.7 if these individuals are not included in the labor force but are instead treated as being inactive.

**Incapacity to work due to sickness is an important factor for inactivity.** Illness takes people out of the labor force, particularly for older workers. Among men who did not work in the seven days prior to the survey and who were also not enrolled in school, 31 percent signaled that they were not working because of short- or long-term sickness. The fraction of men out of the workforce due to sickness is slightly higher for older than for younger workers, at 41 percent of those aged 40 to 64 compared to 36 percent for those aged 15 to 39. Illness tends to affect male labor force participation in different ways with age however: a full 20 percent of those aged 40 to 64 signaled they were out of the workforce due to long term sickness or disability compared to 11 percent of those aged 15 to 39. The impact of sickness on welfare can be seen throughout the MPLCS survey, where ill health emerges as a regular and costly occurrence in the lives of many.

### *Underemployment*

**Although labor force participation rates in Myanmar are high, particularly among men, we find strong evidence that Myanmar's workforce is not being used at maximum capacity and is under-utilized.** Table 9.4 shows the share of workers working a given number of hours. We follow previous analysis on under-employment in Myanmar by defining the under-employed as those who work 44 hours or less in the last seven days. The underemployment rate is the fraction of those who are working less than 44 hours in the last seven days among all those who are working in the last 7 days.

**Underemployment rates in Myanmar are highly seasonal.** The earlier analysis from the IHLCA-I and -II surveys signaled that underemployment was 29.7 percent when measured in December 2009 – January 2010, and 45.3 when measured in May 2010. The first round was completed during, or just following, the harvest season while the second later round was completed towards the end of the hot, dry season – in this second season, land utilization rates are substantially lower than during the earlier rainy season, generating more limited agricultural work among those who are working. The rates of underemployment in the MPLCS of 43 percent are similar to those from the second round of the IHLCA – mirroring the finding that underemployment during the dry and cool season are high.

**Although there is no clear pattern between underemployment and poverty, there is a clear relationship between underemployment and expenditure.** Workers from richer households are more likely to be in the tails: they are more likely to be working over 44 hours per week than poorer households, and are also more likely to be working fewer than 20 hours. Separating the analysis by sex, we see that the greater propensity of individuals from richer households to work less than 20 hours is largely driven by women – women from these households are more likely to work in the last seven days but those who are working appear to be working part-time, at less than 20 hours per week. Both men and women in richer households are more likely to be working more than 44 hours per week than those in poorer households.



Table 9.4

## Hours worked in last 7 days

Hours worked	Total	Urban	Rural	Poor	Non Poor	Male	Female
0 to 19	9.8%	10.8%	7.5%	10.2%	8.6%	8.6%	11.3%
20 to 40	22.7%	25.1%	16.9%	21.8%	24.9%	20.8%	25.0%
40 to 44	10.6%	10.5%	10.9%	10.5%	11.1%	11.5%	9.5%
45 to 60	27.1%	27.8%	25.4%	25.9%	30.0%	29.9%	23.6%
60 plus	29.8%	25.8%	39.3%	31.6%	25.3%	29.3%	30.5%
Under 44	43.1%	46.4%	35.3%	42.5%	44.6%	40.9%	45.8%

Note: Hours worked are measured among those who state that they have worked at least one hour for pay, profit or family-gain in the 7 days preceding the survey. The figures include all those aged 15 and above.

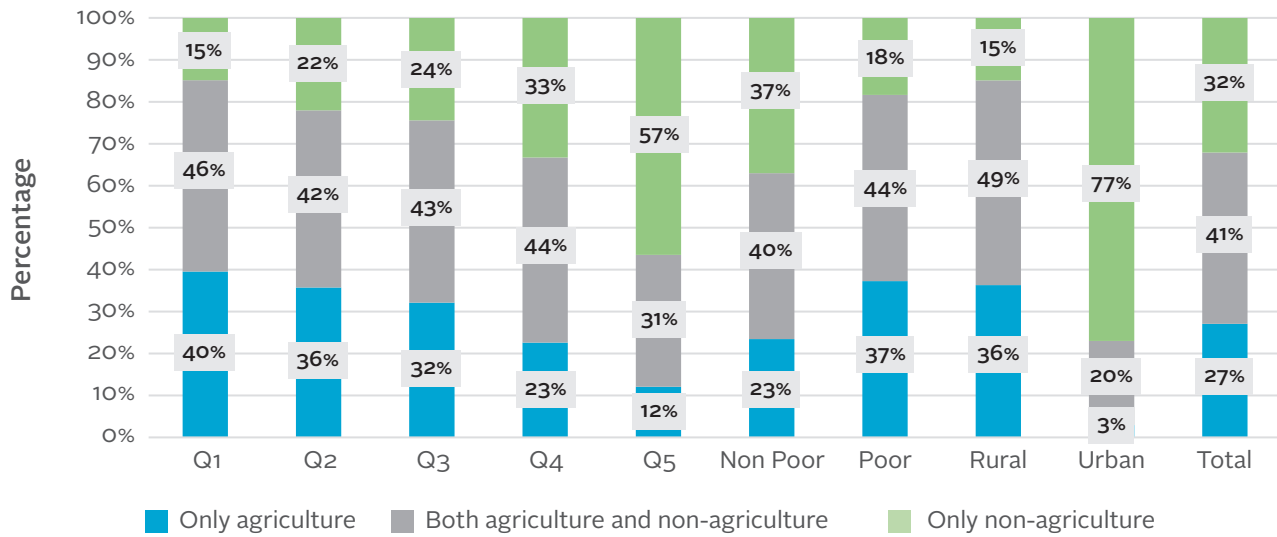
## Sectoral participation

**Households in Myanmar are highly diversified: income comes from multiple sources, and in some cases from local as well as national and international labor markets.**

Agriculture remains the most important sector of work with seventy percent of households reporting an agricultural activity of some form. 27 percent of households are engaged solely in agriculture and allied activities, including farming, pesci-culture and fishing, livestock rearing, agricultural labor and remittances related to agricultural activities conducted elsewhere. A further 41 percent are engaged in agriculture alongside non-agricultural income sources, such as income from labor, non-farm businesses or remittances from non-agricultural occupations. The share of households conducting only agriculture decreases across the expenditure distribution, from 40% of those in the bottom quintile to only 12 percent of those in the top. As would be anticipated, there are very few households—only 3 percent—in urban areas who are solely engaged in agriculture. The share of those who are engaged in both agriculture and non-agricultural activities by contrast remains substantial throughout the income distribution. This reflects the dual nature of work in Myanmar, where households straddle multiple types of work in a diversified income portfolio.

Figure 9.6

Households generating income from agriculture and non-agricultural activities



Note: Figures are household weighted, and reflect the share of households who earn income from agricultural or non-agricultural activities. Household activities are identified using questions in the income and labor modules. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

