February 2020

MYANMAR LIVING CONDITIONS SURVEY 2017

REPORT 04

SOCIO-ECONOMIC REPORT

MYANMAR CSO
CENTRAL STATISTICAL ORGANIZATION

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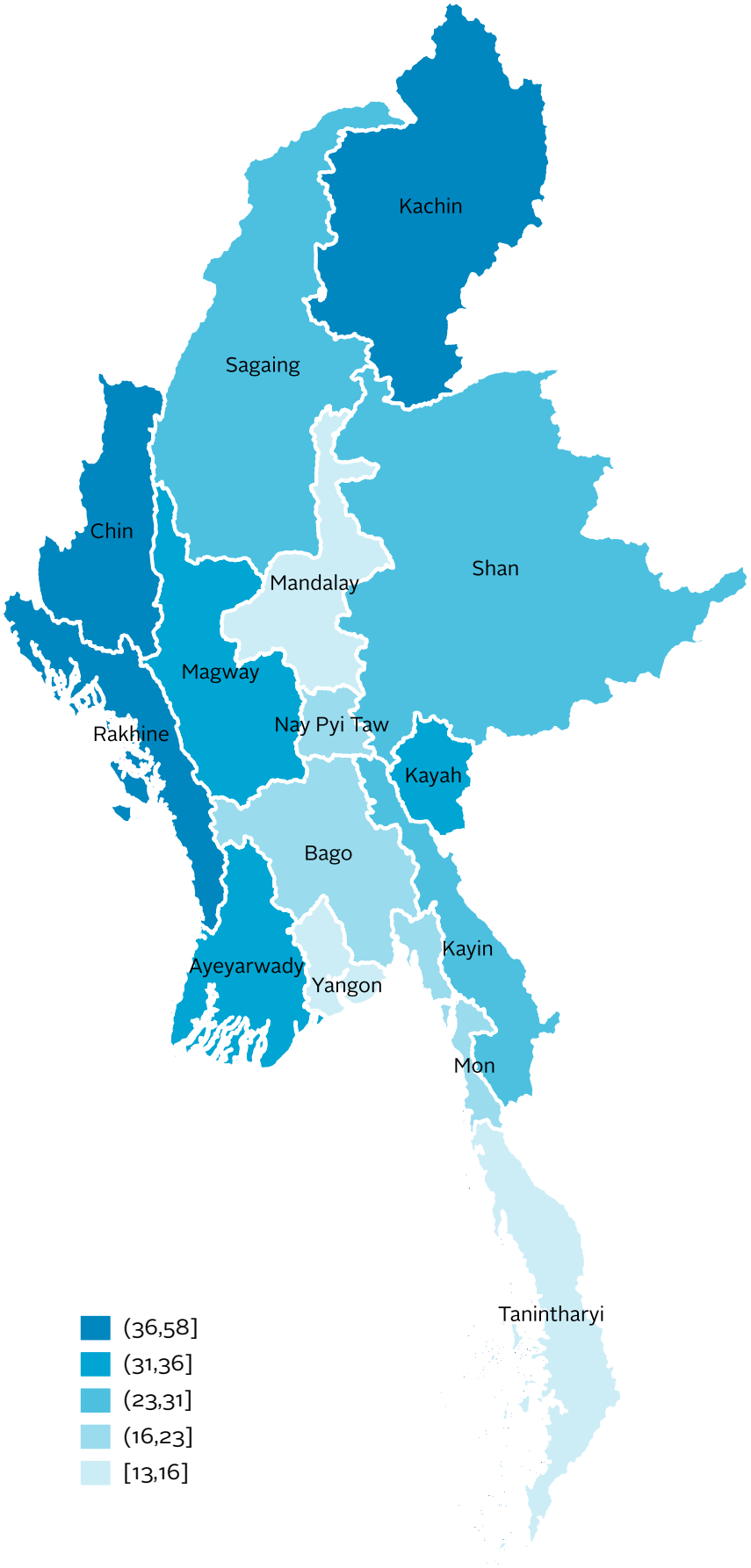
This report has been possible because of the generous financial support of the governments of Australia, Denmark, Finland, Ireland, Republic of Korea, Sweden and the United Kingdom.

State/Region poverty rate in 2017 (CSO, UNDP and WB, 2019)



Note: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. The survey only includes conventional households.

Foreword

The 2017 Myanmar Living Conditions Survey (MLCS) is a large-scale multi-topic living conditions survey implemented by the Central Statistical Organization of the Ministry of Planning, Finance and Industry, and supported by the World Bank and the United Nations Development Programme. The MLCS builds on three existing household surveys: The *Integrated Household Living Conditions Assessment* (2005 and 2010), the *Household Income and Expenditure Survey* (between 1989 and 2012), and the *Myanmar Poverty and Living Conditions Survey* (2015). The MLCS brings the objectives of these earlier household surveys together to create a comprehensive source of information on living conditions in Myanmar. This Socio-economic Report presents an in-depth examination of the data.

As the Myanmar Sustainable Development Plan calls for poverty mitigation throughout the country, it is important to have insights on who is poor, where they live, and what they do for their livelihoods. The reports analysing the 2017 MLCS data address these very questions. They explain employment conditions and how they allocate and spend their income on education, health, and other necessities. Benefitting from an original sample design, the 2017 MLCS examines differences between states/regions with sufficient statistical confidence to help policymakers design policies, programmes, and plans to reduce geographical disparities and to ensure that prosperity is shared by everyone throughout the county.

Results from the first and second analytical reports based on the 2017 MLCS (Key Indicators and Poverty report, respectively) are already widely cited. It is my wish that governmental and non-governmental institutions alike will use the findings in this third analytical report to jointly improve the lives of Myanmar people. The Socio-economic Report provides evidence that economic development in Myanmar is moving in the right direction: The extent and depth of poverty in our country has decreased significantly since 2005. However, a significant proportion of the population still lives close to the poverty line, putting them in danger of falling into poverty, especially in the event of a shock.

I wish to express my deep appreciation to the Central Statistical Organization (CSO) for their strong leadership in the MLCS, especially the Survey Section of the CSO for successfully managing the technical, administrative, and logistical aspects of the survey. I am very grateful for the support provided by our development partners, particularly the UNDP and the World Bank for their technical and financial assistance. The support and collaboration of the national, state, and regional administrations, as well as local leaders, was also an important factor in the successful implementation of data collection.

I hope that these socio-economic findings will feed into policies that continue Myanmar's transition to a buoyant economy with benefits shared across the country.

His Excellency U Soe Win
Union Minister
Ministry of Planning, Finance and Industry

Empowered lives.
Resilient nations.

Foreword

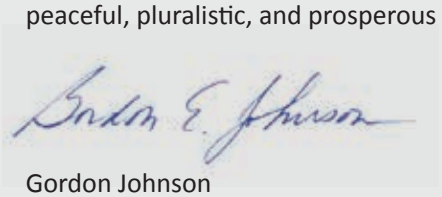
The Socio-economic Report is the third analytical report in a series of reports drawing from the 2017 Myanmar Living Conditions Survey (MLCS) and produced by the Central Statistical Organization (CSO), World Bank, and UNDP to establish a wide-ranging assessment of the well-being of people in Myanmar. The first, the Key Indicators Report, was launched in 2018, and provides a snapshot of key non-monetary indicators of living standards in Myanmar in 2017. The Poverty Report was then published in 2019, updating the poverty rate and providing a basic diagnostic of poverty in Myanmar. This last report further analyses the characteristics and living conditions of the Myanmar population.

For Myanmar to achieve a peaceful, thriving and democratic future, progress must benefit everyone. This report confirms substantial achievements in several dimensions of living conditions. But it also demonstrates continued disparities, as these gains have not been equally shared across states/regions and among all Myanmar people. The incidence of poverty is the highest in Chin State while Mandalay Region, Yangon Region, and Tanintharyi Region have the lowest poverty rates. Moreover, educational costs and household finances present significant barriers for children, particularly poor children, to complete basic education and go on to higher education. Therefore, although significant steps have been made in Myanmar to reduce poverty in all its dimensions, there is still much work to be done.

The 2017 MLCS is a large-scale multi-topic survey providing the latest reliable and accurate data that can be used to assess the well-being of people in Myanmar, to inform policies for the future development of the country, to establish the baseline of Myanmar's Sustainable Development Plan, and to monitor the Sustainable Development Goals. This survey follows international technical standards from questionnaire design to report writing. The questionnaire was designed through broad consultation and piloting and benefitted from the knowledge of a variety of people from government, research institutes, academia, and international organisations. The survey used an updated sample frame, benefitting from the 2014 Population and Housing Census. MLCS improves our understanding of seasonality as, for the first time in Myanmar, fieldwork was conducted for a full twelve-month period. Finally, the data collection teams did data entry in the field to produce more reliable information.

We are very grateful to U San Myint, Director General of the CSO, for his support of the MLCS. We would also like to thank the wider CSO team for successfully managing the technical, administrative, and financial aspects of the survey. We would furthermore like to thank the government representatives, researchers, and representatives from non-governmental and international development organisations who have supported survey development through contributions at data-user workshops.

We are pleased to launch this report at a time when the Myanmar Sustainable Development Plan is being put into operation. We are confident that MLCS indicators will form an important part in further developing the National Indicator Framework (NIF). Finally, we hope that the information in this report will assist policymakers in devising policies, programmes, and plans to deliver a positive future in a peaceful, pluralistic, and prosperous nation for all people of all ethnic groups and religions.



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Acknowledgements

I would like to express my deepest gratitude to His Excellency Union Minister U Soe Win, Ministry of Planning, Finance and Industry, for his valuable support, guidance and encouragement though the process of undertaking the Myanmar Living Conditions Survey.

Myanmar's official statistics must be credible in order to fulfil their important task of describing the socio-economic conditions in our country. They must be based on clear, publicly stated operating principles and methodologies. These conditions guarantee the quality of statistics and create confidence in the results.

This is a busy and stimulating time for the development of statistics and the statistical system in Myanmar. A new statistics law has been formulated which strengthens the relationship of statistics producers and stakeholders. In addition, a National Strategy for the Development of Statistics (NSDS) has been formulated, setting a clear path and concrete milestones for developing quality and accurate official statistics in Myanmar. The National Indicator Framework is being discussed with many partners as we define the indicators to measure future development in Myanmar.

I would like to thank all those who have worked with a steady commitment to undertake the MLCS 2017. The financial and technical support of the UNDP and the World Bank is greatly valued. I also express my gratitude to all the 13,730 households, spread throughout Myanmar, who answered our many MLCS questions. They have provided much-needed information that is already being used by a wide variety of data users.

U San Myint
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Contents

Tables

Tables

Boxes

Maps

Figures

Figures

Acronyms and abbreviations

ASEAN	Association of Southeast Asian Nations
CBM	Central Bank of Myanmar
CSO	Central Statistical Organization
CPI	Consumer Price Index
DOL	Department of Labour
DOP	Department of Population
EA	Enumeration Area
EAP	East Asia and Pacific
FAO	Food and Agricultural Organization
FRD	Financial Regulatory Department
GDP	Gross Domestic Product
IHLCA	Integrated Household Living Conditions Assessment
IPL	International poverty line
LFS	Labour Force Survey
MADB	Myanmar Agriculture Development Bank
MDG	Millennium Development Goal
MLCS	Myanmar Living Conditions Survey (2017)
MOPFI	Ministry of Planning, Finance and Industry
MOLIP	Ministry of Labour, Immigration and Population
MPLCS	Myanmar Poverty and Living Conditions Survey (2015)
MSDP	Myanmar Sustainable Development Plan
NGO	Non-Governmental Organisation
NIF	National Indicator Framework
PPP	Purchasing Power Parity
SDG	Sustainable Development Goal
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	United States Dollars
WB	World Bank
WHO	World Health Organization

Executive Summary

The Myanmar Living Conditions Survey 2017 (MLCS 2017) is a comprehensive household survey conducted by Myanmar's Central Statistical Organization of the Ministry of Planning, Finance and Industry. The survey is representative of the Union, its states/regions and the Union Territory of Nay Pyi Taw, and urban and rural areas. A total of 13,730 households were interviewed, which yielded a wide range of information on how people work, how much income they earn, and how they use this to meet the food, housing, health, education and other needs of their families. The objectives of the survey are three-fold: (1) to produce an assessment of poverty and living conditions; (2) to provide core data inputs – weights and private consumption expenditures – for the consumer price index (CPI) baskets and the system of national accounts; and (3) to monitor data needs and selected Sustainable Development Goal (SDG) targets.

This Socio-economic Report is the third and final analytical report in a series of reports that started with the Key Indicators Report (CSO, UNDP and World Bank, 2018a) and was followed by the Poverty Report (CSO, UNDP and World Bank, 2019).[1] The focus of the present report is to provide an in-depth analysis of the living conditions of households in 2017 and how these conditions contribute to and characterise welfare in Myanmar. The executive summary presents evidence on the three thematic questions addressed in this report, which aim to describe poverty in Myanmar, assess the asset base of households, and explain what households do for a living.

Monetary poverty and characteristics of the poor

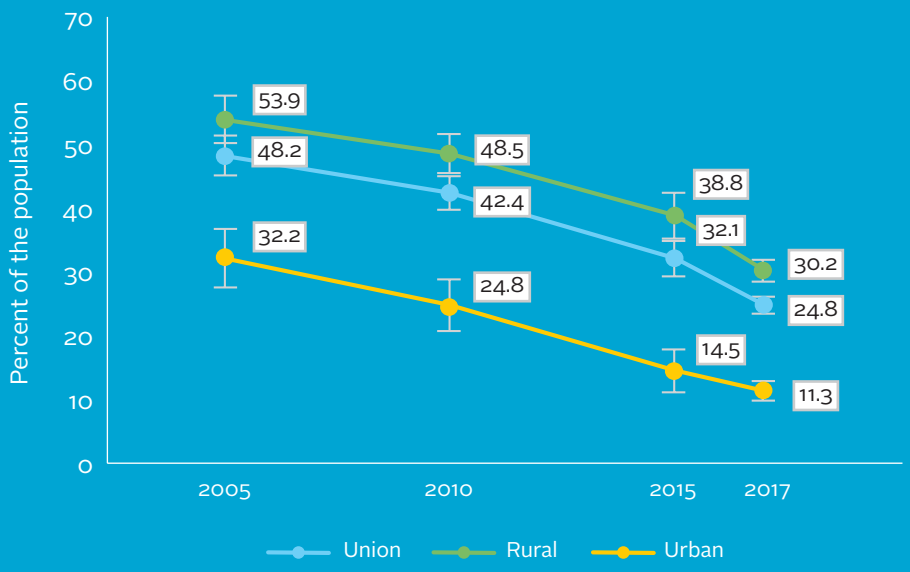
Between 2005 and 2017, monetary poverty in Myanmar decreased substantially, yet in 2017, poverty and vulnerability are still an issue. The Poverty Report (CSO, UNDP and WB, 2019) highlights the decline in the poverty rate, which went from 48.2 percent in 2005 to 24.8 percent in

1 Report 02 is a technical report on survey content and quality (CSO, UNDP and WB, 2018b).

2017 (Figure ES-1).[2] However, one in four people are still considered poor and another 32.9 percent of the population have consumption levels that put them at risk of falling into poverty. In terms of international poverty, Myanmar has a low extreme poverty rate (two percent), which is measured using the international poverty line (IPL) of USD 1.90 in 2011 Purchasing Power Parity (PPP). Yet when considering higher lines, specifically USD 3.20 and 5.50 in 2011 PPP, Myanmar fares poorly. More than 60 percent of the population have welfare levels below the highest line, which reflects the high level of vulnerability in the country (CSO, UNDP and WB, 2019). Households with more children are more likely to be poor, increasing the intergenerational transmission of poverty.

Figure ES-1

Poverty headcount, by residential area (in percent)



Note: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. The survey only includes conventional households. Imputation methods are employed for the 2005 and 2010 poverty estimates in order to present comparable estimates for 2015 and 2017. See MOPF and World Bank (2017) for a discussion of the robustness of the methods.

Sources: IHLCA1 2005, IHLCA2 2010, MPLCS 2015, 2017 MLCS.

2 Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. These figures are based on IHLCA (Integrated household Living Conditions Assessment) from 2005 and the MLCS estimations. These surveys only covered conventional population; more precisely, it does not include people living in hotels/motels/guesthouses, military camps, police camps, orphanages/homes for the aged, religious centres, boarding schools/colleges/universities, correctional facilities/prisons, hospitals, camps/hostels for workers, and homeless/other collective quarters.

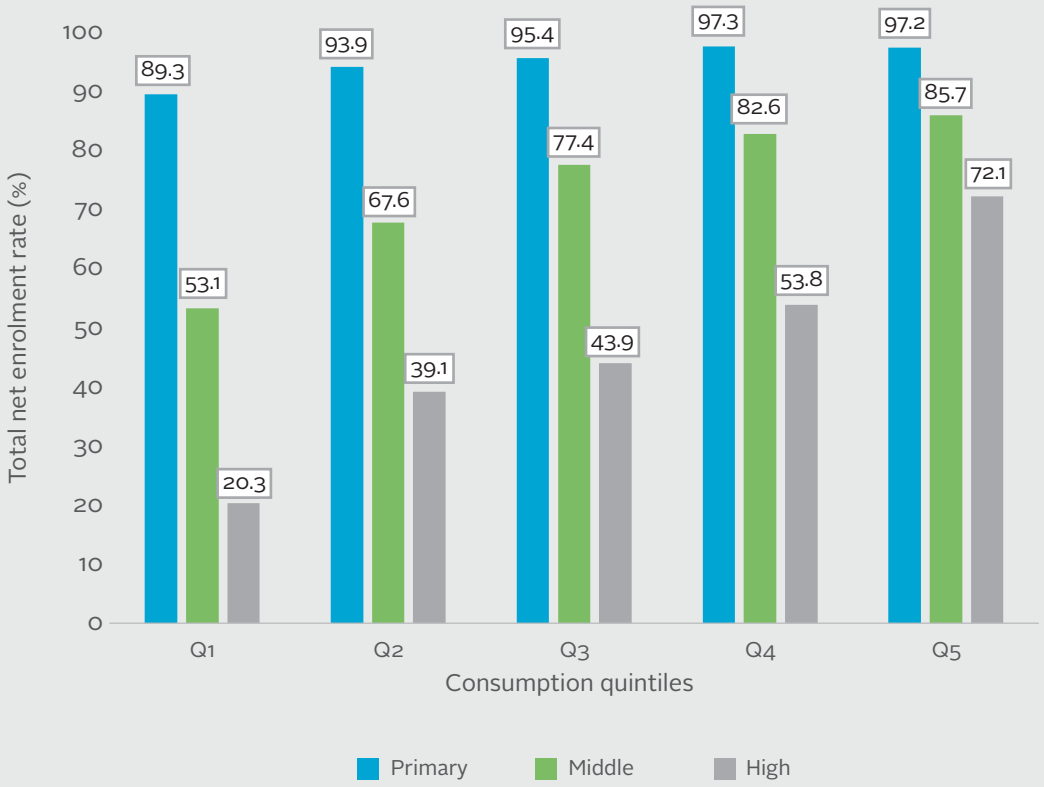
Households' productive capital and links to poverty

Human capital[3] accumulation through education is low and unbalanced with poor households lagging behind. Adults in poor households have lower educational attainment than those from non-poor households. Furthermore, educational enrolment in non-compulsory grades (i.e., after primary school) is low across the population, but is even more so among poorer children. As of 2017, 53 percent of children from the bottom quintile are enrolled in middle school or higher, compared to 86 percent of children from the top quintile. Differences across welfare quintiles are even larger for the high school level, in which 20.3 percent of children in the poorest quintile are enrolled, and 72 percent of children from the wealthiest quintile are (Figure ES-2). In addition, the rates of school dropout and child labour are higher for children in the bottom quintile and in rural areas. Poorer children face considerably larger barriers to education: They have lower access to schools, face greater financial constraints to continuing education, and possess greater household responsibilities that deter them from going to school.

3 Human capital defined by the Oxford English Dictionary as "the skills the labour force possesses and is regarded as a resource or asset" includes the notion that there are investments in people through education, training, and health that can increase one's productivity (Goldin, 2014).

Figure ES-2

Total net enrolment rates in primary, middle, and high school, by consumption quintile (in percent)



Note: Net enrolment rates in primary, middle, and high school are based on the total number of children of official age to attend primary (5 to 10 years old), middle (10 to 14 years old) or high school (14 to 16 years old). Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.

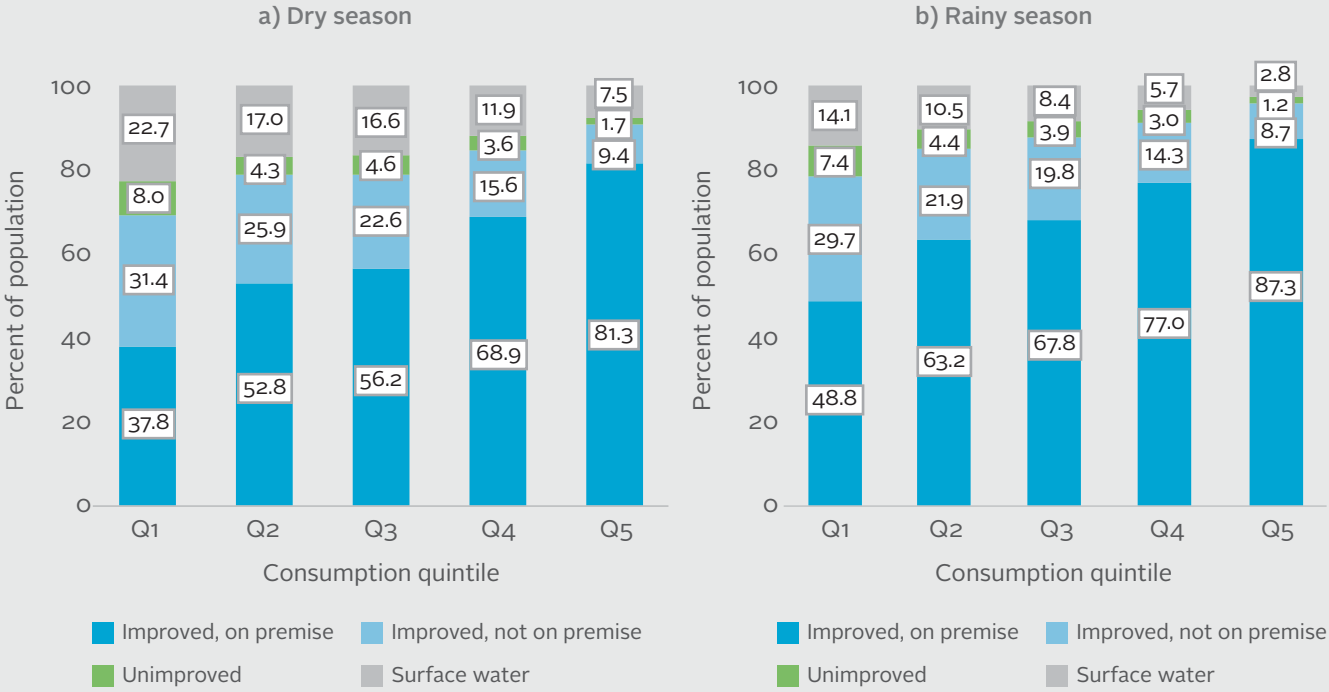
Source: 2017 MLCS.

Access to comprehensive healthcare services and healthcare utilisation are relatively low in rural areas, where most of the poor live. Urban residents are significantly more likely than rural residents to have access to a public or private hospital. Public health centres and posts are more accessible in rural areas, but provide a limited range of healthcare services. Given that the majority of the poor live in rural areas, access to hospitals is limited among the poor. The poor are also significantly less likely than the non-poor to use healthcare services, particularly private services, when faced with an illness or injury, instead resorting to self-medication or other less-reliable methods. Poorer households are also more likely to incur a financial burden from healthcare costs and resort to riskier methods such as borrowing to cover these costs, which puts them at risk of a debt trap.

Poor households in Myanmar have significantly lower access to basic services that could improve their day-to-day living conditions. In the dry season, 20 percent of the population lacks improved access to water (CSO, UNDP and WB, 2018a), but among the bottom quintile that number exceeds 30 percent (Figure ES-3). In addition, while the rate of open defecation in 2017 is low (6 percent), 14 percent of those in the bottom quintile practice open defecation. Poverty is associated with a higher likelihood of lacking improved water and sanitation access, which can increase the risk of enteric diseases for small children. In addition, although the poor use clean energy sources for lighting (37.7 percent are using solar panel for lighting), 83 percent of households in the bottom consumption quintile rely heavily on firewood and 5 percent on charcoal for cooking, increasing their risk of contracting respiratory diseases.

Figure ES-3

Percentage of the population with access to improved water on premise, by consumption quintile



Note: Unimproved access to water includes non-protected tube and well, ponds, river, and other sources. See the Key Indicators Report for more information (CSO, UNDP and WB, 2018a). Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

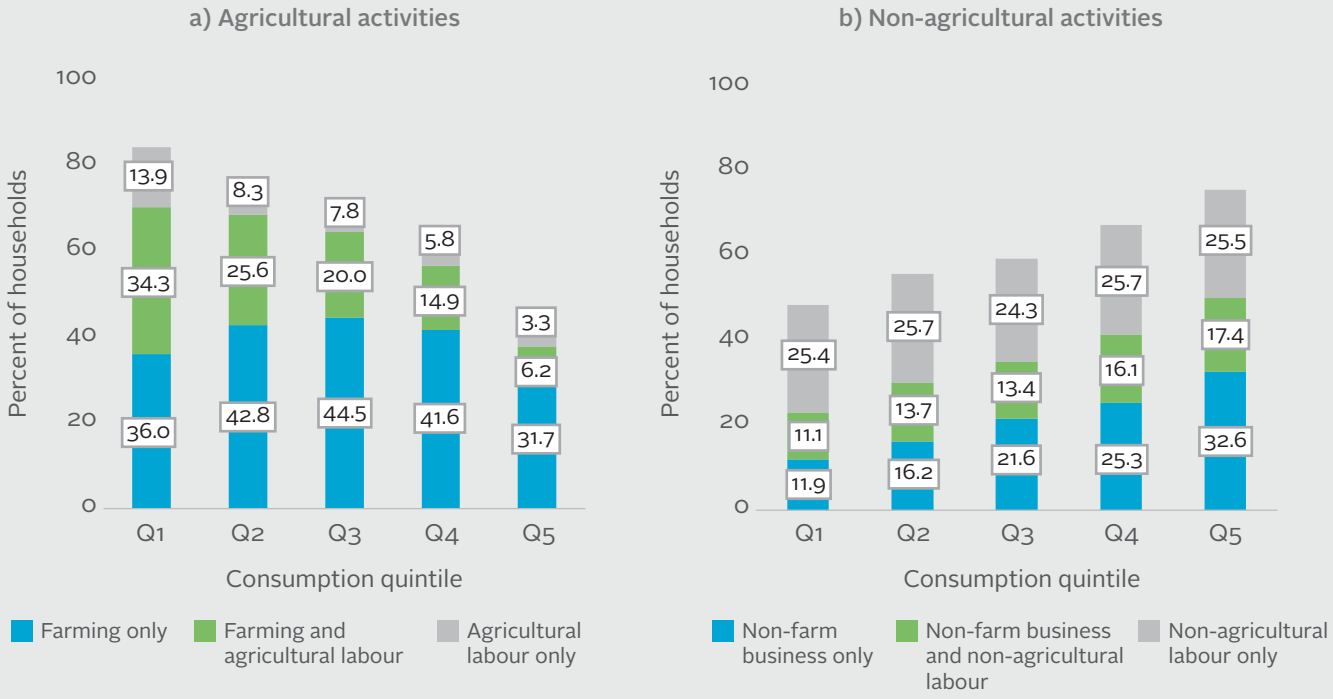
In 2017, usage of formal financial services is low, particularly in rural areas and among the poor. Access to formal financial institutions such as banks and microfinance organisations is significantly higher in urban areas than in rural areas. Although village funds, cooperatives, and other local credit unions have filled in some of the gaps in rural areas, usage of other informal sources of credit such as moneylenders is still high in both urban and rural areas. Moreover, only 17% of households in Myanmar have a bank account, with poorer households significantly less likely to own an account. A lack of savings puts the poor and the vulnerable at greater risk of a debt trap, as they are more likely to borrow rather than use savings in order to cope with a negative shock.

Households' livelihoods and activities

The poor work mainly in agricultural activities such as farming or agricultural labour, which yield relatively low income (Figure ES-4). Agriculture is characterised by high seasonality and vulnerability to climatic shocks, which contribute to relatively high rates of labour underutilisation among individuals engaged in this sector. Among farmers, ownership of, and access to, productive assets such as agricultural machinery and fertiliser remain low, which has contributed to low agricultural productivity. Participation in the agricultural sector is associated with lower welfare and income, while participation in non-agricultural activities is associated with higher welfare and income. Ownership of a non-farm business and higher education are the two most significant correlates of higher income.

Figure ES-4

Household engagement in agricultural and non-agricultural activities, by consumption quintile (in percent)



Notes: Agricultural activities includes farming and agricultural labour. Non-agricultural activities include non-farm business and non-agricultural labour.
Source: 2017 MLCS

While unemployment is low, labour underutilisation is significant in 2017, particularly among the poor. About 14 percent of the working-age population could be contributing more to productive activities in Myanmar. Labour underutilisation is higher among the poor, who are more likely to have unmet demands for employment due to high participation in agriculture, which is characterised by seasonal labour. Moreover, about five percent of the population temporarily migrate away from home for employment. Many of these individuals come from agricultural households to work in unskilled, low-wage jobs in the non-agricultural sector. Temporary migration may thus be a method for agricultural households to secure income during off-seasons and diversify into non-agricultural activities.

As of 2017, disparities in labour force participation and wages persist between men and women. Women face significant barriers to labour force participation largely due to housework and the need to tend to children and elderly dependents. Women also generally have lower-paying and lower-quality jobs and are more likely to have unmet employment demands. However, education, particularly at the university level or above, has the power to improve labour force participation and the quantity and quality of employment. For instance, university education closes the gender gap in both labour force participation and wages.

These findings have five main implications:

1. **Reducing barriers to education is important for poverty reduction and improving welfare.** Education gives individuals, especially women, significantly greater opportunities to secure higher-paying, permanent, and formal employment. In addition, education offers the poor the ability to diversify their activities away from low-skill labour, especially in agriculture, to higher-skill, higher-wage jobs in the non-agricultural sector. Therefore, targeted interventions in education, particularly related to the accessibility and affordability of schools are necessary for increasing enrolment, especially in rural and remote areas of Myanmar.

2. **Improving the accessibility and affordability of comprehensive healthcare services is vital for sustainable development.** Much of the rural population and the poor have limited access to hospitals, which offer a wider range of medical services compared to health centres or posts. The poor are also more likely to incur a financial burden from usage of healthcare facilities. It is therefore critical to improve the accessibility, affordability, and quality of comprehensive healthcare services in rural and remote areas, where many of the poor reside.

3. **Diversification away from agriculture to more productive activities in the non-agricultural sector can help improve household welfare.** Labour market activities in non-agriculture, particularly services, are associated with significantly higher returns than agricultural activities. Encouraging the development of more diversified income sources with

a greater reliance on non-agricultural activities could help households secure greater income throughout the year.

4. **Given high engagement in agriculture, investments in agriculture are necessary to increase productivity, especially for poor farmers.** Agricultural productivity in Myanmar is low compared to other countries in the EAP region. Low productivity can be largely attributed to a lack of technology such as machinery, fertiliser, and irrigation, as well as limited access to markets and vulnerability to climatic shocks. Thus, interventions that improve these channels can help bolster agricultural productivity and improve the welfare of agricultural households.

5. **Targeted interventions for states/regions that are lagging behind in terms of access to key services and facilities can foster more balanced economic development.** Beyond urban-rural differences in access to schools, hospitals, formal financial institutions, and other basic services and facilities, significant disparities exist across states/regions, even after controlling for the share of the population residing in urban or rural areas. Some areas are deprived in multiple dimensions, which is manifested through severe poverty. Targeted interventions in such areas can help promote equitable growth in Myanmar.

Team members contributing to the report

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01.

INTRODUCTION

Objective of the report

This report is the third analytical product[1] stemming from the 2017 Myanmar Living Conditions Survey (MLCS). The objective of this report is to present a profile of living conditions and income generation in Myanmar that can act as a solid information base to feed into policymaking. The report contains a substantial amount of fresh data to inform the numerous strategies, such as the Myanmar Sustainable Development Plan (MSDP), that are being formulated as the country continues its transition to achieve medium and long-term development goals.

This report intends to answer three questions:

1. What is monetary poverty in Myanmar and what are the distinct characteristics of the poor?
2. What types of productive capital do households in Myanmar have, and how does this vary by poverty status?
3. What do households in Myanmar do for a living and where do they do this?

The report provides an in-depth socio-economic analysis of welfare in Myanmar, taking into consideration the most pressing concerns of those engaged in policymaking.

The report puts forward social and economic indicators with a view to:

(i) ***Describe the living conditions of the population as of 2017:*** The analysis puts forward a Union- and state/region-level assessment of living conditions in Myanmar. The analysis uses both monetary and non-monetary indicators of welfare. Where needed, the indicators are linked to the Sustainable Development Goal indicators that they align with.

(ii) ***Assess potential drivers of welfare:*** The analysis examines the correlates of poverty and welfare in Myanmar including, but not limited to, location, education, gender, main income generating activities, and access to markets, infrastructure, and public services.

Throughout the report, the analysis is separated by gender to ensure that we can highlight any gender gaps in social and economic conditions. In addition, where possible, individual analysis will present a life-cycle dimension to well-being, separating out children, youth and the elderly from those of working age.

Data used in the report

The MLCS is a comprehensive survey of how people in Myanmar live. It was carried out by the Central Statistical Organization (CSO) in the Ministry of Planning, Finance and Industry (MOPFI), with technical and financial support from the United Nation Development Programme (UNDP) and the World Bank.[2] The MLCS collects data on the occupations of people, how much income they earn and how they use this to meet the food, housing, health, education, and other needs of their families. Consolidating earlier household surveys, particularly the Integrated Household Living Conditions Assessment (IHCLA-I, 2005 and IHLCA-II, 2010), the Household Income and Expenditure Survey (between 1989 and 2012) and the Myanmar Poverty and Living Conditions Survey (MPLCS, 2015), the MLCS is intended to serve as a comprehensive source of information on the living conditions of the Myanmar people (CSO, UNDP and WB, 2018b).

1 Report 01 is Key Indicators Report (CSO, UNDP and World Bank, 2018a); Report 02 is a Technical Report (CSO, UNDP and WB, 2018b); and Report 03 is the Poverty Report (CSO, UNDP and World Bank, 2019).

2 A detailed description of the methodology can be found in the Annex of the MLCS 2017 Key Indicators Report (CSO, UNDP and World Bank, 2018a) and Technical Report (CSO, UNDP and World Bank, 2018b).

The objectives of the 2017 MLCS are three-fold: (1) to produce an assessment of poverty and living conditions; (2) to provide core data inputs – weights and private consumption expenditures – for the CPI baskets and the system of national accounts; and (3) to monitor data needs and selected Sustainable Development Goal (SDG) targets.

The 2017 MLCS provides data representative at the level of the Union, its states/regions, as well as urban and rural areas. A two-stage sampling strategy was designed, with enumeration areas (EAs) as primary sampling units and households the ultimate sampling units. While EAs within each stratum were selected systematically with a probability of being selected proportional to their size, inside each EA, 12 households were selected systematically with an equal probability of selection. The sample was designed to cover all districts and 296 of the 330 townships of Myanmar and was based on the 2014 Myanmar Population and Housing Census frame. In total, 1,145 EAs were selected across the country[3] and 13,730 households participated in the survey. Sampling weights were applied to make estimates representative of the population for the 14 states/regions, the Union Territory of Nay Pyi Taw, and urban and rural areas.

As Myanmar has very distinct seasons, offering differing crop growing and income earning potential, the survey was conducted continuously over a 12-month period allowing for quarterly representation. Interviewing began in the winter season (December to February), continued throughout the dry season (March to May) and the rainy season (June to October) and concluded in the winter season of 2017. The data from each quarter can be treated as an independent national-level cross-sectional survey. The quarters approximately map into Myanmar's seasons, with the first quarter firmly capturing the winter season, the second capturing the dry season, the third capturing the first half of the rainy season and the fourth capturing the rainy season and a month of the early winter season.

Overview of the report

The Socio-economic Report is structured as follows.

To answer question 1, Chapter 2 presents the consumption aggregate and poverty estimates discussed in the Poverty Report (CSO, UNDP and WB, 2019) before presenting progress in fighting poverty in the context of broader developments in the economy. This chapter provides a profile of poverty and well-being in Myanmar, looking at differences between the poor and non-poor, and across quintiles of the population.

Question 2 is addressed in the next four chapters. Chapter 3 to Chapter 6 look at human capital, notably education (Chapter 3) and health (Chapter 4), the availability of key sanitation and energy sources (Chapter 5), and the use of financial products (Chapter 6).

The last question is answered in the final three chapters. Chapter 7 looks at labour market indicators and Chapter 8 gives a profile of permanent and temporary migrants before analysing factors that can encourage migration. Chapter 9 examines the sources of income, focusing on participation in agricultural and non-agricultural activities.

Chapter 10 ends with a brief summary of main takeaways and implications.

3 Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. Limitations in coverage are fully documented in the MLCS 2017 Technical Report (CSO, UNDP and World Bank, 2018b). The 2017 MLCS only includes the conventional population; more precisely, it does not include people living in hotels/motels/guesthouses, military camps, police camps, orphanages/homes for the aged, religious centres, boarding schools/colleges/universities, correctional facilities/prisons, hospitals, camps/hostels for workers, and homeless/other collective quarters.

02.

ASSESSING WELFARE AND POVERTY

The first goal of the SDGs aims to "end poverty in all its forms everywhere". Targets 1.1 and 1.2 aim to eliminate extreme poverty worldwide, based on the international poverty line, and to reduce national poverty based on each country's respective national definition. In line with these two targets, this chapter provides an overview on how Myanmar is faring in comparison with other ASEAN countries using international poverty lines, and on the progress that Myanmar has achieved in reducing poverty. The chapter also identifies factors that may potentially explain poverty by looking at various socio-demographic correlates of welfare.

Box 2-1 SDG 1 "End poverty in all its forms everywhere"

In September 2015, 193 member countries of the United Nations adopted the 2030 Agenda for Sustainable Development. There are 17 Sustainable Development Goals (SDGs) which includes 169 targets to be achieved by 2030. The SDG 1 is to "end poverty in all its forms everywhere" and consists of five main targets:

- **Target 1.1:** By 2030, eradicate extreme poverty for all people everywhere, currently measured as people living on less than US$1.90 in 2011 PPP a day[1]
- **Target 1.2:** By 2030, reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions

Source: United Nations, SDG Indicators Metadata
Note 1: $1.25 a day was used as international extreme poverty line based on 2005 international prices when SDGs was first adopted in 2015, and later it was updated to US$1.90 a day at 2011 international prices.

Welfare aggregate

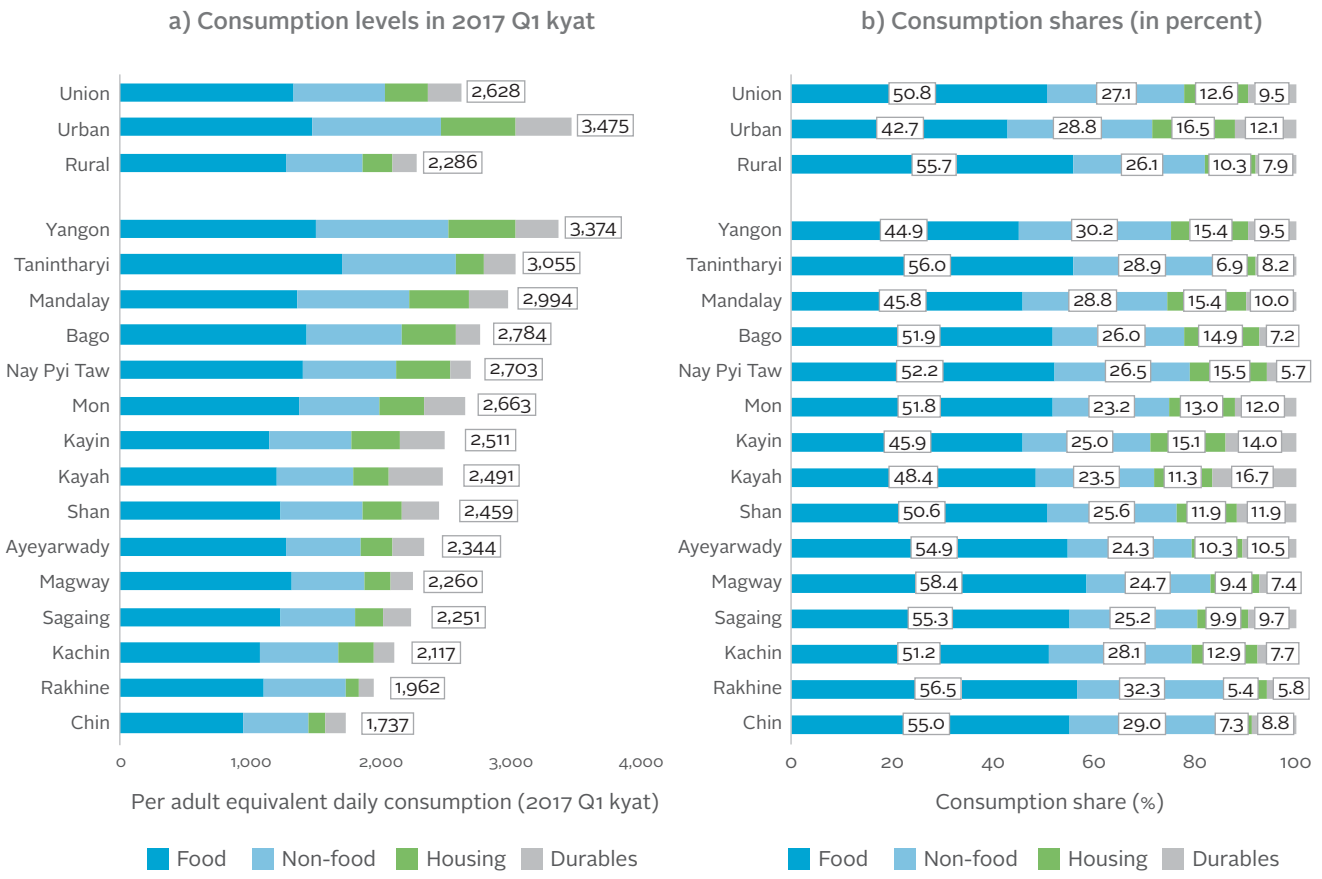
The consumption aggregate is used in Myanmar to measure poverty and is mostly composed by food expenditures. As explained in the Poverty Report, poverty in Myanmar is measured using a per adult equivalent consumption aggregate in kyats and a national poverty line equal to 1,590 kyats per adult equivalent per day (CSO, UNDP and WB, 2019).[4] The consumption aggregate captures welfare in monetary terms and consists of four principal items: food expenditures including home-consumption; expenditures on non-food items such as energy, transport, and education; the use value of durables, or the estimated value of using home assets in a household's possession; and the imputed use value of a household's home. In 2017, food accounts for half of total consumption (Figure 2-1b). The other half of the consumption aggregate is predominantly composed of non-food expenditures.

Rural inhabitants and those living in the poorest states/regions devote, on average, a higher share of their total consumption to food than urban inhabitants and those living in wealthier states/regions. In absolute terms, individuals living in urban areas spend 1.5 times more than their rural counterparts (Figure 2-1a). Inhabitants of Yangon Region and Tanintharyi Region spend more on food than those living in poorer states/regions such as Chin State and Rakhine State. However, in relative terms, food generally accounts for a larger share of total consumption in poorer states/regions, while non-food expenditures, housing, and durables comprise a relatively larger share among wealthier states/regions.

4 Figure B-2 in Annex B pictures poverty headcounts for Myanmar, rural and urban areas, and by state/region.

Figure 2-1

Average per adult equivalent daily consumption



Note: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. The survey only includes conventional households.

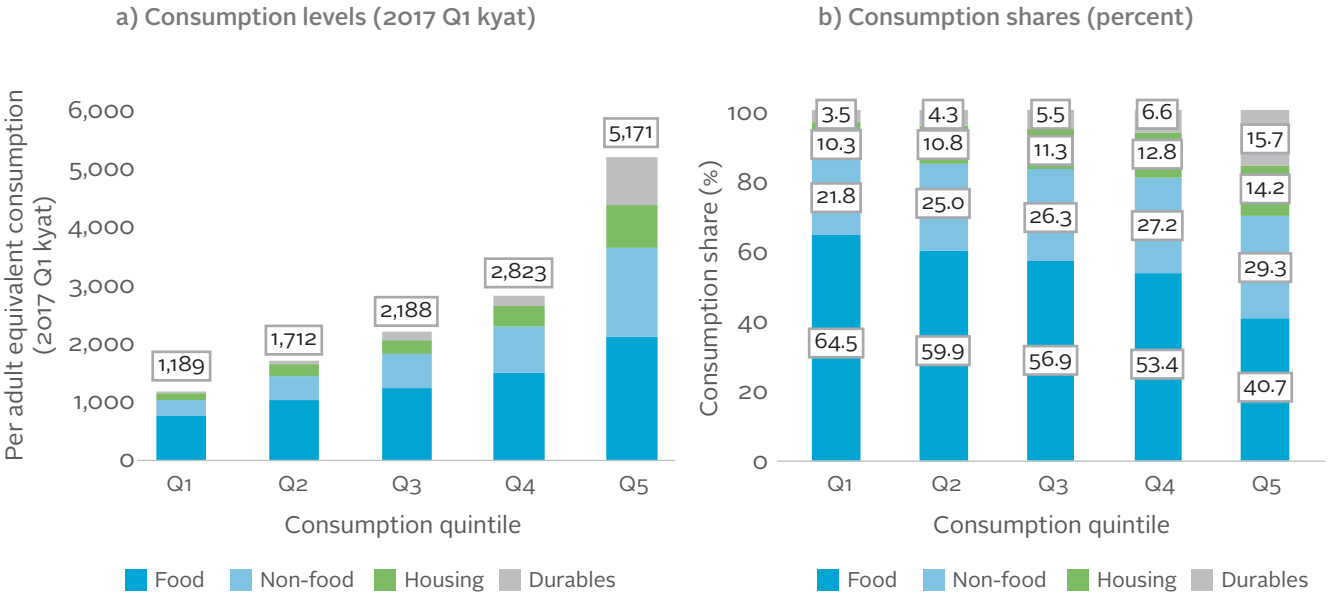
Source: 2017 MLCS

Lower welfare is associated with higher shares of consumption spent on food. Average consumption in the top quintile (Q5) of the population is more than four times what it is in the bottom quintile (Q1). Individuals in the bottom quintile spend nearly two-thirds of their total budget on food, leaving little resources for other types of expenditures (Figure 2-2). On the other hand, those in the top quintile have higher expenditures – both in absolute terms and as a share of total consumption - on non-food items, durables, and housing. Limited resources to spend on non-food expenditures among poor households can restrict their access to important services such as education (Chapter 3), health (Chapter 4), and water and sanitation (Chapter 5).[5]

5 This decomposition of the consumption aggregate has not changed since 2015 as reported in figures in Annex B.

Figure 2-2

Average per adult equivalent daily consumption, by quintile



Source: 2017 MLCS.

International comparisons of poverty estimates

The international poverty line of USD 3.20 in 2011 PPP is the most relevant one for assessing poverty in Myanmar. Using the same consumption aggregate but per capita rather than per adult equivalent, one can compare Myanmar with other countries (see Annex B on international poverty and using 2011 PPP). There are three international poverty lines (IPL) used for international comparisons, as well as for tracking global extreme poverty and measuring progress on global goals such as target 1.1 of SDG 1 (Box 2-1). To estimate the share of the population living under the IPL, the consumption aggregate is deflated to 2011 kyats and then converted into dollars using a purchasing power parity (PPP) conversion factor.[6] Myanmar is a lower middle-income country for which the IPL at USD 3.20 in 2011 PPP is more suitable than the lower IPL at USD 1.90 in 2011 PPP used in low income countries (Jolliffe and Prydz, 2016). In 2017, one in five individuals lived on less than the IPL of USD 3.20 in 2011 PPP, which is comparable to the poverty rate using the national poverty line.[7]

Myanmar performs well in terms of the lower line of USD 1.90 but poorly when higher international poverty lines are applied. With the IPL of USD 1.90 in 2011 PPP, Myanmar's poverty rate in 2017 is low[8] but similar to the East Asia and Pacific (EAP) average (Figure 2-3). However, with the IPL of USD 3.20 in 2011 PPP, the international poverty rate in Myanmar is about seven percentage points higher than the EAP average. Myanmar is among the poorest countries in Asia if one considers the higher IPL of USD 5.50 in 2011 PPP. This may be expected given that a third of the population, although non-poor, live just above the poverty line (CSO, UNDP and WB, 2019).

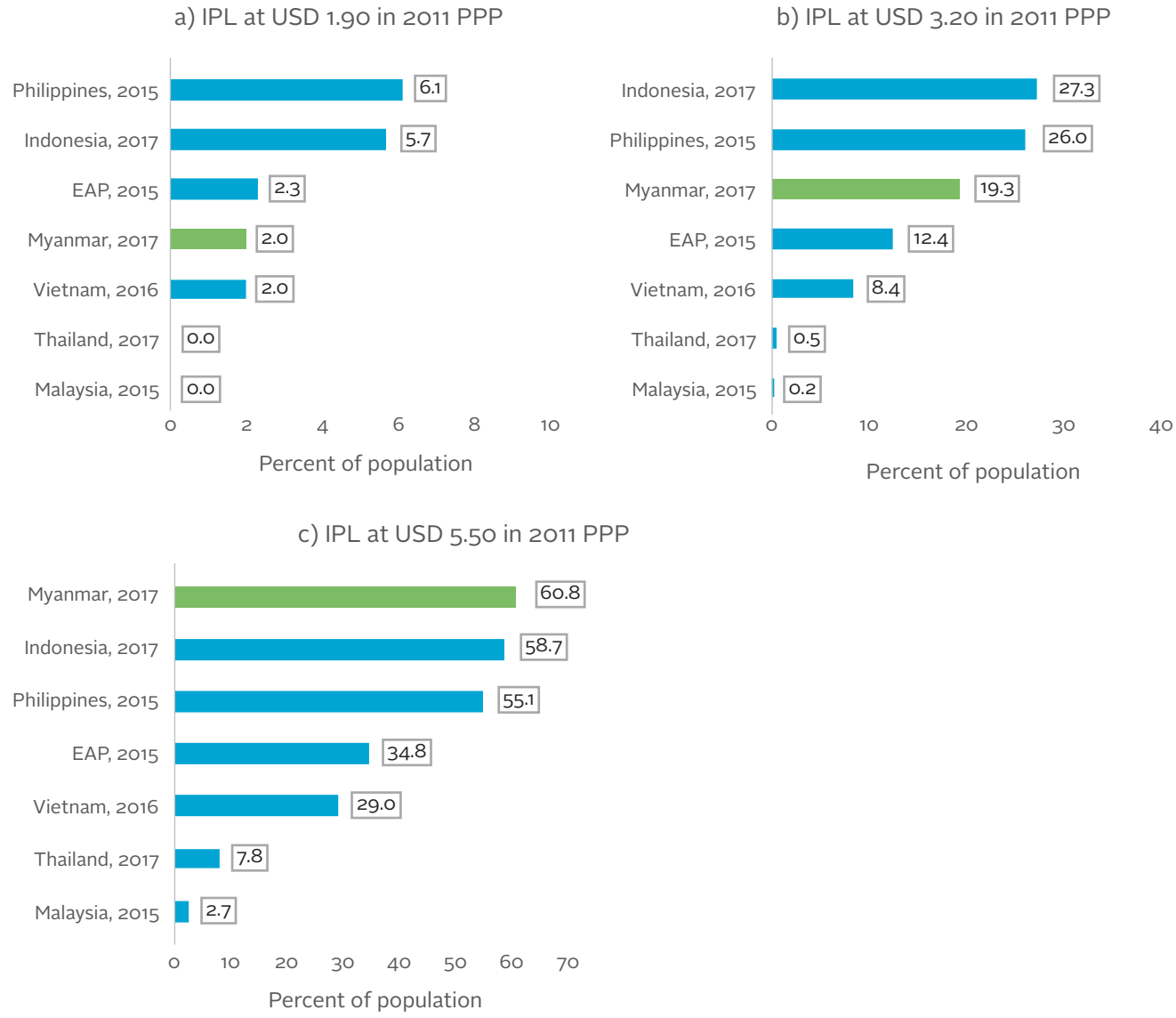
6 https://databank.worldbank.org/source/international-comparison-program-(icp)-2011

7 The national poverty line is equal to 1,590 in 2017 quarter 1 kyats, which corresponds to 3.60 USD in 2011 PPP.

8 Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division.

Figure 2-3

Percentage of population living below the international poverty line



Note: Survey years vary by country and are indicated next to the country name.
Source: 2017 MLCS for Myanmar. Poverty and Equity Data portal for other countries (http://povertydata.worldbank.org/poverty/home).