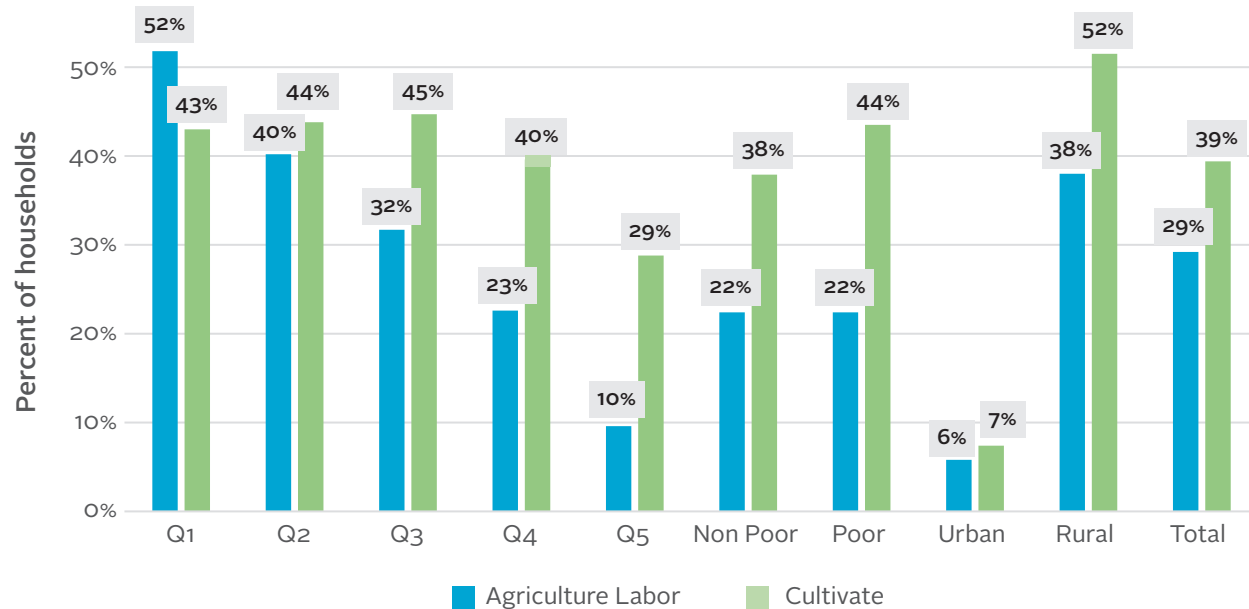
**Poor households are heavily reliant on agriculture, and within agriculture on casual labor activities.** Poor households are more likely to be engaged in agriculture, and are also more likely to be solely working in agriculture (Figure 9.6). Only 15 percent of poor households relied solely on non-agricultural income sources, while 34 percent of non-poor households did. The nature of agricultural work in poor households appears to be quite different from that seen in non-poor households. They are more likely to be engaged in agricultural labor, and less likely to be cultivating their own farms. Land is the biggest productive asset owned by households in rural areas; the majority of the poorer households who are engaged in agricultural labor have no or limited land holdings, pushing them to be net-suppliers of labor while richer household with more land and productive plots are net buyers.

**Rice is the major crop produced by Myanmar's farmers.** Rice is produced by 65 percent of households, with a greater percentage of households engaged in paddy cultivation in the Delta region. The other major crops include maize, sesame, gram, pigeon pea and betel. Farming systems appear to be well diversified with 59 percent of households producing two or more crops. Households that produce only one crop are mainly small rice producers; for this group, much of their production is devoted to consumption.

**Productivity in agriculture is low. Agricultural productivity remains low at 466,000 kyats per hectare.** A recent analysis supports this assessment, finding low productivity using a variety of indicators. (World Bank, 2016). Female-headed and poor households have slightly lower productivity than male-headed and non-poor households. Given the importance of the agricultural sector for the economy of the country, the low productivity in this sector is a primary driver of poverty and low incomes.

Figure 9.7

Households engaged in cultivation and agricultural labor, by quintile and poverty status



Note: Figures are household weighted, and reflect the share of households who earn income from cultivation or agricultural labor. Activities are identified using questions in the farming and labor modules. Quintiles are estimated using spatially deflated per adult equivalent expenditures in January 2015 prices and using population weights.

**Agricultural productivity in Myanmar rises with the use of technology.**

Regression analysis using the agricultural income module from the MPLCS suggests that the highest productivity is obtained when fertilizer, new seeds and machinery are used together on the production of agricultural goods. It is also clear that the use of new seed is only effective when it is accompanied by fertilizer. The isolated use of fertilizer or new seeds is not profitable given the low productivity obtained when only one of these inputs is used. Although there is a high incidence of some type of mechanization, with more than 94 percent of households using animal driven equipment and 29 percent using some type of agricultural machinery, only 10 percent report the use of a tractor.

**Few households irrigate their land, resulting in a heavy dependence on wet-season cultivation when water is abundant.**

The use of irrigation is very limited, with only 49 percent of cultivator households employing any irrigation method on their land. Poor households are less likely to irrigate than non-poor, 44 percent compared to 52 percent, but the largest observable differences in irrigation practices can be seen across agricultural zones. Households in the Dry zone are the most likely to irrigate at least some of their land (64 percent irrigate), while those in the Coastal areas have the lowest irrigate rates (35 percent). Across Myanmar, the wet season is the most important season in terms of labor utilization and production, followed by the cool season and subsequently the dry season. The higher rates of irrigation in the dry zone appear to have opened up scope for some dry season cultivation, particularly of pulses which are less water intensive

There is however substantial overlap between the agriculture and non-agriculture sector, with the majority of agricultural households having a foot in both sectors. Four in ten households in Myanmar or 55 percent of agricultural

households are engaged in both agricultural and non-agricultural activities, broadly defined. Poor households are significantly less likely to be involved in non-agricultural activities and, when involved, are less likely to only be engaged in agriculture. This partly reflects the urban-rural division of poverty.

**Employment in the non-agricultural sector is higher among better off households, who tend to have more education household members and greater asset stocks.** A clear expenditure gradient is visible in the rate of participation in non-agricultural activities, also in the type of non-agricultural activity conducted. Richer households are more likely to have businesses, while poorer households are more likely to be engaged in manual labor, for example related to construction.

**Employment in manufacturing remains limited, non-agricultural and urban employment is dominated by retail trade – much of which appears to consist of small and micro-enterprises.** Just under 7 percent of the working population of working age declared their main job to be in the manufacturing sector. Manufacturing employment as a percentage of total workers is higher in urban areas, and in particular in Yangon according to the Population and Housing Census. The MPLCS collected information on the number of workers in a person's workplace for those employed for a wage. Among those in the retail and transportation sector, 44 and 61 percent respectively worked in a workplace employing fewer than 5 employees. Among those who worked in their own retail business, the majority had less than one employee.

Table 9.5

Individual sectoral participation of main employment

	Male	Female	Rural	Urban	All
Agriculture, forestry, fishing	55.0%	50.7%	69.9%	8.1%	53.1%
Mining, quarrying	2.8%	0.5%	1.9%	1.3%	1.7%
Manufacturing, public utilities	5.4%	8.5%	5.0%	11.5%	6.8%
Construction	8.7%	1.2%	4.3%	7.9%	5.2%
Wholesale and retail trade	10.7%	24.3%	10.7%	33.6%	16.9%
Transportation and storage	8.0%	0.6%	2.6%	9.8%	4.6%
Hospitality, communication, finance, real estate	2.3%	4.0%	1.1%	8.3%	3.1%
Other	7.1%	10.2%	4.4%	19.3%	8.5%