Poverty trends in Myanmar

In line with target 1.2, over the last decade, monetary welfare improved, and Myanmar recorded a substantial reduction of poverty.[9] Using the consumption aggregate per adult equivalent[10] and the national poverty line, between 2005 and 2017, the proportion of the population living in poverty[11] has halved from 48.2 percent to 24.8 percent (Figure 2-4a). Despite population growth, the number of poor people declined from 18.7 million in 2005 to 11.8 million in 2017[12] (CSO, UNDP and WB 2019). This reduction was observable in both urban and rural areas.

9 Due to differences in survey design from IHLCA to MPLCS and MLCS, the assessment of poverty uses imputation approaches to restore comparability of consumption aggregates over time at the Union and urban/rural levels (MOPF and World Bank, 2017).

10 Per adult equivalent controls for the composition and economies of scale in the household.

11 Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division.

12 The 2005 IHLCA and 2017 MLCS only covered the population living in conventional households.

Box 2-2 Poverty measures and consumption class definitions

Poverty measures

Poverty headcount: share of the population that is poor with per adult equivalent consumption less than the poverty line (1,590 kyats per day in 2017 quarter 1 kyats).

Poverty gap (depth): the average amount that per adult equivalent consumption falls below the poverty line, expressed as a percentage of the poverty line. The poverty gap captures the depth of poverty by estimating the average distance that the poor live below the poverty line, expressed as a percent of the poverty line.

Squared poverty gap (severity): the squared value of the poverty gap, which gives greater weight to individuals who fall further below the poverty line.

Consumption classes

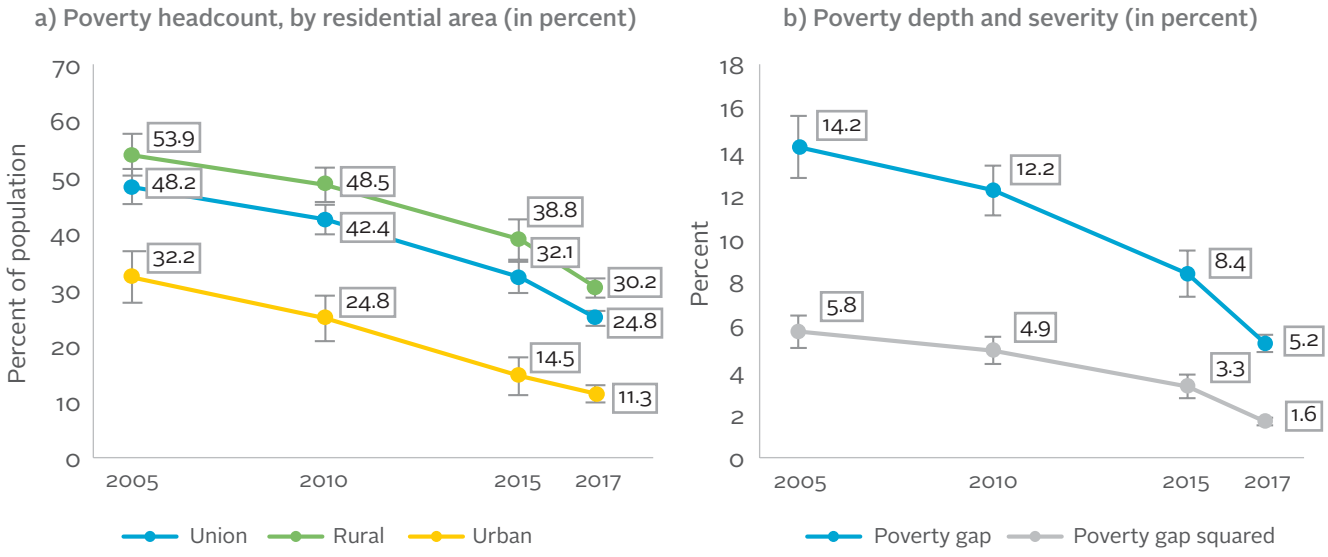
Non-poor insecure: individuals who are classified as non-poor but are at relatively high risk of falling into poverty. Specifically, those with per adult equivalent consumption between the poverty line (1,590 kyat per day) and 1.5 times the poverty line (2,385 kyat per day).

Non-poor secure: individuals who are classified as non-poor and have per adult equivalent consumption levels that is more than 1.5 times the poverty line (2,385 kyat per day).

Relative to the poor in 2005, the poor in 2017 are better off. Measures of poverty depth and severity allow a more nuanced assessment of welfare among the poor (Box 2-2). The poverty gap, which captures the depth of poverty, fell from 14.2 percent in 2005 to 5.2 percent in 2017 (Figure 2-4b). The squared poverty gap, which measures poverty severity, also fell from 5.8 percent to 1.6 percent. These two trends indicate that, on average, the poor have seen an increase in welfare.

Figure 2-4

Trends in poverty indicators, 2005 to 2017



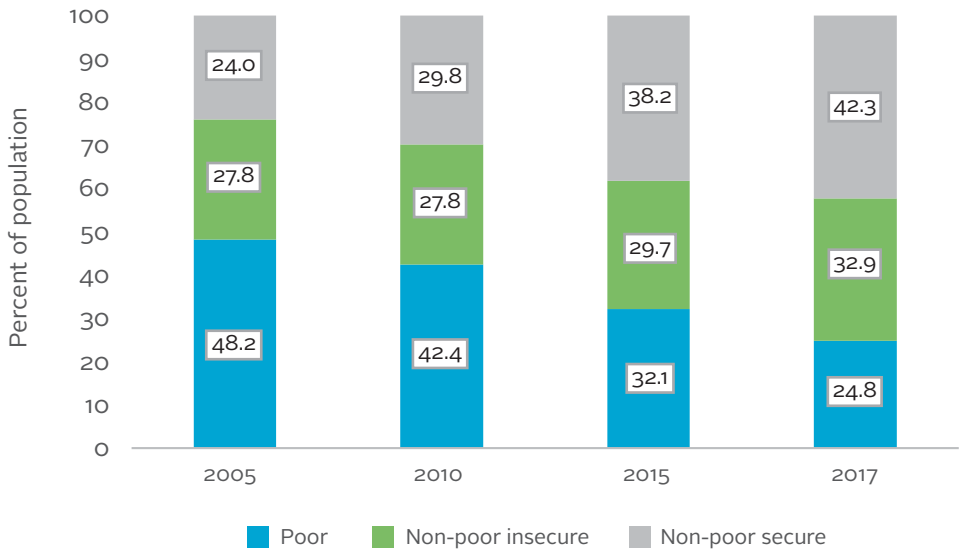
Note: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. The survey only includes conventional households. Imputation methods are employed for the 2005 and 2010 poverty estimates in order to present comparable estimates for 2015 and 2017. See MOPFI and World Bank (2017) for a discussion of the robustness of the methods.

Sources: IHLCA 2005, IHLCA 2010, MPLCS 2015, 2017 MLCS.

Many households, however, are living just above the poverty line and remain vulnerable to falling below it. As poverty declined, the share of individuals classified as non-poor insecure and non-poor secure expanded (Box 2-2), with the non-poor secure growing faster than the non-poor insecure (Figure 2-5). While only 24.0 percent of the population had consumption more than 1.5 times the poverty line in 2005, this share increased to 42.3 percent in 2017. At the same time, 32.9 percent of the population, while technically non-poor, has consumption levels below 1.5 times the poverty line or less than 2,385 kyat per day (in 2017 quarter 1 kyat) per adult equivalent. Negative shocks and ensuing coping strategies can push vulnerable households into poverty (see Chapters 7 and 9).

Figure 2-5

Percentage of poor, non-poor insecure, and non-poor secure in total population, 2005 to 2017



Note: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. The survey only includes conventional households. Imputation methods are employed for the 2005 and 2010 poverty estimates in order to present comparable estimates for 2015 and 2017. See MOPF and World Bank (2017) for a discussion of the robustness of the methods.
Sources: IHLCA1 2005, IHLCA2 2010, MPLCS 2015, MLCS 2017.

Trends in non-monetary wellbeing tell the same story of improvements in the welfare of Myanmar's population, but still much is left to be achieved. As highlighted in the Key Indicators Report (CSO, UNDP and WB, 2018a), the number of households that use electricity for lighting effectively doubled, from 1.8 million in 2005 to 4.7 million in 2017. The country has seen similar improvements in water, sanitation, housing, and technology over this period. However, as shown in Chapter 5, the poor remain disadvantaged: Poor households are less likely to have improved living conditions and have lower health and educational outcomes.

Intergenerational transmission of poverty may be a policy concern given the large number of children living in poor households. Close to a third of children less than 18 years old live below the national poverty line (Annex B, Table B-1), which is about seven percentage points higher than it is among the total population. Higher poverty among children is expected given that poor households have almost two times more children than non-poor households (CSO, UNDP and WB, 2019). Roughly 60 percent of poor children in Myanmar live in five states/region: Ayeyarwady Region, Shan State, Sagaing Region, Rakhine State, and Magway Region. The two poorest states/regions – Chin State and Rakhine State – also have the highest share of poor children (63.4 percent and 49.1

percent, respectively). In contrast, child poverty is the lowest in Tanintharyi Region and Mandalay Region (15.6 percent and 16.5 percent, respectively). Poor children are less likely to attend middle and high school because of the schooling costs and physical access to schools (see a more detailed analysis in Chapter 3).

Correlates of poverty[13]

Geographic location is a strong correlate of welfare. Controlling for socio-demographic indicators and state/region differences, individuals living in urban areas are 6.7 percentage points less likely to be poor than their rural counterparts. Even after controlling for various household characteristics and other indicators, there are significant differences in both welfare and the likelihood of being poor across states/regions. This suggests that there are state/region-specific characteristics (e.g., geographical terrain, climate, etc.) that influence consumption levels and poverty.

Larger household size, particularly the number of children below age 15, is associated with lower welfare. Controlling for various state/region and socio-demographic characteristics, more household members at any age is associated with a greater likelihood to be poor and lower consumption. The number of children below age 15 is related to lower welfare: for every additional child five years old or younger, per adult equivalent consumption decreases by about 11.3 percent and the likelihood of being poor increases by 8.9 percentage points. Similarly, for every additional child between the ages of 6 and 14, consumption decreases by 9.4 percent and the likelihood of being poor increases by 6.0 percentage points.

Controlling for state/region differences and other characteristics, the marital status, gender, or religion of the household head are not significant correlates of welfare, while disability status and having an identification card are. Female- and male-headed households are equally likely to be poor and have comparable levels of consumption. After controlling for state/region characteristics, the religion of the household head also does not appear to be a predictor of welfare. On the other hand, having a disabled head is associated with 11.7 percent lower consumption and a higher likelihood of being poor. Having a disability may affect important determinants of welfare such as education and access to quality jobs. In 2017, households where the head has an identification card are 11.9 percentage points less likely to be poor, controlling for other household and state/region characteristics. Proper identification can also allow households to access public services, claim their rights, and secure formal loans, hence enabling access to various channels that may improve household welfare.

Consumption levels increase with the education level of the household head. Compared to those living in households with an uneducated head, individuals whose household head has reached primary school have 6.9 percent higher consumption. Each additional level of educational attainment increases the differential in consumption relative to those with an uneducated head. Individuals with a head who has completed university or more have, on average, 56.3 percent higher consumption and are 81.3 percent less likely to be poor.

13 For results of the linear and probit regressions to identify poverty correlates, see Annex B. The regressions take into account demographic and socio-economic characteristics such as educational attainment among heads of household, household composition, and other indicators including information on accessibility to social services, and incidence of shocks to predict per capita consumption and the likelihood of being poor.

The sector of labour force participation across members in a household is an important correlate of welfare. Across its members, households may be engaged exclusively in agriculture, exclusively in non-agriculture, both agriculture and non-agriculture, or have no working members. On average, individuals living in households engaged exclusively in non-agricultural activities have 13.1 percent higher per adult equivalent consumption than those living in purely agricultural households and are significantly less likely to be poor. Individuals whose household is engaged in both agricultural and non-agricultural activities are similarly better off. This suggests that household participation in non-agriculture may be an important avenue to improve welfare, a finding reinforced in Chapter 9 on income sources.

Remoteness and limited access to basic services and infrastructure may negatively affect welfare. Individuals living in communities with a market are 3.5 percentage points less likely to be poor and have 4.2 percent higher consumption than those who live in communities with no markets. However, access to markets as well as access to other services and infrastructure may largely be determined by the characteristics of where one lives, such as geographical terrain, political climate, or other factors. These characteristics can be specific to a state/region, which would then be picked up by each of the state/region controls.

Main takeaways and implications

This chapter shows that extreme poverty is less of a concern in Myanmar than is moderate poverty. In addition, children aged 0 to 14 are more likely to be poor than any other age group, which may bring about an intergenerational transmission of poverty. Education and participation in non-agricultural activities are positively correlated with consumption.

These findings regarding poverty have two main implications:

i. Improving access to services and connecting rural and remote areas would reduce households' probability of being poor in monetary and non-monetary terms. Households in remote areas have a limited access to markets for labour, services, and goods, which further prevents them from improving their welfare.

ii. Improving educational attainment can ensure that households participate in more productive activities, move out of subsistence agriculture, withstand shocks, and in general, improve their welfare.

03.

BUILDING HUMAN CAPITAL THROUGH EDUCATION

Recognised as an important determinant of economic growth by improving one's economic opportunities and earning potential (Barro, 1995; Barro and Lee, 2010), educational attainment has a prominent place in the SDG agenda, with SDG 4 exclusively focusing on quality education. Target 4.1 of the SDG 4 calls for quality and equitable primary and secondary education for both girls and boys, leading to effective learning outcomes. The objective of this chapter is to assess educational attainment among adults in Myanmar and to explore the main correlates of primary, middle, and high school enrolment for boys and girls. This chapter also looks at reasons for dropout and educational expenditures and its components by different school levels.

Adult educational attainment

Educational attainment among the adult population aged 15 and over is low, especially in rural areas. As of 2017, one out of ten adults in Myanmar has never attended school (Table 3-1). For another 53.3 percent, primary education – either completed or uncompleted – is the highest level of educational attainment. Only 5.6 percent of adults in Myanmar have completed secondary education (middle and high school). Rural residents are more than twice as likely to have no education or have completed some primary education but not have graduated. On the other hand, completion of middle, high, and tertiary education is significantly higher among urban adults.

Table 3-1

Educational attainment among adults aged 15 and over (in percent)

	Union	Urban	Rural	Female	Male
No education	9.7	4.8	11.8	12.7	6.1
Monastic	7.0	2.9	8.7	4.9	9.4
Below primary	19.7	11.8	23.1	21.9	17.1
Primary	33.6	27.7	36.1	31.8	35.7
Middle	17.6	26.4	13.9	15.6	20.0
High	5.6	10.2	3.6	5.2	6.1
Tertiary	6.9	16.2	2.8	7.9	5.6

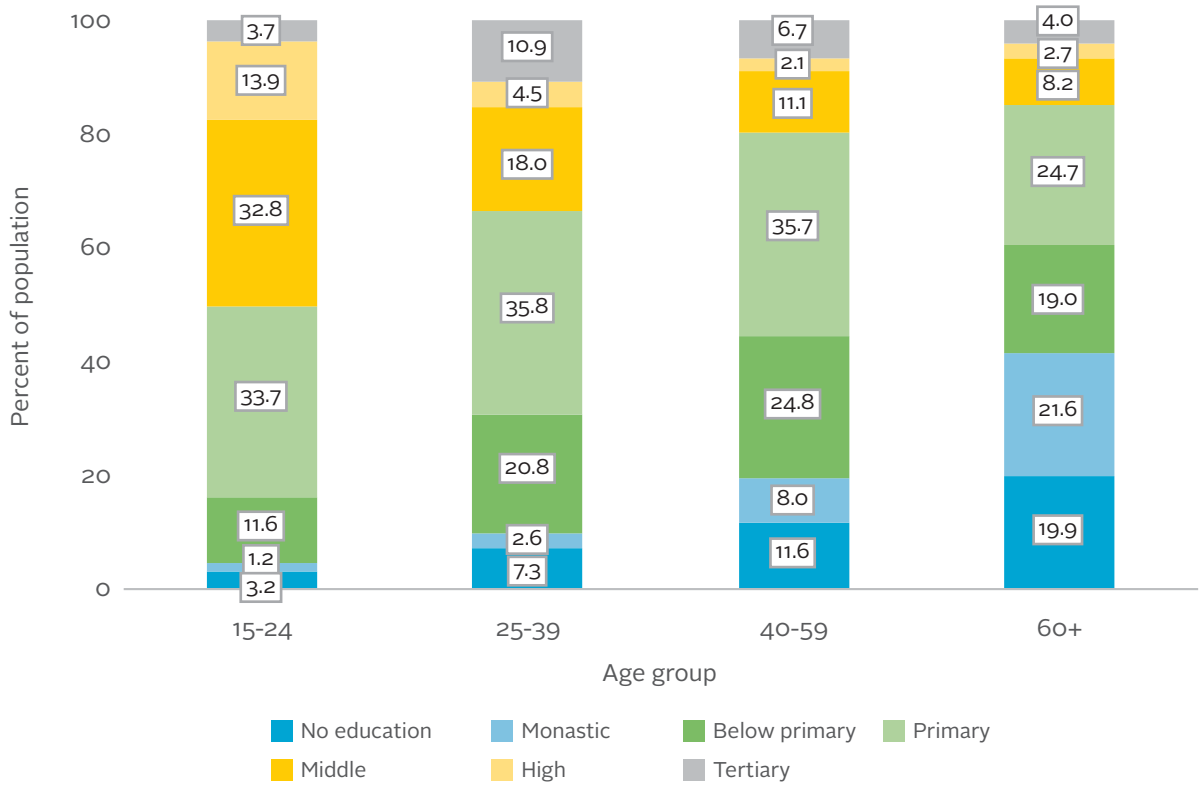
Note: Below primary indicates that the individual has some primary education but has not completed primary education.
Source: 2017 MLCS.

Educational attainment varies with generation and younger generations of adults are generally better educated than older ones. In recent years, the Government of Myanmar has implemented multiple reforms aimed towards improving enrolment, grade-to-grade transition, and school quality, among other educational outcomes (DOP, 2017a). Perhaps consequently, educational attainment among younger cohorts, especially the youth (individuals aged 15 to 24), is significantly higher than it is in older cohorts. Half of the youth have completed middle school or higher, which is notably greater than the share that has done so in any other age group, especially among those aged over 40 (Figure 3-1). Compared to adults aged 25 to 39 years old, the youth are more likely to have graduated from high school, but less likely to have completed tertiary education. This is in large part due to current enrolment in tertiary institutions among the youth, many of whom are still of the standard

age to attend university. Monastic education is significantly higher among adults aged 60 and over than it is among younger cohorts. Only 1.2 percent of the youth have received monastic education, indicating that attendance of monastic schools has gone down significantly in the past few decades.

Figure 3-1

Educational attainment among adults aged 15 and over, by age group (in percent)



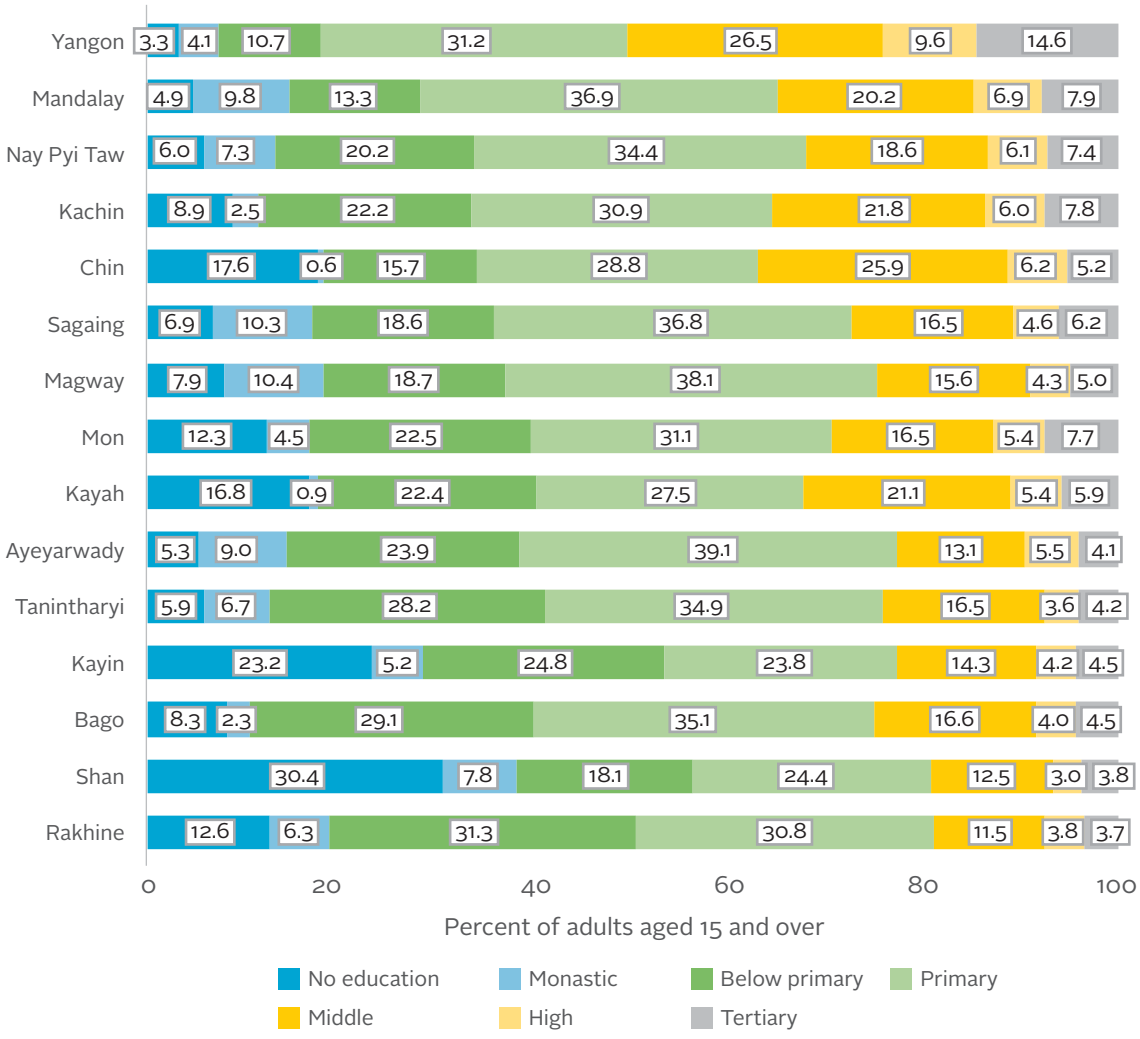
Note: Below primary indicates that the individual has some primary education but has not completed primary education.
Source: 2017 MLCS.

Female educational attainment has historically lagged behind male educational attainment, but gender gaps have closed in recent years. In 2017, women age 15 and older are twice as likely to have never gone to school compared to their male counterparts (Table 3-1). Moreover, the share of women that have completed either middle or high school (20.8 percent) is lower than the share of men who have done so (26.1 percent). However, among the youth, there are no significant gender gaps in educational attainment up until high school. In fact, female youth are 33 percent more likely than male youth to have completed high school or tertiary education. In both younger and older cohorts, women are more likely than men to have completed tertiary education. Although the factors accounting for women's predominance at higher levels of education attainment are unclear, this finding may reflect gender norms in Myanmar. Studies show that among men and women with similarly low levels of education, men have greater access to opportunities for career development (Gender Equality Network, 2015). As shown in Chapter 7, women are considerably more likely to work in a household farm or business without remuneration and get paid lower wages than men. Thus, women may need to pursue higher education to increase their competitiveness in the labour market (Gender Equality Network, 2015).

Significant differences in educational attainment exist across states/regions, with Yangon Region and Mandalay Region having by far the most educated adults. In Rakhine State and Shan State, nearly three out of four adults have only attended primary school or have no education (Figure 3-2). Shan State has the highest share of adults who have never attended school (30.4 percent), which is more than 10 times the share of adults with no education in Yangon Region. Yangon Region and Mandalay Region, which have relatively high accessibility to high schools and universities, also have the highest shares of high school and university completion among the adult population. Various factors such as the availability and accessibility of schools, school quality, and local labour market conditions may contribute to such differences in educational attainment across states/regions. For example, in areas where employment in the agricultural sector is high, education may not be as important as it is in areas where employment in more skilled jobs such as professional services or academics dominates. As shown in Chapter 7, most of the labour force in both Yangon Region and Mandalay Region work in the non-agricultural sector, especially in the service sector. Such characteristics of the local labour market may thus be a factor in attracting educated individuals or necessitating individuals living in the area to obtain higher education in order to be competitive in the labour market.

Figure 3-2

Educational attainment among adults over 15 years of age, by state/region (in percent)

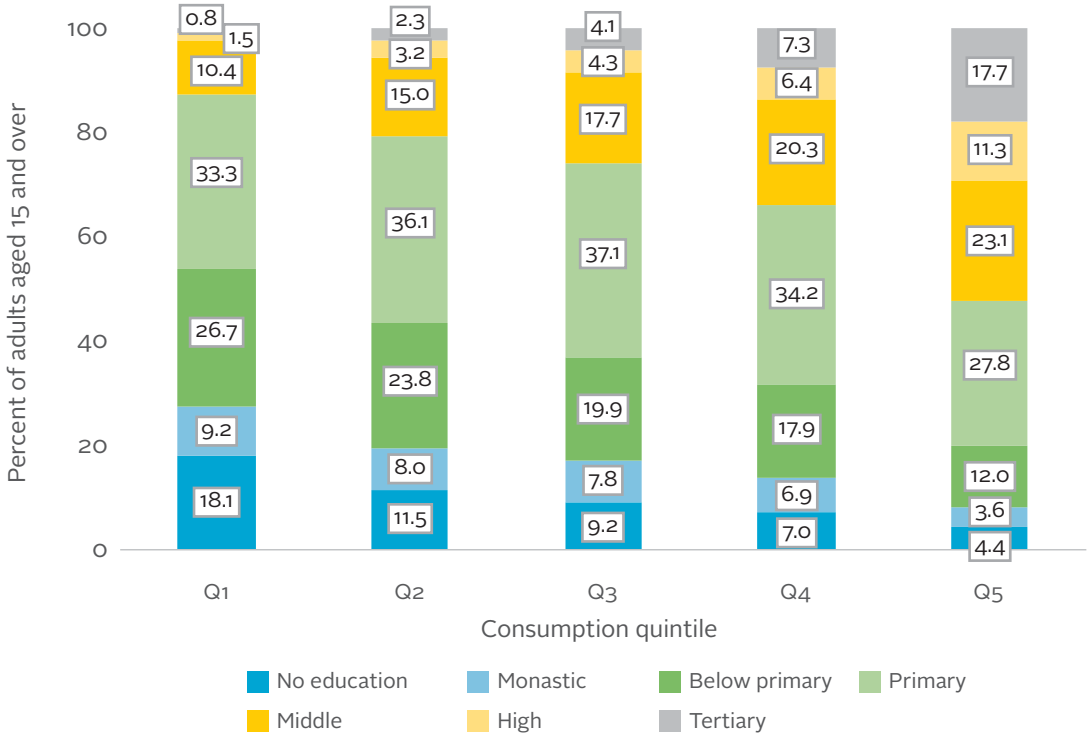


Note: Below primary indicates that the individual has some primary education but has not completed primary education. States/Regions are sorted in descending order of the share of adults that have completed of primary school or lower (not including monastic education).
Source: 2017 MLCS.

Poor adults are 31 percent more likely than non-poor adults to have completed only primary education or less, and educational attainment increases with welfare. Almost eight out of ten adults in the poorest consumption quintile have no education or have only obtained primary education (Figure 3-3). The share of adults in this group decreases with welfare, whereas the total share of adults who have obtained middle, high, or tertiary education increases. Adults in the top quintile are 4.1 times more likely than those in the bottom quintile to have completed middle school or more and 12.6 times more likely to have finished high school or more. The causal direction of this relationship between education and welfare may go either way. Only wealthier individuals may be able to afford the costs – both incurred costs and opportunity costs – associated with attending high school or university. At the same time, completion of high school and higher education may improve one's competitiveness in the labour market, allowing one to secure higher-paying jobs that increase wealth.

Figure 3-3

Educational attainment among adults over 15 years of age, by consumption quintile (in percent)

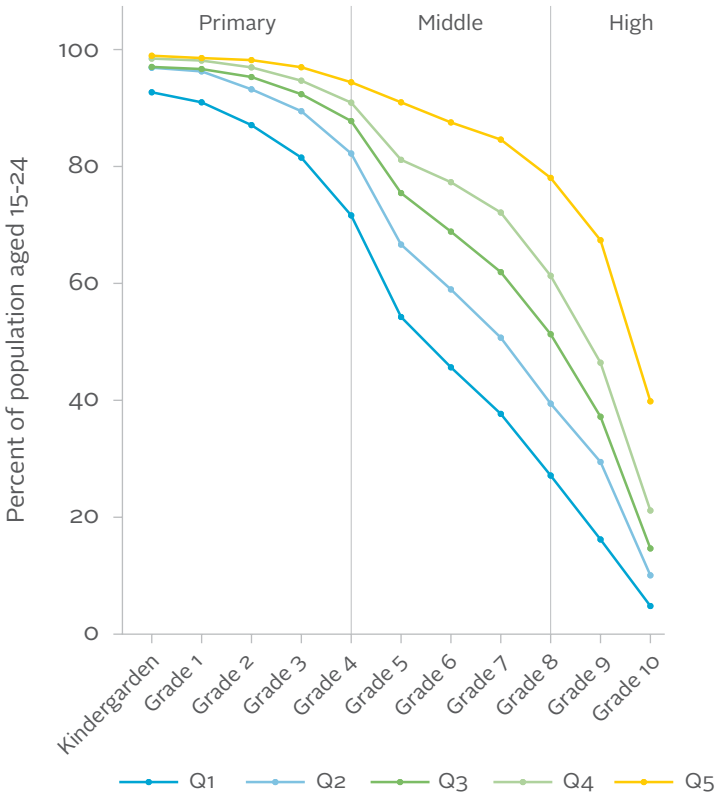


Note: Below primary indicates that the individual has some primary education but has not completed primary education. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

Among the youth, grade-to-grade transition has decreased rapidly after primary school, particularly among poorer individuals. Attainment curves illustrate the share of the population that has completed a given grade or higher. When examined among the adult population who are more likely to have completed their educational career, attainment curves can provide a picture of grade-to-grade transition and drop out. Figure 3-4 displays attainment curves for the youth by consumption quintile. These curves show that grade-to-grade transition is high in primary school, especially for the youth in wealthier quintiles. However, transition to middle school from primary school is noticeably low, with poorer quintiles showing higher rates of drop out. Compared to transition from primary to middle school, grade-to-grade transition in middle school is relatively high for all quintiles except the wealthiest, suggesting that children are less likely to drop out once they enter middle school. After grade 5, which marks the start of middle school, attainment decreases steadily for youth across all welfare classes. These findings demonstrate that dropout between primary and middle school is still a significant issue in Myanmar.

Figure 3-4

Percentage of youth that has completed each grade or higher, by consumption quintile



Note: Although most of the adult population in 2017 attended school before the 2016 educational reform that changed grading nomenclature, this figure uses the new nomenclature and accounts for differences in the new and old systems. For example, adults who completed grade 1 under the old system are considered as having completed kindergarten under the new system. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.

Source: 2017 MLCS

Child enrolment in primary, middle, and high school[14]

The Key Indicators Report shows that total net enrolment in all educational levels has increased since 2010, but significant differences still exist across age groups, gender, and state/region in 2017 (CSO, UNDP and WB, 2018a). In 2017, about 94 percent of primary-school-age children in Myanmar are enrolled in school, and marginal differences in total net primary enrolment rates (Box 3-1) exist by residential area or gender (Figure 3-5). In comparison, total net middle and high school enrolment rates are substantially lower and exhibit larger gaps by residential area and gender. Middle-school-age and high-school-age children in urban areas are respectively 18 percent and 56 percent more likely than their rural counterparts to be enrolled in the appropriate level or higher. Total net middle and high school enrolment rates are also higher among girls than boys, reaffirming findings above on higher female educational attainment among adults. Across states/regions, primary enrolment is generally high, with only five states/regions having total net primary enrolment rates below the national average and only Shan State having a rate below 90 percent (CSO, UNDP and WB, 2018a). However, there is substantially greater variation in middle and high school enrolment rates across states/regions. For example, the share of children aged 14 to 15 attending high school or higher is twice as high in Mandalay Region (59.1 percent) as it is in Kayin State (27.3 percent).

14 This section examines various individual, household, and geographical predictors of primary, middle, and high school enrolment using probit regressions, which can be found in Annex C Table C 1.

Box 3-1 Definitions of school age and total net enrollment

School age: Age at the start of the school year (June 1st). Under the current system, basic education in Myanmar is comprised of five years of primary school (kindergarten to grade 4), followed by four years of middle school (grades 5 to 8), and two years of high school (grades 9 and 10). The official school age for each educational level is:

- Primary school: ages 5 to 9
- Middle school: ages 10 to 13
- High school: ages 14 and 15

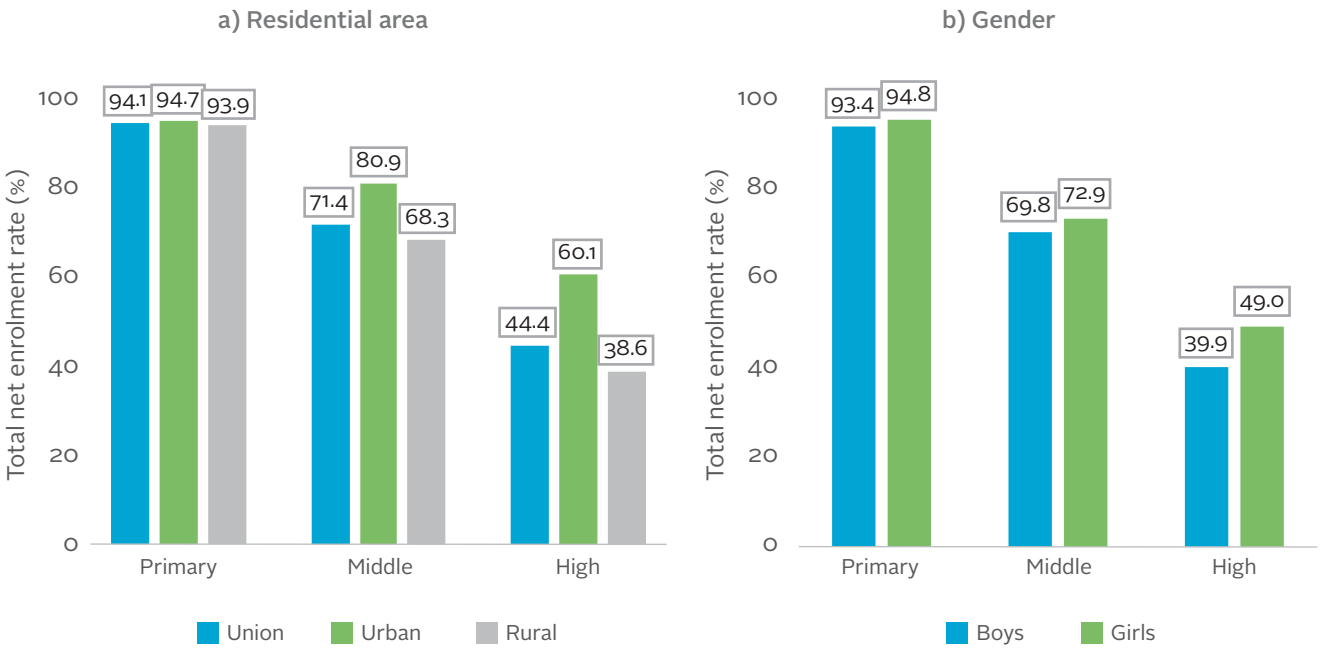
The estimates presented in this section are based on school age rather than the age at the time of the survey.

Total net enrolment ratio: The number of children in the official school age range for a given level of education who are enrolled in that educational level or higher, expressed as a share of the total population in the same age group. The total net primary enrolment rate measures the share of children aged 5 to 9 at the start of the school year who are enrolled in primary school or higher. The total net middle enrolment rate represents the share aged 10 to 13 who are enrolled in middle school or higher, while the total net high enrolment rate represents the share aged 14 or 15 who are enrolled in high school or higher.

Note: See CSO, UNDP and WB (2018a) for further discussion on the use of school age and total net enrolment ratios.

Figure 3-5

Total net primary, middle, and high school enrolment rates, by residential area and gender (in percent)

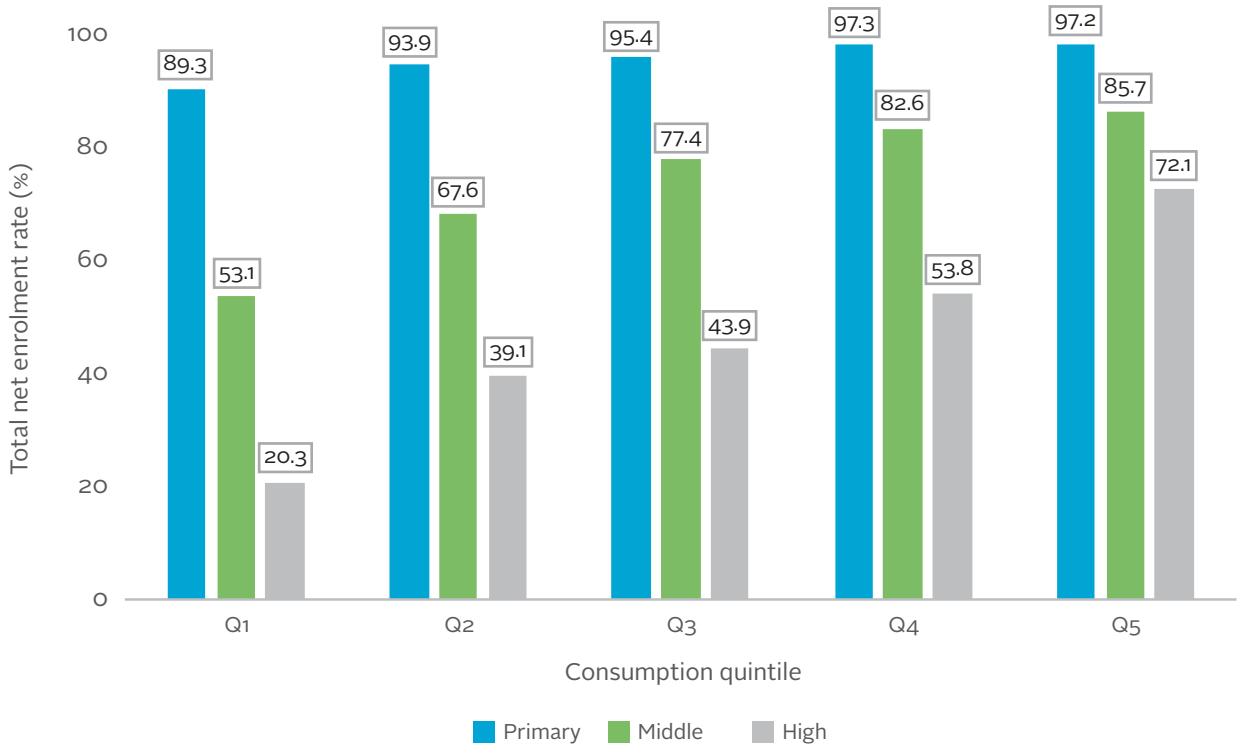


Source: 2017 MLCS.

Higher welfare is associated with a significantly higher likelihood of being enrolled, especially for middle and high-school-age children. Across consumption quintiles, most children of primary-school age are enrolled in school, which in part demonstrates the compulsory nature of the primary education in Myanmar.[15] Despite this fact, primary-age children in the poorest quintile are still less likely than children of the same age in the top quintile to attend primary school or higher (Figure 3-6). Moreover, differences in enrolment across welfare quintiles are substantially larger for middle and high school-age children. Although some of this variation is explained by factors such as residential area and the accessibility of schools, differences persist even after considering such factors as well as other individual and household characteristics. This suggests that other factors correlated with welfare such as the ability to afford education at higher levels or the perceived importance of education for the type of jobs preferred by wealthier cohorts remain important determinants of middle and high school enrolment. Controlling for various characteristics, children aged 10 to 13 in the wealthiest quintile are 15.3 percentage points more likely to be enrolled in middle school or higher than their counterparts in the poorest quintile (see Table C-1 in Annex C). The absolute and relative differences in total net enrolment rates across consumption quintiles are even more pronounced for children of high-school age. For example, other factors considered, children aged 14 or 15 in the top quintile are 32.1 percentage points more likely than those in the bottom quintile to be enrolled in high school or higher.

Figure 3-6

Total primary, middle, and high school net enrolment rates, by consumption quintile (in percent)



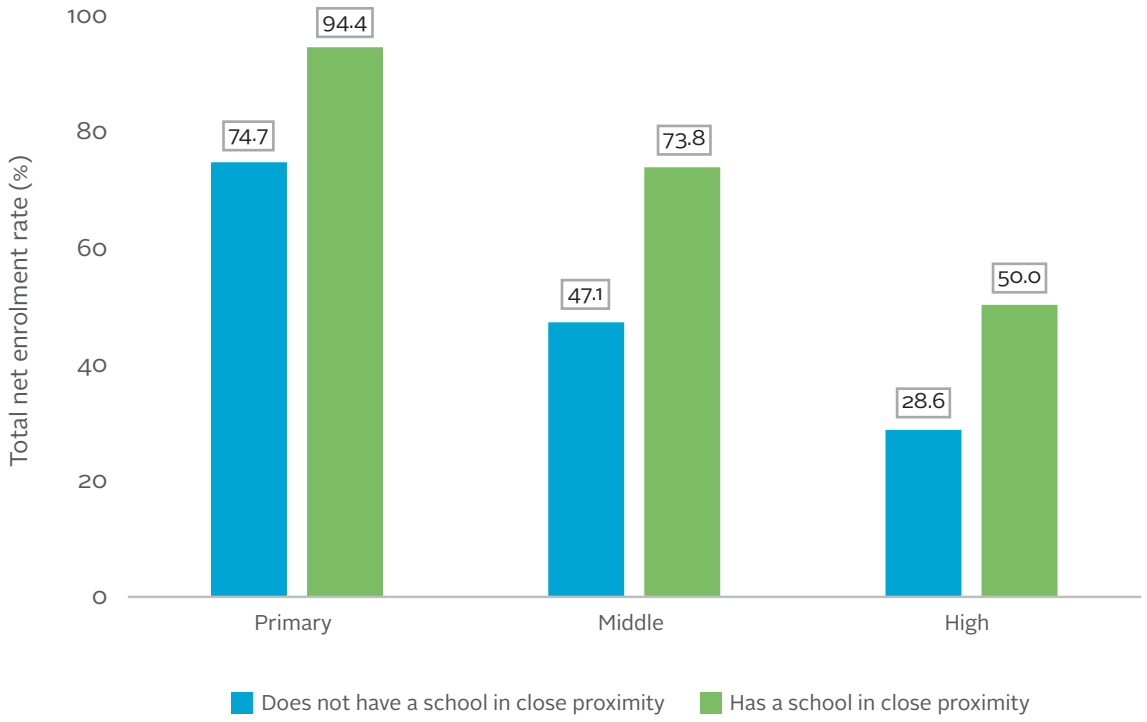
Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

15 There are many policies and laws that ensure compulsory primary education in Myanmar. Universal primary education is inscribed in the 2008 Constitution of the Union of Myanmar (specifically Art. 28 and Art. 366) and the National Education Law of 2014 (Parliamentary Law No.41). Section 20 of the Child Law of 1993 also articulated the early aspirations for free and universal primary education (UNESCO, 2017).

Accessibility of schools is a significant determinant of enrolment in middle and high school for both boys and girls. Access to government primary schools is nearly universal in Myanmar: About 95.1 percent of primary-school-age children have a school that offers primary-level grades in their village or ward, and 98.4 percent live in close proximity[16] to one. In comparison, government secondary schools, especially those that offer high-school grades are in shorter supply: Only three out of ten high-school-age children have a high school in their village or ward, while three out of four live in close proximity to one. In general, schools are considerably less accessible in rural areas than they are in urban areas, and significant variation in accessibility exists across states/regions. Figure 3-7 shows that enrolment rates are significantly higher for children who live in close proximity to a school that offers the standard grades for their age. Controlling for residential area, state/region characteristics, and other factors, middle and high-school-age children who live near schools that offer middle and/or high school grades are about 9-10 percentage points more likely to be enrolled than their counterparts who live further away (see Table C-1 in Annex C). Proximity to schools is similarly important for girls and boys of school age to enrol in school.

Figure 3-7

Total net primary, middle, and high school enrolment rates, by proximity to schools (in percent)



Note: A child is considered to live in close proximity to a school if the school is less than 5 miles away and it takes 30 minutes or less to get to the school by the most common means of transport in the village/ward. Each bar represents total net enrolment by proximity to a school that offers the indicated level of education. For example, the total net enrolment rate for primary-school age children who do not live in close proximity to a primary school is 74.7 percent.
Source: 2017 MLCS.

16 Close proximity is defined as being less than 5 miles away and taking 30 minutes or less to reach by the most common means of transport in the village/ward.

Urban-rural differences in enrolment can largely be explained by lower welfare and lower accessibility of schools in rural areas. Much of the geographical differences in total net middle and high school enrolment can be attributed to two factors: the accessibility of schools and spatial differences in welfare. In general, rural children are poorer than urban ones and face greater difficulties in reaching schools that offer the relevant level of education for their age, particularly secondary-level grades. States/Regions also exhibit substantial differences in welfare (see Chapter 2) and in the accessibility of government schools. Yangon Region, Mandalay Region, the Union Territory of Nay Pyi Taw, and Mon State have the highest shares of school-age children living in close proximity to a school offering secondary-level grades, while Kayin, Rakhine, Shan, and Chin States have the lowest.[17] Welfare and proximity to schools explain nearly all of the differences in primary, middle, and high school enrolment across urban/rural areas and much of the differences across states/regions (see Table C-1 in Annex C).

School-age children who live with a greater number of siblings or other children aged 0 to 15 are less likely to be enrolled in the standard educational level or higher. Some of these differences in enrolment can be attributed to the fact that poor households, which are less likely to send their children to school, tend to have more children. However, even after controlling for welfare quintile, age, and other individual and household characteristics, children of all school ages who live with more siblings or other children aged 15 and under are less likely to be enrolled in the appropriate educational level or higher (see Table C-1 in Annex C). This finding holds for both younger and older siblings/children. For example, among middle-school-age children, each additional younger sibling is associated with a 4.0 percentage point decrease in the likelihood of the child being enrolled in middle school or higher. Similarly, each additional older sibling is associated with a 4.6 percentage point decrease in the likelihood of a middle-school-age child being enrolled. A larger number of children in the household may mean greater responsibilities for a child to stay at home to look after siblings or help with housework or in a household farm or business. This may have implications for enrolment, especially in the appropriate grade for a child's age. In general, school-age children living with more siblings or other children are more likely to be enrolled in a grade or educational level that is below the standard one for their age.

Parental educational attainment, particularly the education of mothers, is an important factor in the education of both boys and girls. Primary-school-age children with more educated parents are more likely to be enrolled in primary school or higher, especially when compared to children with a mother or father who has never attended school. However, differences in total net primary enrolment rates by parental education are small relative to differences in total net middle or high school enrolment rates. Controlling for differences in welfare and other factors, children aged 14 and 15 with a mother who has completed tertiary education are 48.7 percentage points (6.6 times) more likely than those with an uneducated mother to be enrolled in high school. In comparison, the differential in total net high school enrolment by father's attainment of tertiary education is 26.9 percentage points (5.5 times), which is almost two times lower than it is by mother's educational attainment. Significant increases in child enrolment can be seen for every level of parental educational attainment. However, the absolute and relative differences in total net middle and high school enrolment rates are more pronounced by mother's education than they are by father's education (see Table C-1 in Annex C). Although the exact reasons for this finding are not clear, it is possible that mothers have greater decision-making power than fathers in the education of their children, as women in Myanmar tend to have relatively greater responsibilities in child-rearing (Gender Equality Network, 2015).

17 Ethnic, NGO-run, monastic, and private schools have filled in some of the gaps in the provision of government education in many states/regions, but section four of the 2017 MLCS community questionnaire does not differentiate these academic institutions by educational level.

Boys are more likely than girls to be enrolled in a school level below the appropriate level for their age, which explains the gender gap in total net middle school enrolment but not high school enrolment. The gender gap in middle and high school enrolment persists even after considering age, proximity to schools, welfare, and various other household and individual characteristics. Middle and high-school-age girls are respectively 4.7 and 8.8 percentage points more likely than boys of the same age to be enrolled in the appropriate school level or higher. However, middle-school-age boys are 28.3 percent more likely than their female counterparts to be enrolled in a school level below middle school (i.e., primary school), and this characteristic accounts for almost all the difference between boys and girls in total net middle enrolment rates. Boys of high-school age are also more likely than girls to be enrolled in a lower educational level than the standard, but gender gaps in total net high enrolment persist even considering this fact and other individual and household characteristics.

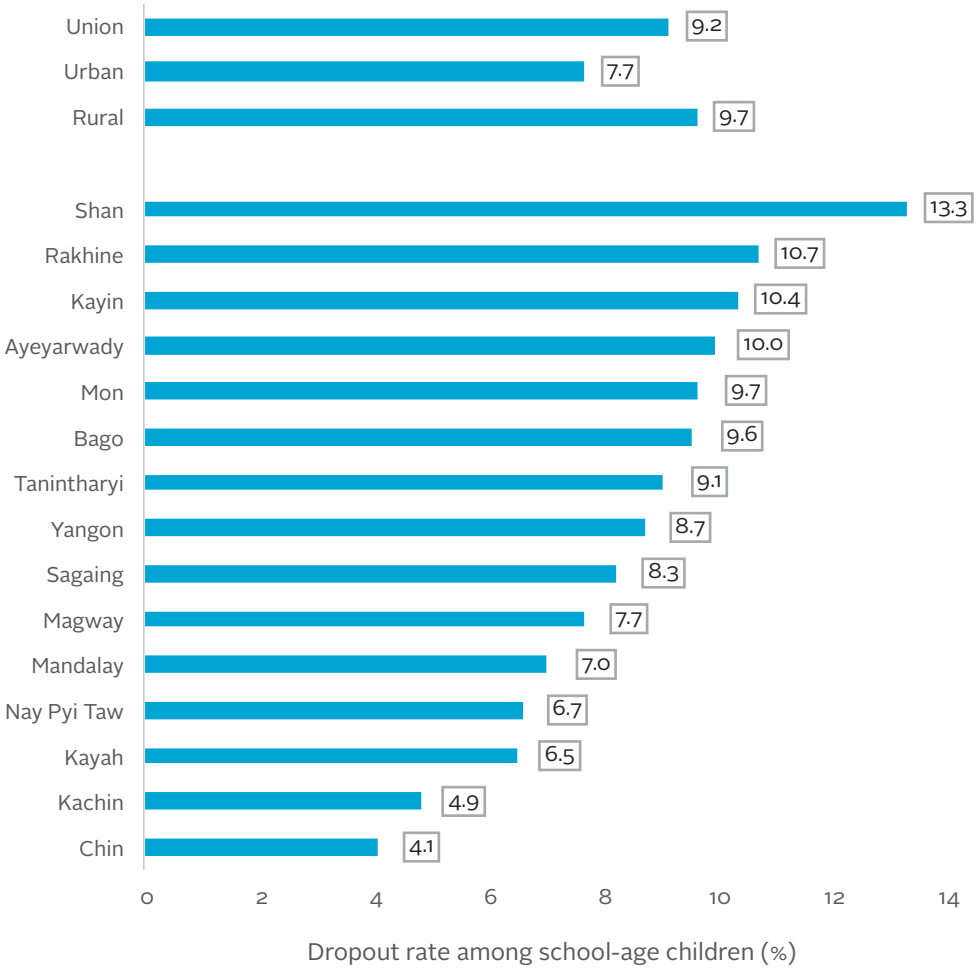
Dropout among school-age children

Dropout and delayed progression through the educational system are the primary reasons for low middle and high school enrolment. Among children aged 10 to 13 who are not enrolled in middle school or higher, six out of ten are enrolled in a lower educational level (i.e. primary school), which may be due to a delay in starting their education, repetition of a grade, or a gap year in education. Another three out of ten have dropped out from school, and less than 3 percent of school-age children have never attended school. A relative delay in education thus is the main reason for low total net middle enrolment rates, especially among boys. However, for children aged 14 or 15, the primary reason for not being enrolled in high school or higher is due to dropout rather than delayed enrolment. Almost 55 percent of children in this age group who are not in high school or higher have dropped out, while just 37 percent are enrolled in a lower level (i.e., middle or primary school).

Dropout rates capture how likely a child is to drop out of school, and in 2017, about 9 percent of both boys and girls aged 5 to 15 have left schooling. Dropout rates are 26 percent higher in rural areas than in urban areas, and significant variation exists by state/region (Figure 3-8). As expected, there is a strong negative relationship between dropout and total net enrolment across states/regions. Shan, Rakhine, and Kayin States, which have some of the lowest total net enrolment rates, also have the highest likelihoods of dropout among school-age children. While Chin State has the lowest dropout rate, it also has one of the highest shares of children in educational levels below the appropriate level for their age, which accounts for the state's low total net middle and high school enrolment rates.

Figure 3-8

School dropout rate among school-age children, by residential area and state/region (in percent)

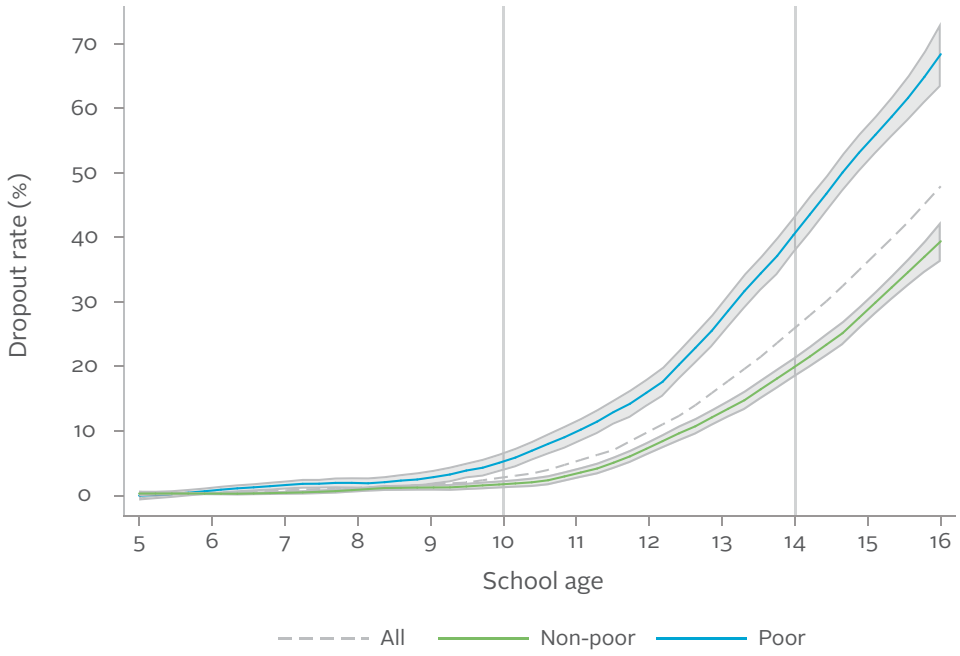


Note: Dropout rates are defined as the share of school-age children who have attended school at one point in their lives but have since dropped out and are not in a gap year.
Source: 2017 MLCS.

Dropout rates increase rapidly with school age after primary school, emphasizing that grade-to-grade transition in middle and high school is an issue in Myanmar, especially among poor children. Figure 3-9 shows that dropout in primary school years (age 5 to 9) is low, and marginal differences in dropout exist between poor and non-poor children. Starting from age 10 when children typically enter middle school, dropout rates increase rapidly, and poor children become significantly more likely to dropout from school. By high-school age, the dropout rate is over 30 percent, with poor children being twice as likely as non-poor children to drop out from school. Overall, 14 percent of poor school-age children have dropped out from school, while 7 percent of non-poor children have done so. Similar trends in dropout can be seen by welfare quintile: Middle and high-school dropout rates decrease with welfare, and children aged 14 and 15 in the poorest quintile are 3.7 times more likely than those in the wealthiest quintile to drop out.

Figure 3-9

School dropout rate, by school age and poverty status (in percent)



Note: The dotted line represents both poor and non-poor children. The grey area indicates 95% confidence intervals, and the vertical lines at age 10 and 14 indicate the start of middle and high school, respectively.
Source: 2017 MLCS.

Household finances and educational costs present significant barriers for children, particularly poor children, to continue and complete secondary education. A lack of affordability and the need to work account for almost two-thirds of dropouts from basic education, particularly from middle and high school (Table 3-2). Together, these financial barriers make up a larger share of dropouts among middle and high-school-age children than among primary-school-age children, signalling the relatively high financial burden secondary education presents for households. Among children who have dropped out of school, those living in rural areas are more likely than those living in urban ones to drop out for financial reasons, especially to work. Poor children in every age group are also more likely than non-poor children to drop out because they cannot afford schooling costs. Although among dropouts, non-poor children are more likely than poor ones to have left schooling in order to work, among all school-age children, poor children are significantly more likely to drop out to work. Thus, as shown in Chapter 7, child labour is more of an issue among poor children 10 to 15 years old than it is among non-poor children.

Girls are more likely than boys to drop out due to financial reasons, while boys are more likely to drop out because of poor performance in school or the perception that further education is not imperative. Relative to boys, girls are 24.6 percent more likely to drop out of school due to difficulty paying for the costs associated with schooling or due to the need to work (Table 3-2). On the other hand, a greater share of boys drops out because of poor performance in school or because they find school content not useful or they have completed their desired level of schooling. Both of these finding hold even after considering age group, which controls for potentially different timings of dropout. Given that dropout rates between girls and boys are similar across age groups, these results suggest that financial investment in girls' education may be less of a priority for some households.

Table 3-2

Reasons for dropout among school-age children who have dropped out (in percent)

	Union	Urban	Rural	Male	Female	Non-poor	Poor
Could not afford school	38.2	40.0	37.8	34.4	42.1	34.2	42.9
To work	25.1	18.0	27.0	22.1	28.3	26.4	23.7
Failed/Fell behind	7.5	8.9	7.2	8.6	6.5	8.0	7.1
School content not useful	5.6	5.7	5.6	6.3	4.9	5.9	5.2
Completed desired level	5.2	6.5	4.9	7.3	3.0	6.0	4.3
Illness/Disability	5.0	6.3	4.6	4.1	5.8	6.1	3.7
School was too far	3.5	3.1	3.6	3.2	3.7	2.2	5.0
Other	9.8	11.5	9.4	13.8	5.7	11.2	8.2

Source: 2017 MLCS.

The costs of education

In 2017, households in Myanmar spend on average 5.1 percent of their total consumption on any educational expenditures and 4.1 percent on expenditures related only to basic education. Urban households are more likely than rural households to spend more in absolute terms on basic education, as are non-poor households when compared to poor households. However, in relative terms, spending on basic education as a share of total consumption is similar across urban and rural areas, and poor and non-poor households.

Educational expenditures per student increase with school level, demonstrating that higher levels of basic education demand larger requisite costs. For every child enrolled in any academic institution, the average school-related costs[18] are about 205,300 kyat per year or 22,800 kyat per school month. Educational expenditures increase with school level, with average annual costs amounting to 103,000 kyat per primary-school student, 173,500 kyat per middle-school student, and 602,400 per high-school student (Table 3-3). Some schools such as private schools require additional fees. Moreover, some educational expenses such as tutoring or donations are discretional and are not necessarily required for all children enrolled in school. Excluding expenditures on tutoring and donations and restricting the sample of students to those attending government schools thus provides a better estimate of the basic costs associated with schooling. Table 3-3 shows that the basic costs in government schools are significantly lower than total costs in any type of academic institution: The average annual basic cost associated with sending a child to a government school is 78,000 kyat for primary school, 123,200 kyat for middle school, and 346,400 kyat for high school.

18 Total costs include educational expenditures on school fees, donations, uniforms, books, tutoring, accommodations, transportation, school meals or snacks, and miscellaneous items.

Table 3-3

Average annual educational expenditures per student by school level (in 2017 nominal kyat)

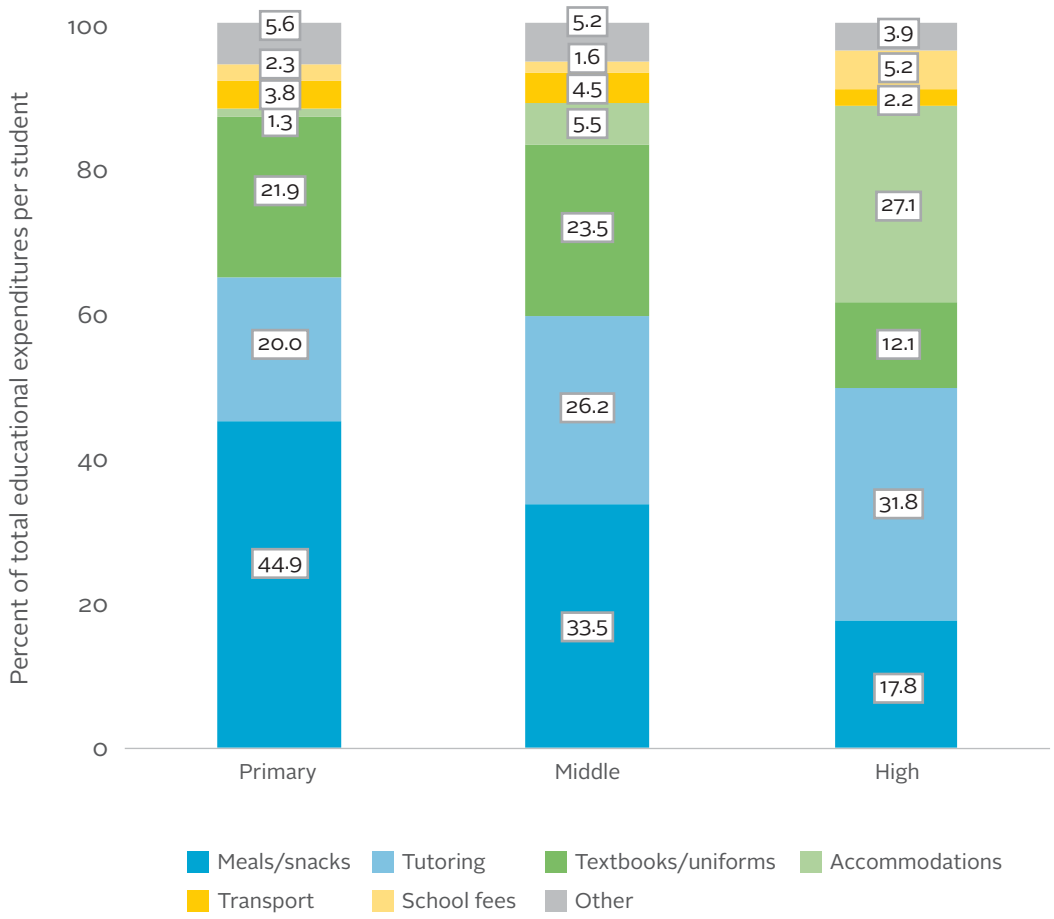
	Total costs		Basic costs
	All schools	Government-run schools	Government-run schools
Primary	103,000	95,500	78,000
Middle	173,500	169,900	123,200
High	602,400	537,700	346,400

Note: Total costs include educational expenditures on school fees, donations, uniforms, books, tutoring, accommodations, transportation, school meals or snacks, and miscellaneous items. Basic costs include only essential educational expenditures and excludes tutoring fees and donations. Values are reported in 2017 nominal kyat.

Source: 2017 MLCS.

Figure 3-10

Student educational expenditure shares, by educational expense and school level (in percent)



Note: Expenditure shares are taken over students of the specified school level who report having educational expenditures.
Source: 2017 MLCS.

Compared to primary and middle school, high school is associated with substantially higher shares of total educational expenditures spent on accommodations and tutoring. For primary and middle school students, expenditures on school meals or snacks make up the majority of total educational expenditures (Figure 3-10). Expenses associated with tutoring, textbooks, uniforms, and other school supplies also compose a significant portion of total costs. Large expenditures on additional tutoring for children may reflect challenges in the education system. In Myanmar, tutoring often entails paid, after-class instruction that is sometimes led by classroom teachers. This type of tutoring has become pervasive in Myanmar and is largely regarded as a "necessary evil", as it is perceived to help with school performance but is costly and hampers out-of-classroom development.[19] On average, expenditures on tutoring make up 31.8 percent of educational expenditures on high-school students. This translates to about 200,000 kyat per high-school student, although variation across students is large, with about a third of high school students spending nothing on tutoring and some spending more than a billion kyat per year on tutoring. High-school students also have relatively high accommodation expenses, which reflects the short supply of high schools in Myanmar. As shown in Chapter 8, many children are forced to temporarily migrate to attend high school and thus incur additional expenses for accommodation at dormitories, homes of relatives, or other places.

Wealthier households spend significantly more on education per school-age child, even after considering higher enrolment in secondary grades and private schools among the top quintiles. On average, the non-poor spend almost twice as much in educational expenditures per student as the poor, while the top quintile spends about 2.6 times more per student than the poorest quintile.[20] Some of these differences can be attributed to relatively high enrolment in secondary school and private school in wealthier quintiles, which are associated with higher costs compared to primary and public schools, respectively. However, gaps in spending per student persist even controlling for differences in school level and type, in addition to residential area and other individual characteristics. In fact, much of these gaps can be attributed to significantly higher spending on tutoring both in absolute terms and as share of total educational expenditures among wealthier students at every educational level. As tutoring is not mandatory for students, poor households may choose not to enrol their children in these optional afterschool classes. However, if tutoring proves to play an important role in school performance and prospects for further education, poor students may be at a serious disadvantage since many will not be able to afford these additional costs. This, in turn, could have serious implications for widening gaps in enrolment and educational attainment across welfare quintiles.

19 https://frontiermyanmar.net/en/extra-curricular-tuition-is-big-business-in-myanmar

20 See Annex C Table C-2 for regressions of log educational expenditures per student on consumption quintile, school level, school type, residential area, and other individual characteristics.

Main takeaways and implications

This chapter sheds light on Myanmar's build-up of human capital through education. As of 2017, adults' education remains low, although more adults from the younger generations have completed higher school levels. However, dropout rates in middle and high school suggest that more remains to be done to ensure accumulation of human capital and productivity gains for all children. Poorer children face considerably larger barriers to education. In general, they have poorer access to schools, face greater financial constraints to continuing education, and possess greater household responsibilities that deter them from going to school.

This analysis brings to light two main implications:

i. Helping poorer students with grants and scholarships to pursue their education after primary school level could have a trickle-down effect on reducing school dropout. This could reduce child labour force participation as most children dropping out of school start working at an early age. It could also improve human capital and once these children become parents, one can hope they would invest in the education of their future children.

ii. Developing school infrastructure network at the community level would increase enrolment. Having physical access to school could lead Myanmar to reach universal primary education enrolment. Building, and investing in, middle and high school at the local level could also help reduce the budgetary constraint that parents face when sending their children to middle and high school outside of their communities to receive higher education.

04.

ACCESSING HEALTHCARE SERVICES AND MANAGING THE FINANCIAL BURDEN OF HEALTHCARE

Universal health coverage generally entails two main components: access to services and protection from financial headship when using healthcare. The importance of such coverage is spelled out in target 3.8 of the third SDG: "To ensure healthy lives and promote well-being for all at all ages". In this context, this chapter describes access to different types of healthcare facilities in Myanmar and analyses the utilisation of healthcare when faced with an illness or injury. It also examines the level of financial burden that households face due to healthcare utilisation and the strategies used in order to pay for health costs.

Access to healthcare services

Nearly nine out of ten individuals in Myanmar live in close proximity[21] to a public medical facility, although the type of facility differs by residential area. In 2017, half of the population lives near a government hospital (Table 4-1). Urban residents are 2.4 times as likely as rural residents to have a government hospital nearby, and government hospitals are by the far most accessible public medical facility in urban areas, with 85.6 percent of the urban population living close to them. On the other hand, in rural areas, a greater share of individuals lives in close proximity to a government health centre or health post[22], which is expected given that these clinics have been set up mainly in rural areas in an attempt to satisfy gaps in the provision of primary care through government hospitals. While health centres offer a wider range of primary care services, health posts tend to provide only basic medical services and have limited staff, most often without a doctor. In rural areas, more than half of residents live near a government health post, making it the most accessible public facility in rural areas.

Table 4-1

Percentage of population living in close proximity to medical facilities, by type of facility

	Union	Urban	Rural	Non-poor	Poor
Any public facility	88.7	91.1	87.8	89.4	86.5
Public hospital	50.4	85.6	36.3	53.8	40.1
Public health centre	28.9	13.5	35.0	28.5	30.0
Public health post	41.7	15.1	52.3	40.0	46.9
Any private facility	55.6	96.1	39.5	59.9	42.6
Private hospital	20.0	55.1	6.0	23.5	9.4
Private doctor/clinic	55.0	95.8	38.6	59.4	41.6

Note: An individual is considered to live in close proximity to a facility if the facility is less than 5 miles away from the village/ward of residence and it takes less than one hour to reach the facility by the most common means of transport in the village/ward. Public facilities include government hospitals, health centres, and health posts. Private facilities include private hospitals and doctors/clinics.
Source: 2017 MLCS

21 An individual is considered to live in close proximity to a facility if the facility is less than 5 miles away from the village/ward of residence and it takes less than one hour to reach the facility by the most common means of transport in the village/ward.

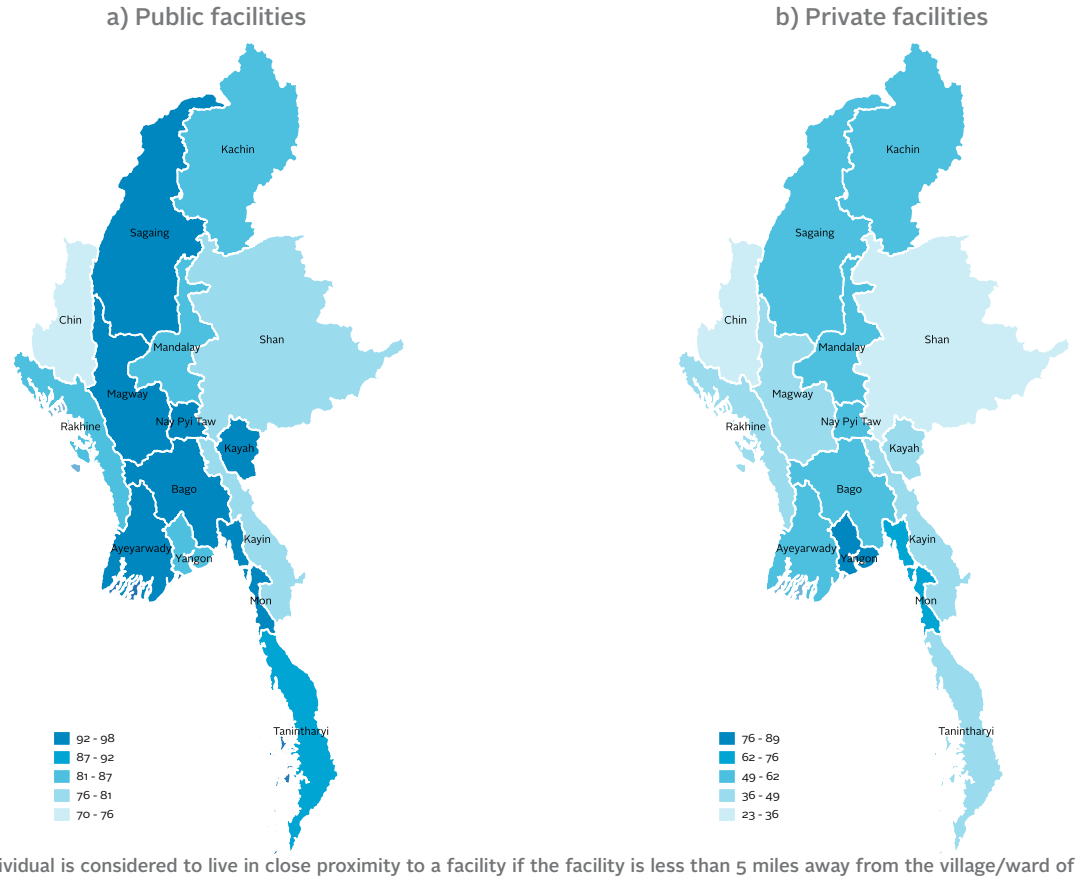
22 Health centres and posts in rural areas of Myanmar typically have no beds or doctors and offer only primary care with a focus on maternal and child health and public health services.

Private providers have failed to fill in the gaps of public healthcare provision. In 2017, nearly 56 percent of the population lives in close proximity to a private hospital or doctor/clinic, and private medical facilities, especially private hospitals, are significantly more accessible in urban areas than in rural areas (Table 4-1). In general, individuals who live close to government hospitals are also more likely to have better access to private hospitals and clinics. Map 4-1 shows that the states/regions that have greater access to public providers also have greater access to private ones and tend to be in central Myanmar. This relationship between public and private facilities is also evident within every state/region and is largely driven by areas with government hospitals. Those who only have access to government health centres or posts tend to have relatively poor access to private facilities, which may offer a more extensive range of primary care services. Taken together, these results suggest that private providers have not entirely filled the gaps of public healthcare provision within and across states/regions in Myanmar. Access to both public and private health facilities is notably low in Chin, Shan, Kayin, and Rakhine States.

The poor have inferior access to public and private hospitals compared to the non-poor primarily due to higher residence in rural areas. While the share of the poor and the non-poor who have access to any public medical facility is similar, the non-poor are 34.2 percent more likely than the poor to live in close proximity to a government hospital (Table 4-1). Moreover, the non-poor are 2.5 times as likely as the poor to have a private hospital nearby their residence. Public health centres and health posts are relatively more accessible to the poor, largely due to the fact that many of the poor reside in rural areas.

Map 4-1

Percentage of population living in close proximity to medical facilities



Note: An individual is considered to live in close proximity to a facility if the facility is less than 5 miles away from the village/ward of residence and it takes less than one hour to reach the facility by the most common means of transport in the village/ward. Public facilities include government hospitals, health centres, and health posts. Private facilities include private hospitals and doctors/clinics. Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State and the Wa Self-Administered Division.

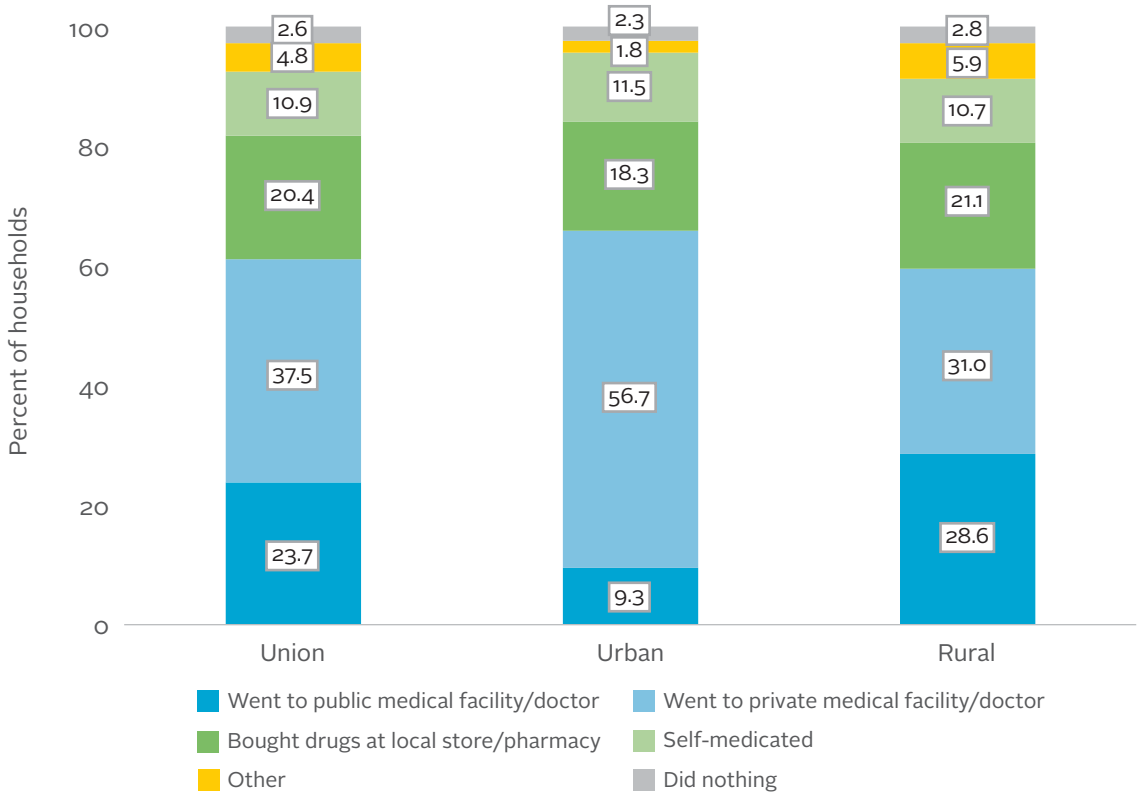
Source: 2017 MLCS

Correlates of healthcare utilisation[23]

In 2017, healthcare utilisation in Myanmar, particularly of private facilities, is high. Six out of ten people seek treatment at a medical facility or consult a doctor when faced with an illness or injury (Figure 4-1). Going to a medical facility or a doctor is associated with more days recuperating than self-medicating, buying drugs at a local store or pharmacy, or pursuing other/no methods of treatment. This suggests that those who face relatively severe illnesses or injuries tend to seek treatment at healthcare facilities rather than relying on personal methods of treatment, which may be sufficient for small ailments. Among those who go to a formal healthcare provider, the majority (61 percent) go to a private facility rather than a public facility, with private hospitals and clinics being the most visited. Government health posts are the most utilised public facility, which reflects their relative accessibility in rural areas.

Figure 4-1

Percentage of ill or injured individuals seeking different types of treatment, by residential area



Note: Self-medication is defined as using medicine that is already in one's possession. Treatment at NGO-run facilities represents less than 0.1 percent of treatment sought at medical facilities and is combined with treatment sought at public facilities.
Source: 2017 MLCS.

Urban residents are more likely than their rural counterparts to use private rather than public healthcare services when ill/injured. Ill/injured individuals residing in urban areas are 10.8 percent more likely than ill/injured individuals residing in rural areas to visit a medical facility or doctor. A relatively large share of urban residents seek treatment at private facilities rather than public ones,

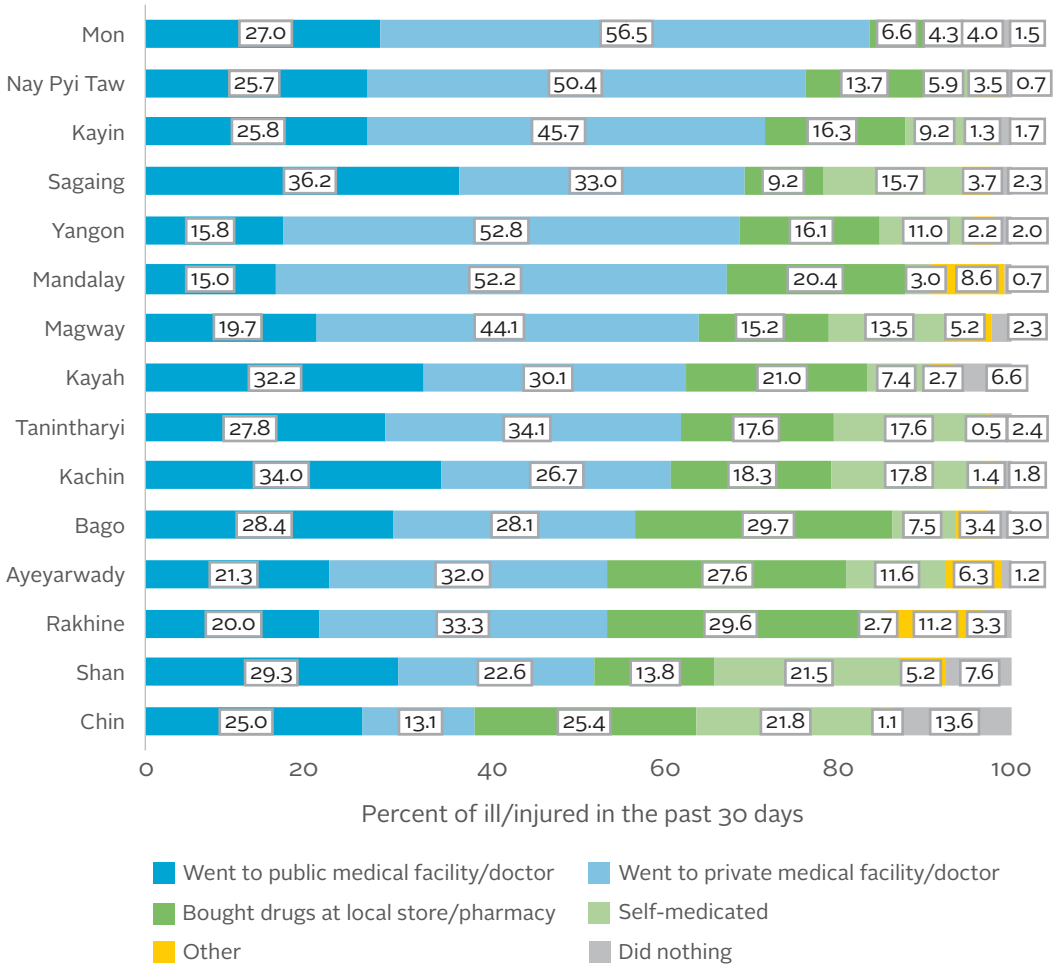
23 This section examines correlates of healthcare utilisation among individuals who report being ill or injured in the 30 days preceding the survey (about 31 percent of individuals in the 2017 MLCS). Healthcare includes public hospitals, centres, and posts, as well as private hospitals/clinics and doctors. Probit regressions of healthcare utilisation on various demographic, household, and state/region characteristics can be found in Annex D Table D-1.

which reflects both greater accessibility of private facilities and preference for private providers in urban areas. Controlling for proximity to various public and private medical facilities and other individual and household characteristics reduces urban-rural differences in the likelihood of using healthcare services, but still urban residents are 6.8 percentage points more likely than rural residents to use private facilities and are 8.9 percentage points less likely than rural residents to use public ones.

States/Regions exhibit substantial differences in healthcare usage, even after considering severity of illness, access to healthcare facilities, and other individual and household characteristics. Figure 4-2 shows the types of treatment sought among ill/injured individuals by state/region. Mon State has by far the highest share of individuals using medical facilities, particularly private ones, in response to an illness or injury (Figure 4-2). At the other end of the spectrum, Chin State and Shan State have the lowest utilisation of healthcare services in general and private services in particular. Instead, these states have the highest share of individuals who self-medicated or did not seek treatment through any means after being afflicted with an illness or injury. Although some of these differences in healthcare usage across states/regions are explained by varying access to public and private healthcare facilities and welfare disparities, differences persist even after controlling for these factors and other individual and household characteristics. This suggests that other variables specific to states/regions – for example, affordability and quality of available services – influence healthcare utilisation.

Figure 4-2

Percentage of ill or injured individuals seeking different types of treatment, by state/region

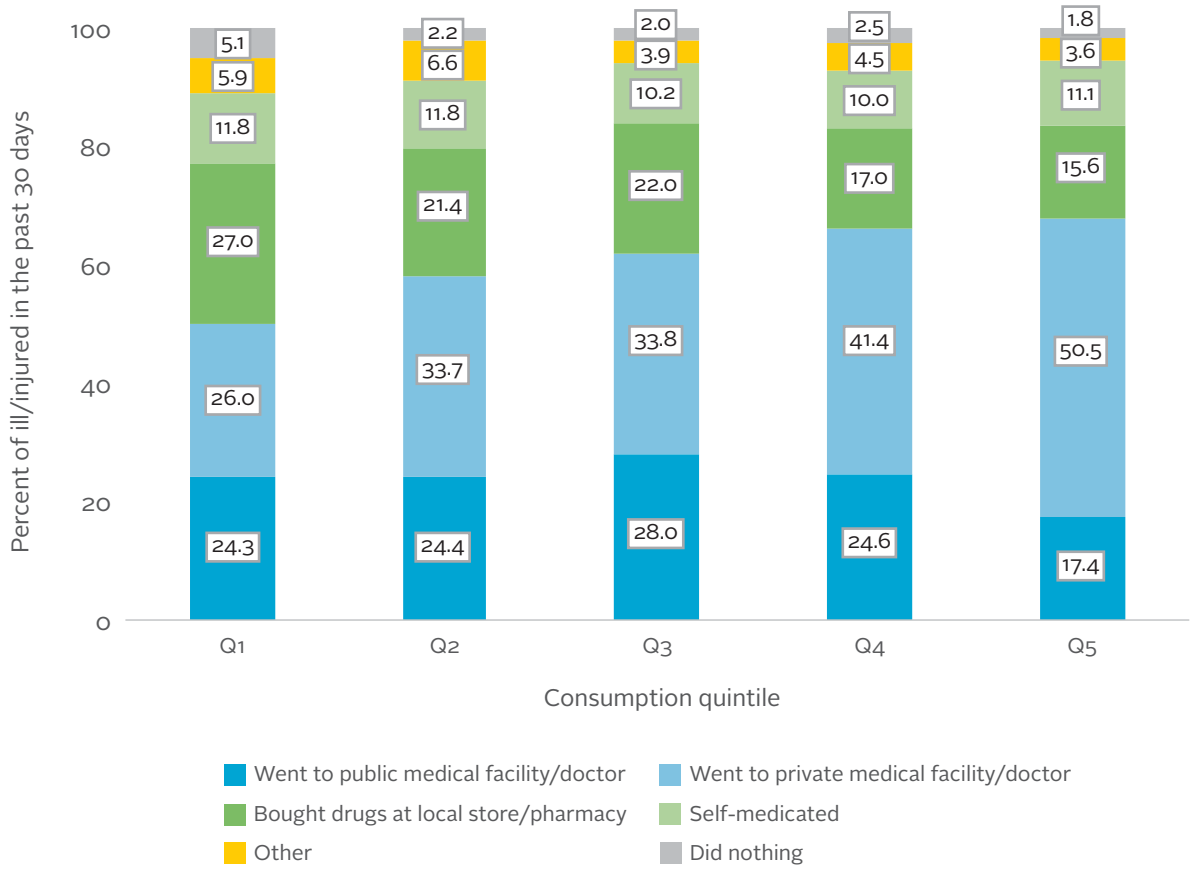


Note: Self-medication is defined as using medicine that is already in one's possession. Treatment at NGO-run facilities represents less than 0.1 percent of treatment sought at medical facilities and is combined with treatment sought at public facilities.
Source: 2017 MLCS.

Higher welfare is associated with greater healthcare utilisation, which is driven by higher usage of private medical facilities. The non-poor are 24 percent more likely than the poor to seek treatment at a healthcare facility when faced with an illness or injury. In general, healthcare utilisation also increases with consumption, which is entirely driven by greater usage of private healthcare services in higher quintiles (Figure 4-3). Controlling for age, illness severity, proximity to facilities, and other individual and household characteristics reduces the magnitude but does not close the gap in private healthcare utilisation across welfare quintiles. This result indicates that wealthier individuals tend to prefer private providers – perhaps due to the quality of service – compared to poorer individuals, who are more likely to utilise public medical facilities or buy medication at a local store or pharmacy. It is probable that poor individuals opt for these methods due for their relative affordability, as treatment from public providers and over-the-counter medication are generally cheaper compared to the services provided at private hospitals or clinics. Further research is required to assess whether treatments sought by the poor are sufficient to deal with their health needs, which is beyond the scope of the MLCS.

Figure 4-3

Percentage of ill or injured individuals seeking different types of treatment, by consumption quintile

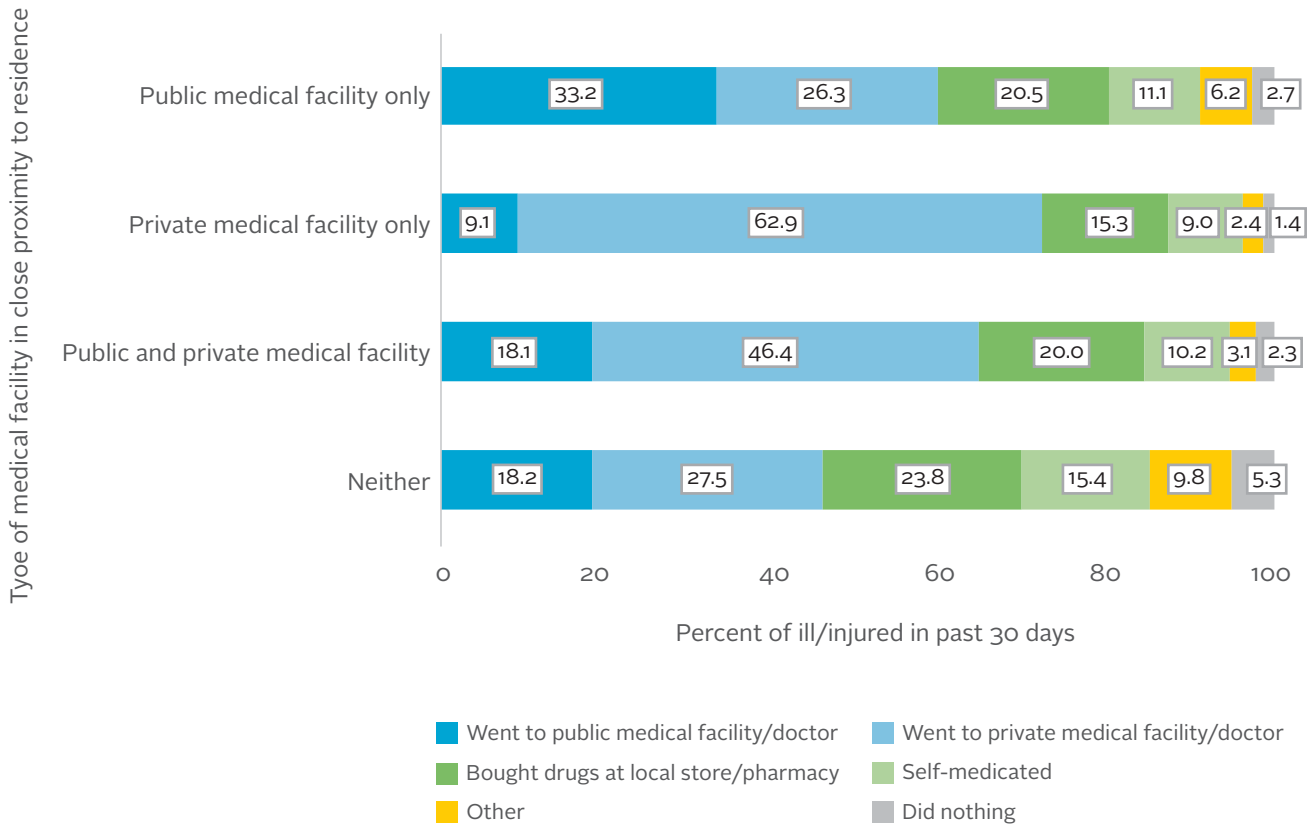


Note: Self-medication is defined as using medicine that is already in one's possession. Treatment at NGO-run facilities represents less than 0.1 percent of treatment sought at medical facilities and is combined with treatment sought at public facilities. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

Usage of a public or private healthcare provider depends largely on the accessibility of services, but there is a general preference for private services. Controlling for proximity to other medical facilities and additional factors, living close to public facilities, mainly government hospitals and posts, is associated with higher healthcare utilisation. On the other hand, residing near a private hospital or clinic is associated with lower usage of public medical services and higher usage of private ones. In areas where only public facilities are easily accessible, the majority of individuals (33.2 percent) seek treatment from public providers (Figure 4-4). In areas where private medical facilities are accessible either exclusively or together with public facilities, the preference is primarily towards private providers: Almost half (46.4 percent) of ill/injured individuals seek treatment from private providers in areas close to both public and private medical facilities, which is 2.6 times the share that go to public facilities in these areas. Even in locations where neither public or private facilities are easily accessible, the majority of individuals opt to receive treatment at private facilities (27.5 percent), although the share of individuals resorting to methods outside of formal healthcare is also relatively high.

Figure 4-4

Percentage of ill or injured individuals seeking different types of treatment, by proximity to medical facilities



Note: Self-medication is defined as using medicine that is already in one's possession. Treatment at NGO-run facilities represents less than 0.1 percent of treatment sought at medical facilities and is combined with treatment sought at public facilities. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

Financial burden associated with healthcare expenditures[24]

Outpatient care and expenditures on medicine and other drugs comprise a substantial share of household spending on health. On average, households spend almost 300,000 kyat per year (in 2017 nominal kyat) in health expenditures, which includes costs incurred from healthcare utilisation (i.e., inpatient and outpatient care and associated transportation and accommodation costs) as well as other expenditures on medication and drugs. Nearly all households have some health expenditures, with eight out of ten households having expenditures from healthcare utilisation and eight out of ten having expenditures on medicine and other drugs. Only 6.9 percent of households report zero spending on health. On average, costs incurred from outpatient care account for 46.8 of household health expenditures, while spending on medicine and drugs account for another 35.6 percent. Inpatient care constitutes only 8.0 percent of total health expenditures. In general, urban households spend 66.3 percent more than rural households on health, and the non-poor spend 88.1 percent more than the poor on health expenditures. The share of total health expenditures spent on different types of health expenses are similar across residential areas and welfare quintiles.

For almost one out of ten households, health expenditures make up 20 percent or more of total household consumption, presenting a considerable financial burden. On average, health expenditures constitute 7.6 percent of total household consumption in 2017, and marginal differences exist between urban and rural areas.[25] For most households (64.3 percent), health expenditures represent less than 5 percent of total household consumption (Figure 4-5). Two out of ten households spend 10 percent or more of total consumption on health expenses, and 8.3 percent spend 20 percent or more on health. Health expenditures that make up 20 percent or more of total household consumption are likely to present significant financial burdens for households, which on average spend half of their budget on food expenditures. In comparison to other countries in the region such as Vietnam, Myanmar has more burdensome levels of spending on healthcare (Hoang, et al., 2015), which may have implications for the affordability of healthcare in Myanmar.

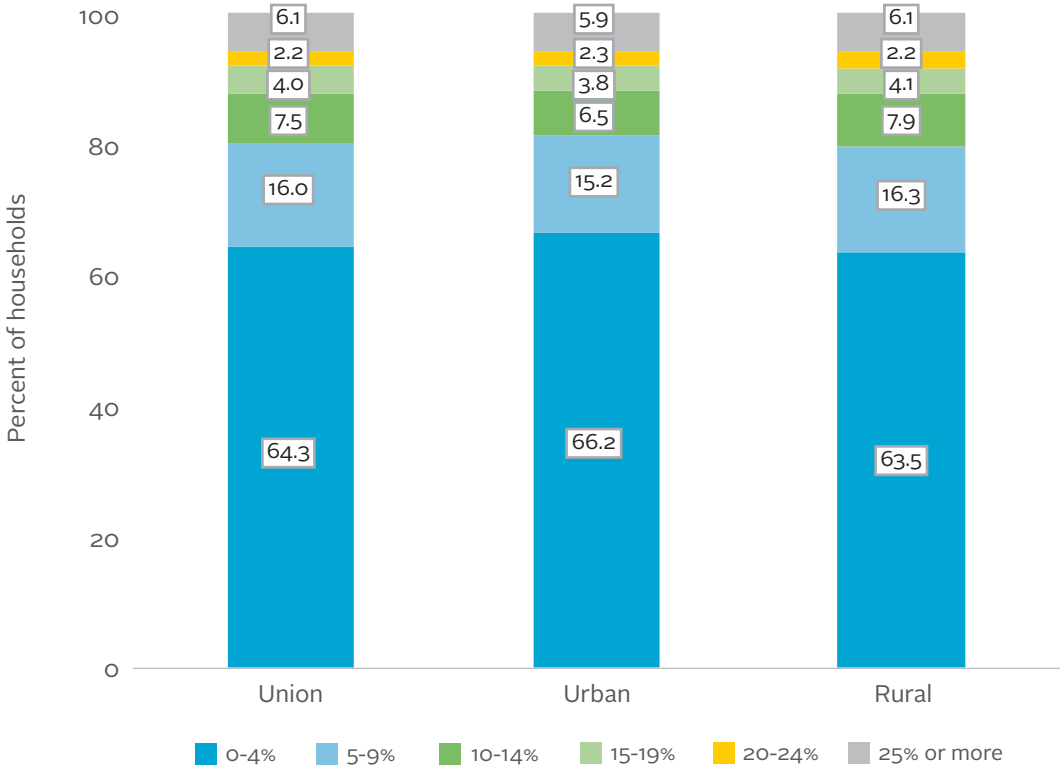
Few states/regions such as Rakhine State, Mon State, Bago Region, and Chin State exhibit relatively high financial burden from health expenditures. In these four states/regions, more than 10 percent of households spend 20 percent or more of total consumption on health. In Rakhine State and Mon State, more than 25 percent of households spend a tenth or more of total consumption on health expenses. Even after controlling for welfare differences, proximity to public and private medical facilities, and other household characteristics, differences across states/regions persist, indicating that other local factors play a role in determining the financial burden of health expenditures among households. For example, if the range and quality of medical services are relatively poor in these areas, households may be forced to seek treatment in other areas, which may incur higher costs and financial burden.

24 This section draws on probit regressions of health expenditures as a share of total household consumption on various household characteristics and state/region indicators, which can be found in Annex D Table D-2.

25 Health expenditures are not included in the consumption aggregate, as they are often infrequent, large, and not welfare-enhancing. See CSO, UNDP, and WB (2018b) for further details on the exclusion of health expenditures from the consumption aggregate.

Figure 4-5

Percentage of households with health expenditures constituting different shares of total consumption, by residential area



Note: Each category represents the percentage of households that have health expenditures that make up the specified percentage range of total household consumption. For example, for 64.3 percent of households, health expenditures constitute 0 to 4 percent of total household consumption.
Source: 2017 MLCS.

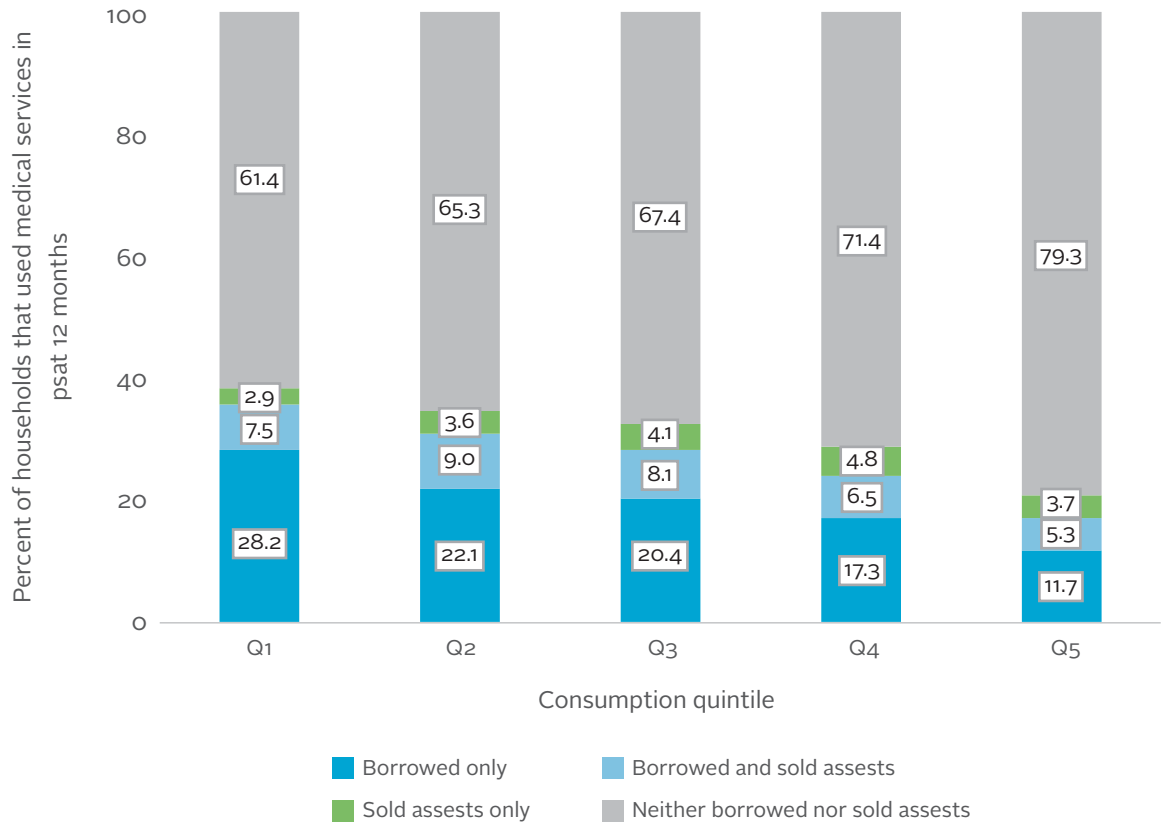
Having more young children or elderly members in the household is associated with higher financial burden from health spending. Controlling for household welfare and other characteristics, each additional child below the age of five is associated with a 1.6 percentage point increase in the likelihood of having health expenditures that make up 20 percent or more of total consumption. Similarly, each additional household member aged 60 or more is associated with a 2.5 percentage point greater likelihood of having a financial burden from health spending. Young children and the elderly are more likely to require specialized treatment (paediatric and geriatric care), which is more readily available at hospitals and clinics that offer a range of primary and secondary care. Thus, the type of care needed and access to facilities that provide this care may present relatively large health expenditures for young children and elderly members of the household.

Poorer households are more likely to have higher financial burden from health spending than wealthier households. Household size and composition differ significantly between poor and non-poor households. For example, poor households are 1.75 times more likely than non-poor households to have children below the age of five, while non-poor households are more likely to have elderly members, especially over the age of 70. Thus, household size and composition must be taken into consideration when looking at differences in burdensome health spending across welfare quintiles. Controlling for these and other household and geographic characteristics, wealthier households are significantly less likely than households in the poorest quintile to have health expenditures that make up 20 percent or more household consumption.

In addition to having higher financial burden from health spending, poorer households resort to riskier methods to cover their medical expenses. Lack of financial risk protection and high medical costs may cause households to resort to coping mechanisms such as borrowing or selling personal assets in the face high healthcare expenses. In general, households that neither borrow nor sell assets to cover their medical costs have lower financial burden from health spending: On average, health expenditures compose 5.7 percent of total consumption for households that neither borrow nor sell assets, which is 3.3 times lower than it is among households that are forced to both borrow and sell their assets to cover medical expenses. Households that sell their assets have the highest financial burden from health spending, suggesting that selling personal assets may be an option of last resort. Almost 36 percent of households in the bottom consumption quintile borrow to cover the cost of medical treatment, while 17 percent of households in the top quintile do so (Figure 4-6). Riskier coping mechanisms among poorer quintiles may be expected given the higher financial burden faced by these households due to healthcare utilisation. However, controlling for the share of total consumption spent on healthcare does not explain differences in strategies employed to cover medical costs across welfare quintiles. This result indicates that poorer households have more difficulty in paying for their medical treatment regardless of the level of financial burden it presents and are forced to resort to borrowing or selling their assets. Such coping mechanisms can undermine the livelihood strategies (particularly of poorer households) and increase their vulnerability to future shocks (Flores et al, 2008).

Figure 4-6

Strategies used to cover healthcare expenses, by consumption quintile (in percent)



Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

Main takeaways and implications

This chapter demonstrates that access to comprehensive healthcare services is limited in rural areas, in which many of the poor reside. Access to public and private healthcare services is also low in select states/regions such as Chin, Shan, Kayin, and Rakhine States. Access is an important factor in healthcare utilization, and urban residents are significantly more likely than rural residents to utilize private hospitals or clinics when ill or injured. Usage of private healthcare facilities is also higher among wealthier individuals, and generally, there is a preference for private healthcare services in Myanmar. The poor are more likely to face larger financial burdens due to healthcare costs and are also more likely to resort to more extreme methods to pay for their healthcare expenses.

Two main implications stem from this chapter:

i. The poor, many of whom reside in rural areas, could benefit from improvements in the accessibility and affordability of comprehensive healthcare services. Improving the accessibility of public and private hospitals or clinics could help reduce the share of people who either do nothing when ill or injured or go to unskilled caregivers.

ii. Health expenditures, especially those incurred from healthcare facilities, present significant financial burdens, especially for the poor. Targeted health coverage or flexible payment methods can prevent poor households from resorting to extreme measures in order to pay for healthcare.

05.

IMPROVING ACCESS TO KEY SANITARY AND ENERGY SERVICES

Access to water and sanitation (Box 5-1 on SDG 6) as well as access to clean energy (Box 5-2 on SDG 7) are basic human rights that have spillover effects on achieving the rest of the SDGs. There are strong links between access to clean water and sanitation and reducing under-5 child mortality or between access to clean energy and health, or electricity and productivity. With this background, the objective of this chapter is to explore the main determinants explaining access to water and sanitation, and access to energy. This chapter starts by analysing access to clean water and sanitation, while paying attention to its link with welfare. Then the chapter moves on to assess the access to electricity and to clean energy, shedding light on the link between welfare and access to clean energy.

Access to improved water sources and improved sanitation

The Key Indicators Report shows that the percentage of the population using an improved water source has increased; at the same time the use of improved water source is better in rainy season than in the dry season, and significant differences still exist across urban and rural areas, and state/region in 2017 (CSO, UNDP and WB, 2018a). In 2017, one out of five people in Myanmar does not have access to improved sources of drinking water in the dry season. Rural residents are significantly more likely than urban residents to have unimproved sources of water (Figure 5-1). Access is poorest in Rakhine State, where only 42 percent of the population have access to improved water in the dry season and 45 percent have access in rainy season. The need to transport water, especially over long distances can expose water to contamination and degrade quality. About 40 percent of the population live in households that do not have drinking water on premise and thus need to transport water from the source back to their homes. Urban residents are more likely than rural residents to have improved water on premise in both the dry and rainy seasons.