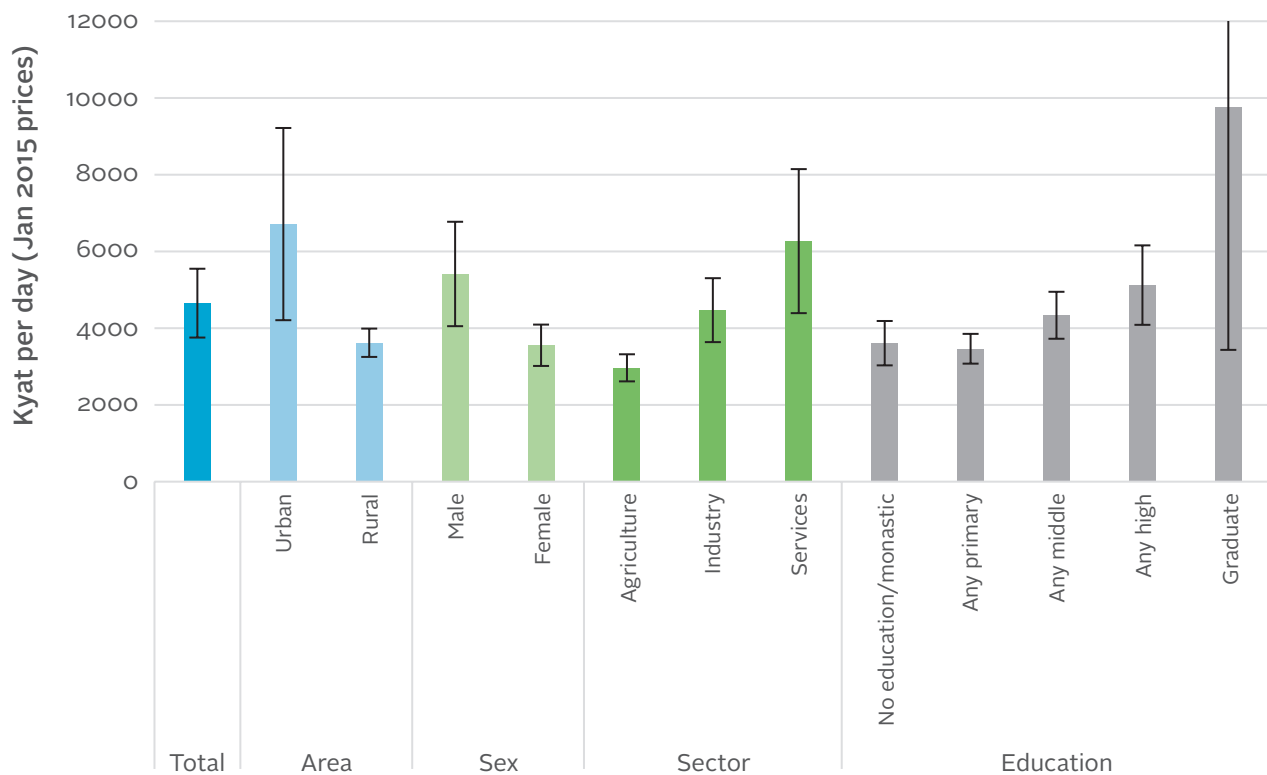
## Wages and the return to education

Wages and salaries fluctuate by sector, education and location: they are greater for those in urban areas, individuals with higher educational levels and those who are outside of agriculture are not engaged in agriculture. The average daily wage earned for individuals that work more than 7 hours a day in Myanmar is 4,075 kyat. As observed in Figure 9.8, urban workers have almost double of the wage than those located in rural areas, which is consistent with higher earnings among those focused in industry and services.

The wage levels of some groups are lower than the minimum wage of 3600 Kyat per day. This is a reflection of the timing of the survey, which was conducted before the Minimum Wage Law was passed, and also of the substantial informality of wage work in Myanmar. The average wage of individuals in rural areas, aged 50-65, with low educational levels or in the agricultural sector is less than the minimum wage.<sup>29</sup> However, this does not necessarily imply that the Minimum Wage Law is not being followed for several reasons. First, the minimum wage was approved in August 2015, after the survey was conducted. Second, according to Notification 2/2015, the regulation excludes small businesses employing less than 15 workers. The Minimum Wage would therefore not apply to the majority of the agricultural and small-business wage workers covered by the household survey.

Figure 9.8

Average daily wage



<sup>29</sup> Comparisons made with the minimum wage at the prices where the survey was enumerated: January 2015 (K3620) and at March 2015 (K3532)

Amongst those that were employed for more than 7 hours a day, there is a significant difference in wages between casual (with temporary, seasonal or occasional work) and permanent workers. Permanent wage-workers earn 1.6 times more than casual workers. This is driven by wage differences between these two groups in urban areas—in rural areas, the gap between the wages earned by both groups is only 552 kyat compared to 2817 kyat in urban areas. Interestingly, in casual jobs males earn close to double of that earned by women, while in permanent jobs females earn more than men. This could be the result of women working in high-paying permanent sectors in urban areas (such as services), but getting low wages when working in casual agricultural jobs in the rural areas.

The average rate of return to an additional year of education for the employed population is somewhat low at 5.1 percent. This is lower than the estimated average premium for the East Asia and Pacific region where an additional year of schooling yields a premium of 9.4 percent (Table 9.6). The difference can be explained in part by the dominance of the agricultural activity in the Myanmar's productive structure; the return to education is low at 2 percent in agriculture.

Table 9.6

Estimated average return to schooling across comparator countries

	Average return to schooling (%)	Average years of schooling*
East Asia and the Pacific	9.4	10.4
Myanmar	5.1	5.7

Note: East Asia and the Pacific figures from Montenegro and Patrinos (2014), using data circa 2011. The rate of return to an additional year of schooling is calculated using the standard Mincerian approach, where the log of (daily) wages are regressed against years of school, experience (calculated as age minus years of schooling minus 5) and sex. Since a greater fraction of wages were reported in daily terms and due to the greater measurement error associated with calculating hourly wages, daily wages were used in preference to hourly. \* Population aged 25 to 64 years

While premiums for primary education are low and not statistically significant, premiums for those with a graduate and postgraduate degree are remarkably large. The return to education is highly compressed at the bottom end of the education spectrum (Table 9.7). Workers with primary education do not see a wage premium compared to those with no education. On average, individuals who have graduated from university or higher earn 65.3 percent more than those with no, monastic or below-primary education. The high rate of return to higher levels of education relative to those with the control group likely reflects a scarcity in the supply of highly trained workers in the labor market.

Returns to schooling are larger in urban areas, for women, and for workers in the tertiary sector. Within agriculture, the schooling premium is limited and only appears to kick in for those with graduate or postgraduate education. On average, an additional year of education is estimated to raise a daily wage by 5.1 percent and workers in urban areas receive higher returns of 5.8 percent compared to the rural areas. Highly educated workers in urban areas earn 70 percent more than workers with less than primary education. Likewise, the average schooling premium for workers in the tertiary sector (services)

is about 4.9 percent. Interestingly, when the nonlinear effect of education on labor earnings of the different levels of education is considered, workers with graduate or more than graduate education have a high and statistically significant return to education.

Table 9.7

Estimated education premium, by age and economic sector (% of wages)

	Total	Area		Sex		Economic Sector		
		Urban	Rural	Male	Female	Agriculture	Industry	Services
<b>Mincer-style equation</b>								
Years of education	0.051***	0.058***	0.044***	0.040***	0.064***	0.015*	0.045***	0.049***
<b>Extended earnings function</b>								
Primary	-0.001	0.097	-0.029	-0.044	-0.045	-0.076	-0.103	0.052
Middle (any grade)	0.201***	0.234***	0.178***	0.073	0.199***	0.115*	0.114	0.143**
High (any grade)	0.262***	0.301***	0.244**	0.225***	0.204***	0.021	0.211	0.247***
Graduate or more	0.653***	0.696***	0.639***	0.519***	0.835***	0.152	0.543***	0.592***

Note: \* p<0.05, \*\* p<0.01, \*\*\* p<0.001; All regression control for agro-zone and urban locations in order to take into account spatial cost of living differences. The base education category is those individuals with no education, monastic or less than primary education.







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# Annexes

# Annex 1

## Key indicator tables

Table A1

### Poverty

	Poverty Headcount	s.e.	Poverty Gap	s.e.	Poverty Gap Squared	s.e.
National	32.1%	1.4%	8.4%	0.5%	3.3%	0.3%
Urban	14.5%	1.7%	2.8%	0.5%	0.9%	0.2%
Rural	38.8%	1.8%	10.6%	0.7%	4.2%	0.4%
Hills & Mountains	40.0%	3.2%	12.1%	1.3%	5.1%	0.6%
Dry Zone	32.1%	2.3%	7.3%	0.7%	2.4%	0.3%
Delta	26.2%	2.4%	6.4%	0.9%	2.4%	0.4%
Coastal	43.9%	4.2%	14.4%	2.3%	6.6%	1.4%
Male Headed Household	32.4%	1.5%	8.5%	0.6%	3.3%	0.3%
Female Headed Household	30.4%	2.6%	8.0%	1.0%	3.3%	0.6%

Note: Poverty headcount gives the proportion of the population living below the poverty line; poverty gap reflects the depth of poverty by providing the mean shortfall or "distance" of those below the poverty line from the poverty line; poverty gap squared reflects the severity of poverty by placing more weight on people who are further away from the poverty line.

Table A2

### Food Poverty

	Food Poverty Headcount	s.e.	Food Poverty Gap	s.e.	Food Poverty Gap Squared	s.e.
National	9.8%	0.9%	2.1%	0.3%	0.8%	0.1%
Urban	2.7%	0.8%	0.4%	0.2%	0.1%	0.1%
Rural	12.5%	1.2%	2.8%	0.3%	1.0%	0.1%
Hills & Mountains	15.9%	2.3%	3.5%	0.6%	1.2%	0.3%
Dry Zone	7.4%	1.3%	1.2%	0.3%	0.3%	0.1%
Delta	6.9%	1.4%	1.5%	0.4%	0.5%	0.2%
Coastal	19.1%	4.1%	5.2%	1.4%	2.1%	0.6%
Male Headed Household	9.7%	1.0%	2.1%	0.3%	0.7%	0.1%
Female Headed Household	10.0%	1.7%	2.4%	0.6%	0.9%	0.3%

Note: These indicators are equivalent to those in Appendix Table 1, but use the food poverty line instead of poverty line as the reference.