Box 5-1 SDG Goal 6 - Indicators and definitions

Goal 6: Ensure availability and sustainable management of water and sanitation for all
Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

Indicator 6.1.1: Proportion of population using safely managed drinking water sources

This indicator includes four criteria: 1) use of an improved drinking water source; 2) use of a water source which is located on premise; 3) having a water source that is available when needed; and 4) having a water source that is free of faecal (and priority chemical) contamination. As outlined in Box 5.1 of the Key Indicators Report, the 2017 MLCS only captures improved drinking water sources and whether or not the source is located on premise. It does not capture water availability and quality. Thus, the following categories are used to characterise water usage:

1. Improved, on premise – Drinking water from an improved water source which is located on premises. Improved water sources include: piped water, tube well/borehole, protected well, rainwater collection/ tank, bottled water , and water delivered from a tanker/truck.
2. Improved, not on premise – Drinking water from an improved water source which is not located on premise
3. Unimproved – Drinking water from an unprotected well or spring
4. Surface water – Drinking water directly from a river, stream, canal, pool, pond, lake, dam, or other stagnant water

Target 6.2: By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations.

Indicator 6.2.1: Proportion of population using safely managed sanitation services

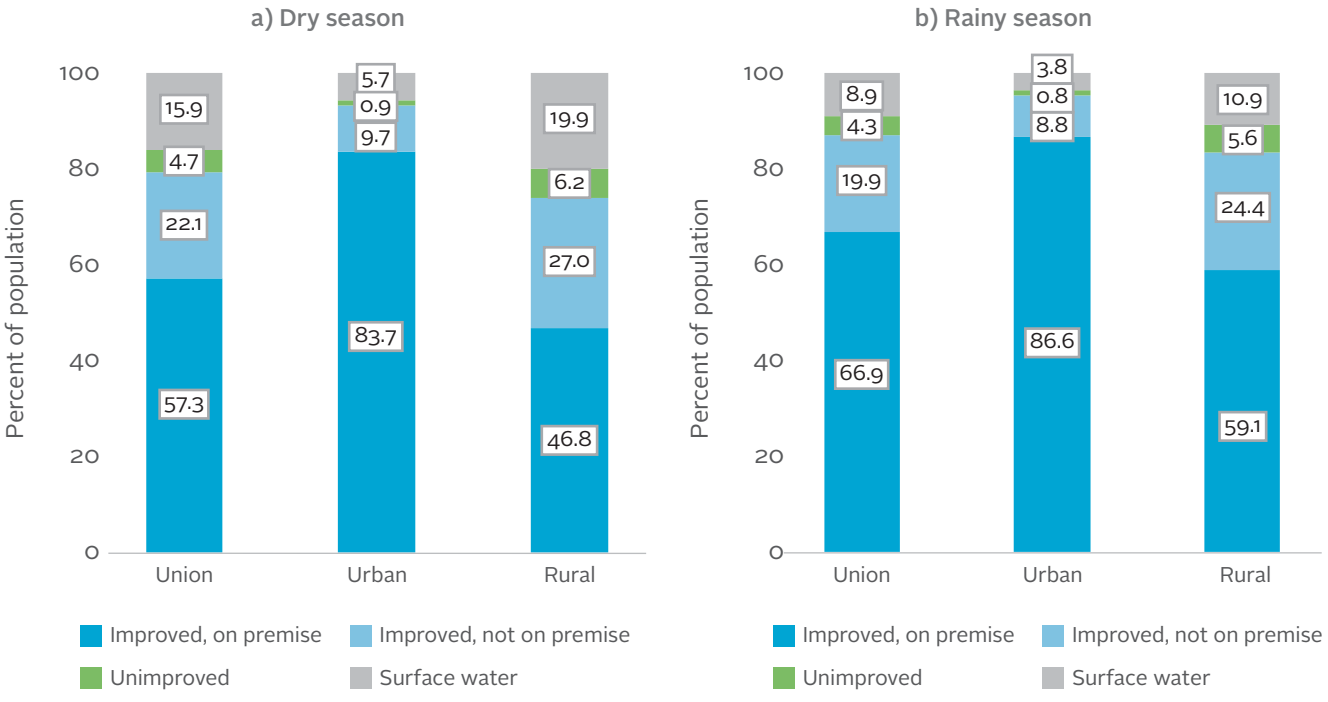
This indicator includes four criteria: 1) use of improved types of toilets; 2) exclusive use of toilet by a household; 3) having a hand-washing facility; and 4) faecal waste system which is safely disposed in situ or treated off-site. The 2017 MLCS does not capture the faecal waste system of a household's toilet, although it does provide information on the type of toilet, exclusive use of toilet, and whether the household has a hand-washing facility. Thus, following the Key Indicators Report, the following categories are used:

1. Basic – Use of improved toilets that are not shared with other households and having a hand-washing facility. Improved toilets include flush or pour flush toilets to sewer systems, septic tanks, or pit latrines, ventilated improved pit latrines, pit latrines with a slab, and composting toilets.
2. Limited – Use of improved toilets that are shared with other households and having a hand-washing facility
3. Unimproved – Use of pit latrines without a slab or platform or hanging/bucket latrines, regardless of whether a household has hand-washing facilities or shares their toilet with other households
4. Open defecation – Disposal of human faeces in field, forests, bushes, open bodies of water, and other open spaces or otherwise having no disposal facilities, regardless of whether a household has hand-washing facilities or shares their toilet with other households.

Sources: https://www.un.org/sustainabledevelopment/water-and-sanitation/
https://www.un.org/sustainabledevelopment/energy/;
CSO, UNDP, and WB (2018a)

Figure 5-1

Percentage of the population with access to improved sources of drinking water, by residential area

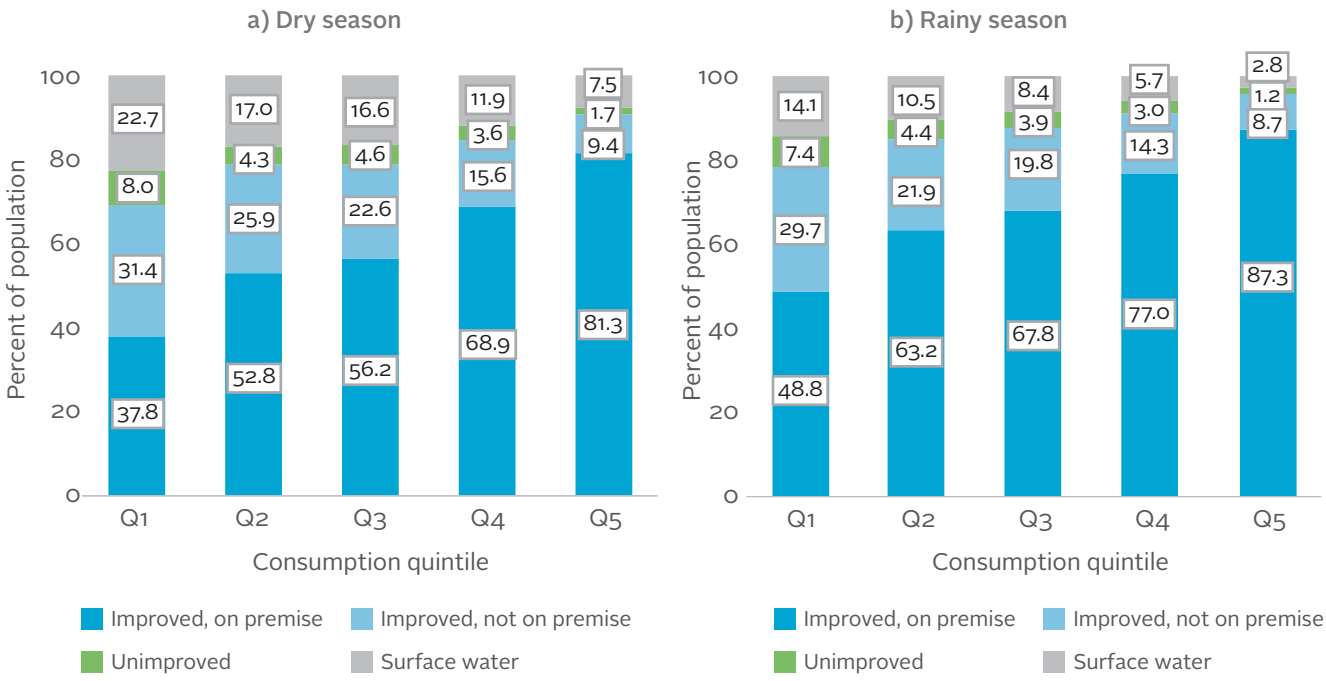


Source: 2017 MLCS.

Improved water access is unequal with poorer people relying on unimproved water sources. Three out of ten people in the bottom consumption quintile have unimproved water sources in the dry season, while the same is true for 21.5 percent of the population during the rainy season (Figure 5-2). In general, many households that rely on unimproved water sources in the dry season, particularly surface water, switch to collected rainwater in the rainy season. About half of those in the poorest quintile have access to improved water on premises during the rainy season, which is about 29 percent higher than it is in the dry season. Much of this difference across seasons is explained by use of rainwater in the wet season. Rainwater collection is thus an important source of drinking water, especially for the poor. The poor are also more likely than the non-poor to have to transport water to their homes in both seasons, which is often part of women's and children's chores. Distance to water sources are also significantly higher for the poor: In the dry season, almost half of those in the poorest quintile who do not have water on premise spend more than 10 minutes transporting water. In comparison, only one out of ten people in the wealthiest quintile who do not have water on premise do so. Transporting water and harvesting rainwater both increase the likelihood of deterioration of water quality, hence aggravating the risk of enteric diseases among the poor, especially poor children.[26]

Figure 5-2

Percentage of the population with access to improved sources of drinking water, by consumption quintile



Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

One out of three people in Myanmar and half of the poor do not have access to basic improved sanitation facilities in 2017. As described in Box 5-1, basic improved sanitation requires three criteria. While the share of the population that meets each one of the three criteria is high, the share of the population that meet all three criteria is relatively low at 64.2 percent (Table 5-1). Rural residents are 17.9 percent less likely than urban residents to have access to basic improved sanitation, and the poor are 28.1 percent less likely than the non-poor to have access to these facilities. Moreover, the share of the poor that have access to hand-washing facility is only 69.8 percent. As shown in

26 https://www.who.int/water_sanitation_health/gdwqrevision/rainwater.pdf

the Key Indicators Report, access to hand-washing facilities also varies significantly across states/regions, with people in Kayin State, Chin State, Tanintharyi Region and Ayeyarwady Region faring poorly (CSO, UNDP and WB, 2018a). Studies show that unsafe hygienic practices are still common in Myanmar, with many not washing their hands with soap after using the toilet, before preparing food, and before eating, even if they have access to hand-washing facilities.[27]

Table 5-1

Percentage of population living in households with different types of sanitation facilities, by residential area and poverty status

	Union	Urban	Rural	Non-poor	Poor
Basic improved sanitation	**64.2**	**73.6**	**60.4**	**69.0**	**49.6**
Improved toilet	89.0	96.4	86.1	92.4	78.8
Toilet not shared	80.7	79.2	81.2	81.2	79.1
Hand-washing facilities	83.3	93.5	79.1	87.7	69.8

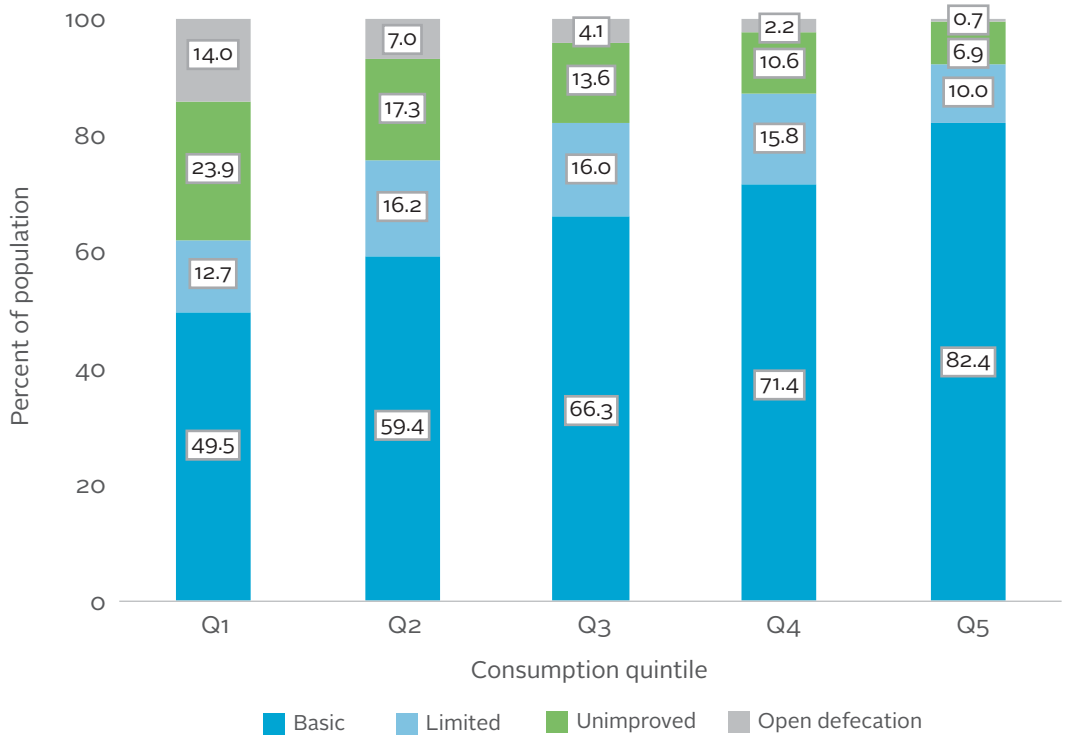
Note: "Improved toilet" includes flushed to piped sewer system, septic tank, or pit latrine, ventilated improved pit latrine, pit latrine with slab, and composting toilet, but does not consider whether household has hand-washing facilities or if the facility is shared with other households (CSO, UNDP and WB, 2018a).
Source: 2017 MLCS

Unequal access to improved sanitation means that the poor are more likely to resort to open-air defecation and other unsafe facilities than the non-poor. The share of people with no toilet facilities has declined but disproportionately across states/regions; In Rakhine State, nearly half of the population has no toilet facilities, which is about seven times more than the Union average (Figure E-1). In addition, on average, about 14 percent of people in the bottom quintile practice open defecation while nearly one out of four people uses unimproved toilet facilities (Figure 5-3). Disparities in access to basic improved sanitation across welfare quintiles are significant, with those in the top quintile 66.5 percent more likely than those in the bottom quintile to have access to such facilities. As in the case of access to improved water sources, poverty is the primary challenge preventing universal latrine usage in Myanmar. This may be due to a few reasons, one being that the poor may struggle to afford the materials or manpower required to build a latrine. In addition, some elderly people or children may be reluctant to use latrines, sometimes perceiving them as uncomfortable, unstable or dangerous. Other individuals may prefer to defecate in the open, falsely believing that open defecation is harmless, practical, and more natural than using latrines.[28]

27 https://www.wcmt.org.uk/sites/default/files/report-documents/Meehan%20P%20Report%202011%20FINAL.pdf
28 https://www.wcmt.org.uk/sites/default/files/report-documents/Meehan%20P%20Report%202011%20FINAL.pdf

Figure 5-3

Percentage of the population with access to type of toilet, by consumption quintile



Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

Access to clean energy

Access to electricity has increased rapidly between 2005 and 2015, while there has been a sharp decrease in the use of candle and kerosene for lighting. As reported in the Key Indicators Report, only seven percent of households still use candles and kerosene as their main source of lighting in 2017, compared to half of households in 2005. The shift to electricity is evident: In 2017, 42 percent of households rely on electricity from the public grid, while about 40 percent obtain electricity from a solar system or battery (CSO, UNDP and WB, 2018a). The shift to electricity has been greatest in rural areas, where the use of candle or kerosene has dropped from 62 percent in 2005 to 9 percent in 2017. The adoption of solar technology has largely driven the change in lighting sources in rural areas: In 2017, more than a third of households use solar systems to generate electricity (CSO, UNDP and WB, 2018a).

Solar energy has become a common source of lighting for poor households, with more than a third of poor households relying on solar technology. The use of solar energy for lighting is highest for households in the poorest quintile and decreases with welfare (Figure 5-4). Lighting from a rechargeable battery is also higher in poorer quintiles. The adoption of solar technology by poor households confirms the importance of such technology in the poorest states/regions: Chin State and Rakhine State, which have the highest rates of poverty, also have the highest rates of use of solar system to generate electricity in 2017 (CSO, UNDP and WB, 2018a).

Box 5-2 SDG Goal 7 - Indicators and definitions

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all
Target 7.1: By 2030, ensure universal access to affordable, reliable and modern energy services.

Indicator 7.1.1: Proportion of population with access to electricity

This indicator is measured as the share of people with electricity access at the household level. It comprises electricity sold commercially, both on-grid and off-grid.

The MLCS captures energy questions at the household level: (i) whether households are connected to a public grid; (ii) whether they are connected to a community grid; (iii) what energy source is used as the main source for lighting. A community questionnaire permits triangulation of households' responses.

Indicator 7.1.2: Proportion of population with primary reliance on clean fuels and technology

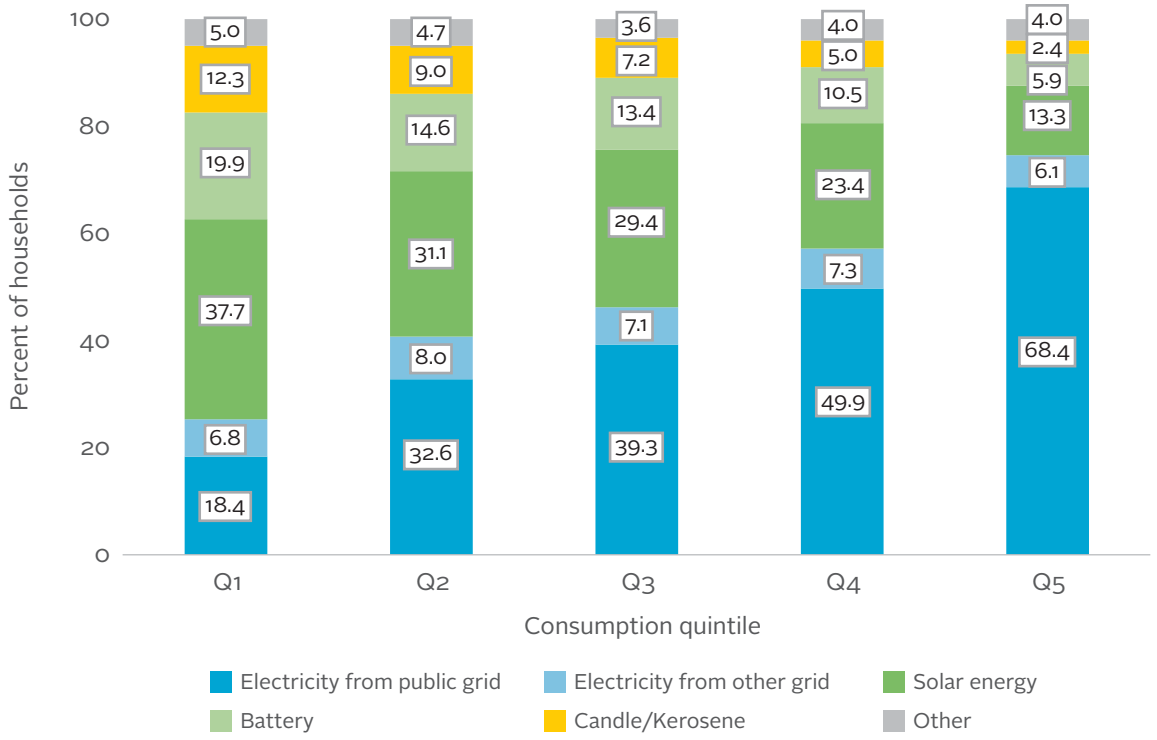
This indicator is measured as the share of the total population with access to clean fuels and technologies for cooking. Access to clean fuels or technologies such as clean cookstoves reduce exposure to indoor air pollutants, a leading cause of death in low-income households.

The MLCS has a single question on energy for cooking which is "what energy source is used as fuel for cooking?".

Source: https://sustainabledevelopment.un.org/sdg7
https://sdg-tracker.org/energy
CSO, UNDP, and WB (2018a)

Figure 5-4

Main sources of lighting among households, by consumption quintile (in percent)

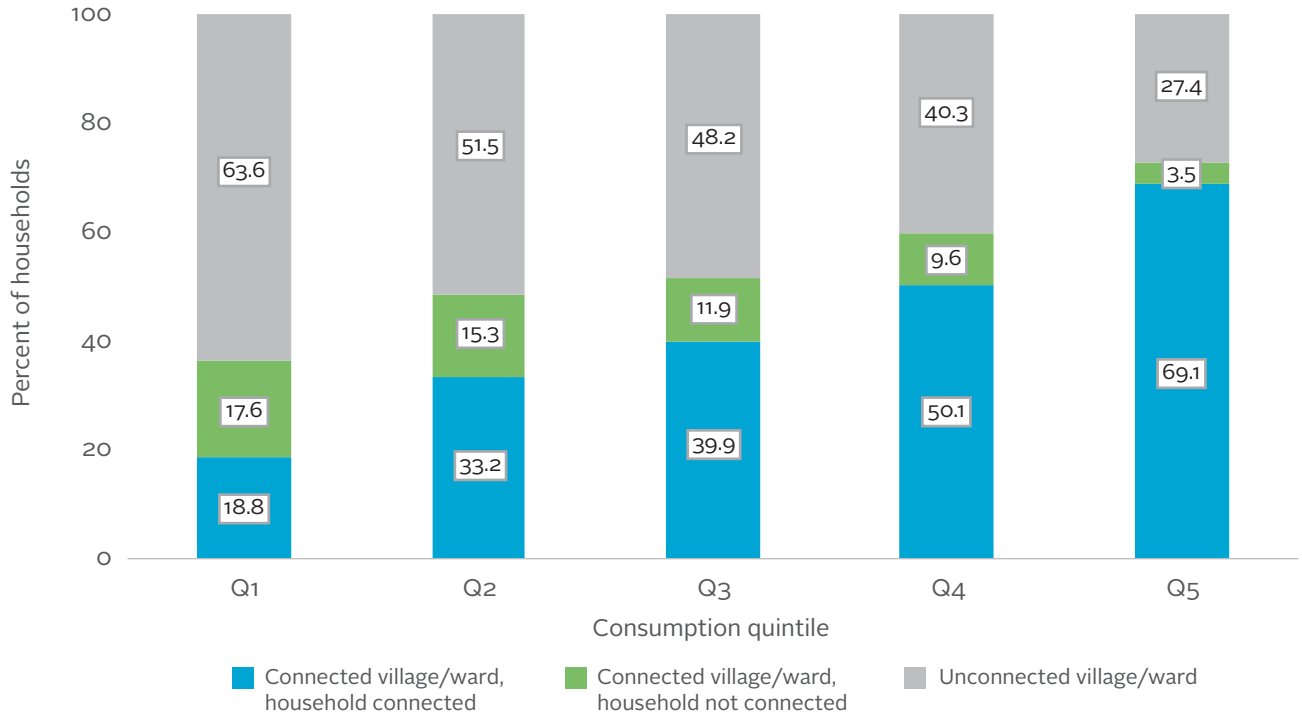


Note: Solar includes solar lantern, lighting system, and home system. See the Key Indicators Report for more information (CSO, UNDP and WB, 2018a). Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

The poor face greater physical and financial barriers to accessing electricity from the public grid. About 64 percent of poor households live in a village tract or ward that is not connected to the national grid, compared to 42 percent of non-poor households. This share decreases significantly with welfare (Figure 5-4), suggesting that wealthier households are more likely to live in communities that are connected to the grid. However, the availability of grid electricity in one's community is not the only barrier to adoption of electricity among poor households. About 18 percent of the poor live in a village or ward that is connected to the public grid, but their households is not connected. This share is 75 percent higher than it is for the non-poor, indicating that the affordability of electricity fees and the relevant equipment needed to install electricity in the household may be a barrier for some poor households to adopt electricity.

Figure 5.5

Percentage of households living in villages or wards connected to the public grid whose household is either connected or not connected, by consumption quintile



Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

In 2017, seven out of ten people still rely on firewood or other biomass as their main source of cooking fuel, although there is significant variation across urban and rural areas and states/regions. The use of clean energy is small with only three out of ten people using electricity or LPG/bio gas (Table 5-2). There is a clear dichotomy between urban and rural areas with respect to fuel sources: Rural residents are 2.4 times more likely than urban ones to rely on biomass for cooking fuel — a difference that is primarily driven by higher usage of firewood in rural areas. On the other hand, urban residents are 4.1 times more likely to use clean energy sources, especially electricity. Using the 'energy ladder model', which envisages a three-stage fuel switching process from biomass to fossil fuels and finally clean energy (DOP, 2017b), as of 2017, most people in Myanmar are in the first rung of the energy ladder model. At the same time, Figure 5-6 shows that most of the population in Yangon Region has moved up the energy ladder, while those living in Ayeyarwady Region, Chin State, and Rakhine State remain in the first level of the energy ladder.

Table 5-2

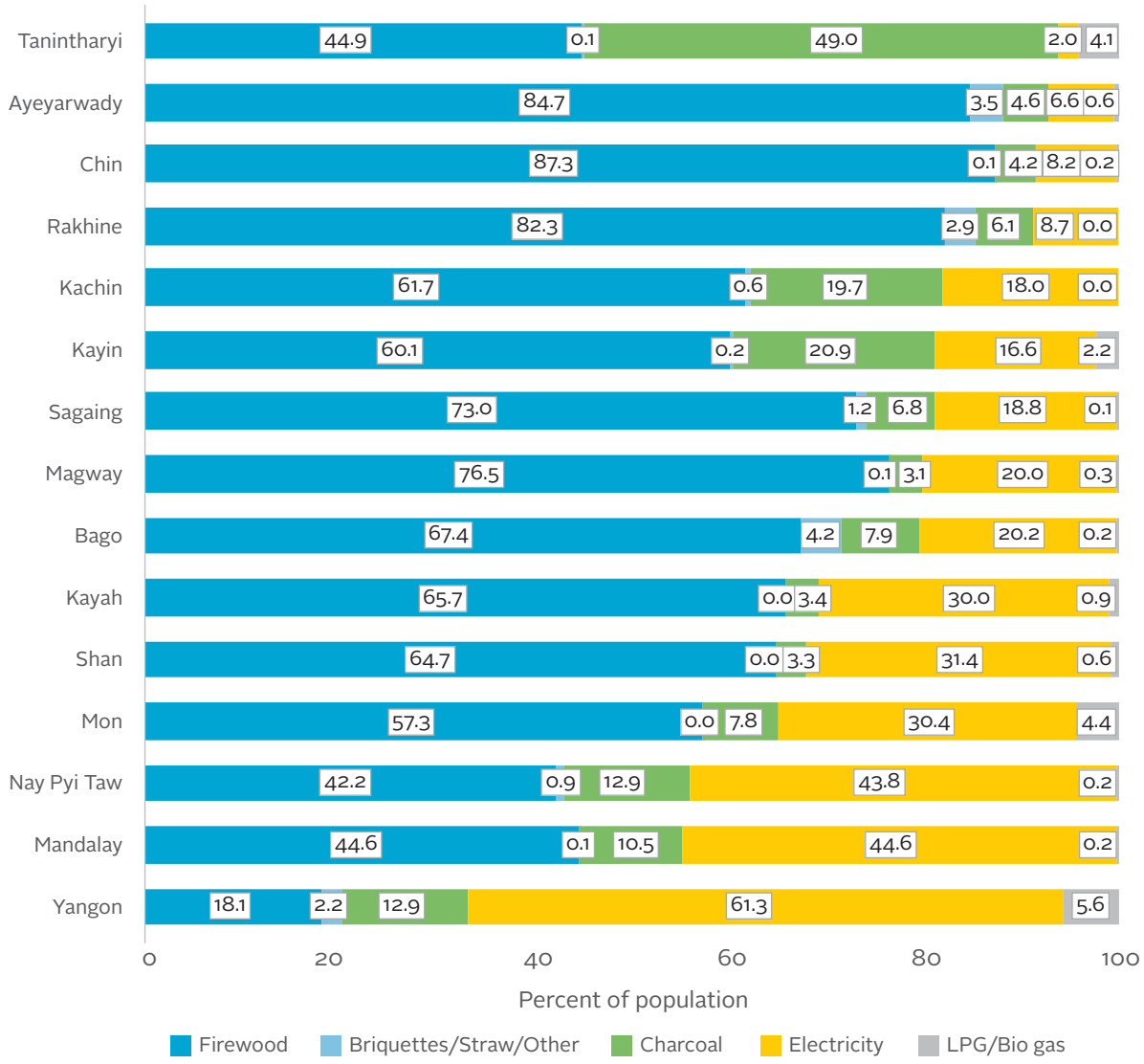
Main source of cooking fuel among the population, by residential area and poverty status (in percent)

	Union	Urban	Rural	Non-poor	Poor
Biomass	**70.4**	**35.7**	**84.3**	**63.8**	**90.6**
Firewood	59.5	17.2	76.4	51.7	82.9
Briquettes/Straw/Other	1.5	1.1	1.7	1.2	2.7
Charcoal/Kerosene	9.4	17.3	6.3	10.9	5.0
Clean energy	**29.6**	**64.4**	**15.7**	**36.2**	**9.4**
Electricity	28.1	60.5	15.3	34.4	9.3
LPG/Bio gas	1.4	3.9	0.4	1.8	0.1

Source: 2017 MLCS

Figure 5.6

Main source of cooking fuel among the population, by state/region (in percent)

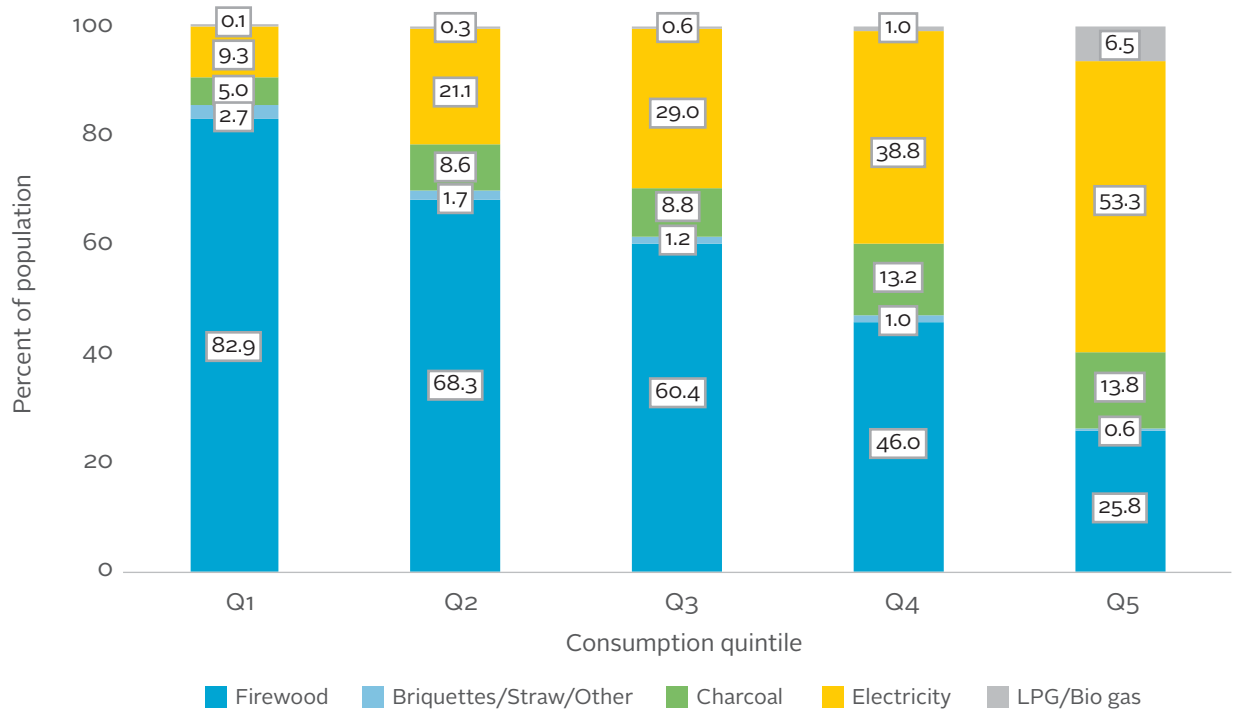


Source: 2017 MLCS.

Usage of biomass for cooking is nearly universal among the poor, while the non-poor are significantly more likely to rely on clean energy sources. As of 2017, nine out of ten poor people rely on biomass to cook, which 42 percent higher than it is among the non-poor (Table 5-2). In general, usage of biomass decreases significantly with higher welfare: Only four of ten people in the top quintile rely on these sources of fuel for cooking (Figure 5-7). Wealthier households tend to opt for clean energy sources, particularly electricity. However, one out of four households in the top quintile still use firewood for cooking and an additional 14 percent use other biomass. This indicates that to some extent, even wealthy households remain reliant on biomass fuels for cooking. In addition to having serious health effects due to increased indoor pollution, the sourcing of biomass is often one of women's chores which limits the time women could occupy with activities outside the house that could have more remunerative prospects (Chapter 7).

Figure 5.7

Main source of cooking fuel among the population, by consumption quintile (in percent)

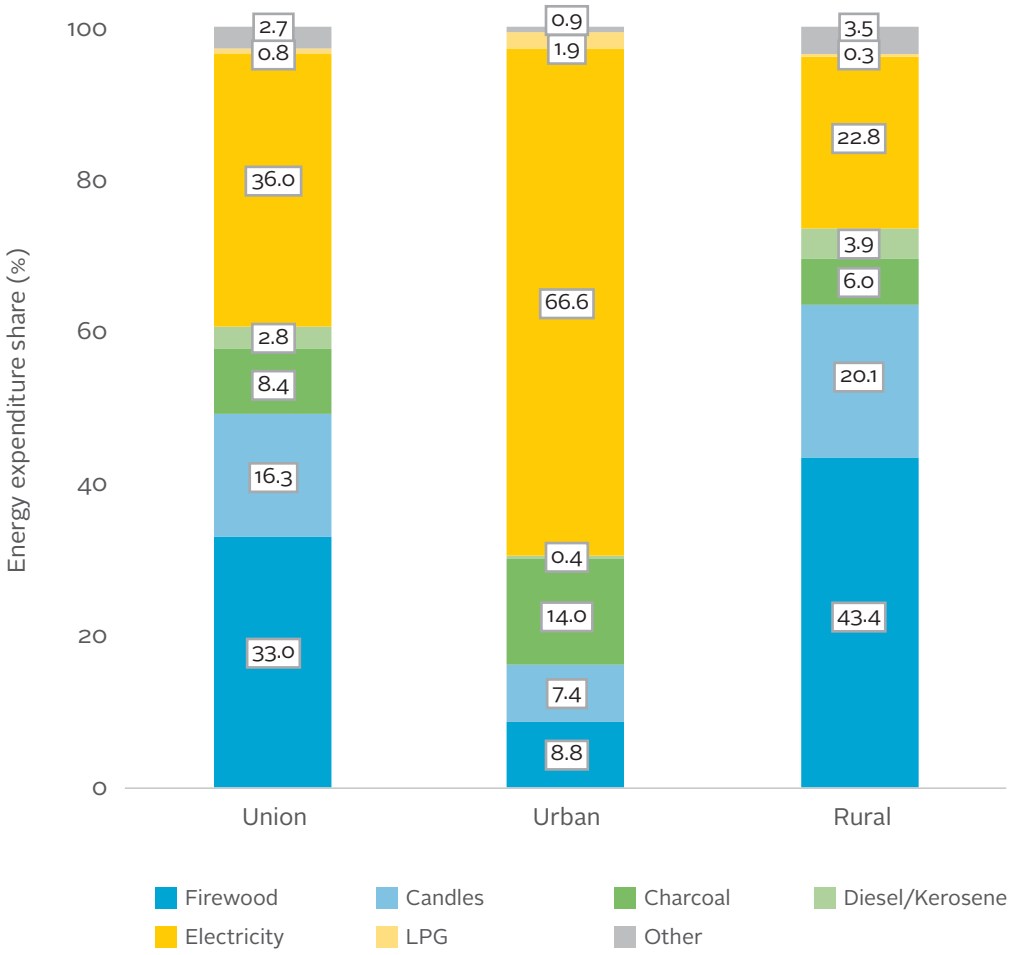


Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

Mirroring preferences in lighting and fuel sources, households spend on average relatively more on biomass than on other fuels with the same urban-rural cleavage. In 2017, an average household in Myanmar spends about 132,000 kyats per year on energy, which accounts for about four percent of their total consumption. Figure 5-8 shows the average shares of total household energy expenditures spent on different sources. In 2017, 60.5 percent of household energy expenditures is spent on biomass, with firewood accounting for 33.0 percent of households' expenditures on energy. On average, urban people spend 68.6 percent of their energy expenditures on clean energy, while just 23.1 percent of rural households do so. Spending on different energy sources also varies significantly by state/region, with more than 80 percent of total energy expenditures in Rakhine State being spent on biomass. On the other end of the spectrum, just 32 percent of household energy expenditures in Yangon Region can be attributed to spending on biomass. As previously documented, urbanisation is one of the main driving forces for switching from biomass to clean sources of energy (DOP, 2017b).

Figure 5.8

Average household energy expenditure shares, by residential area (in percent)

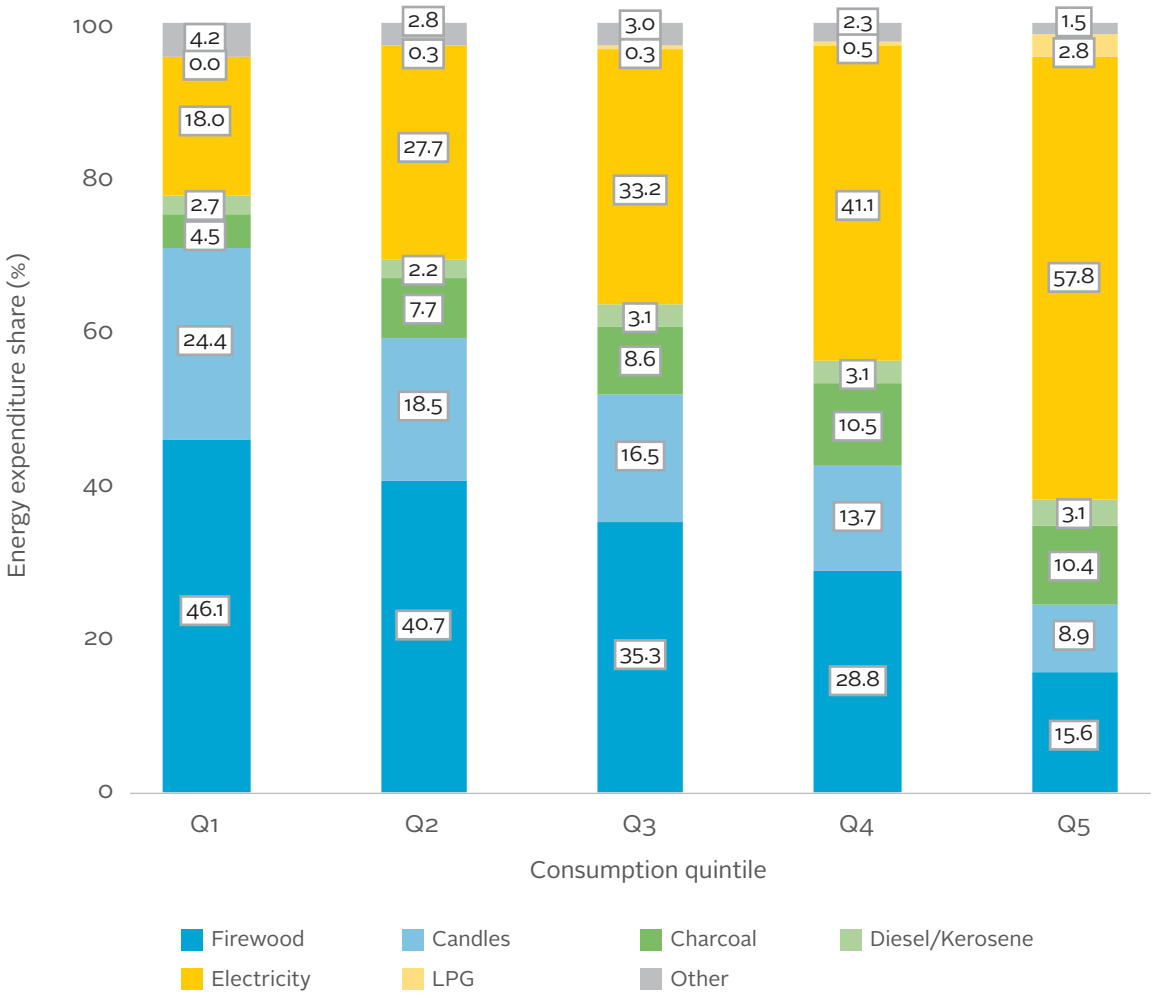


Note: Firewood includes collection values. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

In line with their energy preferences for cooking and for lighting, poor households spend the majority of their energy expenditures on biomass. On average, households in the top quintile spend more than twice the amount households in the bottom quintile spend on energy. Despite this, as a share of total household consumption, energy expenditures represent a smaller amount for households in the top quintile than they do for households in the bottom quintile (3.6 percent versus 4.5 percent). In addition, the majority of energy spending for poor households are devoted to biomass (75 percent), while the majority of energy expenditures for non-poor households, especially those in the top two quintiles are spent on clean energy sources, particularly electricity (Figure 5-9). This trend in energy expenditures across quintiles highlights the fact that welfare, and to some extent relative fuel prices, is the main factor preventing movement up the energy ladder (Leach, 1992; Barnes, Krutilla, and Hyde, 2004; Barnes and Floor, 1999, cited in Heltberg, 2003).

Figure 5.9

Average household energy expenditure shares, by consumption quintile (in percent)



Note: Diesel excludes diesel for car. Firewood and charcoal include collection values. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.

Source: 2017 MLCS.

Main takeaways and implications

Combined with the findings from the Key Indicators report (CSO, UNDP and WB, 2018a), this chapter shows that even though Myanmar has seen improvements in access to key basic services, the poor are lagging behind. Poor households are less likely to have improved access to water and more likely to practice open defecation. Given that poor households are also more likely to have children under the age of five, lack of basic sanitation can result in enteric diseases, thus impairing the fight against under-five mortality. In addition, although the poor are increasingly relying on solar energy for lighting, they still depend heavily on firewood and other biomass for their cooking needs. The poor face greater barriers to accessing electricity — both in terms of physical access and affordability.

Three implications stem from the analysis of this chapter:

i. The geographical variation in access to these services sheds light on the scant provision of these services in poorer areas. Overlaying the results from maps of households' access to water and electricity services could help identify where to increase investments in providing these services.

ii. More research could be done to measure the impacts of unimproved access to water and sanitation to the risk of dying of enteric diseases, and to measure the impacts of using biomass energy for cooking. These works could help inform awareness campaigns to encourage use of improved key sanitary and energy sources.

iii. Solar technology has filled in the gap where electricity from the public grid is not provided. However, it would be interesting to research what power is needed to encourage households to use solar-produced electricity for cooking rather than biomass fuels.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06.

FACILITATING ACCESS TO FINANCE

Financial products such as loans can help individuals invest in their human capital to improve their future economic prospects and allow businesses, especially microenterprises, to improve returns by investing in productive capital. Bank accounts can also encourage saving through secure and effective mechanisms, and other financial services can help households cope with shocks or events that may negatively impact the productive activities of household members and thus household income. Access to finance therefore may play an important role in both securing and improving household welfare. This chapter explores access to financial services, particularly credit, in Myanmar. It also provides a picture of the coping strategies that households adopt when faced with a shock, emphasizing the use of financial products as a way of coping.

Access to financial services

Access to formal financial services is unequal across urban and rural areas and states/regions in Myanmar, although local credit unions have filled in some of the gaps. In 2017, two out three people live in close proximity[29] to a formal financial institution, namely a private bank or microfinance organisation.[30] Urban residents are significantly more likely to have access to a formal financial institution: 90.7 percent of urban residents live near a private bank or microfinance institution, while just 58.3 percent of rural residents do so. Private banks, in particular, are largely limited to mostly urban areas of Yangon Region, while microfinance organisations are more widespread across Myanmar (Map 6-1). In some states/regions, village funds such as the Evergreen Village Project and Green Emerald Fund or other local cooperatives have filled in some of the gaps in formal financial service provision, particularly in rural areas (Map 6-1). However, in other states/regions such as Kayin State, Chin State, Tanintharyi Region, Shan State, and Rakhine State, access to private banks, microfinance organisations, and credit unions is limited.

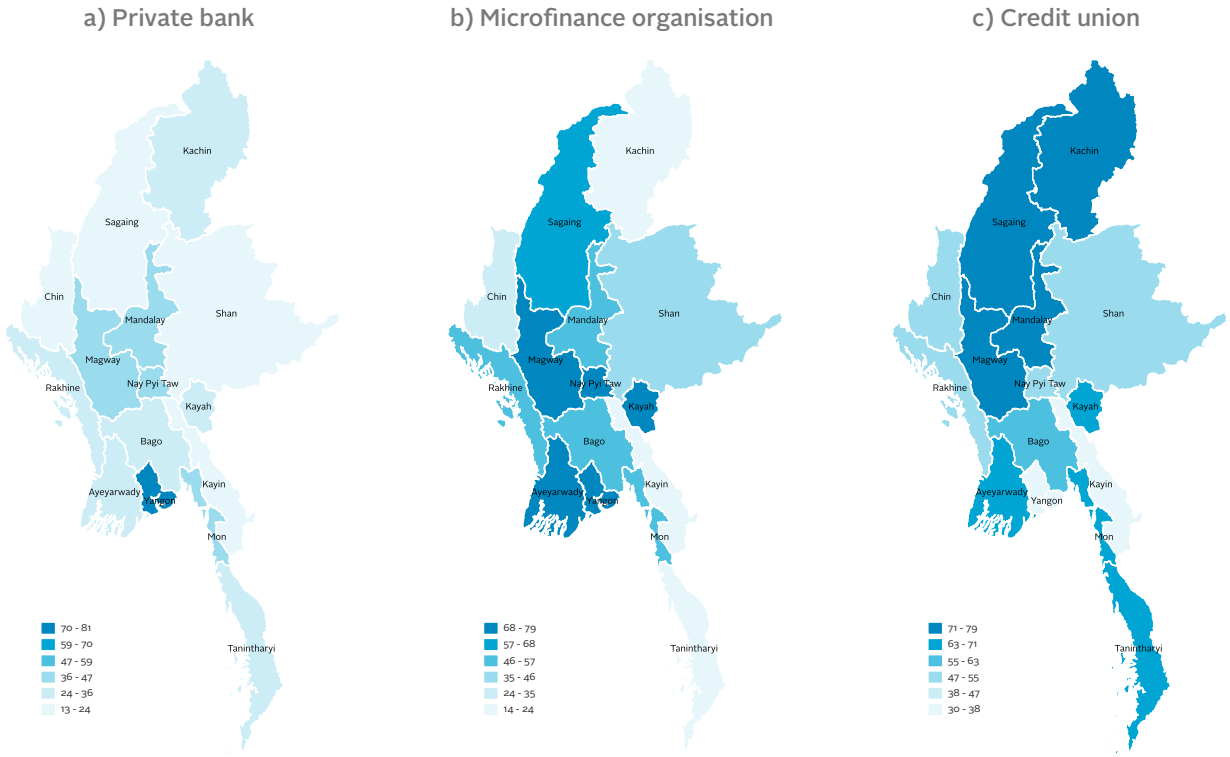
Access to formal financial institutions is relatively limited and less varied among the poor. About 70 percent of the non-poor live in close proximity to either a private bank or microfinance organisation, while just 58 percent of the poor do so. Access to formal providers increases significantly with welfare quintile, and nearly eight of ten people in the wealthiest quintile have access to one or more formal financial institution (Figure 6-1). Moreover, the non-poor have better access to more than one formal financial institution: 30.6 percent of the non-poor live near both a private bank and a microfinance organisation, which is twice as high than it is among the poor. Credit unions such as village and cooperative funds are generally more accessible among poorer populations and are more likely to be the only financial institution in areas where the poor live. However, about one in five of the poor have neither a formal financial institution nor any type of credit union in close proximity, which may present barriers for usage of formal financial services.

29 Close proximity is defined as being less than 5 miles away and taking an hour or less to reach by the most common means of transport in the village/ward.

30 A formal financial institution is defined here as institutions that are regulated by the Financial Regulatory Department of the MOPFI or the Central Bank of Myanmar. The 2017 MLCS Community Questionnaire does not ask respondents about access to public banks, only private banks. Thus, the share of the population living in close proximity to a formal financial institution is likely higher than 66.9 percent when also considering public banks. Microfinance organisations include both MFIs and other microfinance organisations.

Map 6-1

Percentage of population living in close proximity to formal financial institutions

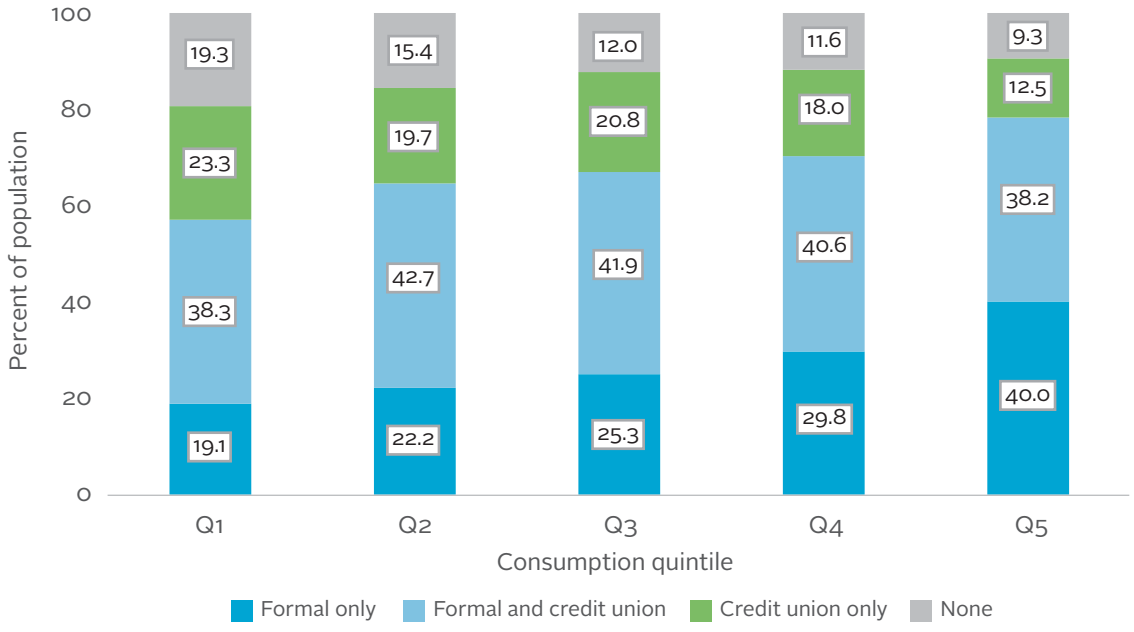


Notes: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State and the Wa Self-Administered Division. Close proximity is defined as being less than 5 miles away and taking an hour or less to reach by the most common means of transport in the village/ward. Credit union includes village and cooperative funds, and Map 6-1c shows the share of the population who have a such an institution in their village/ward.

Source: 2017 MLCS

Figure 6-1

Percentage of population living in close proximity to formal financial institutions, by consumption quintile



Notes: Formal financial institutions include private banks and microfinance organisations. Close proximity is defined as being less than 5 miles away and taking an hour or less to reach by the most common means of transport in the village/ward. Credit union includes village and cooperative funds and is measured as the share of the population who has such an institution in its village/ward. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.

Source: 2017 MLCS

Usage of financial services such as bank accounts and insurance is still nascent in Myanmar, particularly among the poor. In 2017, only 17 percent of households have one or more members with a bank account and possession of non-medical insurance is less than 2 percent (Table 6-1). Urban households are 1.8 times more likely than rural households to have a bank account, which can partially be attributed to greater accessibility of banks in urban areas.[31] In general, states/regions with limited access to private banks also have relatively low shares of households with bank accounts, suggesting that accessibility may be a significant factor in determining usage. The non-poor, particularly those in the top welfare quintile, are significantly more likely than the poor to own a bank account (Table 6-1).

Data from other sources suggest that in addition to limited accessibility, information or knowledge gaps and behavioural biases could be significant deterrents to account ownership for the poor. In addition to the transaction costs presented by limited access to formal financial institutions, other reasons for non-usage of formal accounts, especially among the poor, may be due to lack of trust in financial institutions, information or knowledge gaps, social constraints, or behavioural biases such as higher value of present consumption than future consumption (Karlan, et al., 2014). Such barriers may make it difficult for people to borrow or save in a secure manner, instead using "under-the-mattress" methods of saving or not saving at all. The World Bank Global Financial Inclusion Database (Global Findex) shows that in 2017, almost 75 percent of individuals aged 15 and over in Myanmar without a formal account state insufficient funds as a reason for not having an account. About 32 percent and 22 percent mention lack of necessary documentation and distance to formal financial institutions as reasons for not having an account, respectively. These results suggest that while accessibility is a significant barrier to having an account at a formal financial institution, information or knowledge gaps about financial products for micro-savings or behavioural biases that prevent saving, even in small amounts, may play a significant role in non-usage of formal accounts.

Table 6-1

Percentage of households using financial products, by residential area

	Bank account	Loan	Insurance
Union	17.0	61.0	1.8
Urban	24.9	40.0	3.1
Rural	13.8	69.4	1.2
Consumption quintile			
Q1	8.5	69.5	1.3
Q2	9.9	68.2	0.8
Q3	15.4	66.5	1.2
Q4	16.0	60.7	1.1
Q5	29.8	45.8	3.8

Note: Insurance excludes health insurance. Loans include those taken out from formal and informal sources. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

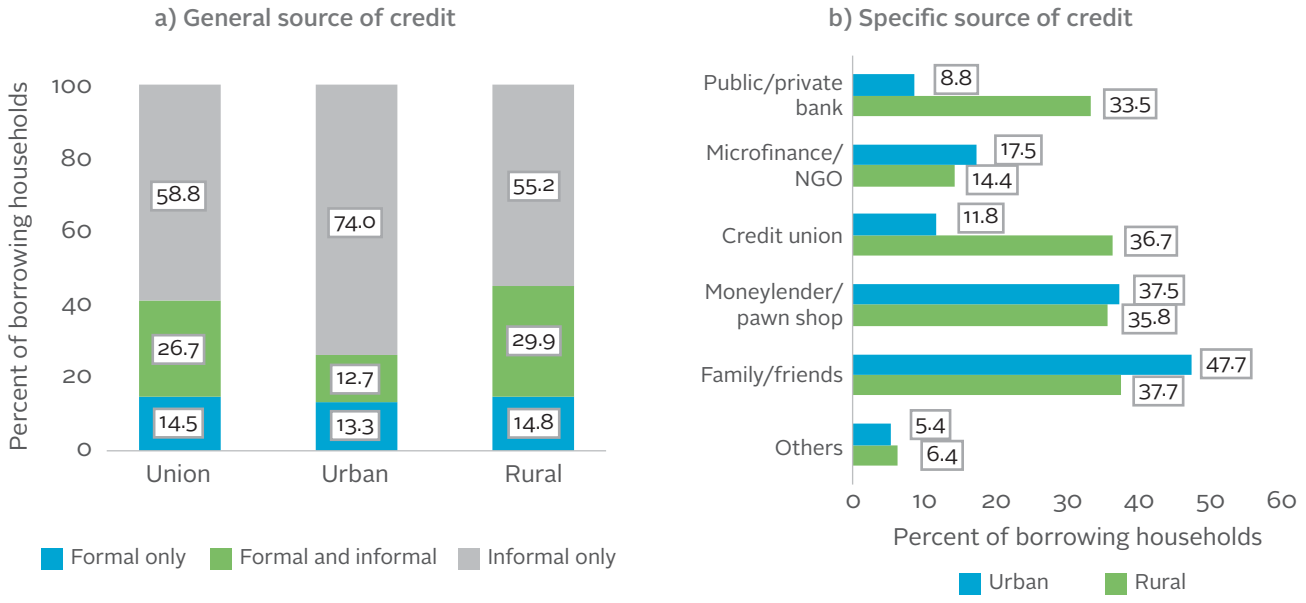
31 The 2017 MLCS does not distinguish bank accounts held at a financial institution from ones held through a mobile provider. If most bank accounts are digital, then physical access to banks may not be significantly correlated with ownership of a bank account. However, studies show that usage of mobile financial services is still low as of 2017 (Oxford Business Group, 2019).

In comparison to banking and insurance, borrowing activity is high, especially among rural and agricultural households. Six in ten households have taken out at least one loan in 2017, and rural households are 73.5 percent more likely than urban households to have borrowed from any source (Table 6-1). In addition, households engaged in agriculture are significantly more likely than those who are not to take out a loan, particularly from a public or private bank: Agricultural households are 7.4 times as likely as non-agricultural households to take out a loan from a bank. Although the reasons for borrowing and exact sources of credit are unclear in the 2017 MLCS, this finding is likely a result of widespread crop loans provided to farmers by state-owned Myanmar Agriculture Development Bank (MADB). In 2016 and 2017, the MADB extended the size of loans provided to farmers producing crops such as rice, corn, beans varieties, and cotton in effort to help cover some of their input costs.[32] Investment in agricultural capital therefore may be a common motivating factor for borrowing among many households, especially in rural areas.

The poor are 18 percent more likely to borrow than the non-poor, which is largely explained by higher participation in agricultural activities among the poor. Poorer households are typically more credit-constrained than wealthier households and thus may require loans to invest in their business or to cope with negative income shocks. Compared to the top welfare quintile, households in the bottom quintile are 51.7 percent more likely to take out a loan (Table 6-1). As shown in Chapters 7 and 9, the majority (80 percent) of poor households engage in agricultural activities. Considering that agricultural households are more likely to borrow than non-agricultural ones, presumably to invest in their harvest, it is expected that household sectoral participation explains a large portion of the relationship between poverty and household borrowing. Controlling for household sector, the poor are still on average 6.8 percent more likely to borrow than the non-poor.

Figure 6-2

Percentage of borrowing households by source of credit, by residential area



Note: The sample is restricted to households that reported taking out at least one loan from any source in the 12 months preceding the survey. Formal sources of credit include banks and microfinance institutions/NGOs. Informal sources of credit include credit unions, moneylenders/pawn shops, family/friends, and other miscellaneous.
Source: 2017 MLCS.

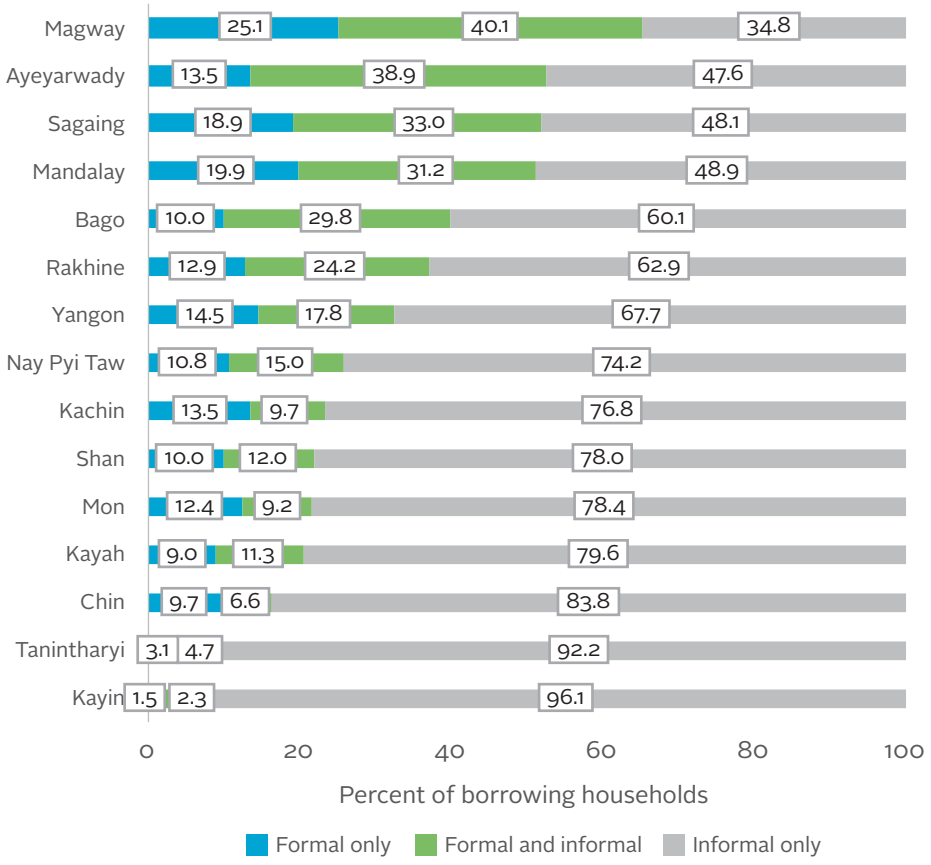
32 See https://www.mmtimes.com/news/loans-help-farmers-crops-be-increased.html

Loans from informal credit providers such as moneylenders, pawn shops, family, and friends may present risks to borrowers. Households that take out loans from informal sources such as private moneylenders can be subject to exorbitant interest rates, hard-to-manage repayment schedules, and extortion. While family and friends may demand zero or more lenient interest rates or repayment terms, such informal loans can encourage imprudent financial behaviour in borrowers and may jeopardize interpersonal relationships. Village funds which provide low-interest loans, many with the aim of reducing poverty in rural areas, may be better informal alternatives. However, these funds and other cooperatives are currently unregulated by the FRD or MCB and their effectiveness is largely unknown.

Despite high borrowing activity, informal providers continue to be the preferred source of credit in both urban and rural areas. In 2017, 85.5 percent of borrowing households take out loans from informal sources of credit, and 58.8 percent borrow exclusively from informal sources (Figure 6-2a). While urban and rural borrowing households are equally likely to utilise informal sources of credit, urban residents are significantly more likely to borrow from family and friends (Figure 6-2b). Borrowing from credit unions is more than three times as common among rural households than urban ones, which is expected considering that most village funds are located in rural areas. Urban households are also 34.1 percent more likely than rural households to utilise informal credit exclusively due to relatively high usage of banks a source of credit among rural households, particularly those involved in agriculture.

Figure 6-3

Percentage of borrowing households by general source of credit, by state/region

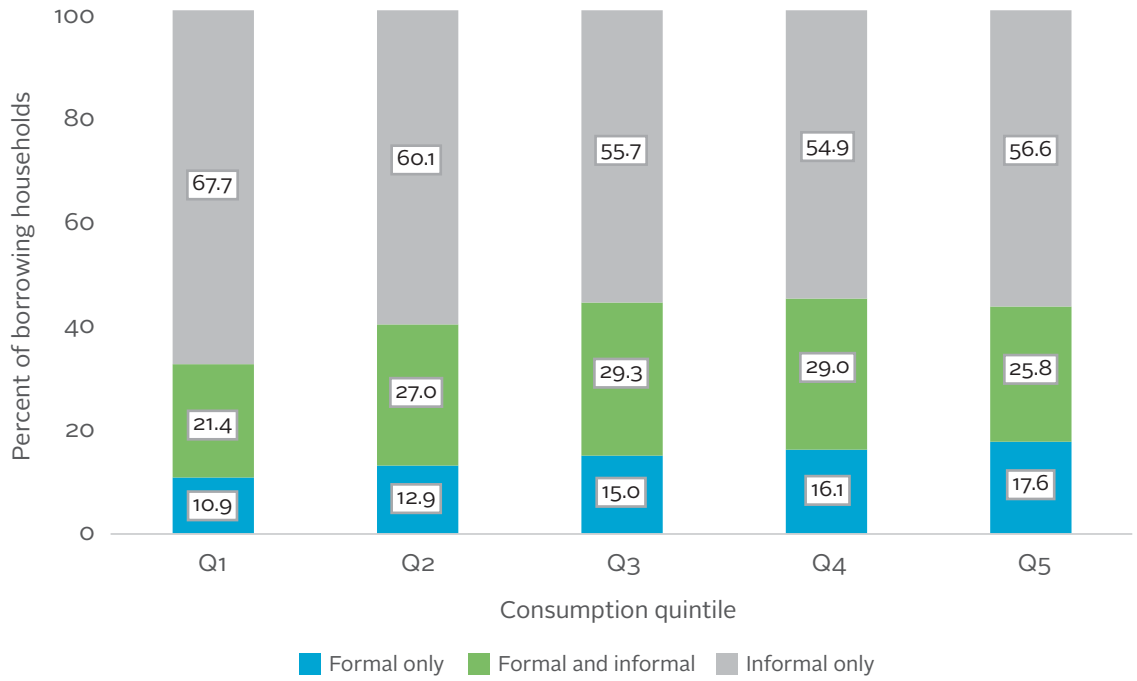


Note: The sample is restricted to households that reported taking out at least one loan from any source in the 12 months preceding the survey. Formal sources of credit include banks and microfinance institutions/NGOs. Informal sources of credit include credit unions, moneylenders/pawn shops, family/friends, and other miscellaneous.
Source: 2017 MLCS.

Sources of credit vary significantly across states/regions, even after controlling for household sector, access to formal financial institutions, and welfare. Magway, Ayeyarwady, Sagaing, and Mandalay Regions have the highest shares of borrowing households taking out loans from formal sources (Figure 6-3). On the other end of the spectrum, Kayin State and Tanintharyi Region have less than 10 percent of borrowing households utilising formal credit providers. While household participation in agricultural activities, access to microfinance organisations and credit unions, and welfare disparities explain some of these differences, use of informal sources of credit remains resolutely high in some states/regions such as Kayin State and Tanintharyi Region even after considering these factors. This result suggests that other factors such as characteristics of the local financial market continue to play an important role in determining sources of credit in some states/regions.

Figure 6-4

Percentage of borrowing households by general source of credit, by consumption quintile



Note: The sample is restricted to households that reported taking out at least one loan from any source in the 12 months preceding the survey. Formal sources of credit include banks and microfinance institutions/NGOs. Informal sources of credit include credit unions, moneylenders/pawn shops, family/friends, and other miscellaneous. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS.

Informal borrowing is widespread among both the poor and non-poor, but the poor are more likely to resort to informal sources of credit, particularly after considering household participation in agriculture. More than 80 percent of both poor and non-poor borrowing households take out loans from informal sources, making them the preferred provider of credit for poor and non-poor households alike. The poor are 5.7 percent more likely than the non-poor to utilise informal sources of credit, and the share of borrowing households taking out an informal sector loan – either exclusively or together with a formal sector loan increases with welfare (Figure 6-4). Differences across quintiles become starker when controlling for sectoral participation of household members, with poorer households more likely to borrow from informal sources. As shown in Chapters 7 and 9, households in poorer quintiles are more likely to be agricultural households, which are also more likely to take out loans from banks. Thus, controlling for household sector increases the relative

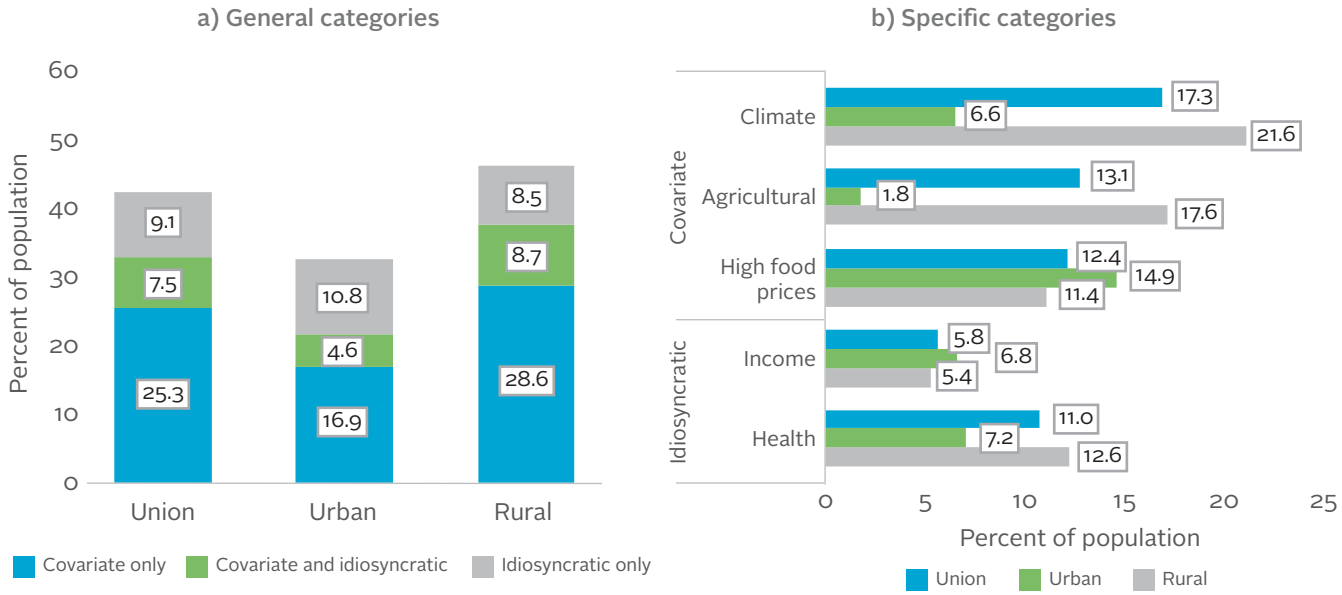
likelihood of utilising formal sector loans among wealthier households. This gap in formal credit utilisation is almost entirely due to higher borrowing from banks among wealthier households after considering household sector.

Credit as coping mechanism to shocks

Shocks can negatively impact household income and thus push households, particularly vulnerable ones into poverty. About three out of ten people in Myanmar are classified as non-poor insecure (CSO, UNDP, and WB, 2019c). For this group, even slight fluctuations in household income can have negative consequences for consumption and push the household into poverty. Thus, shocks may be seriously detrimental to household welfare if household members do not have the means to cope with these shocks.

Figure 6-5

Percentage of population living in households negatively affected by different categories of shocks, by residential area



Notes: Covariate shocks include various climatic events, agricultural shocks, high food prices, and conflict. Idiosyncratic shocks include income loss due to unemployment or business failure, health injuries or illnesses, and theft of assets.
Source: 2017 MLCS.

In 2017, four out of ten people live in households that report being negatively affected by one or more shocks.[33] Shocks may be categorised into two groups: covariate shocks and idiosyncratic shocks. Covariate shocks affect all households in a given area or group, while idiosyncratic ones affect single individuals or households. Common covariate shocks include adverse climatic events such as floods and droughts, epidemics, and macro events such as price volatility. Household-specific events such as deaths, injuries, business failure, or unemployment are examples of idiosyncratic shocks. In both urban and rural areas, households are significantly more likely to be negatively affected by covariate shocks rather than idiosyncratic ones (Figure 6-5a).

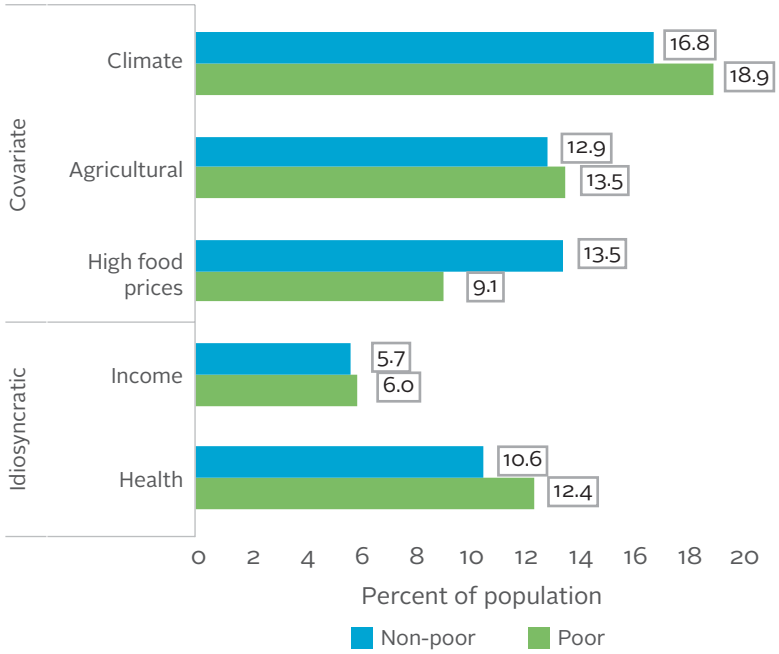
Shocks, especially covariate shocks, are closely linked to the geographical area of residence. Rural inhabitants are 42.1 percent more likely than urban inhabitants to be negatively affected by one or more shock, which is primarily driven by higher covariate shocks in rural areas, namely climatic events

33 The 2017 MLCS asks respondents whether their household was negatively affected by various shocks in the 12 months preceding the survey.

and agricultural shocks such as low crop prices (Figure 6-5b). Moreover, significant variation in the share of the population that report experiencing a shock exists across states/regions. For example, more than 70 percent of residents of the Union Territory of Nay Pyi Taw and Bago Region report being negatively affected by a shock in 2017, while less than 11 percent of residents in Kachin State and Tanintharyi Region do so. Much of these differences across states/regions can be attributed to covariate shocks. For example, in 2017, more than 50 percent of people living in the Union Territory of Nay Pyi Taw report being affected by high food prices, while less than one percent of people in Kachin State and Tanintharyi Region do so. Health shocks are also more prevalent among rural residents, which highlights the importance of accessible and affordable healthcare in rural areas. Rural inhabitants are also more likely to experience more than one shock in a year: In 2017, an average of 18.2 percent of the rural population has been affected by more than one of the five shock types shown in Figure 6-5b, which is 2.6 times higher than it is for the urban population.

Figure 6-6

Percentage of population living in households negatively affected by different types of shocks, by poverty status



Notes: Covariate shocks include various climatic events, agricultural shocks, high food prices, and conflict. Idiosyncratic shocks include income loss due to unemployment or business failure, health injuries or illnesses, and theft of assets.
Source: 2017 MLCS.

The poor and non-poor are similarly likely to be negatively affected by a shock, although there are marginal differences in the types of shocks experienced. The share that reports being harmed by a covariate or idiosyncratic shock in 2017 is similar between the poor and the non-poor. However, the poor are more susceptible to climate and health shocks, while the non-poor are significantly more likely to encounter high food prices (Figure 6-6).

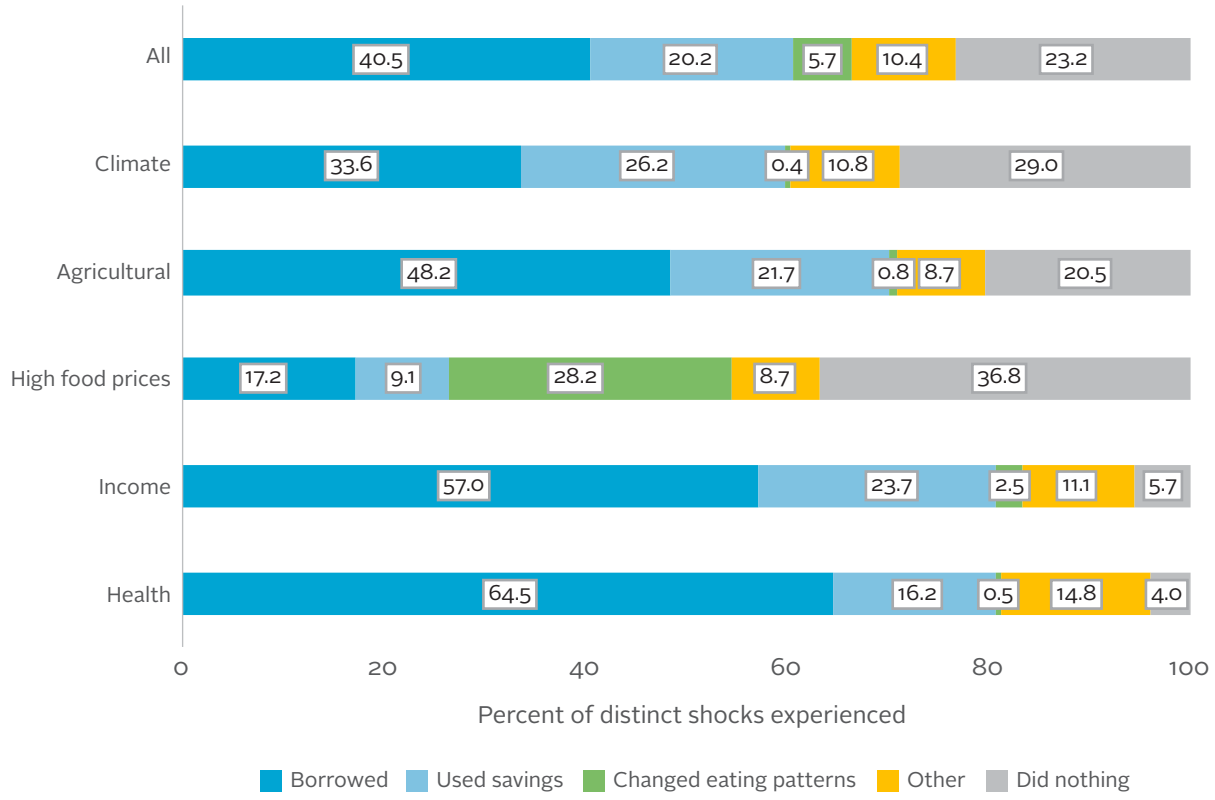
For most shocks, the most common coping mechanism among affected households is to borrow, suggesting that many households lack the savings needed to cope with these shocks. In 2017, for 40.5 percent of distinct shocks[34], affected households responded by obtaining credit (Figure 6-7). For all shock types besides high food prices, borrowing is the most common response among affected households. Borrowing is particularly common in response to idiosyncratic shocks such

34 Distinct shocks are composed of the 16 shocks listed in the 2017 MLCS.

as illnesses or injuries among household members. Using personal or household savings is also a common response yet is significantly less widespread than borrowing. Many households also do nothing in response to a shock, especially covariate shocks, which may signal their ability to absorb the negative consequences of the shock without much impact on household income or an inability to do anything to remedy the immediate effects of the shock.

Figure 6-7

Percentage of distinct shocks experienced, by coping mechanism and type of shock



Note: The sample is restricted to households that reported experiencing one or more shock in the 12 months preceding the survey. Percentages are taken over 16 distinct shocks listed in the 2017 MLCS. "Did nothing" means that the household did not do anything in response to the shock. "Other" includes household members taking on more work, selling assets, and other unspecified responses.
Source: 2017 MLCS.

Poorer households are more likely to rely on loans to cope with negative shocks, while wealthier households are more likely to use savings. Controlling for the type of shock experienced, households in the wealthiest quintile are 19.1 percent less likely to borrow and 53.8 percent more likely to save in response to a shock compared to households in the poorest quintile (Annex Table F-1). Households in the top quintile are also 24.4 percent more likely to do nothing in response to a shock. These results indicate that wealthier households tend to have the liquidity to remediate or absorb the negative consequences of shocks, while poorer households are forced to borrow in order to cope with shocks. Moreover, given that poorer households tend to borrow from informal sources that may charge exorbitant interest rates, shocks present significant risks for poor households to fall into deeper poverty due to debt or for non-poor households near the poverty line to fall into poverty.

Main takeaways and implications

This chapter sheds light on the unequal access to formal financial institutions in Myanmar and the limited usage of many formal financial services. In 2017, only 17 percent of households have a bank account, and while six out of ten households take out loans, most utilise informal sources of credit. Usage of banks as a source of credit is relatively high among agricultural households, likely due to the MADB's targeted financial products for farmers. Poorer households are significantly more likely than wealthier ones to take out loans from informal sources, especially after considering household participation in agricultural activities. Moreover, poorer households are more likely to borrow in response to a negative shock, while wealthier households are more likely to use their savings. This lack of liquidity and tendency to borrow from informal sources places many of the poor and non-poor insecure in a vulnerable position, as they are likely incapable of smoothing their consumption in the face of a negative income shock and are at greater risk of falling into debt.

These findings have one main implication:

i. A better understanding of the exact reasons behind low usage of formal financial services among the poor and non-poor in Myanmar is needed. Karlan, et al. (2014) suggests five general reasons: transaction costs, lack of trust, information or knowledge gaps, social constraints, and behavioural biases. Depending on the primary reasons, targeted interventions can be designed to overcome these barriers and increase savings behaviour.

07.

ANALYSING LABOUR FORCE PARTICIPATION AND EMPLOYMENT

Labour market activities are an important source of income for the vast majority of households in Myanmar. The quantity and quality of employment therefore play a central role in household welfare and in translating growth into poverty reduction. This chapter analyses labour force participation, sectoral participation, and the wages of the labour force in 2017, particularly across different subpopulations. It also looks at correlates of labour force participation and wages and concludes by examining labour underutilisation in Myanmar.

Labour force participation

About two out of three individuals of working age in Myanmar are in the labour force, yet significant differences in participation exist by residential area.[35] Based on a seven-day reference period, the labour force participation rate in 2017 is 64.8 percent (Table 7-1 and Box 7-1 for definitions). A 12-month definition of labour force participation offers more opportunities to be employed over a longer reference period and thus yields a higher participation rate (68.5 percent). Rural inhabitants are 9.1 percent more likely than urban inhabitants to be in the labour force in the past week and 11.8 percent more likely to participate in the labour force in the past 12 months. Participation in the labour force also varies by state/region (Figure 7-1): Based on a seven-day reference period, Shan State has the highest labour force participation (73.1 percent), while Kayin State and Mon State have the lowest (50.6 percent and 52.8 percent, respectively).[36]

Women are significantly less likely than men to be in the labour force, reflecting gender roles in Myanmar. The labour force participation rate is 54.3 percent among working-age women and 77.1 percent among working-age men, making men 42.2 percent more likely to participate in the labour force (Table 7-1). Many working-age women outside of the labour force (53.4 percent) report housework as their main activity. On the other hand, the retired/elderly and full-time students make up the majority of men outside the labour force (63.0 percent). Only 2.7 percent of men out of the labour force report housework as their main activity. This divergence between men and women reflects the continuing norm in Myanmar of women mainly being responsible for housework and tending to children and elderly dependents (Asian Development Bank, 2016).

Box 7-1 Key labour force definitions and indicators used in this report

The labour force indicators used in this report are based on contemporary definitions from the 2015 Myanmar Labour Force Survey (LFS). These definitions stem from the framework proposed by the 19th International Conference of Labour Force Statisticians (ICLS-19) and differ from those stipulated by the 1985 Labour Statistics Convention, on which previous labour force statistics in Myanmar were based. The Key Indicators Report (CSO, UNDP, and WB, 2018) provides an explanation of differences between these old and new definitions.

Definitions

Working age: Persons 15 years old and above in accordance with national definitions, the working age population does not have an upper age limit. This subpopulation is the total number of potential workers in the economy.

35 For urban/rural and male/female labour force participation rates disaggregated by age, see the Key Indicators Report (CSO, UNDP, and WB, 2018a).

36 State/Region rankings based on a 12-month reference period are similar.

Employed: Persons who, during the reference period, either i) worked at least one hour in any activity to produce goods or provide services for profit or pay, or ii) were temporarily absent from their jobs, for example due to maternity leave or ill health.

Unemployed: Persons who i) were not employed or self-employed for profit or pay during the reference period; ii) are available to work within the following two weeks; and iii) actively sought employment or self-employment in the past 30 days.

Labour force: Persons who are either employed or unemployed during the reference period.

Out of labour force: Persons who are neither employed nor unemployed.

Indicators

Labour force participation rate: The labour force expressed as a percentage of the working age population.

Employment rate: Employed persons as a share of the labour force.

Unemployment rate: Unemployed persons as a share of the labour force.

Table 7-1

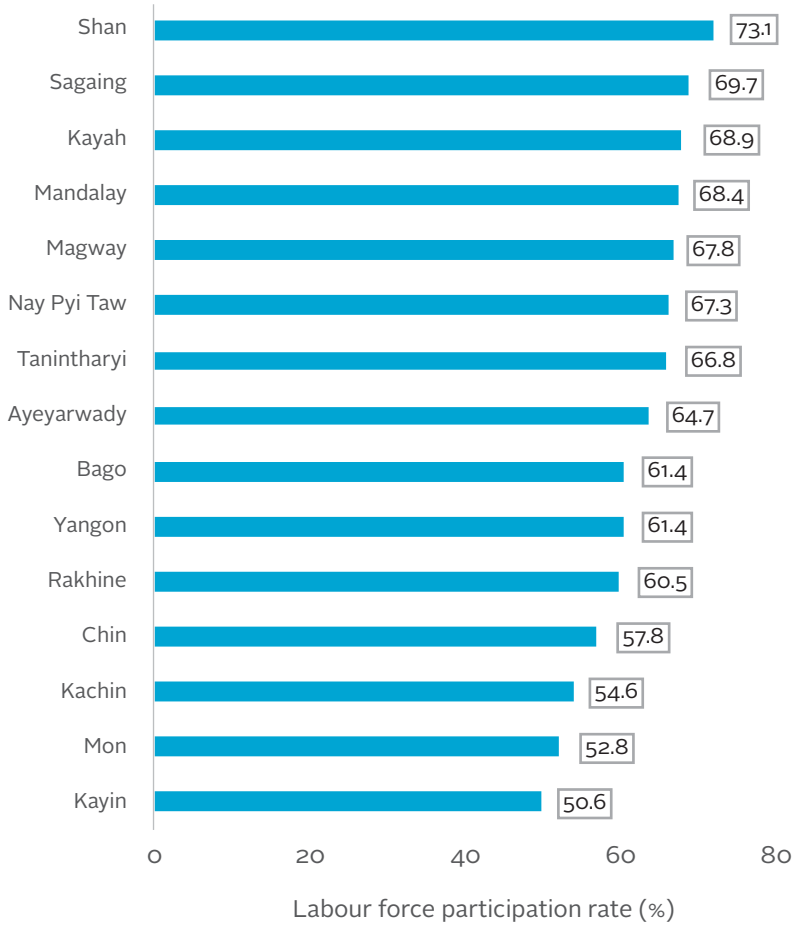
Summary of key labour force indicators, by residential area and gender, 7-day recall (in percent)

	Union	Urban	Rural	Female	Male
Total population	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Children (aged 0-14)	26.5	22.6	28.1	25.0	28.3
Working age (aged 15+)	73.5	77.4	71.9	75.0	71.7
Working age population (aged 15+)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Labour force	**64.8**	**60.9**	**66.4**	**54.3**	**77.1**
Employed	63.4	59.1	65.3	53.1	75.6
Unemployed	1.4	1.8	1.2	1.2	1.6
Out of labour force	**35.2**	**39.1**	**33.6**	**45.7**	**22.9**
Potential labour force	4.9	5.6	4.7	6.4	3.2
Other inactive	30.3	33.5	28.9	39.3	19.7
Employment rate	97.9	97.0	98.2	97.8	97.9
Unemployment rate	2.1	3.0	1.8	2.2	2.1
Total population ('000)	47,401	13,524	33,876	25,099	22,301
Working age population ('000)	34,827	10,467	24,360	18,832	15,994

Notes: Labour force participation and employment are based on ICLS-19 definitions. The 2017 MLCS only includes the population living in conventional households.
Source: 2017 MLCS

Figure 7-1

Labour force participation rate, by state/region, 7-day recall (in percent)



Notes: Labour force participation and employment are based on ICLS-19 definitions.[37] The 2017 MLCS only includes the population living in conventional households.

Source: 2017 MLCS

Working-age individuals in the wealthiest quintile are significantly less likely to participate in the labour force. The average seven-day labour force participation rate among those in the top welfare quintile is 62.2 percent, 3.3 percentage points lower than the rest of the working-age population. The wealthiest quintile is also 4.4 percentage points less likely to participate in the labour force at any point over the course of a year. Unlike poorer households, those in the top quintile may not require as many members to work if the breadwinner of the household earns enough to provide for the entire household.

37 ILO Conference Resolution concerning statistics of work, employment, and labour underutilisation https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/normativeinstrument/wcms_230304.pdf

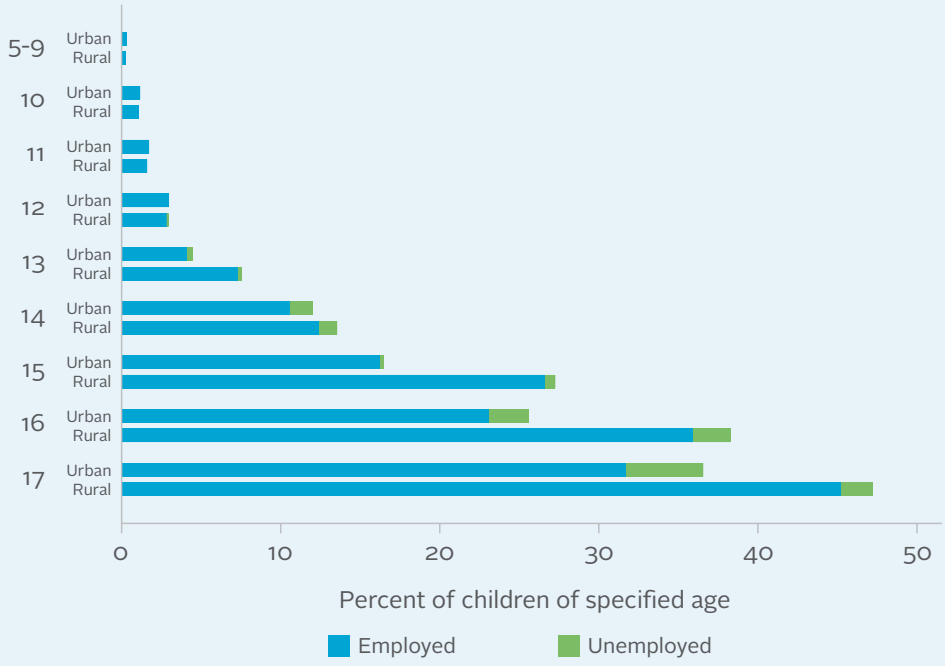
Box 7-2 Child labour in Myanmar

As of 2017, the child labour force participation rate is 10.2 percent. The 2015 LFS defines child labour based on an age group of 5 to 17 years old, which covers standard school-going age in Myanmar. Labour force participation among children aged 5 to 11 years old is almost negligible (0.57 percent). Given the high primary enrolment rates in both urban and rural areas in Myanmar, low participation in the labour force is to be expected for this age group (Chapter 3 on education). But the labour force participation rate increases with age, and among children 12 to 17 years old, the labour force participation rate is significantly higher at 20.4 percent. The labour force participate rate among boys (11.3 percent) is slightly higher than it is for girls (9.1 percent), reflecting higher tendencies for boys to drop out of school.

Child labour force participation is 23 percent higher in rural areas than in urban areas. In general, rural children are more likely to be in the labour force, but an urban-rural differential in the labour force participation rate appears only after primary-school age, namely age 12 (Box 7-2 Figure 1). Ages 15 to 17 exhibit the largest urban-rural gap in labour force participation (Box 7-2 Figure 1). Shan State, Sagaing Region, and Yangon Region have the highest rates of child labour force participation.

Box 7-2 Figure 1

Child labour force participation rate by residential area and age, 7-day recall (in percent)



Notes: Labour force participation and employment are based on ICLS-19 definitions. Child labour is based on an age group of 5 to 17 years old.
Source: 2017 MLCS

Poorer children aged 5 to 17 are more likely to be in the labour force. In the poorest consumption quintile, 15.0 percent of children and 31.2 percent of children aged 12 to 17 participate in the labour force. These rates are respectively 2.3 times and 2.6 times higher than they are in the wealthiest quintile.

Correlates of labour force participation

Being married and having young children are associated with a lower likelihood of being in the labour force for women, but not for men.[38] Controlling for individual, household, and geographical characteristics, married women are 11.2 percentage points less likely than non-married women to participate in the labour force. On the other hand, married men are 7.8 percentage points more likely than non-married men to be in the labour force. Moreover, women living with children five years old or younger are on average 9.0 percentage points less likely to participate in the labour force, while both men with and without young children are equally likely to be in the labour force. These differences further substantiate reports of diverging gender roles in Myanmar[39]: Women are primarily responsible for looking after young children and tending to other housework, while men primarily are accountable for working outside the household.

Labour force participation increases with educational attainment and is highest among those who have reached university. Relative to those with no schooling, individuals who have reached primary school or higher generally have a greater likelihood of being in the labour force. The exception is among the working-age population who were still of school age at the time of the survey, namely those 15 to 22 years old. In general, individuals in this age group are less likely to be in the labour force relative to those aged 23 to 59, and more likely to be full-time students, particularly if they have already reached high school or university. The relationship between educational attainment and labour force participation therefore would be more accurately depicted by looking at the population beyond standard school age or those above 22 years old. When considering this population, those who have reached high school and university are respectively 5.1 and 18.2 percentage points more likely than those who have no education to participate in the labour force.

Only at the university level are women and men equally likely to participate in the labour force relative to those with no schooling. For all other levels of educational attainment, men are more likely than women to be in the labour force compared to their counterparts with no education, controlling for other characteristics. As shown in chapter 6, higher levels of education are associated with larger incurred costs. However, higher education is also associated with significantly larger returns, as shown in the section below on wages. Thus, individuals, especially women, who continue to tertiary education may be more motivated than those with less schooling to participate in the labour force to make up for their incurred and foregone costs and/or to enjoy high returns on their educational investment. For some women, high returns seem to be enough to overcome the need to do housework or tend to dependents at home: In 2017, women who have reached university education or higher are significantly more likely to participate in the labour force relative to women with lower educational attainment.

The disabled are less likely to participate in the labour force. Controlling for other individual, household, and geographical characteristics, those who are reported having a mental or physical disability are 25.2 percentage points less likely to be in the labour force. Men and women with disabilities are similarly less likely than their counterparts without disabilities to participate in the labour force, yet disabled men are still 10.9 percentage points more likely to participate in the labour force relative to disabled women.

38 Besides gender, residential area, and household welfare, there may be other factors influencing whether an individual participates in the labour force. This section uses a probit model to identify significant predictors of labour force participation for working-age men and women controlling for other individual and household characteristics, as well as factors specific to states/regions. See Annex G Table G-1 for results of the regressions.

39 See, for example, Asian Development Bank (2016).

Sectoral participation and occupation[40]

Table 7-2

Sector of primary job, by residential area and gender, 12-month recall (in percent)

	Union	Urban	Rural	Female	Male
Agriculture, forestry, fishing	**51.3**	**9.6**	**67.1**	**49.8**	**52.6**
Industry	**16.6**	**25.3**	**13.4**	**13.0**	**19.7**
Mining	0.8	0.6	0.8	0.2	1.2
Manufacturing	9.4	15.2	7.2	11.3	7.8
Utilities	0.1	0.3	0.1	0.1	0.2
Construction	6.3	9.2	5.3	1.4	10.6
Services	**32.1**	**65.1**	**19.5**	**37.3**	**27.7**
Wholesale and retail trade	14.4	28.4	9.1	20.2	9.5
Transportation, food services, information	7.0	14.4	4.2	4.6	9.1
Financial and professional services	1.0	2.9	0.3	1.0	1.0
Public administration	1.0	2.7	0.4	0.7	1.2
Education, health, social work	3.3	6.1	2.2	5.2	1.6
Other	5.4	10.6	3.4	5.5	5.2

Notes: Labour force participation and employment are based on ICLS-19 definitions. Sector classifications are based on the ISIC-08.
Source: 2017 MLCS

In 2017, more than half of the employed population work in agriculture and allied activities in their primary job. Among those who are employed at any point over a 12-month reference period, two out of three rural inhabitants work in agriculture, while just one out of five urban inhabitants do so (Table 7-2). Despite the relatively low share of urban workers employed in agriculture, the national average is driven by a large rural population share, particularly among those who are employed (72.5 percent). Agricultural employment is strongly associated with characteristics of informal employment[41]: Less than one percent of those working as agricultural labourers receive pension from their employers and only 5 percent receive paid leave. In comparison, 15 percent and 40 percent of waged employees in industries and services, respectively, enjoy paid leave. Of those employed in the agricultural sector, nearly a quarter (23.8 percent) are individuals working without pay in a household or family enterprise – almost three times the share among those working in other sectors (8.1 percent). While these workers contribute to the productive activities of the household, they do not bring in any independent income. Agricultural employment is thus less likely to be considered formal and independent of household activities.

40 Due to the high degree of seasonality in some labour market activities, this section looks at sectoral participation and occupation of the primary job over a 12-month reference period. Sector classifications are based on the 2008 International Standard Industrial Classification (ISIC-08), and occupation classifications are based on the 2008 International Standard Classification of Occupations (ISCO-08).

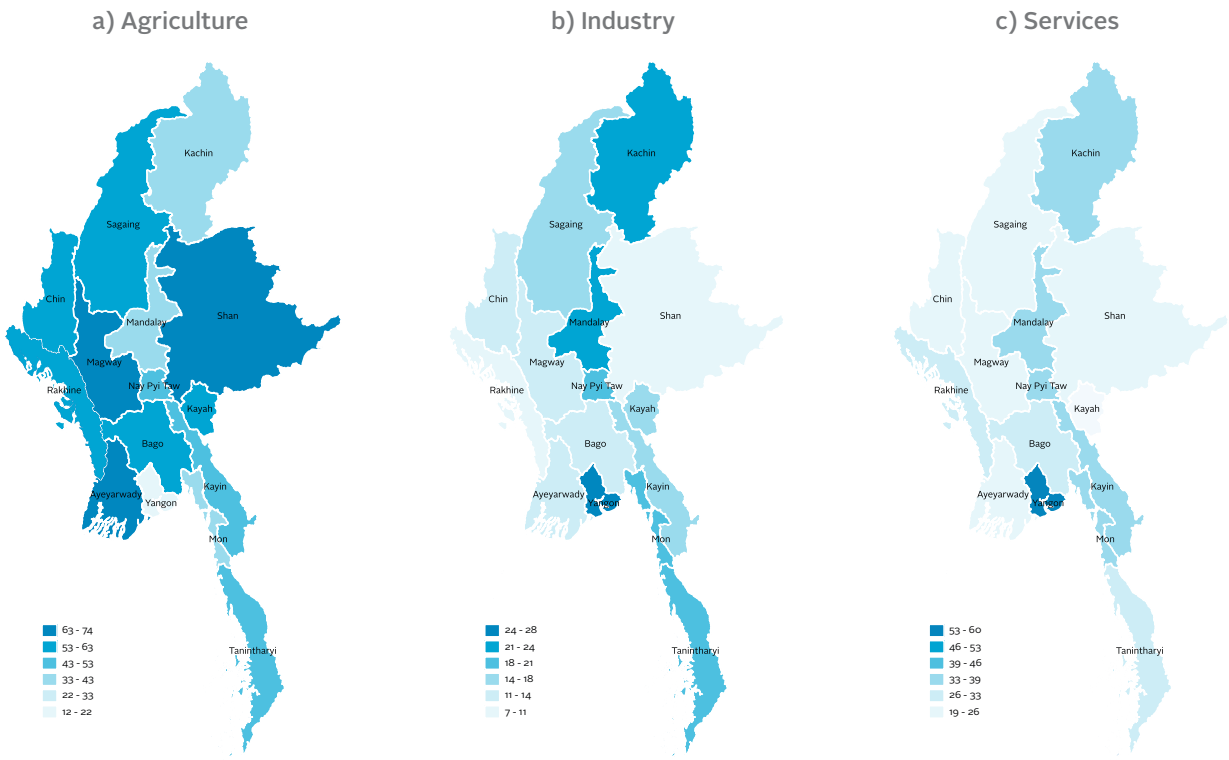
41 The 2017 MLCS does not allow an exhaustive definition of informal employment that is aligned with the definition recommended by the ICLS-19 or the 2015 Myanmar LFS. More specifically, it is not possible to fully identify informal sectors of employment, which would result an underestimation of informality in the labour force. Informality is explored in this chapter in terms of receipt of pensions or paid leave for employees (based on 7-day recall) and whether one works as an unpaid contributing household worker.

Employment in most states/regions remains largely agricultural, although there is more variation in sectoral participation in some places. In two-thirds of states/regions, agricultural activities account for more than half of employment. Shan State, Magway Region, and Ayeyarwady Region, which have some of the largest rural population shares, have the highest shares of employed individuals working in agriculture (more than 64 percent) (Map 7-1). On the other end of the spectrum, Yangon Region has only 12.1 percent of employed individuals working in agriculture. Services make up the majority (60.2 percent) of employment in Yangon Region, with a quarter of employed individuals working in wholesale or retail trade.

Sectoral participation differs by gender. Most men and women work in the agricultural sector. However, employed men are 51.5 percent more likely than employed women to work in the industrial sector (Table 7-2), particularly in construction which typically is characterised by a high level of physical activity. On the other hand, employed women are 34.7 percent more likely to work in services, which is driven primarily by high female employment in the wholesale and retail trade sector and in education, health, and social work.

Map 7-1

Sector of primary job, 12-month recall (in percent)

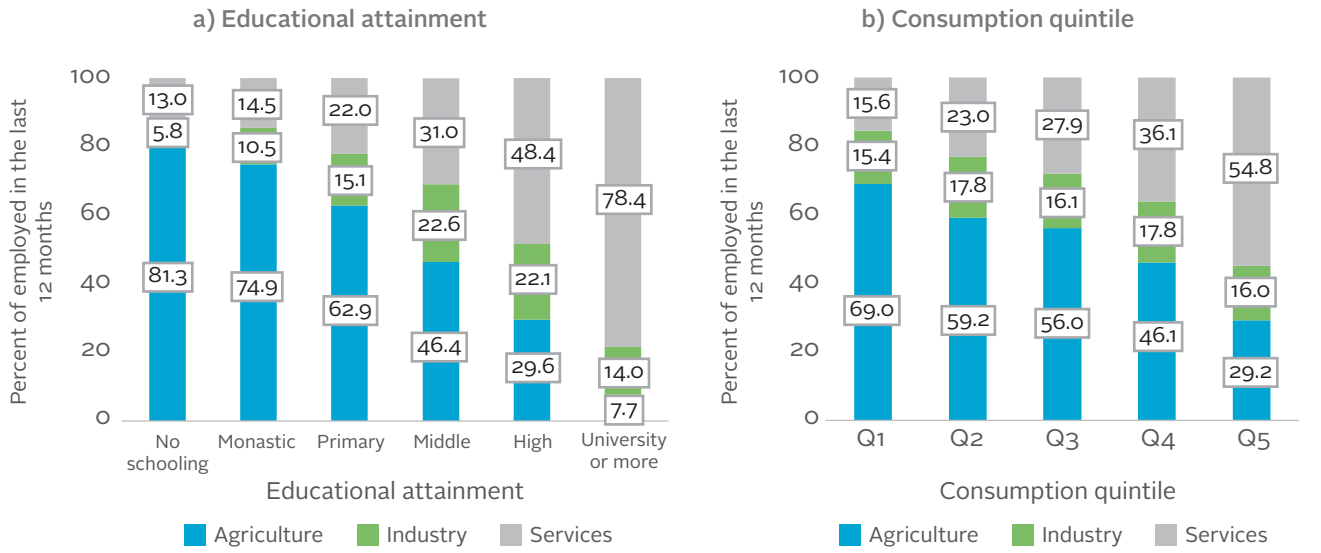


Notes: Labour force participation and employment are based on ICLS-19 definitions. Sector classifications are based on the ISIC-08.
Source: 2017 MLCS

Employment in agriculture is associated with lower educational attainment and lower welfare, while employment in services is associated with higher education and higher welfare. Compared to employment in agriculture, employment in services and industry is associated with more education. Individuals who have high school education or higher are 3.7 times and 6.0 times more likely than those with no schooling to work in services, respectively (Figure 7-2a). Most individuals with no schooling are employed in agriculture (81.3 percent). Within the services sector, employment in education, health, or social work is almost exclusively composed of individuals who have reached high school or higher (87.8 percent). In addition, poorer individuals are more likely to be employed in agriculture and less likely to work in services than those who are better off.

Figure 7-2

Sector of primary job, by educational attainment and consumption quintile, 12-month recall (in percent)



Notes: Labour force participation and employment are based on ICLS-19 definitions. Sector classifications are based on the ISIC-08. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

More than a third of employment options in any sector are considered elementary or unskilled occupations. According to the ISIC-08, elementary occupations include agricultural and industrial labourers, cleaners and other household helpers, mobile and stationary street vendors, and other occupations that require relatively little skill. More than 42 percent of the employed labour force work in these occupations, and the percentage is highest among those working in the agricultural sector (48.5 percent). The remaining half of those employed in agriculture are subsistence or market-oriented farmers. Women are 22.7 percent more likely than men to have elementary occupations, and those with lower educational attainment and welfare are significantly more likely to be employed in these professions.

Wages[42] and factors explaining wage differences

Four out of ten of the employed population are wage-earning employees. Another 35.3 percent are own-account owners who do not have regular employees, and about 10 percent are operators of a family business or are employers with regular employees (Table 7-3). Wage-earners have an individual source of income while employers, own-account owners, and operators of a family business likely have the most command over profits earned from their enterprises. On the other hand, those who assist in a family business without remuneration likely do not have much bargaining power in the household, since they independently do not bring in income.[43] Among those employed, 16.1 percent help out without pay in a family enterprise. Women are more than twice as likely as men to engage in such employment, suggesting that a greater share of employed women do not have an independent source of income.

42 The wages used in this section combine cash wages and the reported value of in-kind wages and are restricted to wages earned domestically unless noted otherwise. Only wages earned in the primary job during a 12-month reference period are reported.

43 See for example Qian, 2008, which shows that increasing women's income increases their bargaining power within the household, and Kabeer, 2002, which documents the tangible changes that women encounter inside and outside of households due to increased opportunities for waged employment.