Table A3

Calorie intake (per adult equivalent per day) and food share of total household consumption

	Calorie Intake	s.e.	Share of Food
National	2463	29	59%
Urban	2097	31	46%
Rural	2604	36	64%
Q1	1959	35	66%
Q2	2292	37	62%
Q3	2509	37	62%
Q4	2726	54	59%
Q5	2831	70	46%
Non-Poor	2659	34	66%
Poor	2050	30	66%
Hills & Mountains	2255	39	59%
Dry Zone	2509	54	56%
Delta	2507	50	60%
Coastal	2512	59	63%
Male Headed Household	2479	33	59%
Female Headed Household	2395	36	56%

Note: Calorie intake is given in adult equivalent terms; share of food is the share of total expenditure (excluding health) going to food.

Table A4a

Total consumption expenditure per adult equivalent per day

	Consumption Expenditure		
	National	Urban	Rural
Mean	2190	3211	1707
Median	1644	2362	1492
Q1 Mean	854	1193	797
Q2 Mean	1267	1742	1156
Q3 Mean	1646	2371	1492
Q4 Mean	2226	3220	1924
Q5 Mean	3521	5499	2820

Table A4b

Total consumption share of different quintiles

	Consumption Share		
	National	Urban	Rural
Q1	7.5%	6.6%	8.9%
Q2	11.6%	10.1%	13.5%
Q3	15.1%	13.8%	17.5%
Q4	20.6%	18.8%	22.7%
Q5	45.2%	50.7%	37.3%
Total	100.0%	100.0%	100.0%

Note: Consumption expenditure by quintile shows the median total expenditure within each quintile (all total expenditures exclude health); consumption share is defined as the share of total expenditure going to various quintiles of the expenditure distribution.



Table A5

Consumption basket, by component (kyat per adult equivalent per day)

	Food	s.e.	Non-Food	s.e	Education	s.e	Durables	s.e	Housing	s.e
National	1094	18.0	397	13	108	6	206	58	305	13
Urban	1214	32	556	28	196	20	522	206	675	41
Rural	1048	22	336	13	75	4	84	6	164	6
Q1	538	9	143	5	40	3	21	2	82	4
Q2	782	10	225	6	68	4	43	3	145	5
Q3	1024	15	293	7	80	5	66	4	195	8
Q4	1316	19	423	10	116	7	106	7	293	12
Q5	1812	38	903	40	239	27	796	279	813	47
Non-Poor	1321	17	504	16	136	9	290	84	401	19
Poor	611	8	169	5	49	3	28	2	103	4
Hills & Mountains	976	28	345	21	101	9	183	32	241	23
Dry Zone	1038	33	404	15	103	8	130	20	314	23
Delta	1204	30	424	24	117	13	296	133	342	25
Coastal	985	38	344	43	100	11	79	11	228	18
Male Headed Household	1093	20	393	14	109	7	221	68	283	13
Female Headed Household	1093	28	412	20	104	8	137	17	404	26

Note: The consumption basket provides a household's expenditure for each consumption component per adult equivalent per day.

Table A6

## Household consumption share, by component

	Food	Non-food	Education	Durables	Housing	Total
National	59%	18%	5%	5%	13%	100%
Urban	46%	18%	6%	8%	21%	100%
Rural	64%	19%	5%	4%	10%	100%
Q1	66%	17%	5%	3%	10%	100%
Q2	62%	18%	5%	3%	12%	100%
Q3	62%	18%	5%	4%	12%	100%
Q4	59%	19%	5%	5%	13%	100%
Q5	46%	21%	5%	10%	18%	100%
Non-Poor	56%	19%	5%	6%	14%	100%
Poor	64%	17%	5%	3%	11%	100%
Hills & Mountains	59%	18%	5%	6%	12%	100%
Dry Zone	56%	20%	5%	5%	14%	100%
Delta	60%	18%	5%	5%	12%	100%
Coastal	63%	17%	6%	3%	12%	100%
Male Headed Household	59%	18%	5%	5%	12%	100%
Female Headed Household	56%	18%	5%	5%	16%	100%

Note: The share of each component is calculated out of total consumption expenditure excluding health.

Table A7

Mean expenditures of the bottom 40 percent, compared to mean and median expenditures of the population

	National	Urban	Rural
Mean expenditures	2190	3211	1707
Median expenditures	1644	2362	1492
Mean expenditures of bottom 40 percent	1043	1436	960

Table A8

Share of consumption going to the bottom 20 percent and 40 percent

	National	Urban	Rural
Share of bottom 20 percent	7.5%	6.6%	8.9%
Share of bottom 40 percent	19.1%	16.7%	22.5%

Table A9

Gini coefficient, Theil-o, Theil-1, and ratios of welfare

	National	Urban	Rural
Gini	35.04	38.59	28.34
Theil-o	20.70	24.98	13.39
Theil-1	25.93	32.30	13.92
90/10	4.11	4.55	3.54
90/50	2.13	2.31	1.89
50/10	1.93	1.97	1.87

Table A10

Household size, dependency ratios, share of children and elderly in household, and share of female-headed household

	Household size	s.e.	Dependency Ratio	Age Dependency Ratio (Young)	Age Dependency Ratio (Elderly)	Share of Children in Household	Share of Elderly in Household	Female Headed Household
National	4.53	0.06	0.57	0.46	0.11	29%	7%	18%
Urban	4.57	0.08	0.46	0.34	0.11	23%	8%	23%
Rural	4.51	0.07	0.61	0.51	0.10	32%	6%	16%
Q1	5.67	0.11	0.73	0.65	0.09	37%	5%	17%
Q2	4.79	0.10	0.64	0.53	0.11	32%	7%	17%
Q3	4.29	0.08	0.55	0.42	0.13	27%	9%	18%
Q4	4.18	0.10	0.48	0.38	0.10	26%	7%	17%
Q5	3.72	0.09	0.39	0.28	0.11	20%	8%	24%
Non-Poor	4.18	0.06	0.51	0.39	0.11	26%	8%	19%
Poor	5.51	0.09	0.71	0.62	0.09	36%	5%	17%
Hills & Mountains	4.71	0.10	0.59	0.50	0.09	31%	6%	19%
Dry Zone	4.46	0.09	0.55	0.44	0.11	28%	7%	18%
Delta	4.44	0.09	0.55	0.44	0.11	28%	7%	18%
Coastal	4.90	0.19	0.65	0.55	0.10	33%	6%	19%
Male Headed Household	4.71	0.06	0.56	0.47	0.09	30%	6%	-
Female Headed Household	3.87	0.09	0.58	0.40	0.17	26%	11%	-

Note: Household size is the average number of people living in a household; dependency ratio is defined as the number of household members less than 15 and over 64 years of age, relative to those between the ages of 15-64; age dependency ratio (young) is defined as the number of household members younger than 15, relative to those between the ages of 15-64; age dependency ratio (elderly) is defined as the number of household members older than 64, relative to those between the ages of 15-64; share of children in a household is the number of household members younger than 15, relative to the total household size; share of elderly in a household is the number of household members older than 64, relative to the total household size; female headed household is defined as the fraction of households headed by women.

Table A11

Percentage of households with access to quality roofing, by type of dwelling, and living in owned dwelling

	Quality Roofing		Type of Dwelling						Live in Owned Dwelling	
	Share	s.e	Solid	s.e	Semi-solid	s.e	Temporary	s.e	Share	s.e
National	68%	2%	10%	1%	84%	1%	6%	1%	90%	1%
Urban	91%	1%	27%	3%	71%	3%	2%	1%	76%	2%
Rural	60%	2%	4%	1%	89%	1%	7%	1%	95%	1%
Q1	47%	4%	1%	0%	89%	2%	10%	2%	93%	1%
Q2	59%	3%	1%	0%	91%	1%	8%	1%	91%	1%
Q3	65%	3%	3%	1%	91%	1%	6%	1%	88%	1%
Q4	74%	2%	7%	1%	88%	1%	5%	1%	90%	1%
Q5	87%	2%	32%	3%	67%	3%	1%	1%	87%	2%
Non-Poor	74%	2%	13%	1%	83%	1%	4%	1%	89%	1%
Poor	52%	3%	1%	0%	90%	1%	9%	1%	91%	1%
Hills & Mountains	84%	3%	9%	2%	87%	2%	4%	1%	95%	1%
Dry Zone	74%	3%	8%	2%	89%	2%	3%	1%	92%	1%
Delta	66%	3%	13%	2%	80%	2%	7%	1%	86%	1%
Coastal	29%	3%	4%	1%	84%	2%	12%	2%	90%	2%
Male Headed Household	67%	2%	9%	1%	85%	1%	6%	1%	89%	1%
Female Headed Household	74%	2%	13%	2%	84%	2%	3%	1%	91%	1%

Note: Quality roofing includes those made of corrugated iron, tiles, wood, brick, or cement; solid dwelling includes condominium, apartment, flat, bungalow, and brick house; semi-solid dwelling includes semi-pacca house, wooden house, and house made of bamboo; temporary dwelling includes huts and others.