Table 7-3

Position in primary job, by residential area and gender, 12-month recall (in percent)

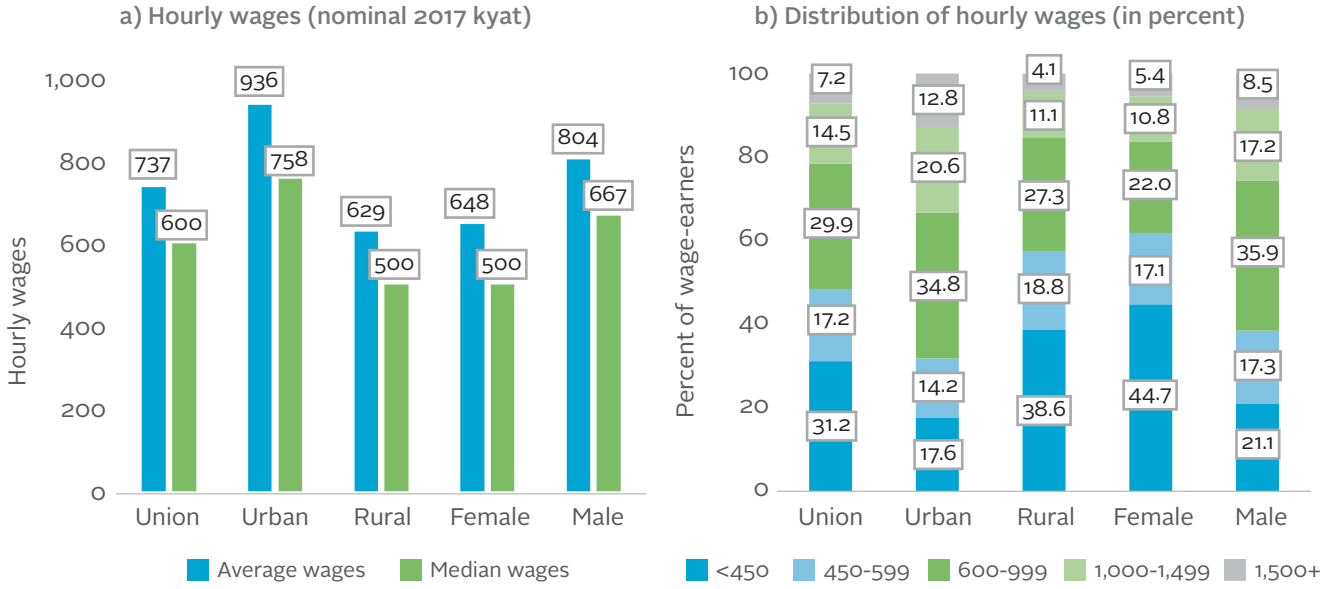
	Union	Urban	Rural	Female	Male
Paid employee in public sector	4.1	8.2	2.5	5.0	3.3
Paid employee in private sector	35.3	42.1	32.7	31.7	38.4
Employer with regular employees	2.9	4.1	2.4	1.5	4.1
Own account owner	35.3	31.8	36.5	30.4	39.3
Operator of family business	6.3	3.4	7.3	8.8	4.1
Assisting in family business	16.1	10.1	18.4	22.6	10.7
Other	0.1	0.1	0.0	0.0	0.1

Notes: Labour force participation and employment are based on ICLS-19 definitions.
Source: 2017 MLCS

In 2017, the average hourly wage is nearly 740 kyat, and three out of ten wage-earners earn an hourly wage below 450 kyat. At the time of the survey, minimum wage law in Myanmar stipulates 3,600 kyat per day or 450 kyat per hour for an eight-hour work day[44] (Figure 7-3). In 2017, one-third of wage-earners who work at least eight hours per day earn below the hourly minimum wage, mostly in informal jobs.[45] Rural inhabitants are more likely than their urban counterparts to earn less than 450 kyat per hour, and nearly 60 percent of those earning less than the minimum wage are employed in agriculture. Individuals working in the private sector are more likely than those working in the public sector to earn below 450 kyat per hour. However, even in the public sector, 9.5 percent of wage-earners and 12.8 percent of those working eight or more hours a day earn below the hourly minimum wage.

Figure 7-3

Nominal hourly wages in primary job and distribution of wages among wage-earners, by residential area and gender, 12-month recall



Notes: Wages are reported in nominal 2017 kyat.
Source: 2017 MLCS

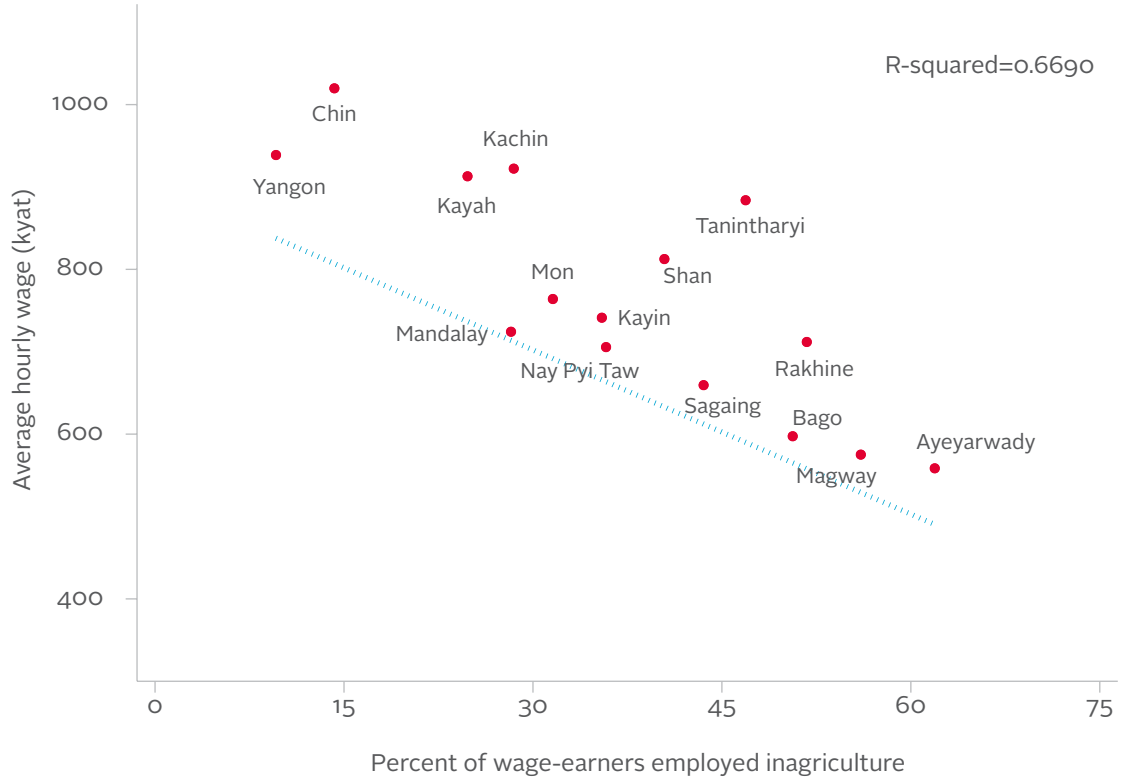
44 After the 2017 MLCS was completed, in May 2018, a new minimum wage law was passed in Myanmar that stipulated 4,800 kyat per day or 600 kyat per hour for an eight-hour work day.

45 Among other conditions, the minimum wage law did not apply to enterprises and institutions that employed 10 or less people. The 2017 MLCS does not ask about the number of employees in one's workplace, and thus does not allow evaluation of the minimum wage law de facto.

Wages are closely tied to the sector of employment: agricultural labour is associated with lower wages compared to employment in industry or services. About half of wage-earners working in agriculture earn an hourly wage below 450 kyat. In comparison, just 17.8 percent and 21.3 percent of wage-earners involved in industrial jobs and services, respectively, earn below 450 kyat. The agricultural sector also has the highest rates of informality and the lowest share of individuals earning wages, as most are either own-account owners or household members helping out on the family farm. These facets of agricultural employment partially explain why wages are on average lower in rural areas and in some states/regions. More than half of rural wage-earners are employed in agriculture, making them more likely to earn lower wages. States/Regions with higher participation in agriculture, particularly waged labour, are also more likely to have lower average and median wages. Indeed, states/regions that have high shares of wage-earners employed in agriculture, such as Ayeyarwady Region, Magway Region, and Bago Region, have low median wages (Figure 7-4).

Figure 7-4

Scatterplot of the share of wage-earners employed in agriculture and nominal median hourly wages in primary job, by state/region, 12-month recall



Notes: Wages are reported in nominal 2017 kyat and are restricted to wages earned domestically.
Source: 2017 MLCS

On average, men earn significantly more than women, even after considering differences in sector of work. In 2017, the average hourly wage among men is about 800 kyat, roughly 24 percent higher than average wages among women (Figure 7-3). Nearly 45 percent of wage-earning women receive less than 450 kyat per hour, while just 21.1 percent of male wage-earners do so. Even after considering differences between men and women in sectoral participation and occupations, women earn about 20 percent less than men. In general, the male-female wage gap is larger in rural areas than in urban areas in both absolute and relative terms.

The male-female wage gap is not explained by education, level of experience, or other individual and area-specific characteristics.[46] Women and men in the labour force tend to have similar levels of welfare and educational attainment, and have comparable ages. Controlling for these factors therefore does not close the male-female wage gap. It is possible that women select into lower-paying jobs such as agricultural labour depending on where they live or the sector that their household is involved in. However, controlling for residential area and the household's productive activities also does not explain the male-female wage differential.

Greater experience is rewarded with higher wages but at a diminishing rate. Age is a widely-used proxy for experience, as generally individuals who are older have more experience in the labour force. Controlling for each additional year of experience is associated with higher wages, but the percentage increase in wages decreases as one gets older (Table G-2 in Annex G). This means that after a certain age, an additional year of experience will have a negligible or negative effect on wages. Every additional year of experience is more highly rewarded for men that it is for women, but this relationship tapers off more quickly for men than it does for women.

Wage differentials between the uneducated and educated increase with level of educational attainment, although considerable differences exist between men and women. Excluding monastic education, each additional level of education is associated with a larger wage differential. For example, relative to those with no schooling, those who have reached primary school earn 9.5 percent higher wages, and individuals who have reached university earn 78.8 percent higher wages. However, the wage differential between the uneducated and educated only appears in high school for women, while it appears starting in primary school for men. On average, returns to primary, middle, and high school education are significantly higher for men than they are for women. The exception is university education, for which the percentage increase in wages relative to no schooling is 93.8 percent for women and 55.9 percent for men. This suggests that achieving university education closes both the labour force participation gap and the wage gap between women and men.

Possessing an identification card is associated with higher wages. Controlling for other factors, individuals who have an identification card have 7.0 percent higher wages than those who do not. These official documents can determine the type of job that individuals can work in, particularly whether they can work in the formal sector or in formal employment. Moreover, those who possess an identification card may have greater agency to negotiate wages or other benefits.

Labour underutilisation[47]

The labour underutilisation rate may be a more appropriate measure of unmet employment needs in Myanmar in 2017 than the unemployment rate. In 2017, the unemployment rate is just 2.2 percent. The rate is thought to be very low due to the lack of unemployment benefits and the fundamental necessity for much of the population to work in order to meet subsistence (Department of Labour, 2016). Thus, the unemployment rate alone may not provide a comprehensive picture of unmet employment needs in Myanmar. Instead, the labour underutilisation rate is used to estimate the mismatch between labour supply and demand in Myanmar (Department of Labour, 2016). Labour underutilisation is defined using three subpopulations: time-related underemployment, unemployment, and the potential labour force (see Box 7-3).

46 This section uses a Heckman selection model to analyse various individual and area-specific characteristics that may explain differences in wages across the labour force, particularly between men and women. A more detailed description of the method employed and the regression results, including the selection equation, can be seen in Annex G.

47 This section uses labour force and employment indicators based on a seven-day reference period to accurately estimate labour underutilisation.

Box 7-3 Definitions and indicators of labour underutilisation

Potential labour force: Persons out of the labour force who have indicated interest in employment, but face limitations in availability and/or ability to actively search for a job. Specifically, persons who either i) sought work during the reference period but are not available to work; ii) did not seek work but are available and want to work; or iii) neither sought work nor are available to work but would like to work.

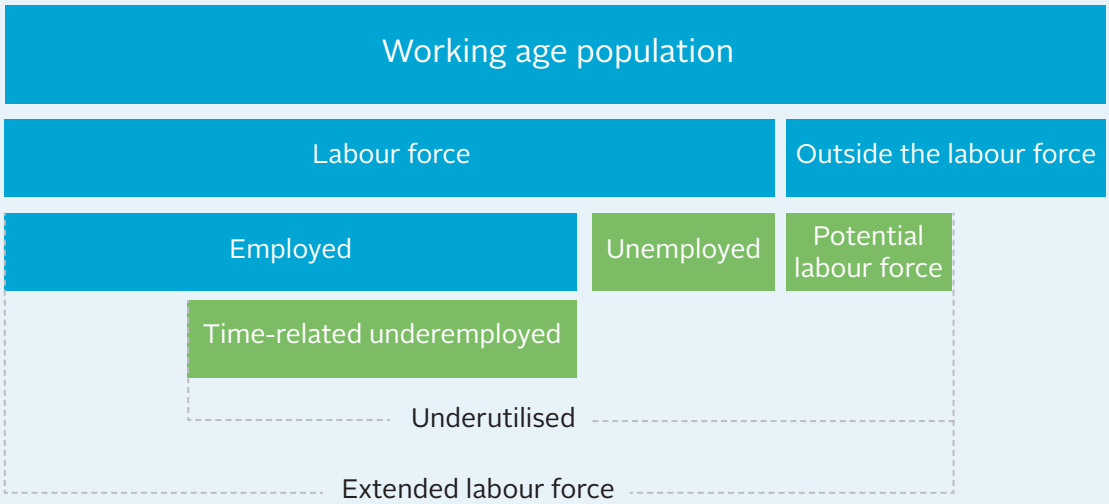
Extended labour force: Persons who are either in the labour force or in the potential labour force.

Time-related underemployment: Employed persons who i) would like to work additional hours; ii) are available to work additional hours; and iii) are working below 44 hours per week, as stipulated by the Myanmar Factory Act and LFS.

Labour underutilisation rate: The sum of underemployed persons, unemployed persons, and the potential labour force, expressed as a percentage of the extended labour force. The labour underutilisation rate captures mismatches between labour supply and demand, indicating unmet needs for employment within the working-age population.

Box 7-3 Figure 1

Definition of extended labour force and labour underutilisation



Note: Definitions come from the 2015 Myanmar LFS and ICLS-19.

In 2017, the average number of hours worked per week is 49 hours. On average, urban inhabitants work 5.4 more hours per week than their rural counterparts. Among all sectors, agriculture is associated with the fewest hours worked per week and the fewest months worked per year. Overall, higher welfare and educational attainment are associated with longer hours worked and higher regularity over the course of the year, suggesting that wealthier and better educated individuals are more likely to be employed in stable jobs rather than casual or seasonal labour. Out of the employed population, 43.4 percent work less than 44 hours per week, and 12.7 percent are in time-related underemployment.

Table 7-4

Labour underutilisation as a share of the extended labour force, 7-day recall (in percent)

	Union	Urban	Rural	Female	Male
Labour underutilisation rate	**20.6**	**19.5**	**21.0**	**24.0**	**17.6**
Underemployed	11.5	8.3	12.8	11.4	11.6
Unemployed	2.0	2.8	1.6	2.0	2.0
Potential labour force	7.1	8.4	6.5	10.6	4.0

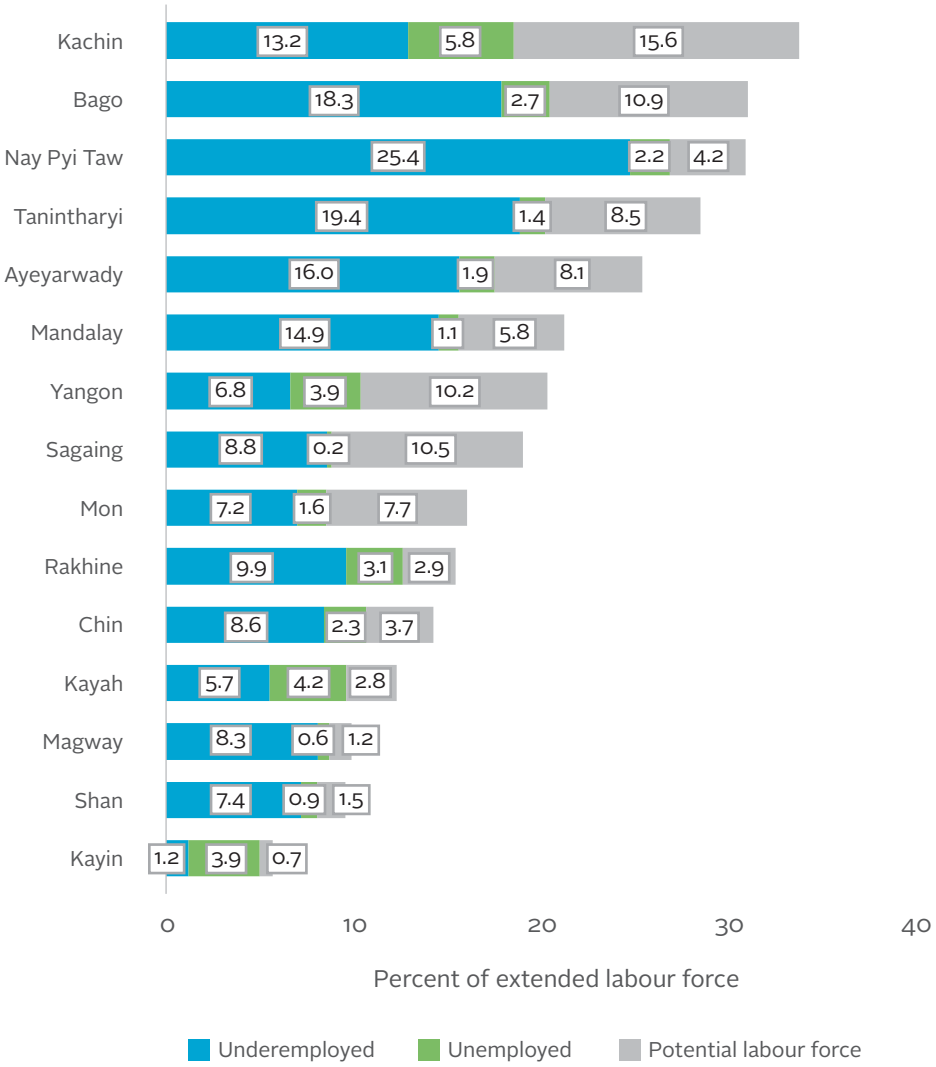
Notes: ICLS-19 definitions of labour force participation, employment, and unemployment are used.
Source: 2017 MLCS

About 5 percent of the working-age population and 14 percent of those outside of the labour force are in the potential labour force. Individuals who did not seek work but are available and want to work account for half of the potential labour force. Another 47.3 percent are those who would like to work but neither sought work nor are available to work. In total, the extended labour force makes up 70 percent of the working-age population. Women in the extended labour force are 2.7 times more likely than men to be in the potential labour force, which implies that women face greater constraints in availability and the ability to search for a job.

The labour underutilisation rate in 2017 is 20.6 percent and is higher among women than men. Due to unmet employment needs, one in five of the extended labour force or 14.3 percent of the working-age population could be contributing more to productive activities in Myanmar (Table 7-4). Time-related underemployment makes up more than half of the underutilized labour force. Compared to urban residents, rural inhabitants are 7.7 percent more likely to be considered underutilized, which is mainly driven by a higher share of the rural extended labour force that is underemployed. In terms of states/regions, Kachin State has the highest labour underutilisation rate (34.6), while Kayin State has the lowest (5.8 percent) (Figure 7-5). Women are also significantly more likely to have unmet employment needs compared to men, mostly due to a larger share of women in the potential labour force.

Figure 7-5

Labour underutilisation rate, by state/region, 7-day recall (in percent)

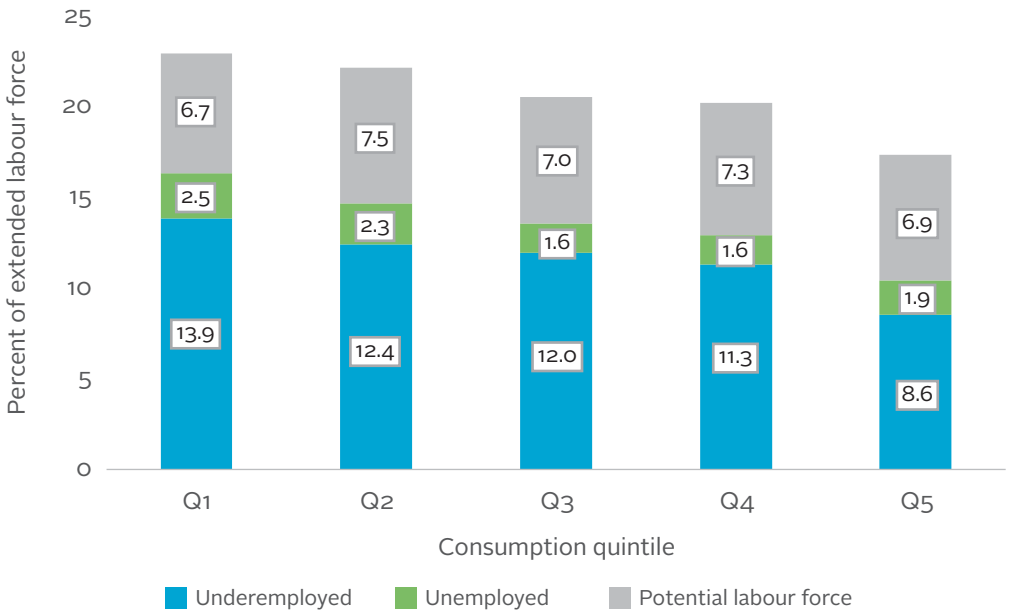


Notes: ICLS-19 definitions of labour force participation, employment, and unemployment are used.
Source: 2017 MLCS

Poorer members of the extended labour force are more likely to be considered underutilized. Individuals with lower welfare are more likely to work less than 44 hours per week. Moreover, among all those who work under 44 hours, poorer individuals are more likely to desire more work and be available to work. Time-related underemployment therefore is higher in poorer quintiles, explaining much of why labour underutilisation is higher among the poor (Figure 7-6).

Figure 7-6

Labour underutilisation rate, by consumption quintile, 7-day recall (in percent)



Notes: ICLS-19 definitions of labour force participation, employment, and unemployment are used. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

Main takeaways and implications

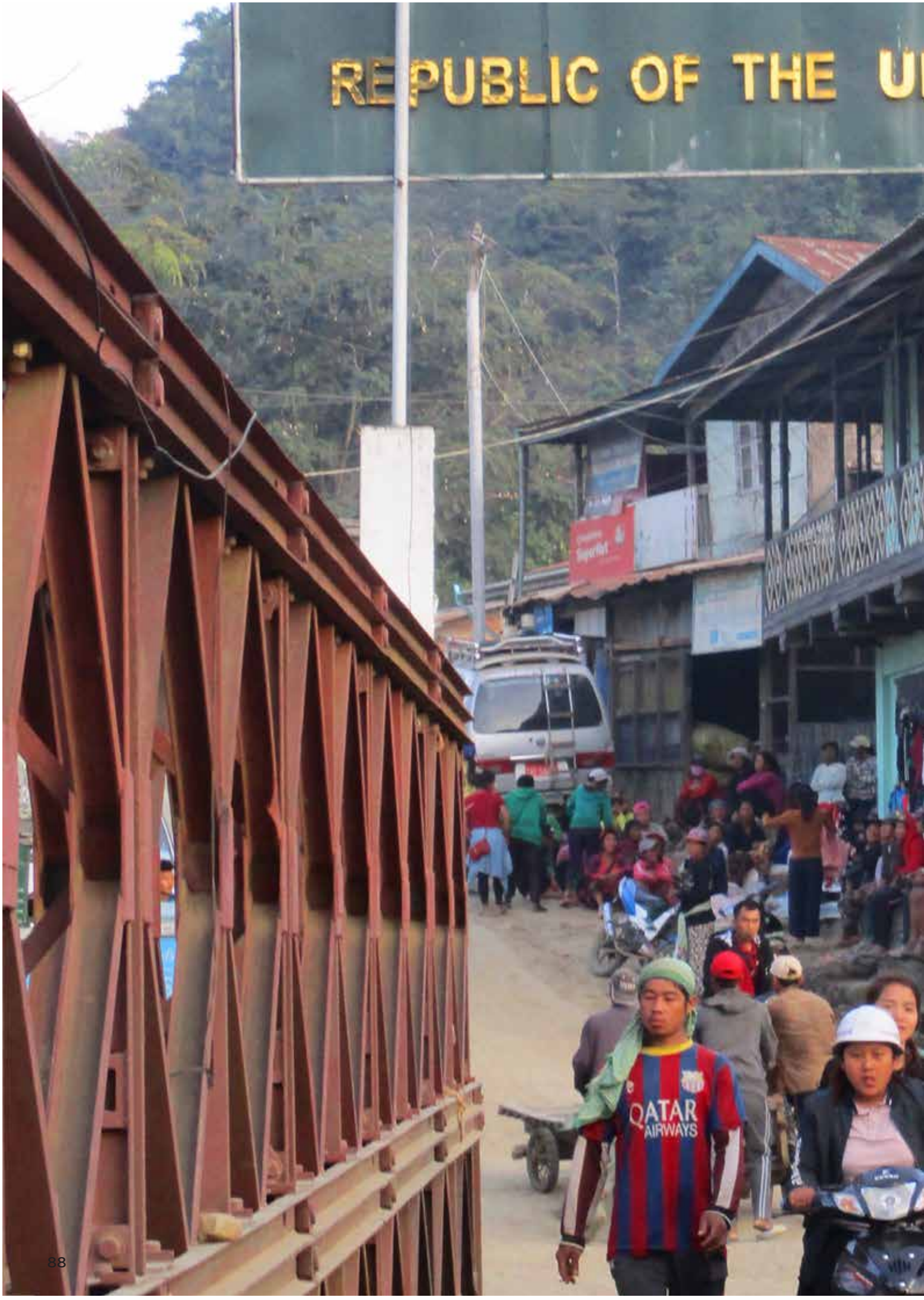
In 2017, significant differences in labour force participation and labour market activities exist across gender, urban and rural areas, states/regions, educational attainment, and welfare level. Women face significant barriers to labour force participation largely due to housework and the need to tend to children and elderly dependents. Women also generally have lower-paying and lower-quality jobs and are more likely to have unmet employment demand. Education, particularly at the university level or above, has great potential to improve labour force participation and the quantity and quality of employment. Having university education closes both the labour force participation gap and wage gap between men and women. Agriculture is still the most common sector of employment in Myanmar although services make up most of the employment in Yangon Region. Employment in agriculture is associated with lower wages, lower educational attainment, lower welfare, higher underutilisation, and a greater share of individuals working without pay.

These findings have three main implications:

i. Reducing female responsibilities at home can increase female labour force participation and increase their productive activities. Facilitating access to preschool and early childhood care and development would also be beneficial for the children and increase their future productivity. A better understanding of gender roles in Myanmar could also help define initiatives to give women greater opportunities to participate in the labour force.

ii. Higher education, especially at the university level and above, can open the door to more formal, secure, and higher-paying jobs. Encouraging higher education can also close the gender gap in wages and increase female participation in the labour force. Higher education can reduce female responsibilities at home, as the opportunity cost to staying at home increases with greater educational attainment.

iii. The labour force, particularly those in the agricultural sector, and the potential labour force can be better utilized with more employment opportunities. Increasing productivity or developing value-chains in which labourers could work could reduce labour underutilisation. The seasonal nature of agricultural work also contributes to greater labour underutilisation and illustrates the need to support the diversification of livelihoods into non-agricultural activities in rural areas.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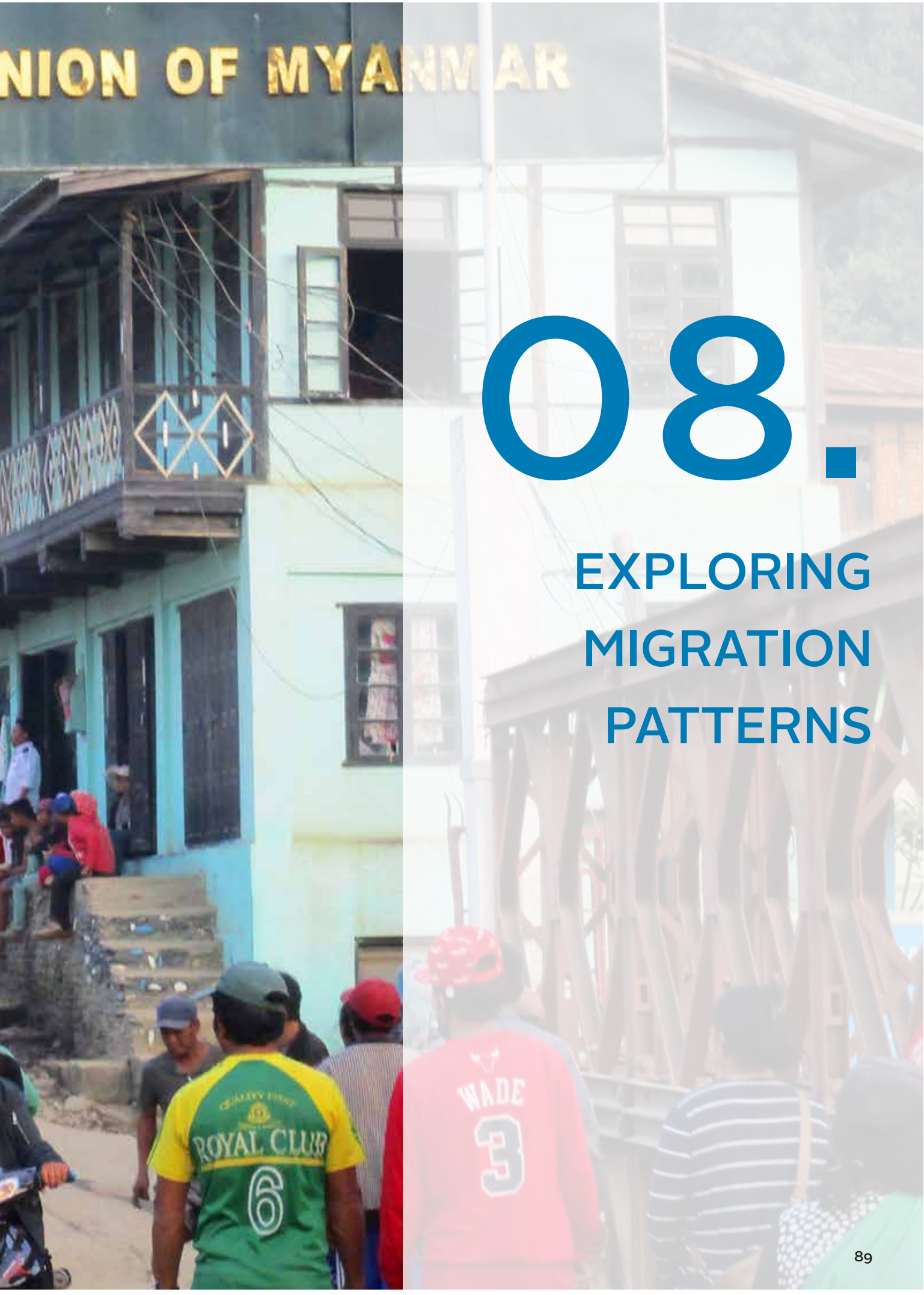


08.

EXPLORING MIGRATION PATTERNS

Migration patterns within and across country borders are often influenced by spatial disparities in labour market opportunities (Black, et al., 2005). In Myanmar, differences in employment opportunities and earnings have fuelled both permanent and temporary migration within and across state/region borders (Pattison, et al., 2016). Spatial inequalities in economic opportunities between Myanmar and neighbouring countries such as Thailand, Malaysia, and China have also influenced international migration corridors. This chapter examines internal and international migration corridors and the profiles of different types of migrants, as well as factors contributing to the decision to migrate.

Box 8-1. Definitions of the types of migrants and migration indicators used in this chapter

Permanent migration

Permanent/Lifetime internal migrants – Individuals born in Myanmar who have changed their usual place of residence within Myanmar at least once in their lifetime. Specifically, those who have moved to a township different from their township of birth at any point in their lives. In this chapter, "lifetime migrants" refers to lifetime internal migrants unless otherwise specified.

Recent internal migrants – A subcategory of lifetime migrants. Lifetime migrants who have moved townships in the five years preceding the 2017 MLCS. In this chapter, "recent migrants" refers to recent internal migrants unless otherwise specified.

Temporary migration

Temporary economic migrants – Household members who are reported as being temporarily absent from the household residence for at least one month in the past 12 months[1] due to work in Myanmar, work abroad, or the search for work. In this chapter, "economic migrants" refers to temporary economic migrants unless otherwise specified.

Temporary non-economic migrants – Household members who are reported as being temporarily absent from the residence for at least one month in the past 12 months due to non-economic reasons such as education, health, visiting family, etc. In this chapter, "non-economic migrants" refers to temporary non-economic migrants unless otherwise specified.

Migration indicators

Net migration rate – Difference between the number of migrants entering a state/region and the number of migrants leaving a state/region in a given period, as share of the total current population in the state/region.

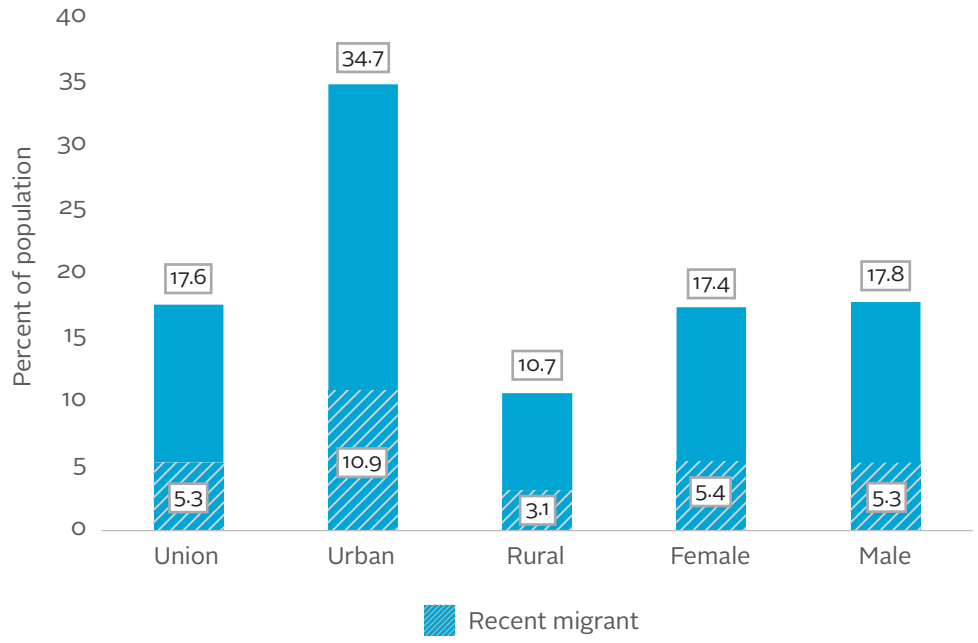
Source: Adapted from Department of Population, 2016. "2014 Census Thematic Report on Migration and Urbanization"

Permanent migration

As of 2017, nearly 18 percent of the population are considered permanent[48] internal migrants. About 5 percent are recent migrants or moved to their current place of residence between 2012 and 2017 (Figure 8-1). Women and men are equally likely to have moved once in their lifetime or in the past five years.

Figure 8-1

Percentage of population that are permanent migrants, by residential area and gender



Notes: The 2017 MLCS only covers the population living in conventional households. The striped area represents recent migrants, which are a subset of all permanent migrants.
Source: 2017 MLCS

Migration within, across, and to urban areas has dominated permanent migration flows. Almost 35 percent of urban residents are lifetime migrants, which is three times higher than it is among rural residents (Figure 8-1). Given the relatively large rural population, only about half (56.4 percent) of lifetime migrants live in urban areas. However, the share residing in urban areas is significantly higher for lifetime migrants than it is for non-lifetime migrants, the latter being individuals who have never moved townships within Myanmar in their lives. The 2014 Census finds that almost half of both lifetime and recent internal migration has been urban-to-urban migration[49], while just a tenth has been rural-to-urban migration (Department of Population, 2016). In addition to spatial differences in earnings or employment opportunities, this finding may be explained by greater physical mobility in urban areas, which makes it easier for urban residents to move, especially to neighbouring townships (Black, et al., 2005).

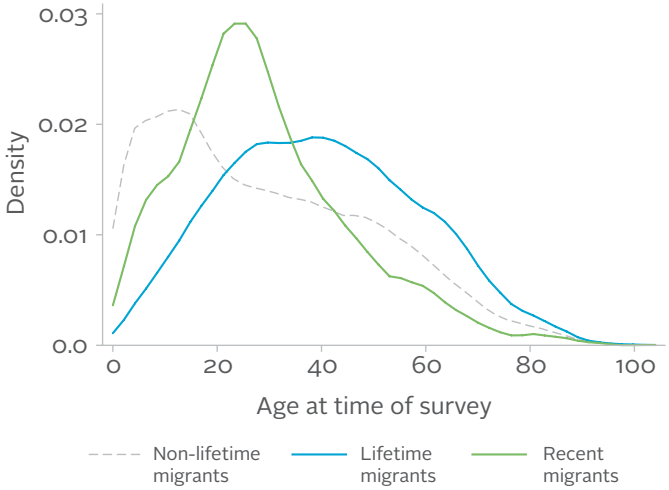
48 In this section, permanent and lifetime terms are used interchangeably as done in 2014 Census Thematic Report on Migration and Urbanization (Department of Population, 2016).

49 The 2017 MLCS did not ask respondents whether their previous residence or their residence at birth was located in an urban or rural area, although it did so for their current residence. It is thus not possible to observe the direction of permanent migration flows in and out of urban or rural areas using the 2017 MLCS.

Most permanent internal migration happens in young adulthood and tends to be a collective event within households, particularly among married couples. On average, lifetime internal migrants are older than non-lifetime migrants. Figure 8-2 shows that children below age 15 comprise a greater share of non-lifetime migrants than they do of recent migrants and all lifetime migrants. On the other hand, recent migrants are more likely to be in the 15 to 35 age group than in any other age group. Taken together, these results suggest that the prime age for permanent migration in Myanmar is early adulthood. Indeed, among all lifetime migrants, more than half moved to their current residence between the ages of 15 and 35 (Figure 8-3). Permanent migration also tends to be a family affair: six out of ten lifetime migrants have moved to their current residence at the same time as at least one other current household member. Among permanent migrant household heads and their spouses, 63.1 percent moved to their current residence together. In addition, lifetime migrants are more likely to be married than non-lifetime migrants, even after considering differences in age and other individual characteristics.

Figure 8-2

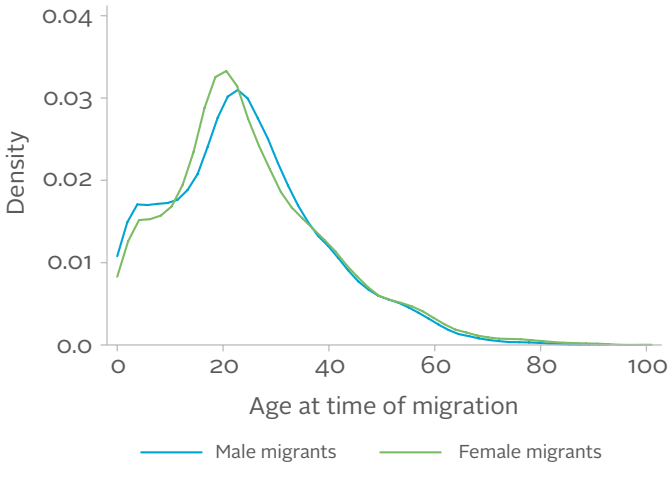
Distribution of ages of lifetime migrants, recent migrants, and non-lifetime migrants



Note: "Non-lifetime migrants" refers to individuals who have never moved townships in their lives.
Source: 2017 MLCS

Figure 8-3

Distribution of ages at the time of last migration

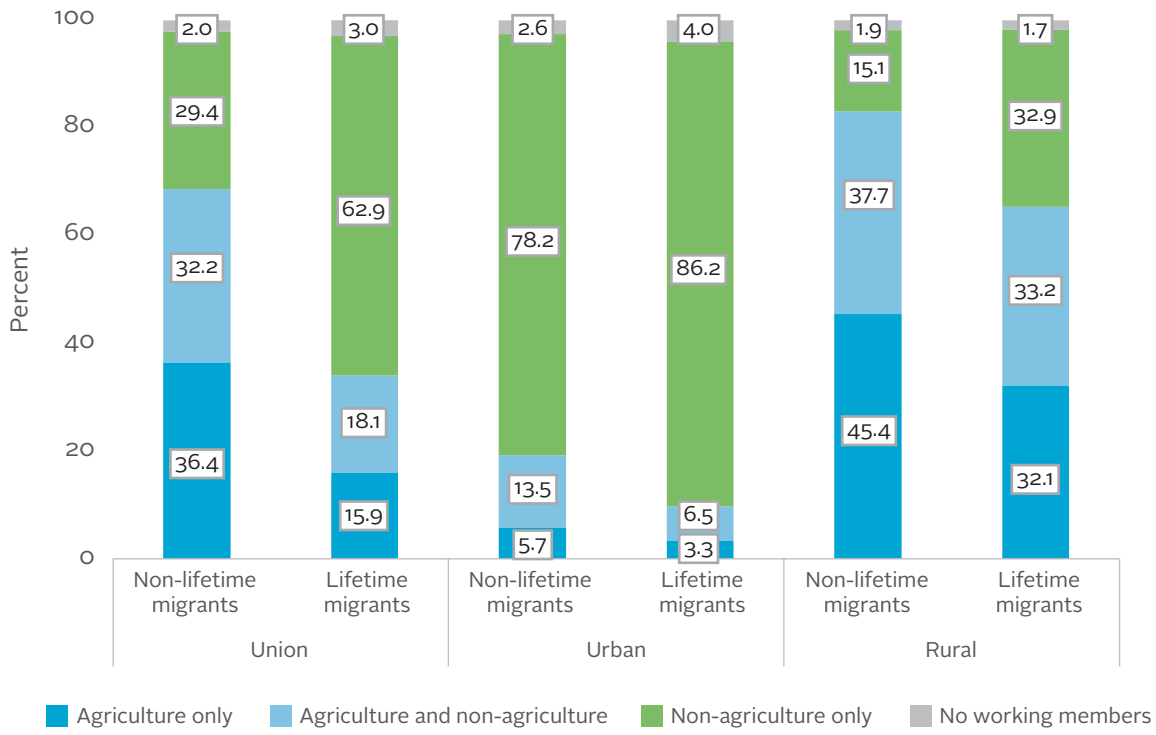


Source: 2017 MLCS

Lifetime migrants are twice as likely as non-lifetime migrants to be members of households engaged exclusively in the non-agricultural sector. Nearly 63 percent of permanent migrants are members of households that participate solely in non-agricultural work, compared to just 29.4 percent among non-lifetime migrants (Figure 8-4). A larger share of non-lifetime migrants are residents of households involved in agricultural activities exclusively or together with some non-agricultural work. These differences in household sectoral participation between lifetime migrants and non-lifetime migrants can be seen in both urban and rural areas, but more so in rural areas (Figure 8-4). Considering that about 15 percent of lifetime internal migration has been urban-to-rural migration (Department of Population, 2016), it is possible that permanent migrants who move to rural areas from urban areas continue working in non-agriculture. However, given that rural-to-rural migration has outweighed urban-to-rural migration, further investigation of differences in sectoral participation is needed.

Figure 8-4

Household sectoral participation among lifetime migrants and non-lifetime migrants, by residential area (in percent)

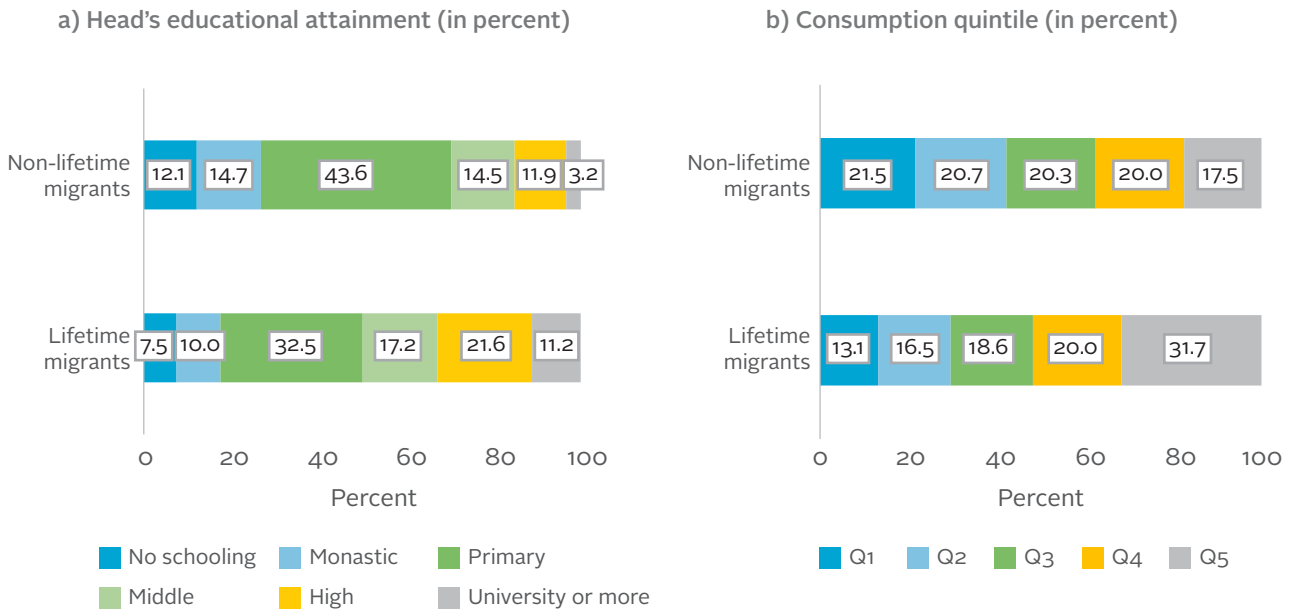


Note: "Non-lifetime migrants" refers to individuals who have never moved townships in their lives.
Source: 2017 MLCS

Permanent migration is associated with higher educational attainment, particularly at the high school and university levels. Lifetime migrants are more likely than non-lifetime migrants to have more educated household heads: 32.8 percent of lifetime migrants have a household head who have reached high school or higher, while just 15.1 percent of non-lifetime migrants do so (Figure 8-5a). Among the population older than the standard age for graduating university (age 20), lifetime migrants are also generally better educated than those who have never moved. As shown in Chapter 3, high school and tertiary education are associated with significantly higher transportation and room/board costs due to a fewer number of schools that provide such education at these levels. Thus, (the desire for) higher education may be a motivating factor for migration, and permanent migration can influence one's educational attainment. For others, the direction of causation may go in the opposite way if educational attainment influences one's ability and decision to migrate. For example, completion of tertiary education may allow individuals to seek higher-paying economic opportunities in a different city or town.

Figure 8-5

Breakdown of household head's educational attainment and consumption among lifetime migrants and non-lifetime migrants



Note: "Non-lifetime migrants" refers to individuals who have never moved townships in their lives. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

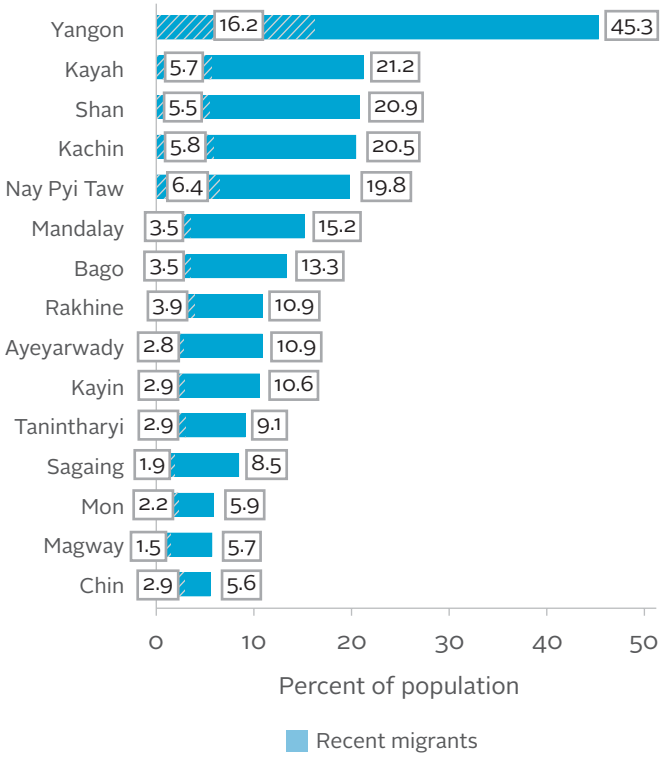
On average, lifetime migrants tend to be better off than non-lifetime migrants, but differences in welfare are largely explained by higher educational attainment and household participation in non-agriculture among wealthier quintiles. Lifetime migrants are 39.1 percent less likely to be poor compared to non-lifetime migrants and nearly twice as likely to be in the top welfare quintile (Figure 8-5b). As shown in Chapters 3 and 7, wealthier households have greater engagement in non-agricultural activities and tend to have better educated members. Thus, controlling for household sectoral participation and the household head's educational attainment accounts for more than 70 percent of differences in welfare between lifetime migrants and non-lifetime migrants.

Internal permanent migration corridors

In both absolute and relative terms, Yangon Region is by far the most attractive destination for lifetime migrants. Almost four out of ten lifetime migrants (38.5 percent) in Myanmar reside in Yangon Region. When considering recent permanent migration, the share is even higher at 45.3 percent. Shan State and Mandalay Region have the second and third highest number of lifetime and recent migrants, respectively. In relative terms, Yangon Region also has the highest number of lifetime migrants (45.3 percent) and recent migrants (16.2 percent) as a share of the local population size (Figure 8-6). A resident of Yangon Region is more than twice as likely as a resident of any other state/region to have moved townships in his or her lifetime.

Figure 8-6

Percentage of population that are permanent migrants, by state/region

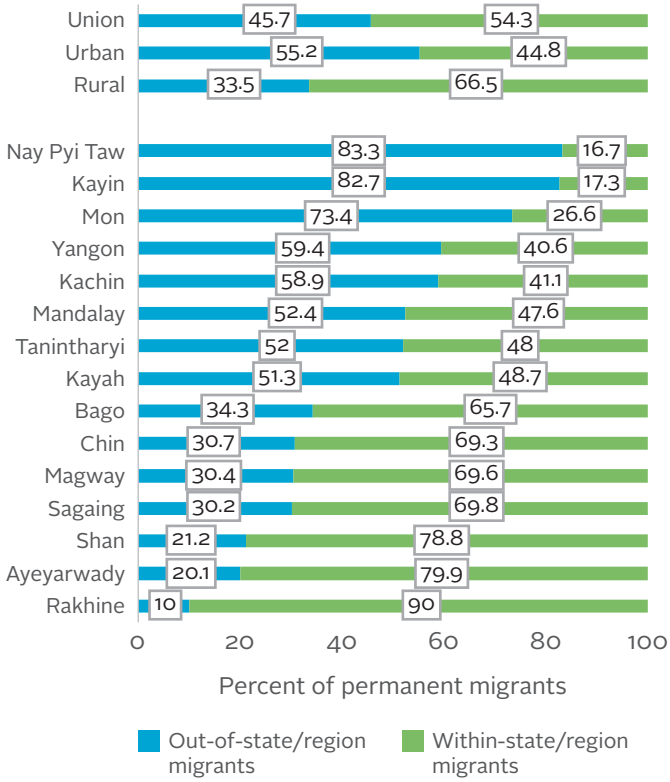


Note: The striped area represents recent migrants, which are a subset of all permanent migrants

Source: 2017 MLCS

Figure 8-7

Percentage of permanent migrants by type of movement, by residential area and state/region



Source: 2017 MLCS

Permanent internal migration includes movements both within and across state/region borders. About half (54.3 percent) of lifetime internal migrants were born in the same state/region as they currently reside in, but significant differences exist between urban and rural areas. The remaining 45.7 percent of lifetime migrants currently live in a different state/region from the one they were born in (Figure 8-7). The majority of lifetime migrants in urban areas (55.2 percent) are from a different state/region, while the opposite is true for lifetime migrants in rural areas (33.5 percent from a different state/region). There is also wide variation across states/regions (Figure 8-7). The Union Territory of Nay Pyi Taw, which hosts many civil servants, and Kayin State and Mon State, which are near Thailand, have the highest incidences of lifetime migrants from a different state/region.

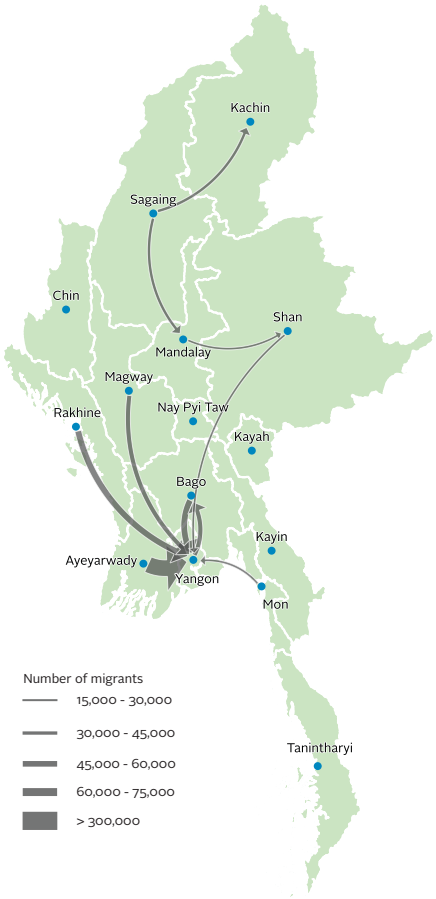
When considering permanent flows across states/regions, migration to Yangon Region has dominated both lifetime and recent migration corridors. Maps 8-1a and 8-1b show the top 10 largest permanent migration corridors for lifetime and recent migration, respectively. Six out of the top 10 lifetime migration corridors flow into Yangon Region, with the largest movement going from Ayeyarwady Region to Yangon Region. Small differences exist between the top 10 lifetime migration corridors and the top 10 recent corridors. Notably, there has been decreased movement from Mandalay Region to Yangon Region in recent years, while migration from Yangon Region to Bago Region has increased.

Map 8-1

Top 10 permanent migration corridors (number of migrants)

a) Lifetime migration

b) Recent migration



Notes: Arrows are weighted by the number of migrants and show the direction of migration across states/regions. Lifetime migration corridors are between state/region of birth and current residence. Recent migration corridors are between state/region of previous residence and current residence. Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State and the Wa Self-Administered Division.
Source: 2017 MLCS

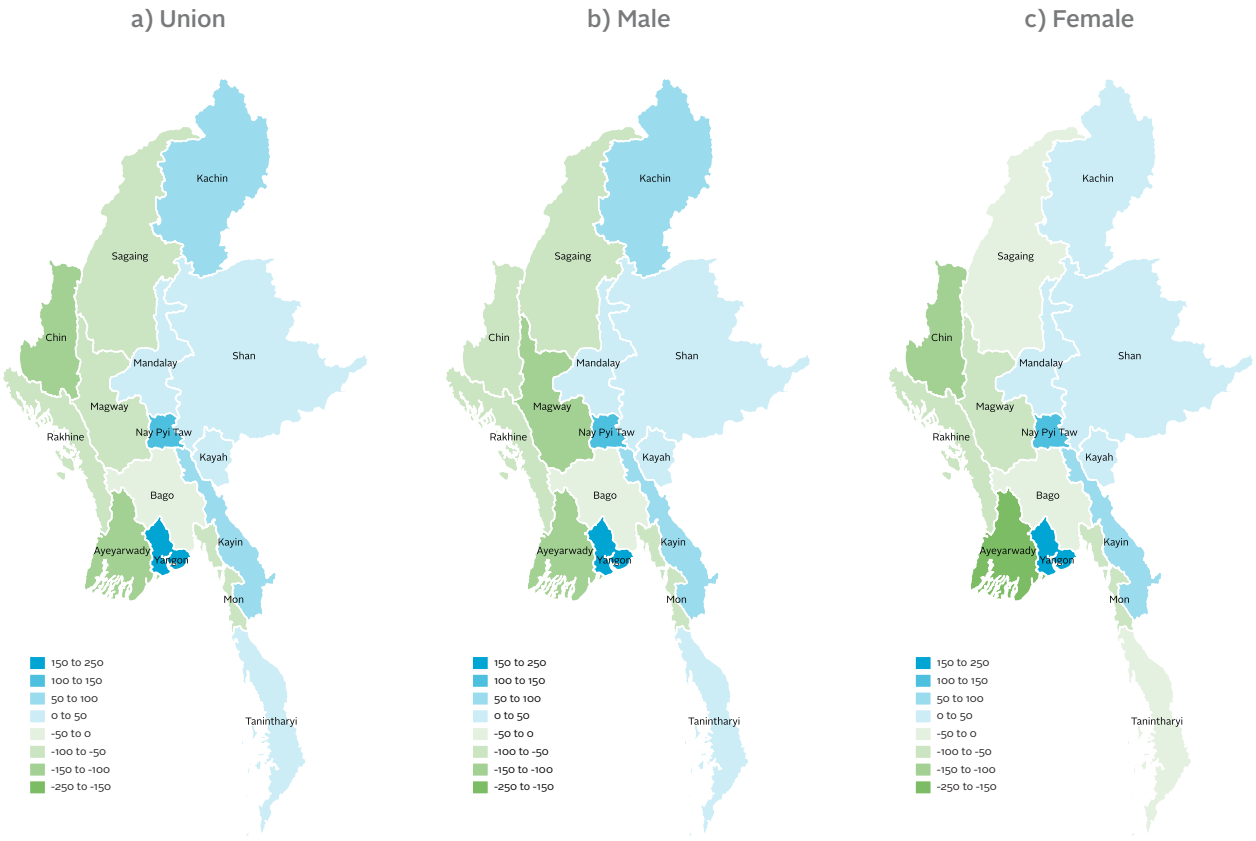
Evidence suggests spatial differentials in unskilled wages may have been a motivating factor for heavy permanent migration corridors. A significant force that influences cross-country and within-country permanent migration patterns is gaps in wages earned from unskilled labour across countries.[50] In 2017, Magway Region, Ayeyarwady Region, Bago Region, and Rakhine State exhibit the largest disparities in wages earned from elementary occupations when compared to Yangon Region. The average difference in median unskilled wages between Yangon Region and these four states/regions is 180.6 kyat per hour. These states/regions also display among the highest permanent migration flows into Yangon Region in recent years and over a longer time horizon (Map 8-1). Even when considering differences in sectoral participation among elementary occupations, Magway Region, Ayeyarwady Region, Bago Region, and Rakhine State rank highest in terms of unskilled wage differentials with Yangon Region: The average wage gap for unskilled jobs in the industrial sector between Yangon Region and these states/regions is 150 kyat per hour.

50 For example, Pritchett, 2006 describes "gaps in unskilled wages" as one of the five irresistible forces for mobility.

Across-state/region migration flows show that generally, the western part of Myanmar has lost population due to permanent migration, while the eastern part has gained population. Map 8-2 shows the net migration rate, or net permanent migration as a share of the local population size. Ayeyarwady Region has the lowest net migration rate, especially among women, indicating that they have lost the largest share of their population to migration. Chin State and Magway Region also have relatively large negative net migration rates, and in recent years, Rakhine State has seen a relatively large net loss in population (Map H-1 in Annex H). On the other hand, Yangon Region has experienced by far the highest net gains in population both in the past five years and in a longer time horizon. After Yangon Region, the Union Territory of Nay Pyi Taw has the second-highest net migration rate, which may be explained by the large number of governmental departments and civil servants situated in the Union Territory.

Map 8-2

Net lifetime migration rate (per 1,000 people)



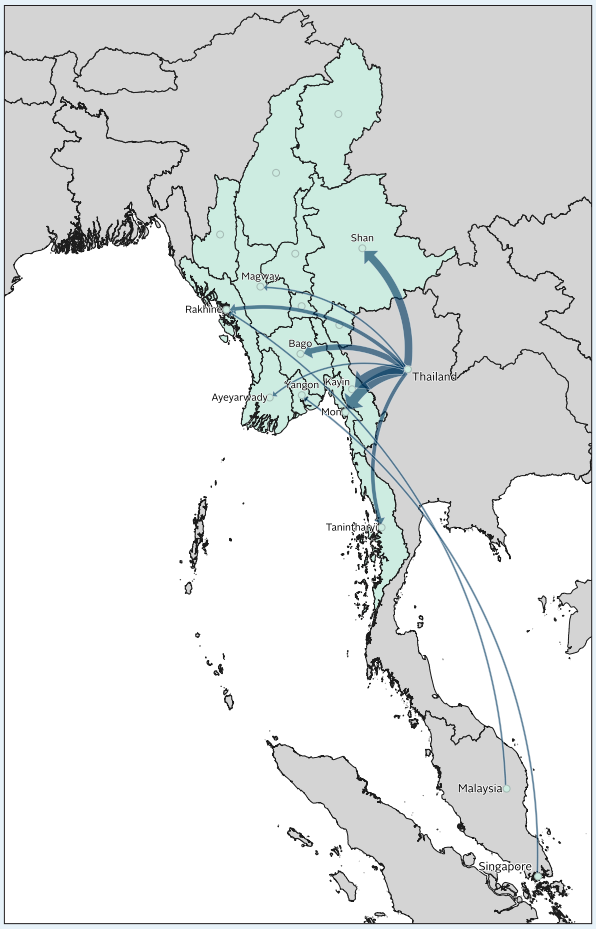
Notes: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State and the Wa Self-Administered Division.
Source: 2017 MLCS

Box 8-2 Examining international migration through remittance flows

The assessment of international migration corridors through international remittance flows[51] reveals that about 7.5 percent of households in Myanmar receive remittances from at least one former household member living abroad.[52] Kayin State and Mon State have the highest shares of households receiving remittances from abroad (38.1 and 32.0 percent respectively). They also have the largest number of households receiving international remittances, with both hosting more than 100,000 such households. After Kayin and Mon States, Shan State and Bago Region have the third and fourth largest number of households receiving remittances from abroad, respectively.

Box 8-2 Map 1

Top 10 international remittance flows in terms of the number of households receiving remittances from abroad



Notes: Arrows are weighted by the number of households receiving remittances from abroad and show the direction of remittance flows. Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State and the Wa Self-Administered Division.
Source: 2017 MLCS

51 The 2017 MLCS does not allow estimation of the number of individuals born in Myanmar who have migrated abroad, but international remittance flows from former household members may shed light on migration flows out of the country. A caveat to this analysis is that not all international migrants may send remittances, and a given household may receive remittances from more than one individual.

52 This number only includes remittances from former household members, or individuals who have been away from the household for more than six months in the 12 months preceding the survey.

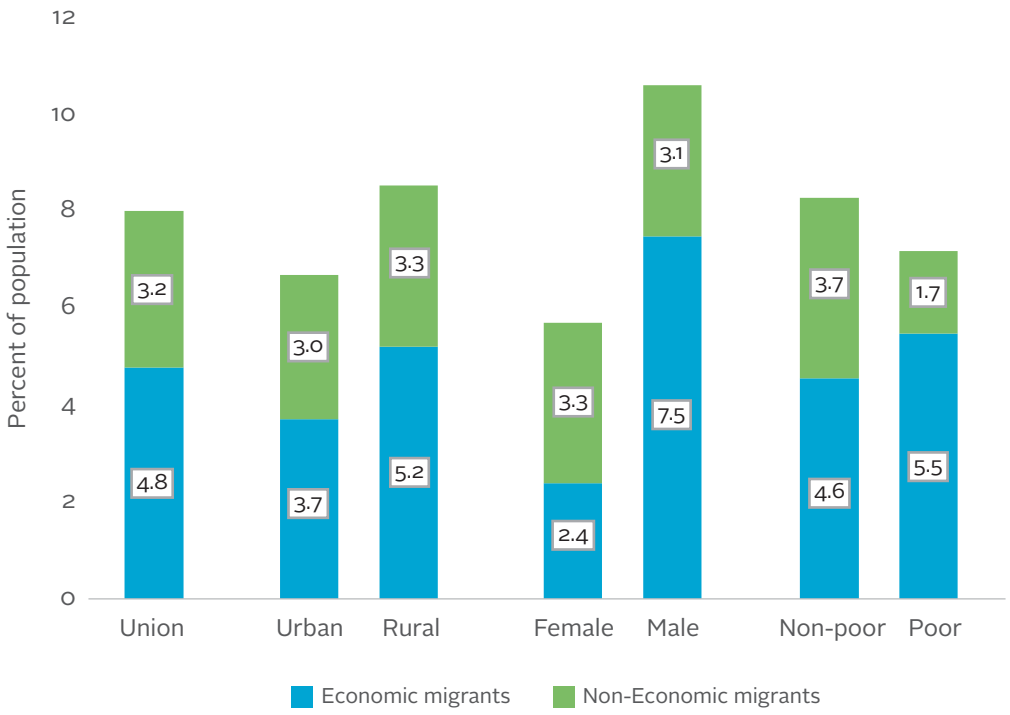
Thailand is by far the most common origin of international remittances, and states/regions in close proximity to the Thai border host the largest numbers of households receiving remittances from abroad. Box 8.2 Map 1 shows the top 10 international remittance flows, where each arrow represents the number of households receiving remittances. Flows from Thailand to Mon State and Kayin State are largest, and more than 85 percent of international remittance-receiving households in these two states get transfers exclusively from Thailand. Overall, eight of the top 10 remittance flows come from Thailand, suggesting that in terms of absolute numbers, permanent or longer-term international migration to Thailand is likely the highest. Malaysia is the second-most common origin of remittances to Myanmar and is thus likely to have the most international migrants after Thailand (Box 8-2 Map 1).

Temporary migration

As of 2017, 8.0 percent of the population are temporary migrants. Six out of ten temporary migrants are temporary economic migrants, while four out of ten are non-economic migrants (Figure 8-8). Individuals who temporarily migrate to work elsewhere in Myanmar compose most of temporary migrants (51.6 percent) and temporary economic migrants (86.5 percent) (Table 8-1). The most common non-economic reason for temporary migration is for education (53.8 percent of temporary non-economic migrants). Visiting family and marriage are also common reasons for non-economic migration.

Figure 8-8

Percentage of population that are temporary migrants, by residential area and gender



Source: 2017 MLCS

Table 8-1

Reasons for temporary economic and non-economic migration, by residential area, gender, and poverty status (in percent)

	Union	Urban	Rural	Female	Male	Non-poor	Poor
Economic migrant	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Work in Myanmar	86.5	81.8	87.8	86.7	86.4	85.4	89.3
Work abroad	11.9	15.9	10.8	10.7	12.4	13.1	9.0
Looking for work	1.6	2.2	1.4	2.5	1.2	1.5	1.7
Non-economic migrant	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Education	53.8	40.8	58.5	50.5	57.7	54.1	52.0
Health	8.3	9.0	8.1	9.4	7.0	8.8	5.3
Other	37.9	50.1	33.5	40.0	35.2	37.1	42.7

Source: 2017 MLCS

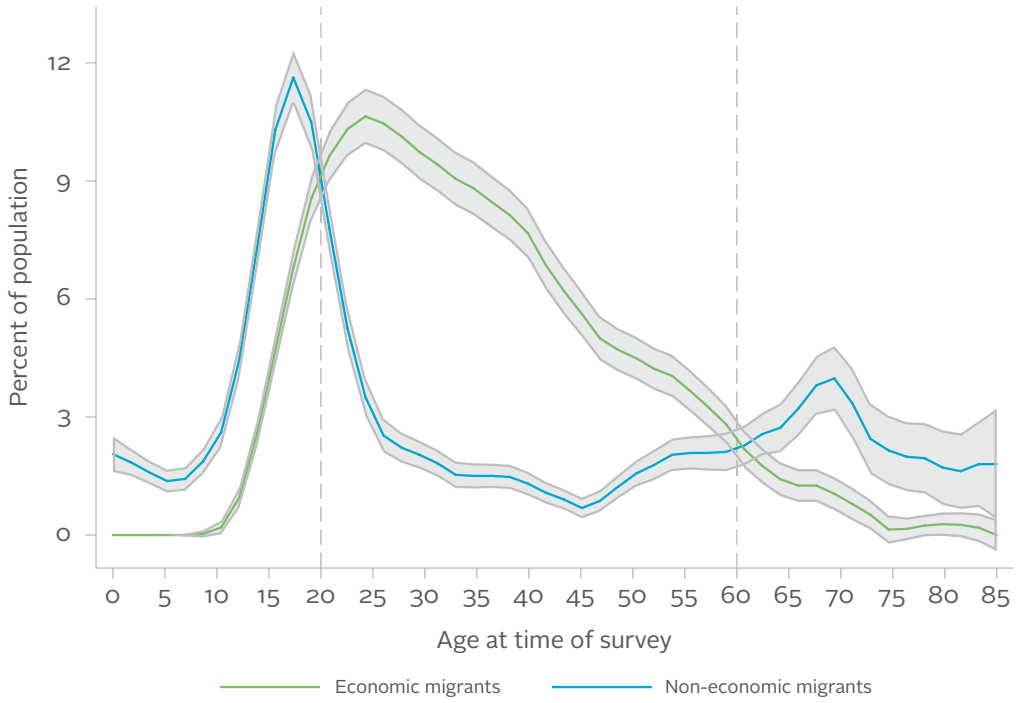
The likelihood of being a temporary economic or non-economic migrant is largely influenced by one's stage of life. Very few children below the age of 14 – the typical age for completing middle school in Myanmar – are either temporary economic or non-economic migrants (Figure 8-9). Between the ages of 14 and 15, when many students enter high school, there is a sharp increase in the likelihood of temporarily migrating for non-economic reasons, particularly education.[53] Throughout high school ages, temporary non-economic migration remains high, but steadily decreases in university ages, which is likely a consequence of low transition from high school to university. Between the ages of 15 and 20, temporary economic migration increases steadily, and after age 20 – the standard age of graduating university – temporary non-economic migration declines rapidly, with temporary economic migration surpassing non-economic migration. Between 25 and 60 years old, temporary economic migration decreases gradually, which may reflect a growing desire or need to be close to home with increasing age. After age 60, the typical age of retirement, temporary non-economic migration overtakes economic migration, with more people leaving the labour force and increasing temporary migration for health reasons or to visit family.

Rural residents are more likely than urban residents to be temporary economic migrants, particularly those working within Myanmar. Rural residents are 40.5 percent more likely than their urban counterparts to migrate temporarily for economic reasons (Figure 8-8). Among temporary economic migrants, those living in rural areas are more likely to migrate within Myanmar for work, while urban residents are more likely to migrate abroad for work (Table 8-1). While the share of urban and rural residents who migrate temporarily for non-economic reasons are similar, urban residents are significantly less likely than rural residents to temporarily move for education. This may be expected considering that public schools, particularly secondary schools, are generally more accessible in urban areas than in rural areas (MOE, 2016).

53 High schools and tertiary institutions are generally not as accessible as primary schools or middle schools in Myanmar. As a result, many students are required to stay with relatives or make other housing arrangements to attend high school or university (MOE, 2016).

Figure 8-9

Percentage of population that are temporary economic or non-economic migrants, by age



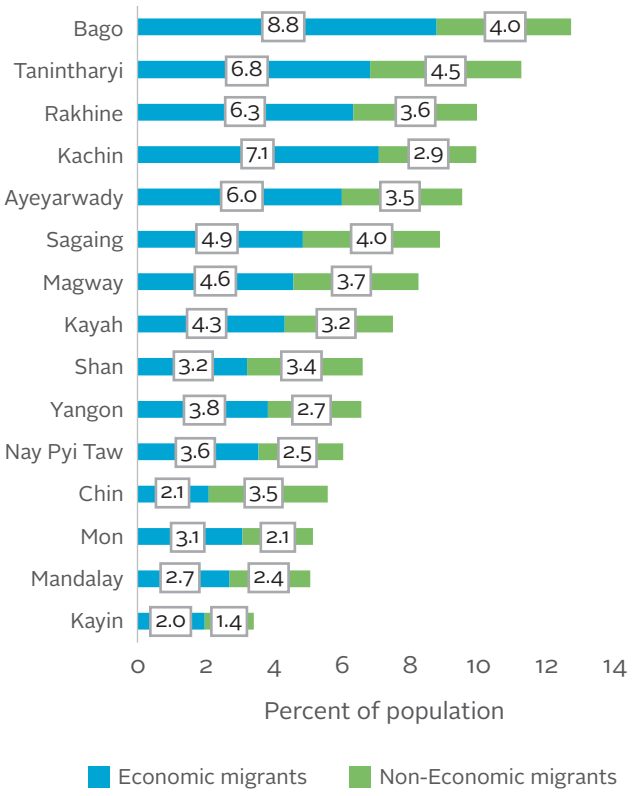
Note: The grey shaded area shows the 95% confidence interval.
Source: 2017 MLCS

Men are three times as likely as women to temporarily migrate for economic reasons (Figure 8-8), which suggests relatively limited physical mobility among women. In 2017, men and women are similarly likely to temporarily be away from their households due to non-economic reasons. However, men are significantly more likely to be temporarily away for work: 7.5 percent of men and 2.4 percent of women are temporary economic migrants, and 73.6 percent of all temporary economic migrants are men (Figure 8-8). As shown in Chapter 7, labour force participation is significantly lower among women than men, and housework and child care are substantial deterrents for women to engage in the labour market. Even among the employed population, women are more likely than men to be working on a household farm or enterprise, especially without remuneration. These differences suggest that compared to men, women face greater restrictions to their physical mobility, as gender norms often require them to be close to home.

Significant differences in temporary migration rates exist across states/regions. Bago Region has the highest share of temporary migrants, followed by Tanintharyi Region (Figure 8-10). Most temporary economic migrants in every state/region are workers who migrate within Myanmar rather than abroad. However, in states/regions located near Myanmar's western and eastern borders, particularly the Thai border, a larger share of temporary economic migrants works abroad (Map 8-3). Despite being located near country borders, Kayin State, Chin State, and Mon State have among the lowest rates of temporary economic migration, which may be attributed to relatively high rates of permanent or longer-term migration abroad. A large share of households in these states/regions receive remittances from former members located internationally, suggesting that temporary migration spells abroad for individuals from these states tend to be comparatively long.

Figure 8-10

Percentage of the population that are temporary economic or non-economic migrants, by state/region



Source: 2017 MLCS

Map 8-3

Percentage of temporary economic migrants working abroad

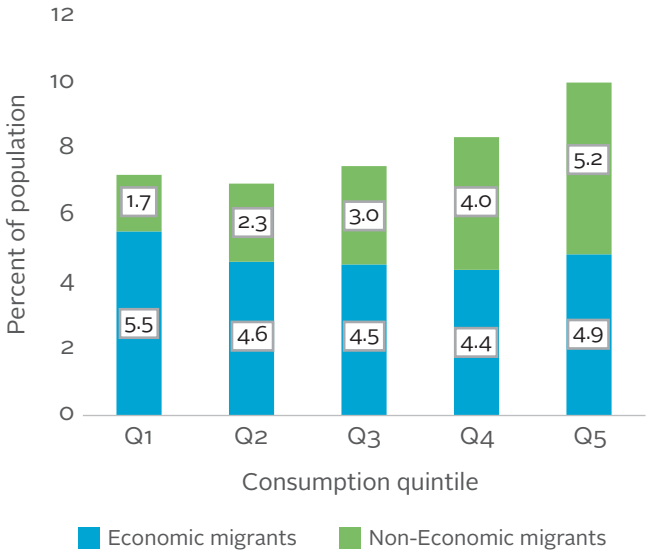
Notes: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State and the Wa Self-Administered Division.

Source: 2017 MLCS

Temporary non-economic migration is strongly associated with higher welfare, while temporary economic migration, particularly within Myanmar, is associated with poverty. The non-poor are more than twice as likely as the poor to be temporary non-economic migrants, particularly those who go away for educational reasons. Temporary non-economic migration generally increases with welfare (Figure 8-11), as more individuals in higher quintiles migrate temporarily for education or other reasons such as visiting family. Temporary economic migration abroad is also higher among the non-poor, while the poor are more likely to be temporary economic migrants working within Myanmar. In addition, the share that temporarily migrate abroad for employment increases with welfare, while the share that migrates for employment within Myanmar decreases (Figure 8-12). This result may be expected considering that international migration, particularly temporary migration abroad, is associated with higher financial and time-related costs compared to internal migration. Only those who can afford these costs and who deem temporary migration abroad to be profitable may decide to follow this route. On the other hand, temporary migration within Myanmar may be more of a short-term solution or coping mechanism that allows households to meet basic needs, particularly in off-seasons.

Figure 8-11

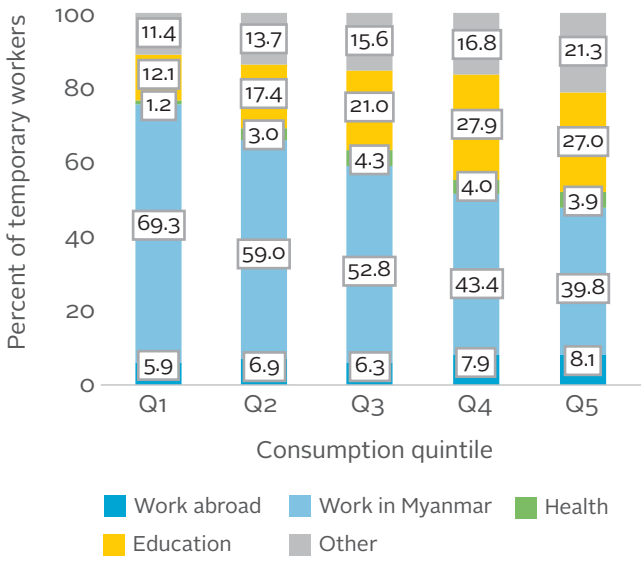
Percentage of population that are temporary economic or non-economic migrants, by consumption quintile



Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

Figure 8-12

Reasons for temporary migration, by consumption quintile (in percent)



Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile. Other include people looking for work.
Source: 2017 MLCS

Temporary economic migration in the labour force[54]

Employment that requires temporary migration, especially within Myanmar, is characterised by higher casual and seasonal labour. Given the short-term nature of many jobs that require temporary migration, temporary economic migrants are 2.3 times more likely than employed members of the labour force who are not economic migrants to have more than one job. The majority (88 percent) of temporary economic migrants work just one job that requires them to migrate temporarily. Compared to jobs that do not require temporary migration, jobs that do are significantly more likely be associated with low-paying elementary occupations such as casual labour in mining, construction, manufacturing, or in the collection of refuse.

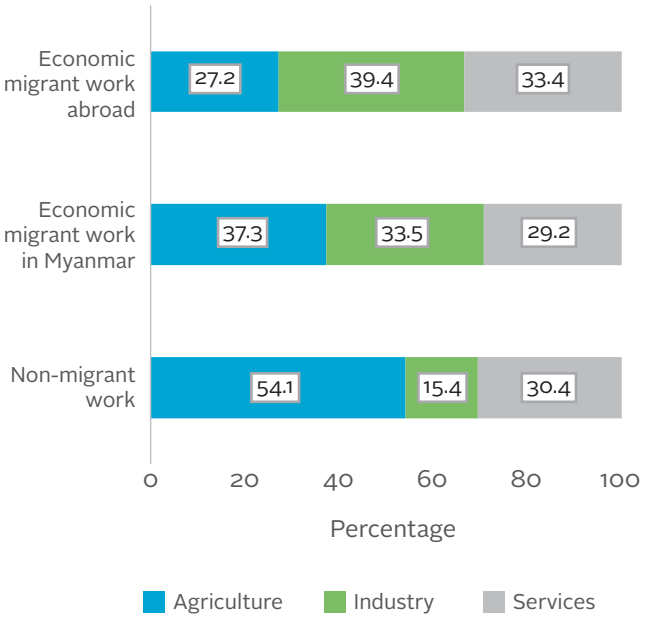
Employment among temporary economic migrants is largely concentrated in the non-agricultural sector, particularly in industries. Relative to work that is not characterised by temporary migration, a significantly higher share of work that requires temporary migration – either internally or abroad – are in the industrial sector (Figure 8-13). While 54.1 percent of non-migrant employment[55] is agricultural, just 37.3 percent of temporary economic migrant work in Myanmar and 27.2 percent of migrant work abroad is agricultural. In general, a relatively large share of economic migrants are away from home for industrial work, particularly as unskilled labourers in construction or manufacturing.

54 This section draws on results from probit regressions of being a temporary economic migrant on various individual, household, and state/region characteristics. The sample is restricted to employed members of the labour force. See Annex H Table H-1 for results of the regression.

55 "Non-migrant work" represents jobs that do not require temporary migration.

Figure 8-13

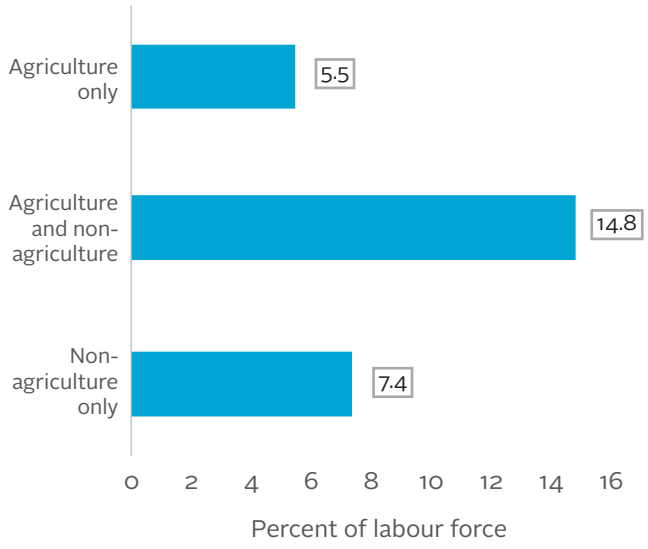
Sectoral breakdown of jobs that require temporary migration and those that do not (in percent)



Notes: "Non-migrant work" represents jobs that do not require temporary migration.
Source: 2017 MLCS

Figure 8-14

Percentage of labour force that are economic migrants, by household sectoral participation



Source: 2017 MLCS

Members of households engaged in both agriculture and non-agriculture are twice as likely to be temporary economic migrants as members of households engaged exclusively in one sector (Figure 8-14). While individual participation in non-agriculture, particularly in industrial jobs, makes one more likely to be an economic migrant, having another household member employed in agriculture also increases one's likelihood of temporarily migrating for work. These results suggest that temporary economic migrants generally are members of agricultural households who work temporarily in non-agricultural jobs. Agricultural activities in Myanmar are highly seasonal, and agricultural households, particularly poor ones, often face difficulty securing enough income-generating activities in off-seasons (Pattison, et al., 2016). Given that jobs in non-agricultural sectors are generally associated with higher wages (see Chapter 7), some agricultural households may use temporary migration as an avenue to diversify into non-agricultural activities.

Main takeaways and implications

This chapter shows that employment and other economic reasons are strong motivations for both permanent and temporary migration. Permanent migration corridors largely flow into Yangon Region, especially from states/regions which have significantly lower unskilled wages. In addition, more than half of temporary migrants are economic migrants, who travel for work. While permanent migrants tend to be better off than those who have never moved in their lifetime, temporary economic migrants, especially those working in Myanmar, are generally poorer than those who do not move temporarily to work. In addition, compared to other jobs, work characterised by temporary migration is significantly more likely to be casual labour, particularly in the industrial sector, which is associated with higher job insecurity, informality, and lower wages.

These findings raise the following implication:

i. Ensuring equal economic development across all states/regions of Myanmar could decrease the need for people to migrate. Reducing spatial disparities in labour market opportunities throughout the year could also help reduce demographic pressure on more urbanized areas such as Yangon city and the region. However, as such initiatives require a longer time horizon, migration remains a flexible and immediate way to access greater employment opportunities, especially for the poor.

09.

EXAMINING SOURCES OF INCOME AND DIVERSIFICATION

In a highly agricultural and seasonal economy such as Myanmar's, households may be engaged in multiple income-generating activities over the course of a year. Even within the span of a day or week, household and individual participation in such activities can be fragmented across multiple tasks or sectors. This chapter aims to better understand how households secure their income, and how they diversify their income sources, and the productive assets they have at their disposal in order to improve returns.[56] It also assesses the relative importance of the various activities that contribute to total household income.

Household engagement in income-generating activities

Labour market activities in Myanmar are varied and can be fragmented across multiple jobs or sectors. Owing to a highly agricultural and seasonal economy, individual activities in the labour market may be varied in terms of both sector and intensity of participation in any given month, week, or even day. For example, individuals living in rural areas may tend to their crop and livestock in the morning, then shift to working at roadside stall in the afternoon. A single individual can therefore be engaged both in agricultural and non-agricultural activities during a given day. Within a household, labour market activities are often more diverse, as employment can range from wage labour to own-account work to running an enterprise as an employer or owner.

Households largely rely on income earned from labour market activities, but income sources can extend beyond these activities. Household income is comprised of five general categories of activities both within and outside of the labour market, which include namely farming and allied activities, non-farm business[57], salaried and waged labour, remittances, and other income (Figure 9-1). For each category, income is calculated net of costs related directly to the income-generating activity. Farming and allied income include net profits from crop production, rearing livestock, and fishing, while other income includes money earned from renting out land, public and social transfers such as pension payments, and miscellaneous income such as assistance from friends and interest payments. As seen in Chapter 7, individuals and households primarily engaged in agricultural labour differ significantly from those that engage in non-agricultural labour, particularly in terms of educational attainment and welfare. Thus, wages earned from agricultural labour are distinguished from those earned from non-agricultural labour.

In 2017, farming is the most common income-generating activity among households, but substantial differences in income sources exist between rural and urban areas. At the Union level, more than half of households (57.4 percent) participate in farming, which includes crop production, fishing, or livestock rearing (Table 9-1). This is mainly driven by the substantial engagement in farming activities in rural areas, where more than 70 percent of the population resides. Three out of four rural households are involved in farming activities, and 83.3 percent are engaged in either farming or agricultural labour. In comparison, just 19.3 percent of urban households participate in agricultural activities – more than four times less than rural households. The most prevalent sources of income in urban areas are non-agricultural labour and non-farm business: nearly nine out of ten households in urban areas take part in either of these non-agricultural activities.

56 The method for constructing the income aggregate closely follows the Rural Income Generating Activities (RIGA) approach (Carletto, et al., 2007). All components of the income aggregate are calculated net of costs to get a more accurate estimate of disposable income.

57 A non-farm business is any self-run enterprise that generates income. This includes single-person enterprises such as trishaw drivers or private garbage collectors as well as large factories and companies.

Figure 9-1

Sources of household income

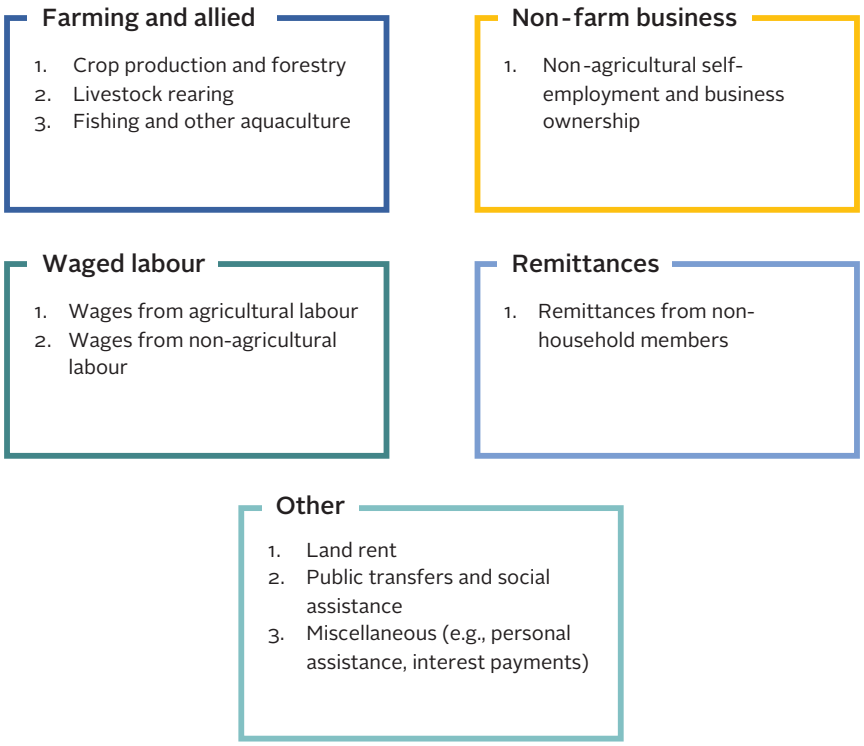


Table 9-1

Percentage of households engaged in each income source

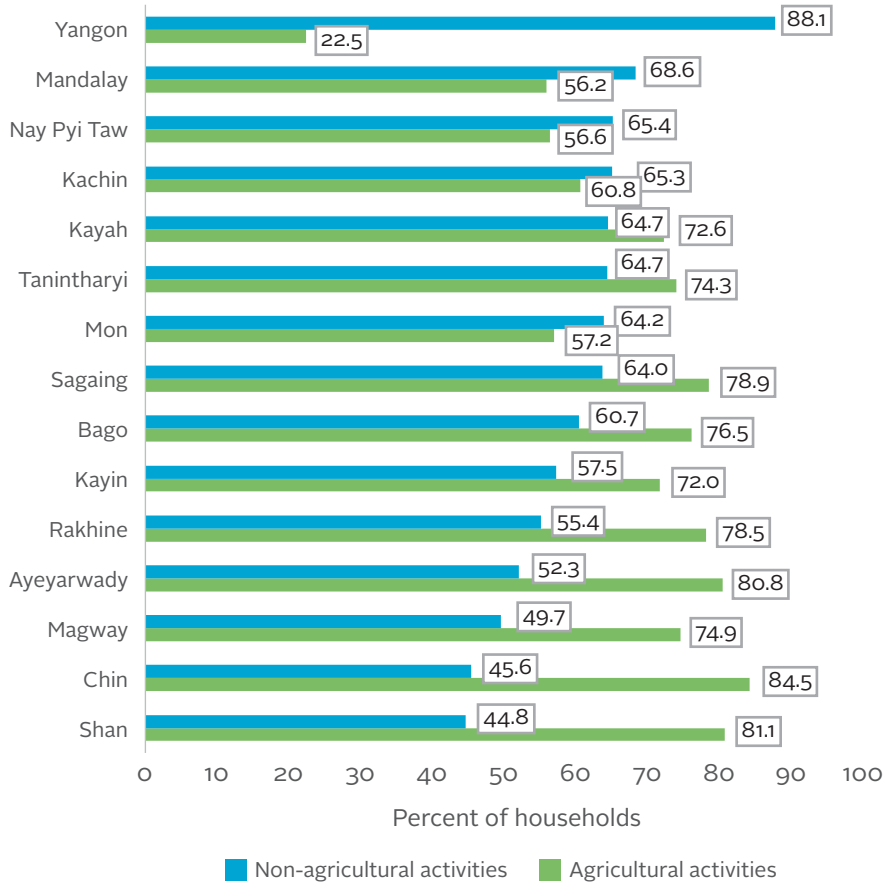
	Union	Urban	Rural	Non-poor	Poor
Farming and allied	**57.9**	**16.8**	**74.5**	**54.7**	**70.5**
Crop production	40.6	8.4	53.7	38.9	47.5
Livestock rearing	45.0	11.6	58.5	42.0	56.8
Fishing and aquaculture	8.9	1.5	11.9	7.8	13.1
Non-farm business	**37.2**	**54.9**	**30.0**	**40.5**	**24.0**
Agricultural labour	**26.2**	**5.0**	**34.8**	**21.0**	**46.8**
Non-agricultural labour	**40.0**	**61.9**	**31.1**	**40.8**	**36.8**
Remittances	**19.5**	**18.5**	**19.9**	**20.2**	**16.7**
Other	**33.8**	**34.2**	**33.7**	**34.6**	**30.8**
Rent	2.8	1.1	3.5	3.0	2.3
Public/social transfers	15.0	15.4	14.8	15.3	13.8
Miscellaneous	21.2	22.5	20.7	21.9	18.6
Agricultural activities	**65.2**	**19.6**	**83.7**	**60.6**	**83.6**
Non-agricultural activities	**62.5**	**89.3**	**51.7**	**65.9**	**49.2**

Notes: Agricultural activities include farming activities and agricultural labour. Non-agricultural activities include non-farm business and non-agricultural labour.

States/Regions with high engagement in non-agriculture tend to have low engagement in agricultural activities, and vice versa. Among states/regions, Yangon Region has by far the highest household participation in non-agricultural activities, namely non-farm business and non-agricultural labour (Figure 9-2).[58] At the other end of the spectrum, Chin State and Shan State have the lowest shares of households engaged in non-agricultural activities, particularly non-farm business. Instead, more than 80 percent of households in these states are involved in agricultural activities, putting them at the top of states/regions in terms of household participation in agriculture.

Figure 9-2

Percentage of households engaged in agricultural and non-agricultural activities, by state/region



Notes: Agricultural activities include farming activities and agricultural labour. Non-agricultural activities include non-farm business and non-agricultural labour.
Source: 2017 MLCS

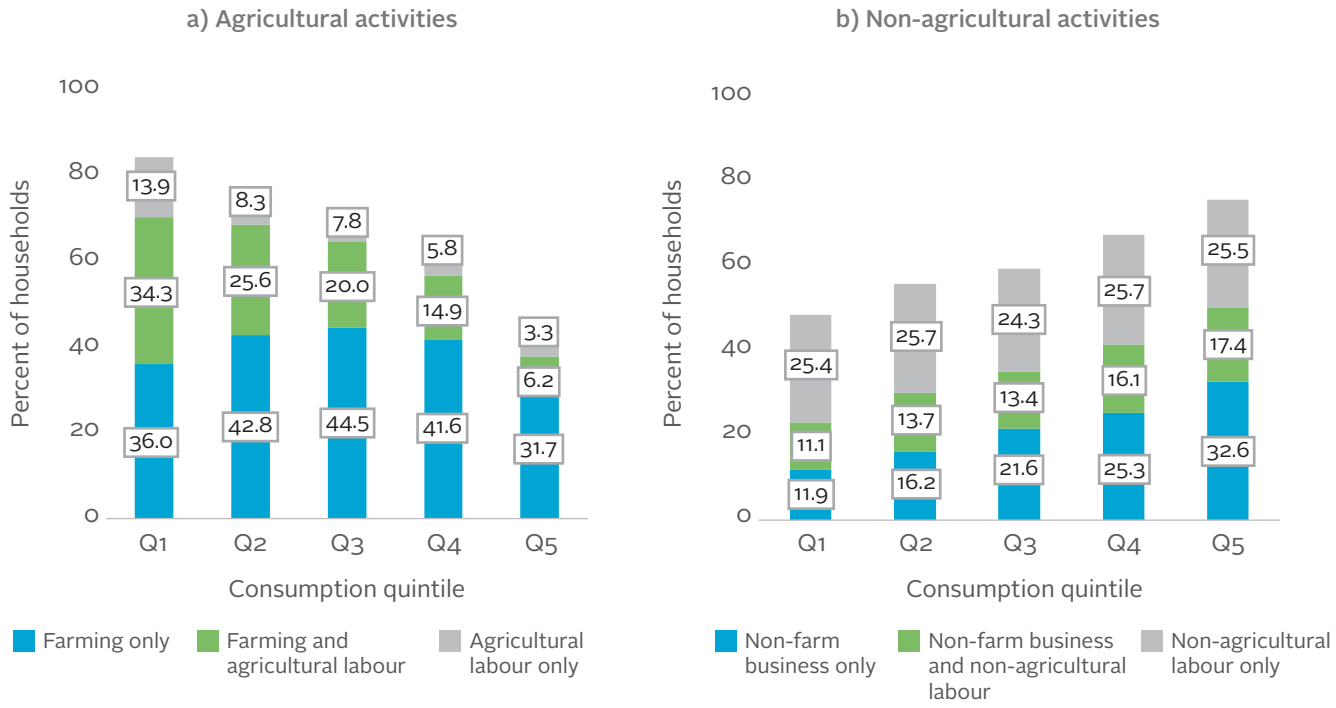
Poor households are significantly more likely to participate in agricultural activities, particularly agricultural labour, while non-poor households are more likely to engage in non-agricultural activities, especially non-farm business. Almost 84 percent of poor households partake in agriculture, compared to 60.6 percent of non-poor households (Table 9-1). Overall, household welfare is negatively correlated with participation in agriculture, while it is positively correlated with participation in non-agriculture (Figure 9-3). Participating in agricultural labour is associated with lower welfare: the share of households engaged in agricultural labour – either exclusively or together with farming – is higher among lower consumption quintiles. Agricultural labour is highly

58 See Annex I Table I-1 for further disaggregation.

seasonal and can be susceptible to adverse weather events. Moreover, it remains largely informal in Myanmar, with very few workers having written contracts or receiving benefits such as paid leave. On the other hand, non-agricultural activities, particularly non-farm business, are associated with higher welfare. Non-poor households are 68.8 percent more likely than poor households to operate a non-farm business and 33.9 percent more likely to be involved in any non-agricultural activity.

Figure 9-3

Household engagement in agricultural and non-agricultural activities, by consumption quintile (in percent)

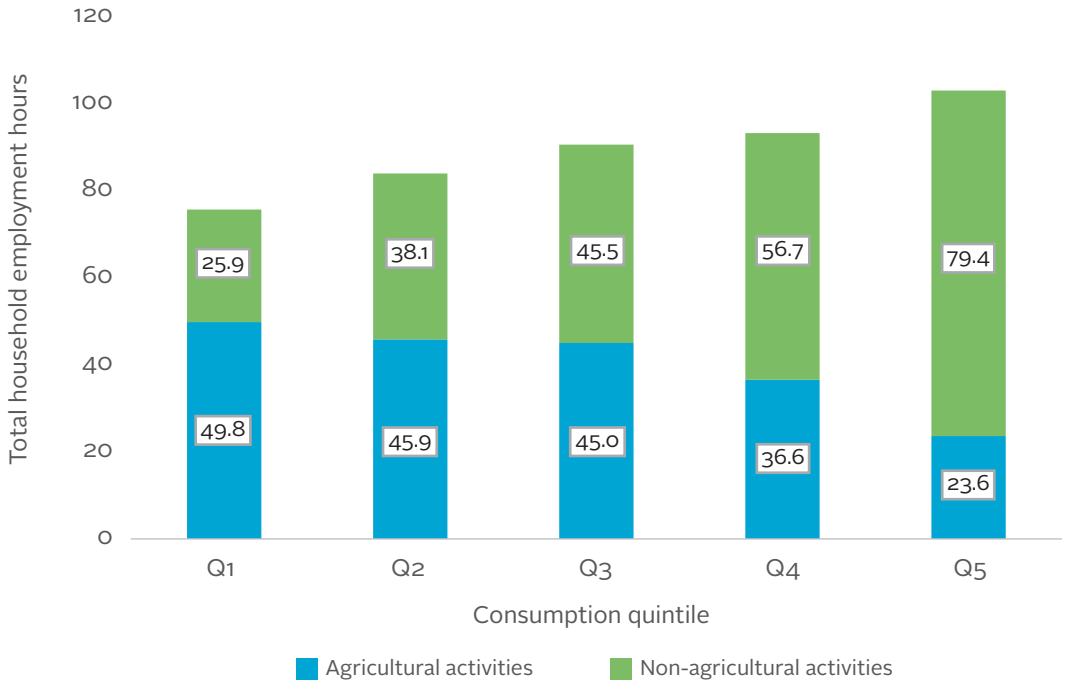


Notes: Agricultural activities include farming activities and agricultural labour. Non-agricultural activities include non-farm business and non-agricultural labour. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

The intensity of household participation in non-agricultural income-generating activities also increases with welfare, while the intensity of participation in agricultural activities declines with welfare. Although households may participate in the same activity, the intensity of their participation may differ depending on the number of household members involved and hours spent on the activity. For example, two households may both be engaged in non-agricultural labour, but one household may have just one member doing non-agricultural work and only for a few months of the year, while the other may have multiple members working year-round in non-agricultural jobs. The second household will thus have more intense participation in non-agricultural labour relative to the first. Despite having larger household sizes, poorer households spend less total time working, reflecting the highly seasonal nature of many of their labour market activities (Figure 9-4). Most of their time spent working is in agricultural activities, unlike wealthier households which spend both more hours and a higher share of their total working hours in non-agricultural activities.

Figure 9-4

Total weekly household employment hours spent on agricultural and non-agricultural activities, by consumption quintile



Notes: Agricultural activities include farming activities and agricultural labour. Non-agricultural activities include non-farm business and non-agricultural labour. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

Households exhibit different levels of income diversification, but exclusive participation in farming is the most common activity. Considering diversification across the four main income-generating activities (i.e., farming, non-farm business, agricultural wage labour, and non-agricultural wage labour), exclusive engagement in farming is the most prevalent, with one in five households depending primarily on farming for their livelihood (Table 9-2). Exclusive participation in farming is the top activity among both poor and non-poor households. Exclusive engagement in non-agricultural labour and participation in farming jointly with agricultural labour are the second and third most prevalent activity combinations. The former is primarily driven by a large share of non-poor households engaging solely in non-agricultural labour, while the latter is driven by poor households.

Households in the wealthiest quintile are the least likely to diversify. On average, households in Myanmar engage in two (out of a total of six) income-generating activities throughout the year. About 27.4 percent of households participate in just one activity, and the wealthiest quintile are 23.0 percent more likely than the other quintiles to engage in one activity. Two out of three households in the top quintile with just one income source either operate a non-farm business or work in non-agricultural labour, suggesting that the wealthiest households are more likely to specialize in non-agriculture instead of diversifying across activities and sectors.

Table 9-2

Income diversification: percentage of households participating in combinations of main income-generating activities

Combination rank	Percent of households	Farming	Agricultural labour	Non-agricultural labour	Non-farm business	Average per capita income
1	19.5	X				35,143
2	11.7			X		88,955
3	10.9	X	X			34,142
4	10.2				X	133,271
5	9.3			X	X	111,548
6	8.4	X			X	76,614
7	7.4	X		X		51,233
8	4.2	X	X	X		43,924
9	3.7	X		X	X	80,744
10	3.6					63,564
11	3.4		X			44,470
12	2.8	X	X		X	50,328
13	2.1		X	X		55,037
14	1.2		X		X	58,783
15	1.0	X	X	X	X	61,822
16	0.7		X	X	X	65,741

Notes: Agricultural activities include farming activities and agricultural labour. Non-agricultural activities include non-farm business and non-agricultural labour. "X" marks indicate participation in the activity. Average per capita income is reported in spatially adjusted 2017 quarter 1 kyat.
Source: 2017 MLCS

Total household income in 2017

In 2017, per capita monthly income is nearly 68,000 kyat with significant differences in income between urban and rural areas, states/regions, and the poor and non-poor. Income is another measure of welfare and even if it is not used to measure poverty in Myanmar, measuring income provides important information for policies to improve livelihoods (see Box 9-1). Both household and per capita income levels are two times higher in urban areas than they are in rural areas (Table 9-3). Yangon Region has the highest average per capita income at almost 95,000 kyat per month, which is three times higher than that of Chin State and twice as high as income in Rakhine State (Figure 9-6a). Per capita income is about 2.4 times higher among the non-poor than the poor: on average, poor households earn about 33,000 kyat per person per month, while non-poor households earn about 79,000 kyat per person per month. Income levels are comparable to consumption levels, with consumption generally being slightly higher than income, especially in rural areas.[59] State/Region rankings in income closely follow rankings based on consumption, and the state/region-level correlation between income and consumption is high (ρ=0.87).

59 Income is typically a more sensitive topic than consumption, which may be easier to verify (Deaton, 1997). Thus, income is often more susceptible to under-reporting than is consumption.

Box 9-1 Income and consumption as measures of welfare

Income and consumption both measure household welfare in monetary terms. However, income is typically characterised by higher short-run volatility compared to consumption. Unfavourable weather conditions may adversely impact a farmer's harvest in a given year or a sudden illness could limit one's ability to work. Such circumstances may negatively affect individual as well as household income in the short term.

Studies find that households tend to smooth their consumption over their lifetime, so consumption patterns are determined not by current income but by the income they expect to earn over their lifetime (Paxson, 1992). Thus, household rankings based on consumption are usually more consistent than those based on income (Chaudhuri and Ravallion, 1994; Deaton, 1997). Consumption also reflects a household's ability to access credit markets or use savings, particularly at times when income may be low. For these reasons, consumption may provide a more accurate picture of long-term household welfare than income does.

In many developed countries, welfare and poverty are often assessed based on income, which is easily measured where formal employment is high. However, in most developing countries, informal employment is widespread and income sources are often varied and highly susceptible to seasonal variation. These conditions make it difficult to accurately measure income, and thus consumption is often considered a more reliable measure of household welfare. Despite this, understanding how households obtain their income is important to inform policies that can improve livelihoods.