Table A12

## Percentage of households with access to safe drinking water, by season

	Dry Season	s.e	Wet Season	s.e	Cool Season	s.e
National	69%	2%	79%	2%	69%	2%
Urban	85%	2%	90%	2%	85%	2%
Rural	63%	3%	75%	2%	63%	3%
Q1	56%	4%	65%	3%	56%	4%
Q2	67%	3%	77%	3%	67%	3%
Q3	69%	3%	80%	2%	69%	3%
Q4	70%	3%	81%	2%	69%	3%
Q5	79%	3%	87%	2%	79%	3%
Non-Poor	72%	2%	82%	2%	72%	2%
Poor	61%	3%	71%	3%	61%	3%
Hills & Mountains	70%	4%	71%	4%	70%	4%
Dry Zone	82%	4%	83%	3%	82%	4%
Delta	63%	4%	85%	2%	63%	4%
Coastal	52%	5%	51%	5%	51%	5%
Male Headed Household	67%	2%	78%	2%	67%	2%
Female Headed Household	75%	2%	82%	2%	75%	2%

Note: Households are considered to have access to safe drinking water if their primary source for drinking water comes from public tap/stand pipe, tube well/bore hole, protected hand-dug well, protected well/spring, or rainwater collection/tank; households whose primary source of drinking water comes from bottled water is considered to have access to safe drinking water if there is a second source of safe drinking water.

Table A13

Average time to source of drinking water (minutes), by season

	Dry Season	s.e	Wet Season	s.e	Cool Season	s.e
National	6.23	0.38	4.44	0.28	5.94	0.35
Urban	3.02	0.38	2.00	0.24	2.91	0.36
Rural	7.45	0.50	5.37	0.38	7.09	0.46
Q1	9.29	0.80	7.21	0.61	9.07	0.76
Q2	6.74	0.62	4.74	0.37	6.23	0.49
Q3	6.55	0.53	4.83	0.46	6.25	0.52
Q4	5.93	0.52	4.04	0.41	5.55	0.46
Q5	3.83	0.44	2.44	0.29	3.76	0.41
Non-Poor	5.45	0.37	3.75	0.28	5.16	0.33
Poor	8.41	0.65	6.39	0.52	8.14	0.63
Hills & Mountains	6.02	0.93	5.63	0.88	5.87	0.91
Dry Zone	5.55	0.79	5.02	0.62	5.24	0.68
Delta	6.10	0.51	2.74	0.29	5.87	0.49
Coastal	9.73	1.00	8.67	0.81	8.94	0.88
Male Headed Household	6.44	0.38	4.59	0.30	6.18	0.36
Female Headed Household	5.46	0.61	3.91	0.42	5.07	0.48

Note: This indicator provides the average time in minutes for the household member to go to the source of drinking water and back.

Table A14

Percentage of households with specific time intervals to source of water (minutes), by season

Dry Season	National	Urban	Rural	Hills & Mountains	Dry Zone	Delta	Coastal
0 minutes	47%	74%	36%	56%	53%	42%	29%
1 to 9 minutes	24%	12%	29%	14%	21%	31%	26%
10 to 19 minutes	20%	10%	23%	20%	18%	19%	27%
20 minutes or more	9%	4%	11%	11%	8%	8%	19%

Wet Season	National	Urban	Rural	Hills & Mountains	Dry Zone	Delta	Coastal
0 minutes	59%	80%	51%	60%	55%	68%	29%
1 to 9 minutes	19%	11%	22%	11%	21%	19%	27%
10 to 19 minutes	16%	8%	19%	17%	18%	10%	27%
20 minutes or more	7%	2%	8%	11%	6%	3%	17%

Cold Season	National	Urban	Rural	Hills & Mountains	Dry Zone	Delta	Coastal
0 minutes	47%	73%	37%	57%	53%	43%	29%
1 to 9 minutes	25%	12%	30%	14%	22%	31%	26%
10 to 19 minutes	20%	10%	23%	19%	18%	19%	28%
20 minutes or more	9%	4%	10%	10%	7%	7%	17%

Note: The estimated time reflects a return trip in minutes to collect water; note that columns add up to 100 percent.



Table A15

## Access to electricity, type of primary access, and electricity interruptions

	Access to Electricity		Type of Primary Access						At Least Once-a-Day Interruption (Among Grid Users)			
	Share	s.e.	Public Grid	Com-munal or Private Grid	Solar Home System	Recharge-able Battery	Other	No Electri-city	Public Grid	Com-munal or Private Grid	Total	s.e
<b>National</b>	84%	1%	33%	11%	17%	17%	6%	16%	12%	4%	10%	1%
<b>Urban</b>	98%	1%	85%	5%	1%	4%	3%	2%	13%	12%	13%	2%
<b>Rural</b>	78%	2%	13%	13%	24%	22%	7%	22%	10%	3%	6%	1%
<b>Q1</b>	69%	3%	13%	7%	22%	21%	6%	31%	10%	0%	6%	1%
<b>Q2</b>	83%	2%	23%	11%	20%	21%	7%	18%	9%	3%	7%	1%
<b>Q3</b>	87%	2%	34%	14%	13%	19%	7%	14%	9%	3%	7%	1%
<b>Q4</b>	92%	1%	40%	12%	19%	15%	6%	9%	12%	5%	10%	1%
<b>Q5</b>	97%	1%	64%	10%	11%	7%	5%	3%	15%	6%	13%	2%
<b>Non-Poor</b>	90%	1%	40%	12%	16%	16%	6%	10%	13%	4%	11%	1%
<b>Poor</b>	70%	3%	16%	8%	20%	21%	6%	30%	8%	3%	6%	1%
<b>Hills &amp; Mountains</b>	88%	1%	28%	10%	34%	5%	11%	12%	14%	7%	12%	1%
<b>Dry Zone</b>	92%	2%	33%	13%	18%	24%	5%	8%	13%	3%	10%	1%
<b>Delta</b>	83%	3%	40%	7%	12%	20%	4%	17%	11%	3%	10%	1%
<b>Coastal</b>	55%	4%	5%	23%	11%	7%	10%	45%	20%	6%	9%	2%
<b>Male Headed Household</b>	84%	2%	31%	10%	19%	18%	6%	17%	11%	5%	10%	1%
<b>Female Headed Household</b>	85%	2%	41%	13%	11%	14%	6%	15%	15%	2%	12%	1%

Note: Access to electricity is defined as the share of individuals in the households with access to electricity from any source; type of primary access gives the share of individuals in the households with access to electricity by primary source (including households with "no electricity," these add up to 100 percent); the interruption indicator is defined as the share of households that experience interruptions at least once a day out of households whose primary electricity access is public grid or communal/private grid.

Table A16

## Share of total household expenditure spent on electricity and energy

	Share of of total expenditures spent on electricity	s.e.	Share of total expenditures spent on energy	s.e.
National	1.6%	0.1%	26.0%	0.6%
Urban	1.9%	0.1%	18.5%	0.8%
Rural	1.5%	0.1%	28.8%	0.8%
Q1	0.9%	0.1%	32.3%	1.2%
Q2	1.5%	0.2%	28.7%	1.1%
Q3	1.4%	0.1%	26.2%	1.2%
Q4	1.7%	0.1%	23.0%	0.9%
Q5	2.3%	0.2%	19.6%	0.9%
Non-Poor	1.8%	0.1%	23.7%	0.7%
Poor	1.1%	0.1%	30.8%	1.0%
Hills & Mountains	1.0%	0.1%	26.5%	1.5%
Dry Zone	2.1%	0.2%	25.5%	1.2%
Delta	1.5%	0.1%	24.8%	1.0%
Coastal	1.1%	0.1%	32.2%	1.2%
Male Headed Household	1.6%	0.1%	25.5%	0.7%
Female Headed Household	1.6%	0.1%	28.2%	1.0%

Note: Electricity spending includes spending on battery recharging, diesel, and electricity from public or communal/private grids; energy spending includes spending on electricity and all other fuels, notably firewood, charcoal, kerosene, diesel, candles and other.

Table A17

Morbidity rates, proportion of sick who accessed formal medical care, and households that visited a formal medical care provider

	Morbidity	s.e.	Proportion of Sick People Who Accessed Formal Medical Care	s.e.	Proportion of households with any member visiting a formal medical care provider	s.e.
National	17%	1%	74%	1%	90%	1%
Urban	15%	1%	78%	2%	96%	1%
Rural	17%	1%	72%	2%	88%	1%
Q1	16%	1%	66%	3%	86%	2%
Q2	17%	1%	72%	2%	90%	2%
Q3	18%	1%	77%	2%	88%	2%
Q4	17%	1%	75%	2%	90%	1%
Q5	16%	1%	77%	2%	94%	1%
Non-Poor	17%	1%	76%	1%	91%	1%
Poor	16%	1%	68%	2%	88%	2%
Hills & Mountains	12%	2%	70%	3%	88%	2%
Dry Zone	19%	1%	67%	3%	89%	2%
Delta	17%	1%	80%	2%	93%	1%
Coastal	18%	1%	78%	3%	84%	2%
Male Headed Household	17%	1%	73%	2%	90%	1%
Female Headed Household	17%	1%	75%	2%	89%	2%

Note: Morbidity rate is defined as the proportion of the population with any illness that prevented normal activities during the 30 days prior to the survey; access to formal medical care gives the proportion of sick in the last 30 days who accessed formal medical care, where formal is defined as (i) pharmacy, (ii) local health center, (iii) private health clinic, or (iv) hospital; the last indicator gives the proportion of households who reported any member visiting a formal health care provider in the last 12 months.

Table A18

## Per capita health expenditures and share of total expenditure spent on health

	Per capita health expenditure	s.e.	Share of expenditure spent on health	s.e
National	44751	2818	6.0%	0.3%
Urban	68481	6963	6.1%	0.4%
Rural	35649	2839	5.9%	0.3%
Q1	17110	2185	5.8%	0.6%
Q2	24686	2338	5.8%	0.5%
Q3	39096	4373	6.8%	0.8%
Q4	50359	6757	5.6%	0.4%
Q5	92645	9668	5.9%	0.5%
Non-Poor	56696	3796	6.0%	0.3%
Poor	19451	1724	5.8%	0.5%
Hills & Mountains	35485	4831	5.4%	0.6%
Dry Zone	46552	5477	6.7%	0.6%
Delta	50632	4913	5.9%	0.4%
Coastal	29575	2695	4.8%	0.3%
Male Headed Household	41990	2840	5.7%	0.3%
Female Headed Household	57152	8137	7.2%	0.7%

Note: Per capita health expenditure captures reported household health expenditure in the last 12 months; share of health expenditure is defined as the share of total expenditure (excluding health) that households spend on health.

Table A19

Total annual medical expenditures of households, by type of medical expenditure

	In-patient	Out-patient	Medicine	Transport	Total
National	56631	79140	45675	9807	191253
Urban	97571	113047	74074	13930	298622
Rural	41121	66294	34915	8245	150575
Q1	27358	42464	19264	4440	93526
Q2	27713	51192	29498	5527	113931
Q3	62549	69868	37090	8485	177992
Q4	43633	84595	41744	12417	182390
Q5	105829	128093	86639	15419	335980
Non-Poor	67358	90379	53195	11577	222508
Poor	26617	47688	24630	4855	103791
Hills & Mountains	43306	68274	39844	11454	162878
Dry Zone	52783	84322	39258	9242	185605
Delta	68966	81528	55224	9672	215390
Coastal	33981	70225	31386	9246	144838
Male Headed Household	59694	77314	44618	9764	191390
Female Headed Household	45270	85913	49594	9968	190746

Note: this table includes all households, including those reporting more than 10 lakh in health expenditures.

Table A20

## Total net enrollment rates for primary and secondary education

	Primary	s.e.	Secondary	s.e.
National	93%	1%	55%	2%
Urban	95%	2%	74%	3%
Rural	92%	1%	49%	2%
Q1	87%	2%	39%	3%
Q2	95%	1%	54%	3%
Q3	96%	1%	62%	4%
Q4	96%	1%	67%	4%
Q5	96%	2%	76%	4%
Non-Poor	96%	1%	65%	2%
Poor	88%	2%	40%	3%
Hills & Mountains	92%	2%	58%	4%
Dry Zone	97%	1%	61%	4%
Delta	92%	2%	53%	3%
Coastal	86%	4%	47%	5%
Male Headed Household	93%	1%	55%	2%
Female Headed Household	92%	2%	58%	4%

Note: Total net enrollment rate is defined as the number of enrolled students (of official school age) over the total population of children (of official school age), for primary and secondary schools respectively.

Table A21

Total net enrollment rate for middle school and high school; net and gross enrollment rates for tertiary education

	Total NER Middle School	s.e.	Total NER High School	s.e.	NER Tertiary	s.e.	GER Tertiary	s.e.
National	61%	2%	25%	-	13%	1%	16%	2%
Urban	81%	3%	-	-	-	-	-	-
Rural	55%	3%	-	-	-	-	-	-

Note: Total net enrollment rate (NER) is defined as the number of enrolled students (of official school age) over the total population of children (of official school age), for middle school and high school respectively; net enrollment rate tertiary is defined as the number of individuals between 17-20 years of age enrolled in tertiary education over the population aged 17-20 year-old; gross enrollment rate (GER) tertiary is defined as the number of individuals enrolled in tertiary education regardless of age over the 17-20 year-old population; some standard errors cannot be calculated because of stratum with single sampling unit.

Table A22

Total number of primary, middle, and high school-age children who are out of school

	Primary School	s.e.	Middle School	s.e.	High School	s.e.
National	376917	37787	746039	54312	1003580	52413
Urban	59533	12770	111396	18680	205349	23006
Rural	317385	35480	634643	50523	798231	45553
Q1	216223	28974	361156	34816	418291	31417
Q2	63975	14966	184275	29253	224717	23230
Q3	38918	11284	94871	19667	170213	21799
Q4	32953	11428	68470	16379	106258	16792
Q5	24848	9202	37266	11958	84101	18914
Non-Poor	132465	21185	295871	35700	513991	39641
Poor	244452	30959	450168	39898	489589	33320
Hills & Mountains	76210	14588	114444	18690	186036	18445
Dry Zone	51805	18035	196953	31861	270573	30405
Delta	165930	27509	355510	37373	441836	33456
Coastal	82972	11495	79133	11473	105134	10702
Male Headed Household	310169	34571	641135	50444	837114	47185
Female Headed Household	66749	15279	104904	20079	166466	22867

Note: These indicators show the number of school-age children who are not enrolled in school, for primary, middle, and high school respectively.

Table A23

Among the primary and secondary school-age children who are out of school, reasons for not continuing school

	Costs not affordable	Disability/illness	Lack of interest	Care for family	Agricultural work	Other (non-agr) work	School too far	Parents don't think it's important	Death of parent/s	Too old	"Conflict/unrest	Language barrier	Got married / pregnant	No teacher	No School	Completed studies	Other
Primary	42.7%	1.8%	39.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	15.8%
Secondary	41.3%	4.0%	32.9%	13.1%	0.8%	2.3%	1.8%	1.1%	0.5%	0.3%	0.1%	0.0%	0.4%	0.0%	0.1%	0.6%	0.5%

Table A24

Among the school-age children who never attended school, reasons for never attending

	Costs not affordable	Disability/illness	Lack of interest	Care for family	Agricultural work	Other (non-agr) work	School too far	Parents don't think it's important	Death of parent/s	Too young	"Conflict/unrest	Language barrier
Reason for Never Attending	40.3%	8.3%	4.9%	0.7%	0.0%	0.5%	6.4%	1.7%	0.0%	35.0%	0.4%	1.7%



Table A25

Literacy rates for individuals aged 15 years old and older, youth, and adult

	15 and Older		Youth (15-24)		Adult (15-64)	
	Literacy Rate	s.e.	Literacy Rate	s.e.	Literacy Rate	s.e.
National	88%	1%	93%	1%	88%	1%
Urban	96%	1%	99%	1%	96%	1%
Rural	84%	1%	90%	2%	84%	1%
Q1	80%	2%	87%	2%	78%	2%
Q2	87%	2%	95%	2%	87%	2%
Q3	90%	1%	94%	2%	91%	1%
Q4	91%	1%	95%	2%	92%	1%
Q5	97%	1%	100%	0%	96%	1%
Non-Poor	91%	1%	96%	1%	92%	1%
Poor	81%	2%	89%	2%	80%	2%
Hills & Mountains	78%	2%	90%	2%	74%	3%
Dry Zone	90%	1%	94%	2%	92%	1%
Delta	93%	1%	97%	2%	93%	1%
Coastal	78%	4%	81%	5%	78%	4%
Male Headed Household	89%	1%	93%	1%	88%	1%
Female Headed Household	85%	1%	91%	2%	87%	2%

Note: Literacy rates give the number of people in a particular age group who report being able to read and write, as a percentage of the total population in that same age group.

Table A26

## Completed education of household heads

	None	Not completed primary	Completed primary	Completed secondary	Completed higher education	Completed monastic school
National	13%	21%	45%	3%	4%	14%
Urban	5%	12%	56%	7%	13%	7%
Rural	16%	24%	41%	1%	1%	16%
Q1	21%	30%	35%	0%	0%	14%
Q2	16%	23%	41%	3%	1%	17%
Q3	11%	20%	51%	1%	1%	17%
Q4	10%	18%	54%	3%	4%	11%
Q5	5%	11%	51%	8%	18%	9%
Non-Poor	10%	18%	50%	3%	6%	14%
Poor	21%	28%	36%	1%	1%	14%
Hills & Mountains	25%	25%	35%	2%	2%	12%
Dry Zone	11%	17%	50%	3%	3%	16%
Delta	9%	21%	48%	3%	6%	13%
Coastal	19%	26%	37%	2%	3%	14%
Male Headed Household	10%	21%	49%	3%	4%	14%
Female Headed Household	28%	24%	30%	2%	4%	12%

Note: This indicator is defined as the share of household heads that completed each level of education; note that the rows add up to 100 percent.

Table A27

## Completed education of adults aged 25-64

	None	Not completed primary	Completed primary	Completed secondary	Completed higher education	Completed monastic school
National	13%	23%	46%	3%	9%	7%
Urban	4%	13%	55%	6%	20%	2%
Rural	17%	28%	42%	1%	3%	9%
Q1	22%	33%	35%	1%	1%	8%
Q2	14%	26%	47%	3%	3%	8%
Q3	10%	22%	53%	2%	6%	7%
Q4	9%	18%	53%	4%	10%	6%
Q5	5%	11%	48%	6%	28%	3%
Non-Poor	9%	19%	50%	4%	12%	6%
Poor	21%	32%	37%	1%	2%	7%
Hills & Mountains	27%	26%	35%	2%	5%	6%
Dry Zone	9%	22%	52%	2%	9%	7%
Delta	8%	22%	49%	4%	11%	6%
Coastal	21%	27%	36%	3%	6%	8%

Note: This indicator is defined as the share of adults aged 25-64 that completed each level of education; note that the rows add up to 100 percent.

Table A28

Shares of households with temporary migrants abroad, households with permanent migrants, and households with international migration experience

	Temporary Migrants Abroad	s.e.	Permanent Migrants	s.e.	International Migration Experience	s.e.
National	2.6%	0.3%	39.3%	1.3%	6.8%	0.5%
Urban	2.2%	0.5%	31.9%	2.1%	7.7%	0.8%
Rural	2.7%	0.4%	42.0%	1.6%	6.4%	0.7%
Q1	2.4%	0.9%	32.7%	2.3%	5.8%	1.2%
Q2	3.1%	0.7%	39.2%	2.4%	5.9%	1.0%
Q3	2.5%	0.6%	39.7%	2.3%	6.0%	1.0%
Q4	2.3%	0.6%	43.8%	2.4%	7.6%	1.2%
Q5	2.7%	0.9%	40.9%	2.4%	8.7%	1.1%
Non-Poor	2.6%	0.4%	41.3%	1.4%	7.2%	0.6%
Poor	2.5%	0.8%	33.5%	2.2%	5.5%	1.0%
Hills & Mountains	3.8%	0.9%	43.0%	2.5%	9.5%	1.4%
Dry Zone	1.7%	0.6%	43.7%	2.6%	3.5%	0.9%
Delta	2.4%	0.4%	33.9%	2.1%	6.9%	0.7%
Coastal	4.1%	1.1%	43.4%	3.5%	12.5%	2.8%
Male Headed Household	2.9%	0.4%	36.0%	1.5%	7.3%	0.7%
Female Headed Household	1.5%	0.5%	51.5%	2.1%	4.7%	0.8%

Note: Temporary migrants abroad is defined as the share of households with at least one current member reporting working abroad for at least one month in the last 12 months; permanent migrants give the share of households that have a former member permanently living elsewhere (in Myanmar or abroad); international migration experience gives the share of households with at least one current member who has reported ever working abroad for at least one month.

Table A29

## Percentage of households receiving remittances and annual income from remittances

	Proportion of households receiving remittances	s.e.	Annual Income from Remittances			
			Of all households	s.e.	Of households that received remittances	s.e.
National	24.1%	1.2%	201514	23072	834687	86771
Urban	25.7%	1.7%	309858	61533	1204139	233968
Rural	23.5%	1.5%	160535	21343	681940	75151
Q1	19.6%	2.1%	84993	16171	434492	65966
Q2	23.8%	2.1%	135334	19163	569149	67532
Q3	23.6%	2.1%	164178	37644	697102	134059
Q4	27.6%	2.3%	213563	43830	772647	143344
Q5	26.2%	1.9%	409901	85581	1565169	324223
Non-Poor	25.4%	1.3%	240568	29745	946922	105810
Poor	20.6%	1.9%	92833	14750	450026	59095
Hills & Mountains	24.4%	2.5%	160770	25575	659202	92388
Dry Zone	24.5%	2.6%	175155	40433	715047	133599
Delta	23.4%	1.5%	246689	43088	1053480	175070
Coastal	26.1%	3.8%	146063	26021	560127	35772
Male Headed Household	20.7%	1.2%	168172	23398	811204	102965
Female Headed Household	36.7%	2.3%	324684	59056	883631	152654

Note: Remittance rate is defined as the proportion of households that have received remittances (either from abroad or internally) within the last 12 months; annual income from remittances is defined as the mean annual household income received from remittances in the last 12 months.

Table A30

Percentage of households taking loans and average number of loans taken by a household in the last 12 months

	Percentage of households who have taken a loan	s.e.	Average Number of Loans per Household	s.e.
National	60%	1%	0.91	0.03
Urban	43%	2%	0.60	0.04
Rural	67%	2%	1.03	0.04
Q1	65%	2%	0.94	0.05
Q2	65%	3%	0.98	0.06
Q3	63%	2%	0.93	0.05
Q4	65%	2%	1.02	0.06
Q5	43%	3%	0.69	0.06
Non-Poor	59%	2%	0.91	0.04
Poor	65%	2%	0.92	0.04
Hills & Mountains	42%	4%	0.55	0.06
Dry Zone	63%	3%	0.97	0.06
Delta	65%	2%	1.03	0.05
Coastal	63%	3%	0.85	0.06
Male Headed Household	62%	1%	0.95	0.03
Female Headed Household	53%	3%	0.79	0.05

Note: A 12 month reference period is used to measure the percentage of households that have taken loans; average number of loans is defined as the average number of loans taken by a household in the last 12 months (calculated across all households, not just among those with access to credit).

Table A31

## Total loan value, by use

	Investment	s.e.	Health	s.e.	Education	s.e.	Home Improvement	s.e.	Food	s.e.	Other	s.e.
<b>National</b>	224459	34146	48035	4818	7647	1733	22794	5125	37124	3253	14514	5290
<b>Urban</b>	274308	113482	59719	13127	17161	5904	35838	13748	26354	4601	24270	18156
<b>Rural</b>	205605	18891	43616	4440	4049	887	17860	4810	41197	4110	10824	2493
<b>Q1</b>	80026	12091	35410	4997	2038	682	8096	1891	42255	4829	9023	3741
<b>Q2</b>	114132	12982	36298	5410	5976	2181	11030	2706	45142	6127	8514	2798
<b>Q3</b>	128126	15420	55827	7673	4446	2122	23807	14204	37632	5402	7745	3041
<b>Q4</b>	255290	30441	52624	10035	14898	7035	19557	8360	35704	9714	13257	4793
<b>Q5</b>	545010	159841	60053	17515	10882	3536	51522	19225	24872	6209	34045	24966
<b>Non-Poor</b>	274206	45520	52735	6180	9239	2362	27790	6916	34565	3643	16852	6996
<b>Poor</b>	85349	10891	34891	4265	3195	906	8823	1993	44281	5078	7977	2979
<b>Hills &amp; Mountains</b>	175998	72622	34773	10868	7184	2779	32451	17690	27348	7088	7290	2383
<b>Dry Zone</b>	199044	81181	39881	5693	4338	1235	12968	2942	32213	3942	9298	4489
<b>Delta</b>	280005	45247	58297	9301	9959	3657	27822	9219	41183	5862	19398	11540
<b>Coastal</b>	128574	26071	50841	6141	8519	3244	13105	2997	52976	11393	22310	7685
<b>Male Headed Household</b>	259595	42976	49735	5840	8072	2094	23727	5816	40767	4057	17104	6727
<b>Female Headed Household</b>	94661	12171	41756	6607	6079	2168	19348	6539	23668	3343	4946	1420

Note: This indicator provides the average value of the sum of all credit in a household, by loan use (calculated across all households, not just those who have taken a loan); investment loans include those for business startups and agriculture; home improvement loans include mortgages, home repairs, and durables.

Table A32

## Share of total household loans used to finance investment versus consumption

	Investment		Consumption	
	Share	s.e	Share	s.e
National	38%	2%	58%	2%
Urban	24%	2%	72%	2%
Rural	42%	2%	55%	2%
Q1	25%	3%	71%	3%
Q2	33%	3%	64%	3%
Q3	39%	3%	59%	3%
Q4	48%	3%	47%	3%
Q5	50%	3%	46%	3%
Non-Poor	43%	2%	54%	2%
Poor	27%	2%	69%	3%
Hills & Mountains	40%	4%	55%	4%
Dry Zone	38%	3%	58%	3%
Delta	40%	3%	57%	3%
Coastal	28%	3%	68%	3%
Male Headed Household	39%	2%	57%	2%
Female Headed Household	33%	3%	63%	3%

Note: Investment loans include those for business startups and agriculture; consumption loans include those for health, education, home improvement, and food; rows do not add up to 100 percent because of uses under the "other" category.



Table A33

## Household debt to consumption ratio

	Household Debt to Consumption Ratio	s.e.
National	0.08	0.00
Urban	0.04	0.01
Rural	0.09	0.01
Q1	0.07	0.01
Q2	0.07	0.01
Q3	0.07	0.01
Q4	0.09	0.01
Q5	0.07	0.01
Non-Poor	0.08	0.01
Poor	0.07	0.01
Hills & Mountains	0.05	0.01
Dry Zone	0.07	0.01
Delta	0.09	0.01
Coastal	0.07	0.01
Male Headed Household	0.08	0.01
Female Headed Household	0.05	0.01

Note: The debt to consumption ratio gives the ratio of outstanding debt to annual household consumption expenditure.

Table A34

## Access to savings account and active savings account

	Households with Access to a Savings Account	s.e.	Households with Active Savings Accounts	s.e.
National	16%	1%	6%	1%
Urban	18%	2%	9%	1%
Rural	15%	1%	5%	1%
Q1	10%	2%	5%	1%
Q2	11%	2%	4%	1%
Q3	15%	2%	5%	1%
Q4	17%	2%	4%	1%
Q5	30%	3%	13%	2%
Non-Poor	18%	1%	6%	1%
Poor	11%	2%	5%	1%
Hills & Mountains	10%	2%	6%	1%
Dry Zone	11%	2%	9%	2%
Delta	15%	2%	4%	1%
Coastal	17%	2%	6%	1%
Male Headed Household	16%	1%	6%	1%
Female Headed Household	15%	2%	6%	1%

Note: Access to savings account gives the proportion of households with a savings account at a formal financial institution, defined as (i) bank, (ii) credit union, or (iii) microfinance; active savings account gives the proportion of households with formal savings account that is active, defined as making one or more deposits in a typical month.

Table A35

## Informal share of credit

	Investment	Health	Education	Home Improvement	Food	Other
National	22%	47%	35%	56%	41%	25%
Urban	28%	42%	28%	42%	41%	25%
Rural	21%	48%	38%	61%	41%	26%
Q1	28%	48%	35%	72%	35%	54%
Q2	22%	49%	41%	50%	49%	12%
Q3	23%	48%	30%	72%	39%	14%
Q4	24%	50%	35%	61%	39%	50%
Q5	14%	34%	28%	30%	41%	16%
Non-Poor	21%	47%	28%	55%	41%	21%
Poor	27%	47%	53%	59%	40%	49%
Hills & Mountains	21%	32%	23%	44%	26%	16%
Dry Zone	33%	54%	37%	83%	44%	21%
Delta	16%	43%	36%	44%	41%	30%
Coastal	17%	55%	47%	50%	43%	47%
Male Headed Household	22%	47%	30%	55%	42%	25%
Female Headed Household	24%	47%	51%	61%	37%	29%

Note: This indicator provides the proportion of total households loans that are issued by the informal sector, by loan use.

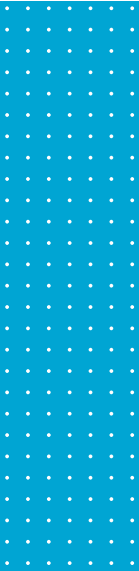
Table A36

## Asset ownership, selected assets

	Battery	Inverter	Generator	Gas-stove	Charcoal stove	Radio	Tv	Satellite	DVD	Mobile	Bicycle	Motorbike
<b>National</b>	38%	15%	8%	4%	25%	26%	50%	10%	44%	52%	34%	42%
<b>Urban</b>	0%	14%	9%	11%	59%	17%	83%	19%	75%	84%	45%	42%
<b>Rural</b>	47%	15%	7%	1%	12%	29%	37%	7%	33%	40%	30%	41%
<b>Q1</b>	43%	7%	1%	0%	5%	17%	20%	1%	20%	24%	24%	25%
<b>Q2</b>	42%	11%	3%	1%	17%	25%	35%	6%	29%	37%	29%	35%
<b>Q3</b>	36%	12%	5%	1%	19%	30%	45%	7%	37%	47%	35%	43%
<b>Q4</b>	38%	14%	8%	3%	27%	26%	57%	9%	49%	59%	39%	45%
<b>Q5</b>	31%	27%	17%	14%	46%	27%	79%	23%	73%	80%	39%	54%
<b>Non-Poor</b>	37%	17%	9%	6%	30%	27%	59%	13%	52%	61%	37%	46%
<b>Poor</b>	41%	9%	2%	0%	9%	20%	24%	2%	23%	29%	25%	29%
<b>Male Headed Household</b>	40%	16%	8%	4%	24%	27%	50%	11%	44%	53%	36%	44%
<b>Female Headed Household</b>	29%	13%	5%	5%	28%	22%	50%	9%	43%	50%	27%	33%
<b>Top 60</b>	35%	18%	10%	6%	32%	28%	61%	14%	54%	63%	38%	47%
<b>Bottom 40</b>	43%	10%	2%	1%	11%	22%	28%	4%	25%	31%	27%	30%

Note: This indicator gives the proportion of households that own a given type of asset.





**The World Bank Myanmar**

No 57, Pyay Road, (Corner of Shwe Hinthar Road)  
61/2 Mile, Hlaing Township,  
Yangon, Republic of the Union of Myanmar

[www.worldbank.org/myanmar](http://www.worldbank.org/myanmar)  
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