Table 9-3

Average consumption and income, by residential area and poverty status (2017 quarter 1 kyat)

	Union	Urban	Rural	Non-poor	Poor
Household annual (millions)					
Income	3.47	5.36	2.71	3.82	2.10
Consumption	3.95	5.21	3.45	4.37	2.29
Per capita monthly					
Income	67,798	105,619	52,698	79,153	33,365
Consumption	77,157	102,707	66,957	90,606	36,378
Per capita daily					
Income	2,229	3,472	1,733	2,602	1,097
Consumption	2,537	3,377	2,201	2,979	1,196

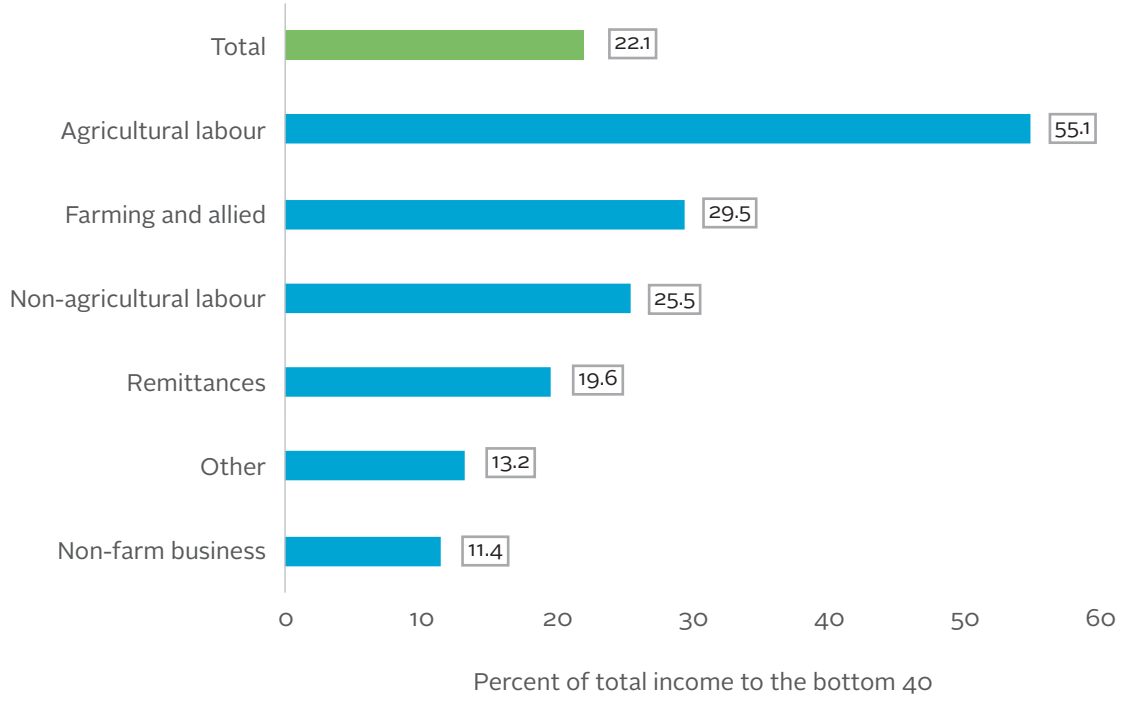
Notes: Values are reported in spatially adjusted 2017 quarter 1 kyat.
Source: 2017 MLCS

Less than a quarter of total income in Myanmar can be attributed to the poorest 40 percent of the population, demonstrating that income is unequally distributed across the welfare distribution and inequality is a significant issue. Perfect income equality would imply that the bottom 40 percent of the consumption distribution holds exactly 40 percent of total income in Myanmar. Anything less than 40 percent would indicate that income is unequally distributed across the population with a greater share of income going to the wealthy. The bottom 40 holds only 22.1 percent of total income in Myanmar (Figure 9-5). For all income sources except agricultural labour, the share of total income attributed to the bottom 40 falls below 40 percent. This may be expected

for categories such as non-farm business, in which the bottom 40 are significantly less likely to participate. However, the share of income generated from farming activities, in which the bottom 40 are more likely to participate, also falls short at 29.5 percent. Agricultural wage labour is the only category for which the share of total income attributed to the bottom 40 is higher than 40 percent since poor households are more likely to participate in agricultural wage labour.

Figure 9-5

Percentage of total income attributed to the bottom 40 percent of the consumption distribution



Note: Each bar reflects the share of total income from that category in Myanmar attributed to the bottom 40 percent of the population in the consumption distribution.
Source: 2017 MLCS

Despite high participation in agricultural activities, particularly in rural areas, income from non-agricultural activities makes up the largest portion of household income in both urban and rural areas. On average, about 36.1 percent of household income is in the form of profits from non-farm business, while another 27.7 percent comes from wages earned from non-agricultural labour (Table 9-4). In total, almost two-thirds of income is derived from these non-agricultural activities. This share is significantly higher in urban areas (84.1 percent) than in rural areas (47.6 percent), which may be expected given how many urban households engage in non-agricultural activities. In rural areas, eight out of ten households are involved in farming and/or agricultural labour, but the share of income derived from these agricultural activities is just 37.0 percent.

Table 9-4

Average household income shares, by residential area and poverty status (in percent)

	Union	Urban	Rural	Non-poor	Poor
Total income	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Farming and allied	**14.1**	**1.7**	**23.9**	**13.4**	**19.1**
Crop production	12.5	1.6	21.3	12.1	16.0
Livestock income	0.4	0.0	0.6	0.3	0.8
Aquaculture income	1.2	0.2	2.0	1.0	2.4
Non-farm business	**36.1**	**47.6**	**27.0**	**39.0**	**15.5**
Agricultural wages	**7.8**	**1.1**	**13.1**	**5.4**	**24.4**
Non-agricultural wages	**27.7**	**36.5**	**20.6**	**27.2**	**30.6**
Remittances	**8.5**	**6.3**	**10.2**	**8.6**	**7.1**
Other	**5.9**	**6.7**	**5.3**	**6.3**	**3.2**
Rent	0.3	0.1	0.5	0.3	0.3
Public/Social transfers	1.5	2.1	1.0	1.5	1.2
Miscellaneous	4.1	4.5	3.9	4.5	1.8

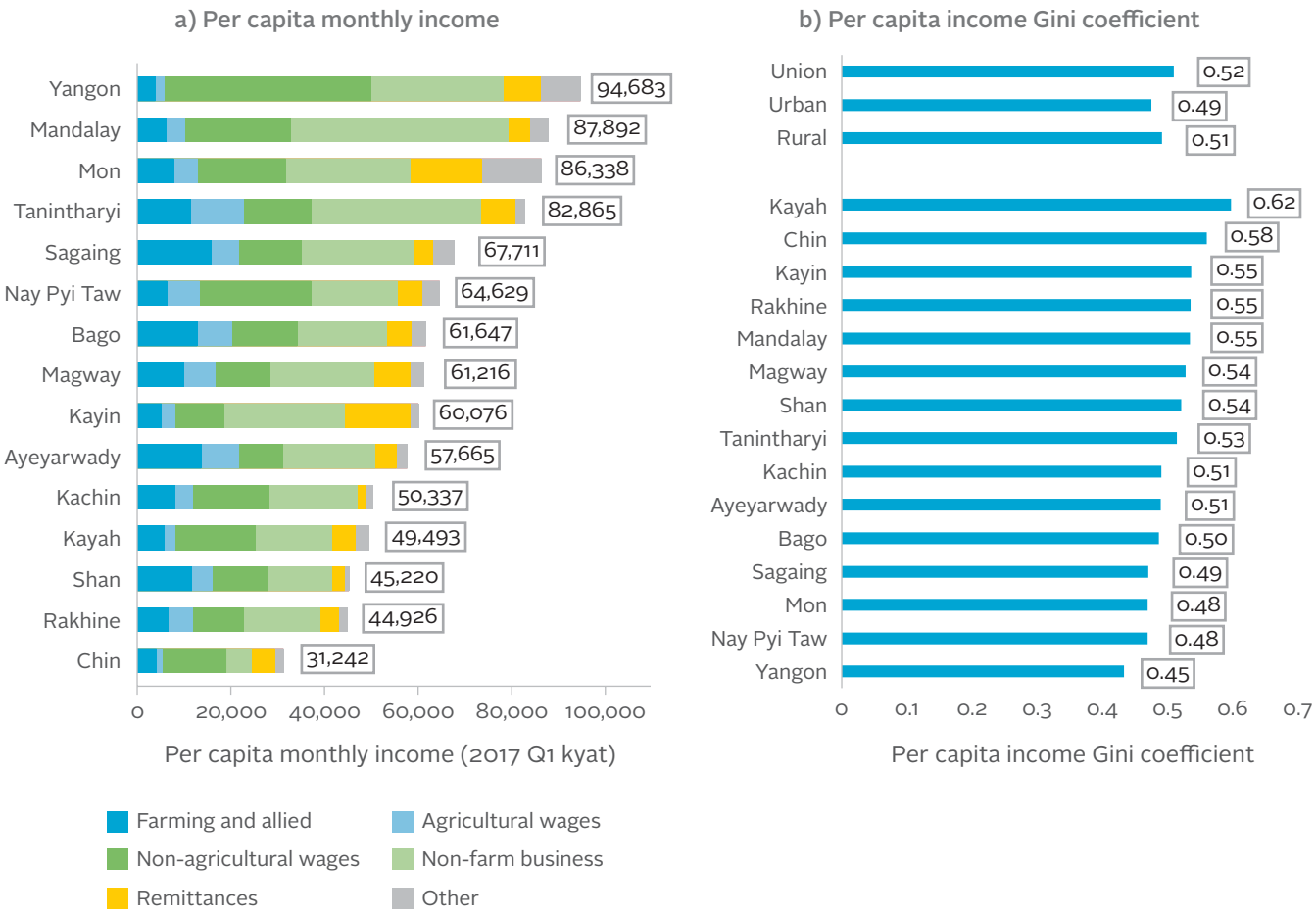
Source: 2017 MLCS

Income variation across states/regions can mainly be attributed to differences in engagement and returns from non-farm business and non-agricultural labour. Yangon Region has the highest share of households engaged in non-farm business and non-agricultural wages (Table I-1 in Annex I), and these two sources together make up more than 75 percent of average per capita income in the region. In contrast, participation in non-farm business and non-agricultural labour and income from these activities are relatively low in states/regions at the lower end of the income distribution. In general, non-farm business profits alone explain more than 72 percent of the variation in income across states/regions, while non-farm business profits and non-agricultural wages together explain more than 85 percent. Despite having the highest average income, Yangon Region has the lowest income inequality among states/regions, with a Gini coefficient of 0.447[60] (Figure 9-6b). Overall, state/region income is negatively correlated with income inequality (ρ=-0.57).

60 The Gini coefficient is measured using per capita income while the Gini coefficient presented in the Poverty Report is measured using consumption (CSO, UNDP and WB, 2019)

Figure 9-6

Per capita income and income inequality, by state/region



Notes: Values are reported in spatially adjusted 2017 quarter 1 kyat. In 2017, 2.6 percent of households had income below zero. For inequality calculations, income below zero was recoded to zero.
Source: 2017 MLCS

Poverty is associated with greater dependence on wages earned from agricultural labour and less dependence on profits generated from non-farm business. For those in the bottom quintile, 26.5 percent of income is derived from agricultural wage labour (Figure 9-7). This share decreases significantly as consumption increases, indicating that poor households are more likely to be engaged in agricultural wage labour. In the wealthiest quintile, agricultural wages account for 1.8 percent of household income. On the other hand, the share of income from non-farm business increases significantly with consumption to represent almost half (48.7 percent) of income in the top quintile – 3.4 times the amount it makes up in the bottom quintile. Regardless of welfare category, non-agricultural wages comprise at least a quarter of household income, despite variation in the type of non-agricultural work done across quintiles.

Figure 9-7

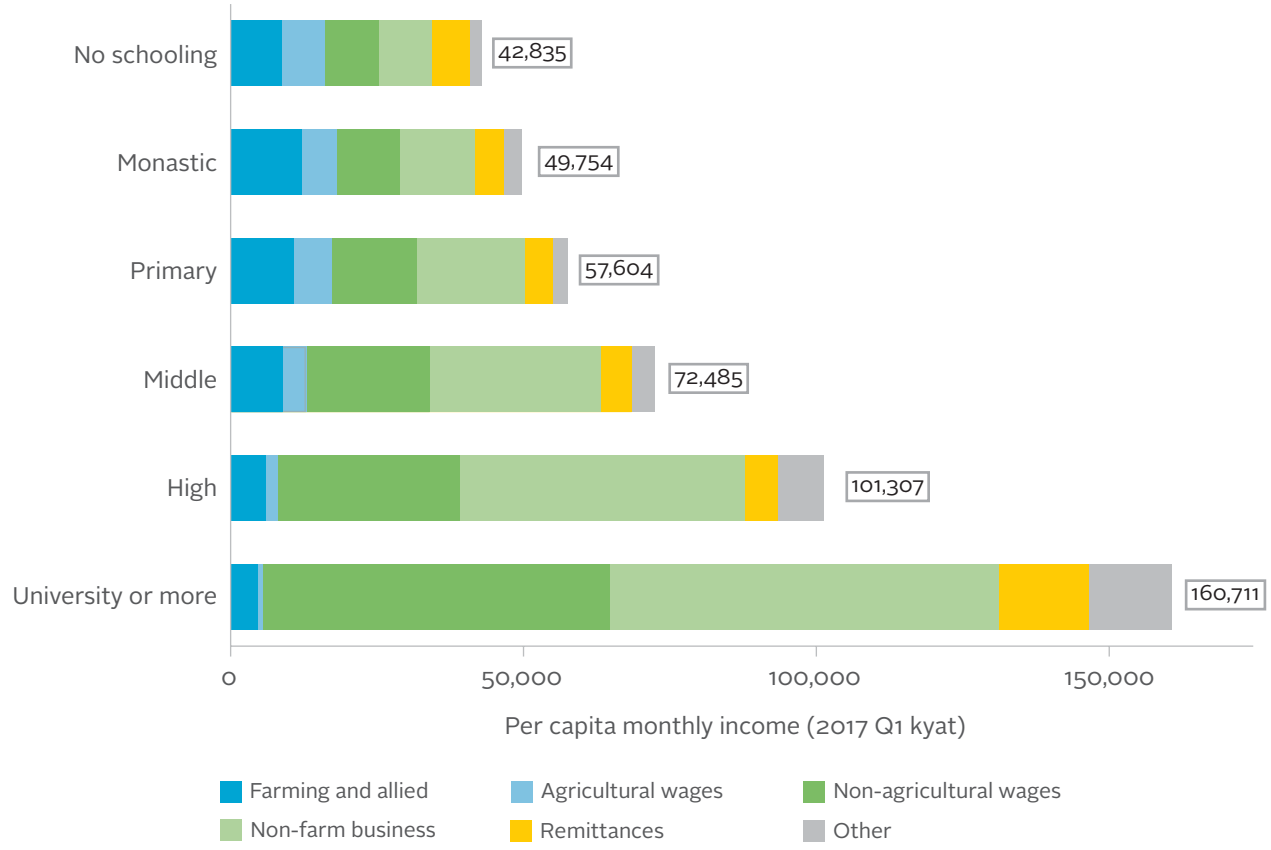
Average household income shares, by consumption quintile

Note: Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

Education is important productive capital for increasing income. Households may improve their income- generating capabilities with productive assets such as education or land ownership. In general, income is positively correlated with the head of household's educational attainment. Members of households whose head has at least some higher education have, on average, 160,711 kyat per capita in monthly income – almost four times more than members of households whose head has no education (Figure 9-8). The share of income earned from non-agricultural activities such as non-agricultural labour or non-farm business is also positively correlated with education: On average, households with a head who has some education beyond high school obtain 78 percent of their total income from non-agricultural sources, compared to 43 percent among households with an uneducated head. On the other hand, the share of income attributed to agricultural activities is less than 4 percent among households with a head who has some higher education, while it is 37 percent in households whose head has no education.

Figure 9-8

Per capita monthly income, by household head's education (in 2017 quarter 1 kyat)



Notes: Values are reported in spatially adjusted 2017 quarter 1 kyat.
Source: 2017 MLCS

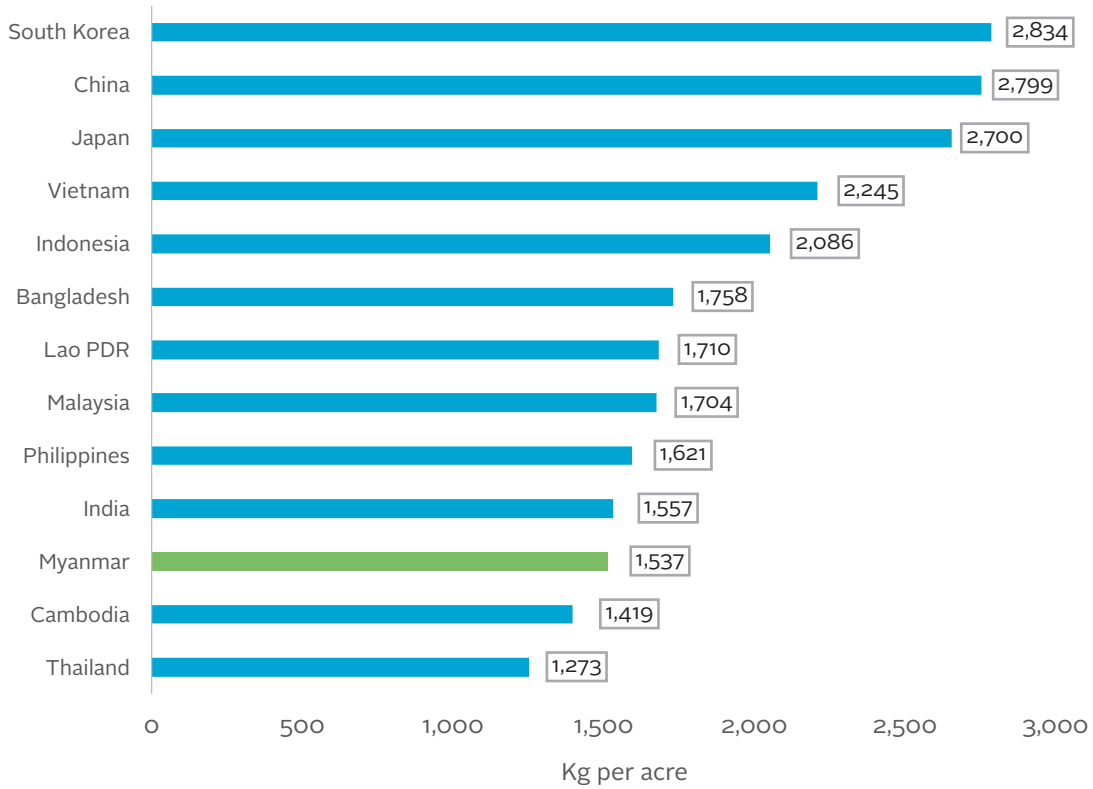
Income-generating activities and their contribution to total income

Farming and allied activities

Despite strong participation in farming and allied activities, income from these activities is low relative to other sources. Although 57.9 percent of households partake in farming activities, farming income comprises only 14.1 percent of total per capita income in Myanmar. Farming, particularly crop production, is highly seasonal and susceptible to adverse weather events. Farmers may thus find it difficult to cultivate year-round: In 2017, one-third of farmers cultivate in just one season, mainly the wet season. Compared to households that cultivate in two seasons or year-round, households that cultivate in one season are 53.6 percent more likely to be engaged in agricultural labour and equally likely to work in non-agriculture. This suggests that during off-seasons, farming households resort to agricultural labour, which is associated with low wages. Crop diversification is also low: Rice remains the crop of choice among most farmers, with 62.7 percent of farmers cultivating rice.

Figure 9-9

Rice yields per acre of land, by country in 2017 (kg per acre)



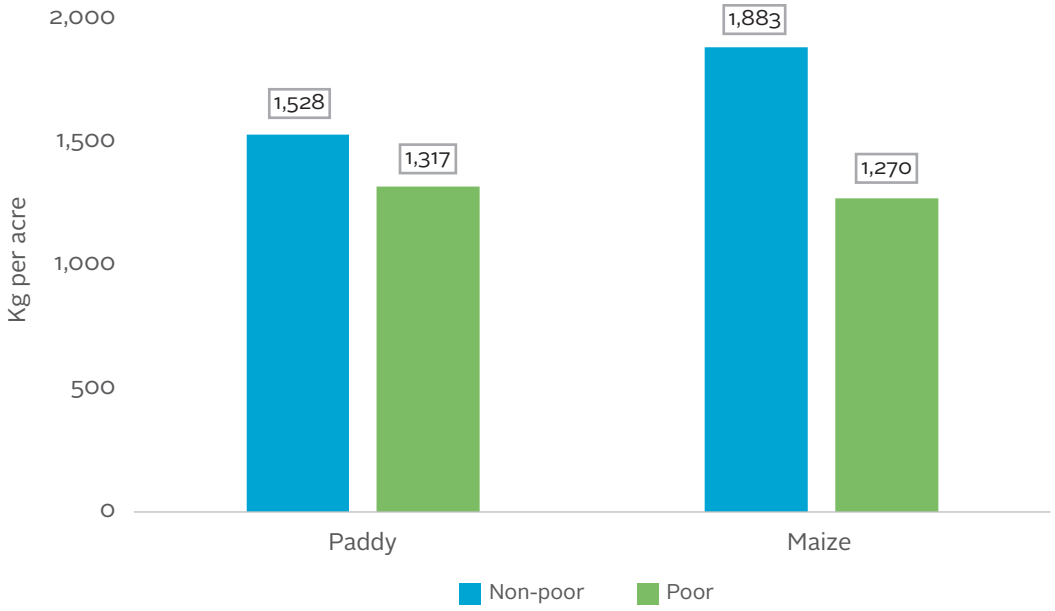
Source: FAOSTAT

Agricultural productivity in Myanmar is low compared to other countries in the EAP region and is lower among poor farmers compared to non-poor farmers in 2017. Although rice is the most commonly produced crop in Myanmar, rice yields per acre of land are significantly lower than they are in other countries in the region (Figure 9-9). In 2017, farmers who are classified as poor have 14 percent lower rice yields per acre than non-poor farmers, and about 48 percent lower maize yields per acre of land (Figure 9-10). Poor farmers are also 7.5 percent less likely to own land compared to non-poor farmers, and among poor farmers who do own land, their average land size is 34.2 percent smaller than that of non-poor farmers (Table 9-5).

Lower agricultural productivity is linked to limited access to markets and productive assets such as agricultural machinery and fertiliser. Controlling for geographic differences and other household characteristics, use of a tractor or power tiller is by far the most significant determinant of rice productivity: On average, farmers who utilize these machineries produce 300.7 kilograms more rice per acre of land than those who do not (Table I-3 in Annex I). Having a market less than 3 miles away and use of inorganic fertiliser are also positive correlates of higher rice yields. Poor farmers are less likely to use machinery and fertiliser, and have limited access to markets compared to non-poor farmers. These differences, together with land area and geographic differences, explain nearly half of the lower average productivity among poor farmers.

Figure 9-10

Paddy and maize yields per acre of land, by poverty status (kg/acre)



Source: 2017 MLCS

Table 9-5

Access to productive assets and agricultural inputs/technology among farmers

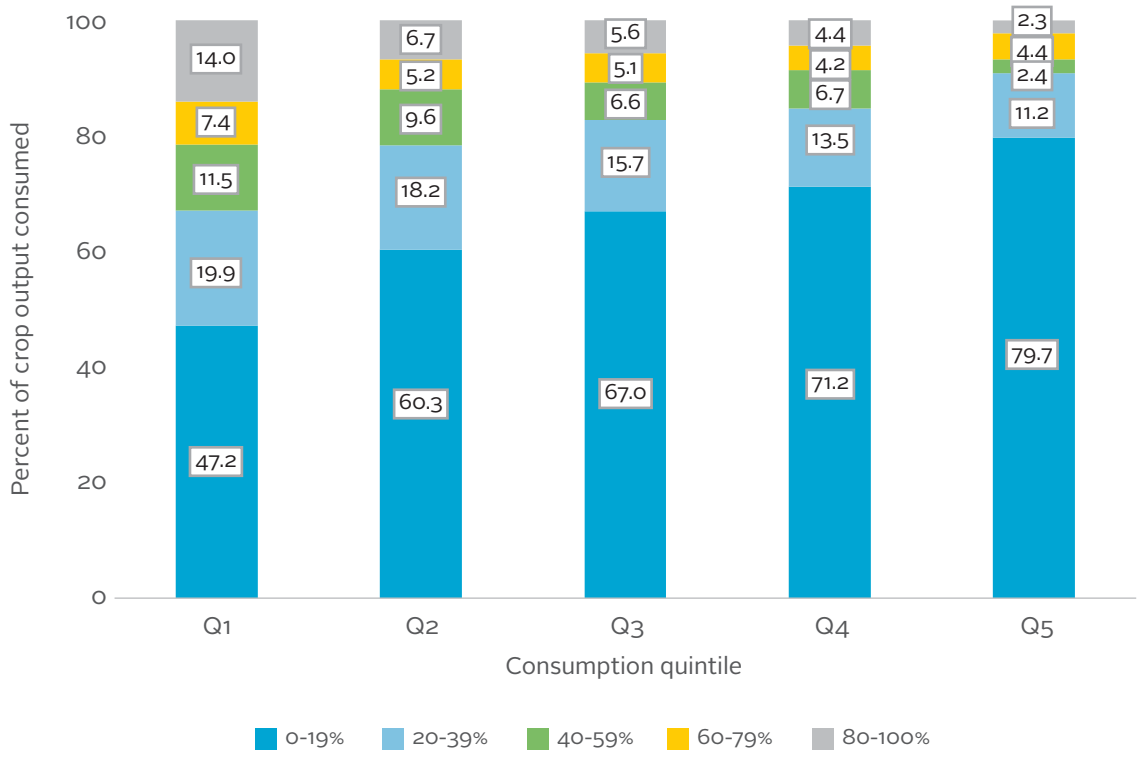
	Union	Non-poor	Poor
Owns land	**86.0**	**87.5**	**81.0**
Average land area (acres)	6.7	7.3	4.8
Has irrigated plot	**32.4**	**34.6**	**24.9**
Dry season	50.2	51.7	43.8
Wet season	29.2	31.3	22.1
Cool season	35.6	36.9	30.3
Uses fertilizer	**79.8**	**83.3**	**68.7**
Organic fertilizer	37.0	38.8	31.5
Inorganic fertilizer	72.5	76.6	59.5
Uses pesticides	**57.6**	**61.8**	**43.9**
Uses agricultural machinery	**31.1**	**35.1**	**17.8**
Market is less than 3 miles away	**39.7**	**40.6**	**36.7**

Source: 2017 MLCS

Poorer farming households are less likely to sell and thus earn income from their harvest. On average, poor cultivating households consume about 30.3 percent of their crop harvest, compared to 18.2 percent among non-poor cultivating households. In general, the share of crop harvest consumed decreases with welfare level (Figure 9-11): More than half of farming households in the bottom quintile consume at least 20 percent of their harvest, while just two in ten farming households in the top quintile consume at least 20 percent of their crop output. On the other hand, non-poor farmers sell 20.3 percent more of their harvest compared to poor farmers, and the share of harvest sold increases with welfare levels.

Figure 9-11

Percentage of crop output consumed by farming households, by consumption quintile



Note: Share of crop output consumed is calculated by aggregating the total value of the crop harvested and taking the value consumed out of the total. Q1 to Q5 represents per adult equivalent consumption quintiles with Q1=poorest quintile and Q5=wealthiest quintile.
Source: 2017 MLCS

Salaried and wage labour

Relative to household participation rates in wage labour, the share of income derived from wages, particularly agricultural wages, is low. Nearly six in ten households have at least one member engaged in wage labour, yet the share of household income attributed to wages is just 35.5 percent. As was shown in Chapter 7, most wage-earners work in skilled agricultural jobs, craft and related trades, or elementary occupations such as cleaners, casual labourers, or street vendors. Almost 80 percent of employed individuals work in these occupations, and in general, they tend to have relatively low wages. Thus, high employment in low-paying jobs may limit the share of income that is derived from wage labour.

Non-farm business

Profits from non-farm businesses occupy the largest share of household income, both in urban and rural areas. Non-farm business profits account for more than one-third of household income in Myanmar and almost half of income in urban areas. Ownership of one or more non-farm businesses is a significant determinant of income. Controlling for geographic differences, operation of a non-farm business is associated with an additional 32,800 kyat in per capita monthly income (Table I-2 in Annex I).

Table 9-6

Characteristics of non-farm businesses, by residential area and poverty status (in percent)

	Union	Urban	Rural	Non-poor	Poor
Industry					
Retail and wholesale trade	45.3	44.9	45.5	45.6	42.9
Transportation, food services, information	19.2	22.2	16.8	19.5	16.7
Manufacturing	15.6	10.7	19.4	14.4	23.9
Construction	2.8	2.9	2.6	2.7	3.0
Education, health, social work	2.4	3.0	1.9	2.5	1.5
Mining	1.3	0.4	1.9	1.1	2.1
Financial and professional services	1.1	1.9	0.5	1.2	0.3
Other	12.5	13.9	11.4	12.9	9.6
Legally registered	14.1	23.1	7.2	15.4	5.0
Has paid employees	14.8	18.8	11.7	16.0	6.1
Average months in operation in last year	9.9	10.6	9.3	9.9	9.4

Source: 2017 MLCS

Many non-farm businesses in Myanmar remain small and informal. Non-farm businesses may range from a single-person enterprise to a large company with hired employees. As of 2017, only 14.1 percent of non-farm businesses are legally registered, and 14.8 percent have either full-time or part-time paid employees (Table 9-6). The average business is in operation for about 10 months out of the year, with operation being about a month longer in urban areas than in rural areas. Nearly half of non-farm businesses in 2017 are involved in retail or wholesale trade. Another 19.2 percent are involved in transportation, food, or information services. Profits are highest among businesses that provided financial or other professional services followed by businesses involved in construction work (Table 9-7). Despite high profits, these industries account for less than five percent of businesses.

Table 9-7

Characteristics of non-farm businesses, by industry

	Legally registered (%)	Has hired employees (%)	Average months in operation in last year	Median annual profits ('000 kyat)
Mining	10.3	24.8	7.2	960
Manufacturing	10.6	19.1	9.8	900
Construction	14.5	68.4	8.9	2,790
Wholesale and retail trade	12.6	12.1	10.1	1,200
Transportation, food services, information	21.7	11.2	9.9	1,431
Financial and professional services	21.3	5.3	11.2	2,982
Education, health, social work	16.7	10.7	10.3	1,368
Other	11.5	13.4	9.5	1,080

Note: Profits are calculated as returns net of all costs and are reported in 2017 quarter 1 kyat.
Source: 2017 MLCS

Remittances

Remittances account for less than a tenth of household income in Myanmar. One in five households receive remittances, with the majority receiving remittances from elsewhere in Myanmar. Urban and rural households are equally likely to receive remittances, although they comprise a 60.1 percent larger share of rural incomes than urban incomes. Households headed by a female are 64.2 percent more likely to receive remittances than those headed by a male, and remittances make up a larger share of income among female-headed households. Compared to the poor, the non-poor are more likely to receive remittances, particularly international remittances, indicating that remittances could be one way to improve household welfare.

Table 9-8

Sending location of remittances among households receiving remittances, by state/region (in percent)

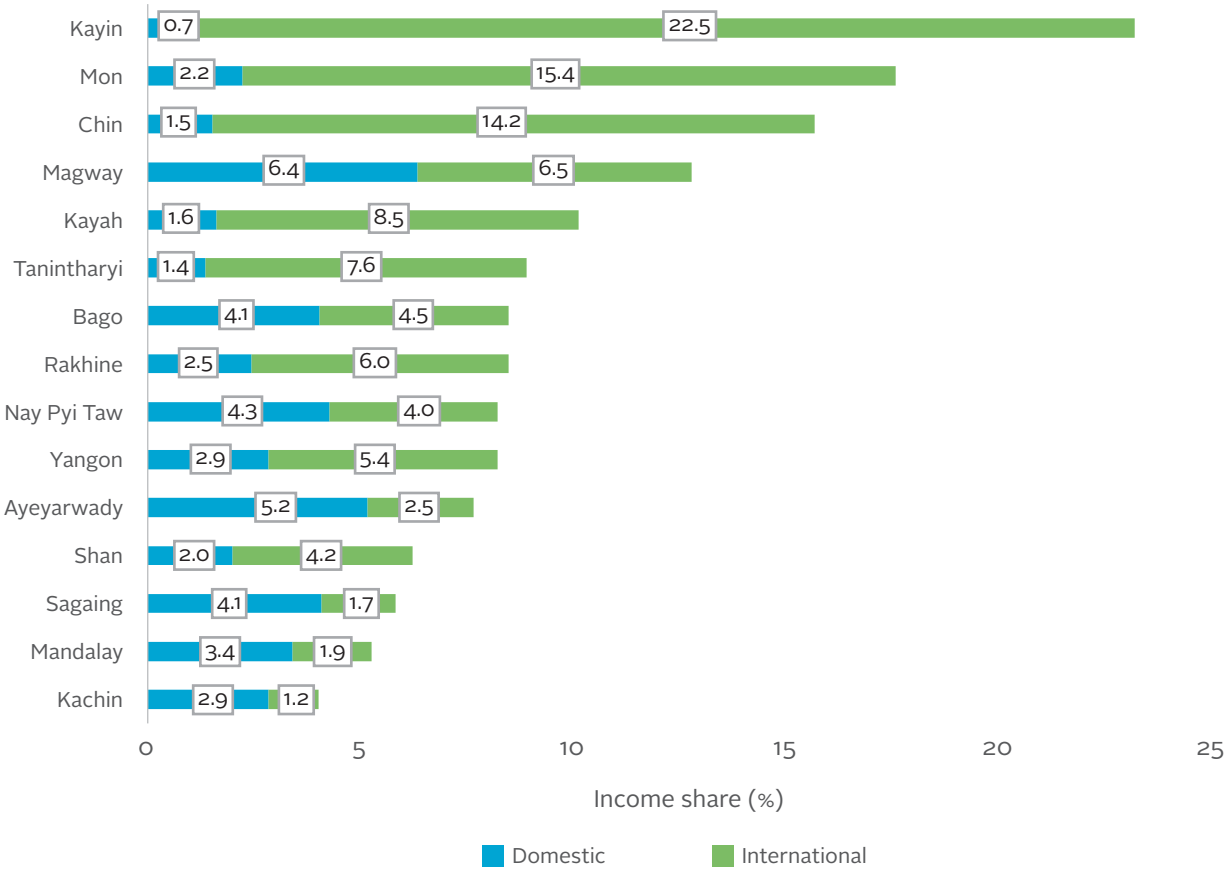
	Yangon	Other Myanmar	Thailand/ Malaysia	Other Asia	USA	Other
Kachin	9.9	75.9	6.0	12.3	1.2	0.0
Kayah	4.9	44.6	30.5	8.7	10.5	4.0
Kayin	1.8	4.9	93.7	1.6	0.0	0.2
Chin	3.4	16.9	32.2	9.7	40.9	14.7
Sagaing	14.5	70.4	8.8	6.5	4.0	0.4
Tanintharyi	4.1	23.8	77.9	1.9	0.0	0.0
Bago	26.0	45.4	36.1	1.6	0.0	0.4
Magway	28.1	56.0	16.9	5.9	0.3	0.7
Mandalay	23.8	66.2	13.4	3.2	0.0	0.4
Mon	6.2	18.7	78.2	3.8	0.0	0.8
Rakhine	28.1	23.6	50.2	6.3	0.9	0.0
Yangon	48.0	28.6	11.3	11.9	1.5	4.8
Shan	7.5	37.9	47.3	10.8	0.4	0.0
Ayeyarwady	47.4	39.1	15.2	3.4	0.0	0.0
Nay Pyi Taw	21.4	55.4	25.8	3.2	0.0	0.0

Source: 2017 MLCS

Thailand and Malaysia are the most common origins of international remittances, and households in states/regions located near these countries are more likely to receive remittances. States/Regions such as Mon State, Kayin State, and Tanintharyi Region, which are located close to neighbouring countries such as Thailand and Malaysia, have significantly larger shares of households receiving remittances from abroad (Table 9-8).[61] Other states/regions further from Thailand are more likely to receive domestic remittances. For states/regions close to Thailand, remittances make up a significant portion of household income. For example, in Kayin State, remittances comprise 23.3 percent of average income, while in Mon State remittances account for 17.6 percent of income (Figure 9-12).

Figure 9-12

Average household income share from remittances, by state/region (in percent)



Source: 2017 MLCS

61 Chin State also has a relatively large proportion of households with international remitters, but the majority of these remittances come from the United States.

Other income

Other income accounts for less than six percent of average per capita income in Myanmar. This category includes rents received for land, public transfers, development and social aid, as well as other miscellaneous sources such as private assistance from friends or returns from financial investments. Even though it makes up a relatively small portion of income, about one in three households receive income from one or more of these sources.

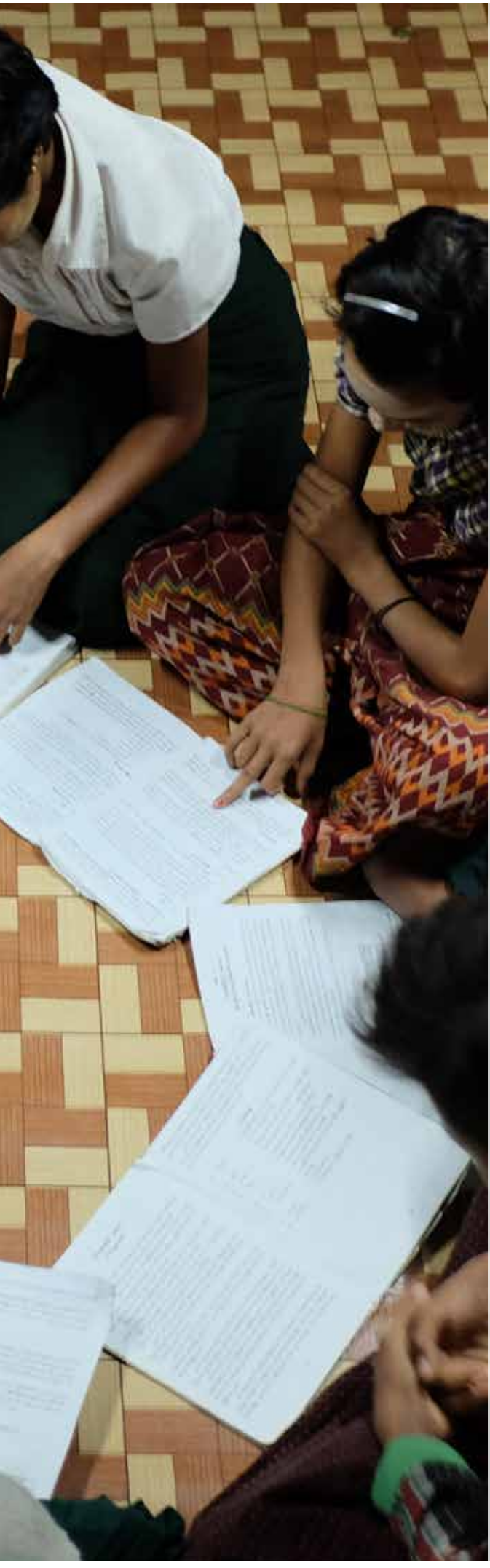
Main takeaways and implications

This chapter shows that more than half of households in Myanmar are engaged in farming and allied activities, yet productivity and ownership of/access to productive assets such as agricultural machinery and fertiliser remain low. In addition, poverty and lower welfare are associated with relatively high engagement in agriculture, particularly agricultural labour, which is characterised by high seasonality and vulnerability. Ownership of non-farm business and higher education are the two most significant correlates of higher income.

These findings have two main implications:

i. Improving access to fertiliser and agricultural machinery such as tractors and power tillers can help boost crop yields and income. In a similar way, greater access to markets can allow farmers to sell their crop to generate income.

ii. Diversification of income sources, particularly to include more non-agricultural activities and to move away from casual or seasonal activities, can protect households against income volatility and help secure stable employment in higher-earning activities. Improving education can be one tool that provides households the productive capital to increase their income.



10.

CONCLUSION

This Socio-Economic Report provides a composite analysis of living conditions in Myanmar using the 2017 Myanmar Living Conditions Survey (MLCS). The CSO in the MOPFI, with technical and financial support from the UNDP and the World Bank, carried out the MLCS, a comprehensive survey of living conditions in Myanmar in 2017. The survey is representative of Myanmar, its states/regions, and urban and rural areas of the country. The 2017 MLCS is a rich questionnaire documenting people's productive activities, how much income they earn, and how they use this to meet food, housing, health, education, and their other needs. The MLCS was designed to achieve the following objectives: (1) to produce an assessment of poverty and living conditions; (2) to provide core data inputs – weights and private consumption expenditures – for the CPI baskets and the system of national accounts; and (3) to monitor data needs and selected SDG targets.

The conclusion summarises the evidence presented on the **three defining questions of this report, which aim to:** i) describe poverty in Myanmar; ii) assess the capital base of households; and iii) explain what households do for a living.

Monetary poverty in Myanmar halved between 2005 and 2017, but one in four people in Myanmar still lives in poverty in 2017. In terms of extreme poverty, which is measured using the international poverty line at USD 1.90 in 2011 PPP, Myanmar performs well although when considering higher international benchmarks, Myanmar fares comparatively poorly, which reflects the large share of the population who live on the precipice of poverty. Poor households tend to have more members, particularly children below the age of 15, which raises concerns about the intergenerational transmission of poverty.

Poverty is a multifaceted phenomenon that has non-monetary dimensions in addition to monetary ones. SDG1 calls for ending poverty in all its forms. Poverty alleviation thus requires a comprehensive understanding of poverty and a multidimensional approach that encompasses nonmonetary aspects, namely access to basic infrastructure and services such as health, education, water and sanitation, electricity, and roads.

Poor households in Myanmar have relatively limited access to the services required to build up human capital. Educational enrolment after primary education is generally low, but remains unequal across consumption quintiles and residential areas, as children in poorer households or in rural areas are less likely to go to middle or high school. Moreover, the rate of school dropout and child labour is higher for children in the bottom quintiles and in rural areas. Despite the significant value of a high school or university education, attainment beyond the middle school level remains low and expensive to achieve. Access to health is similarly unequal with the poor being less likely to use healthcare services when ill or injured. When the poor encounter an illness or injury, the costs involved in trying to remedy the problem can become a major burden to their household budget, which is otherwise largely devoted to food. To cope with these high medical expenses, poorer households often borrow, which can potentially throw them into a debt trap.

Poor households in Myanmar are significantly less likely to have access to key services that would improve their living conditions. Like access to education and health services, improved access to water and access to improved sanitation remain unequal across the welfare distribution. The poor are less likely to have improved access to water and more likely to practice open defecation, which increases the risk of dying of enteric diseases for under-five children. In addition, although the poor use clean energy sources for lighting (37.7 percent are using solar panel for lighting), they rely heavily on firewood (83 percent of households in the bottom consumption quintile) and charcoal (5 percent of households in the bottom consumption quintile) for cooking increasing their risk of contracting respiratory diseases.

In 2017, usage of formal financial services is low, particularly in rural areas and among the poor. Access to formal financial institutions such as banks and microfinance organisations is significantly higher in urban areas than in rural areas. Although village funds, cooperatives, and other local credit unions have filled in some of the gaps in rural areas, usage of other informal sources of credit such as moneylenders is still high in both urban and rural areas. Moreover, only 17% of households in Myanmar have a bank account, with poorer households significantly less likely to own an account. A lack of savings puts the poor and the vulnerable at greater risk of a debt trap, as they are more likely to borrow rather than use savings in order to cope with a negative shock.

The poor work mainly in agricultural activities, particularly agricultural labour, which are associated with low earnings. Agriculture is characterised by high seasonality and vulnerability, which contribute to high rates of labour underutilisation among individuals engaged in this sector. Sectoral diversification is more common for wealthier households, and participation in non-agricultural activities tends to grow with welfare. In addition, gender roles are clearly visible in the labour force: most women are tasked with overseeing household chores and children, and are largely excluded from participating in the labour force. When they are employed, women are more likely than men to be working in unremunerated jobs, have significantly lower wages than men, and have higher rates of labour underutilisation. Evidence suggests that only university education closes the participation and wage gap between men and women.

Spatial disparities in labour market opportunities and wages influence the decision to migrate, especially among the poor. Permanent migration flows are influenced by spatial inequalities in employment opportunities and wages, with the largest numbers moving to Yangon Region. Temporary migration is also largely motivated by economic reasons, with more than half of temporary migrants in 2017 relocating for employment. When poorer people migrate temporarily, they are typically looking for work within Myanmar, while wealthier individuals who become temporary migrants do so to either pursue their studies or seek work abroad.

These findings have five main implications:

1. **Reducing barriers to education is important for poverty reduction and improving welfare.** Education gives individuals, especially women, significantly greater opportunities to secure higher-paying, permanent, and formal employment. In addition, education offers the poor the ability to diversify their activities away from low-skill labour, especially in agriculture, to higher-skill, higher-wage jobs in the non-agricultural sector. Higher educational attainment can also help increase financial literacy and the use of formal financial services and products. Accessibility of schools, particularly those that offer high-school grades, and educational costs are substantial barriers for many children to continue their education. Parental preferences or perceptions about education may also influence a child's enrolment in school. Therefore, targeted interventions in education, particularly related to the accessibility and affordability of schools are necessary for increasing enrolment, especially in rural and remote areas of Myanmar.

2. **Improving the accessibility and affordability of comprehensive healthcare services is vital for sustainable development.** Health plays a central role in achieving the SDGs and is both a precondition and an outcome of economic development. Much of the rural population and the poor have limited access to hospitals, which offer a wider range of medical services compared to health centres or posts. The poor are also more likely to incur a financial burden from usage of healthcare facilities. It is therefore critical to improve the accessibility, affordability, and quality of comprehensive healthcare services in rural and remote areas, where many of the poor reside.

3. **Diversification away from agriculture to more productive activities in the non-agricultural sector can help improve household welfare.** Labour market activities in non-agriculture, particularly services, are associated with significantly higher returns than agricultural activities. Ownership of a non-farm enterprise is also associated with substantially higher household income and welfare. Households engaged exclusively in agricultural activities have the lowest average per capita income compared to households whose members work in non-agriculture exclusively or non-agriculture together with agriculture. Thus, encouraging the development of more diversified income sources with a greater reliance on non-agricultural activities could help households secure greater income throughout the year.

4. **Given high engagement in agriculture, investments in agriculture are necessary to increase productivity, especially for poor farmers.** Agricultural productivity in Myanmar is low compared to other countries in the EAP region. Yet agricultural activities dominate the labour market, and most of the poor are primarily engaged in these activities. Low productivity can be largely attributed to a lack of technology such as machinery, fertiliser, and irrigation, as well as limited access to markets and vulnerability to climatic shocks. Thus, interventions that improve these channels can help bolster agricultural productivity and improve the welfare of agricultural households.

5. **Targeted interventions for states/regions that are lagging behind in terms of access to key services and facilities can foster more balanced economic development.** Beyond urban-rural differences in access to schools, hospitals, formal financial institutions, and other basic services and facilities, significant disparities exist across states/regions, even after controlling for the share of the population residing in urban or rural areas. Some areas are deprived in multiple dimensions, which is manifested through severe poverty. Targeted interventions in such areas can help promote equitable growth in Myanmar.

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ANNEXES

Annex A – Summary of SDG Indicators covered by the 2017 MLCS reports

SDG Indicator	Description	Chapter
1.1.1	Proportion of population below international poverty line disaggregated by sex, age group, employment status, and geographical location (U/R)	Chapter 2 but no disaggregation.
1.2.1	Proportion of population living below national poverty line, disaggregated by sex and age group	Chapter 2 and Poverty Report
4.3.1	Participation rate of youth and adults in formal and non-formal education and training in the last 12 months, by sex	Chapter 3
4.5.1	Parity indices (female/male, rural/urban, bottom/top wealth quintile, and others)	Chapter 3
4.6.1	Percentage of the population in a given age group achieving at least a fixed level of proficiency in functional (a) literacy and (b) numeracy skills, by sex	Key Indicators Report
5.b.1	Proportion of Individuals who use a mobile phone, by sex	Key Indicators Report
6.1.1	Percentage of population using safely managed drinking water services	Chapter 5 and Key Indicators Report but no data on water quality
6.2.1	Proportion of population using safely managed sanitation services	Chapter 5 and Key Indicators Report but no data on quality
7.1.1	Proportion of population with electricity access (%)	Chapter 5 and Key Indicators Report
8.3.1	Proportion of informal employment in non-agricultural employment by sex	Chapter 7 although no definition of informality
8.5.2	Unemployment rate by sex, age-group, and disability	Chapter 7 but no disability
8.6.1	Proportion of youth (15-24) not in education, employment, or training (NEET)	Chapter 7
8.7.1	Proportion and number of children aged 5-17 years engaged in child labour, per sex and age group	Chapter 7
9.2.2	Manufacturing employment, as percent of total employment	Chapter 8

Annex B for chapter 2

Table B-1

Child poverty profile, by residential area, state/region and gender (in percent)

	Share of the total population aged 0-17	Poverty rate (ages 0-17)
Union	**100.0**	**31.2**
Residence area		
Urban	24.8	15.4
Rural	75.2	36.4
State/Region		
Kachin State	3.8	41.7
Kayah State	0.7	38.2
Kayin State	3.7	31.4
Chin State	1.4	63.4
Sagaing Region	9.8	37.4
Tanintharyi Region	3.4	15.6
Bago Region	10.3	21.2
Magway Region	7.0	41.8
Mandalay Region	10.2	16.5
Mon State	3.9	23.8
Rakhine State	6.3	49.1
Yangon Region	12.6	20.1
Shan State	12.2	34.5
Ayeyarwady Region	12.4	39.6
Nay Pyi Taw Council	2.3	28.8
Gender		
Boys	50.2	31.1
Girls	49.8	31.3

Note: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. The survey only includes conventional households.

Source: 2017 MLCS

Table B-2

Correlates of welfare (poverty dummy and log consumption)

	Poor (0/1)	Log of per adult equivalent consumption
Urban	-0.067***	0.126***
	[0.016]	[0.020]
Household composition		
Number of children aged 0-5	0.089***	-0.113***
	[0.007]	[0.009]
Number of children aged 6-14	0.060***	-0.094***
	[0.005]	[0.005]
Number of adults aged 15-59	0.022***	-0.038***
	[0.004]	[0.004]
Number of adults aged 60 plus	0.021**	-0.061***
	[0.010]	[0.010]
Household head characteristics		
Age	0	0.002***
	[0.001]	[0.001]
Female	-0.003	-0.006
	[0.021]	[0.021]
Married	-0.019	0.018
	[0.020]	[0.021]
Buddhist	-0.018	0.017
	[0.020]	[0.027]
Disabled	0.080***	-0.117***
	[0.023]	[0.021]
Has ID card	-0.119***	0.153***
	[0.020]	[0.022]
Household head's educational attainment (ref. No schooling)		
Monastic	-0.028	0.013
	[0.020]	[0.023]
Primary school	-0.057***	0.069***
	[0.017]	[0.019]
Middle school	-0.103***	0.145***
	[0.020]	[0.023]
High school	-0.162***	0.258***
	[0.023]	[0.024]
University or more	-0.322***	0.563***
	[0.037]	[0.035]
Household sectoral participation (ref. Agriculture only)		
Agriculture and non-agriculture	-0.042***	0.091***
	[0.012]	[0.013]
Non-agriculture only	-0.070***	0.131***
	[0.015]	[0.018]
No working members	-0.056**	0.167***
	[0.026]	[0.028]

	Poor (0/1)	Log of per adult equivalent consumption
Accessibility		
Community has a market	-0.035**	0.042**
	[0.014]	[0.019]
Community has a main road	-0.025*	0.026
	[0.013]	[0.016]
State/Region (ref. Yangon)		
Kachin	0.101***	-0.187***
	[0.034]	[0.036]
Kayah	0.013	-0.025
	[0.034]	[0.042]
Kayin	-0.093***	0.083***
	[0.026]	[0.030]
Chin	0.209***	-0.311***
	[0.036]	[0.042]
Sagaing	0.029	-0.079**
	[0.030]	[0.034]
Tanintharyi	-0.150***	0.263***
	[0.024]	[0.034]
Bago	-0.091***	0.115***
	[0.024]	[0.031]
Magway	0.089***	-0.100***
	[0.029]	[0.033]
Mandalay	-0.088***	0.080**
	[0.025]	[0.031]
Mon	-0.057**	0.032
	[0.027]	[0.034]
Rakhine	0.098***	-0.142***
	[0.028]	[0.028]
Shan	-0.024	0.032
	[0.028]	[0.036]
Ayeyarwady	0.060**	-0.081***
	[0.025]	[0.030]
Nay Pyi Taw	-0.002	0.001
	[0.025]	[0.030]
R-squared		0.330
Observations	13730	13730

Note: Column 1 reports marginal effects from a probit regression. Column 2 reports coefficients from an OLS regression.
Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Using international poverty lines

The international poverty line is set by the World Bank for the purpose of global poverty monitoring and measuring progress on global goals set by the World Bank, the United Nations and other development partners.

Measuring poverty requires to first establish cost-of-living comparability across countries using an adjustment factor, the Purchasing Power Parity (PPP) factor, in order to render all incomes comparable – i.e. expressed in the same unit. The second component is a threshold, an international poverty line, that can be then converted into comparable terms across countries. The third element is a welfare aggregate (income or consumption) adjusted for household size.

To assure cost-of-living comparability across countries, the International Comparison Program (ICP), an independent statistical program housed within the World Bank's Development Data Group, establishes PPPs, which are free from exchange rate distortions but are instead based on the comparison of volumes of final goods and services between economies. The PPP of currency of an economy corresponds to the number of currency units required to purchase a basket of goods and services that can be purchased with one unit of the currency of a reference or base country (World Bank, 2007).

PPPs are used to compare household consumption and income with a common global poverty line expressed in US dollars, since nominal exchange rates do not accurately capture differences in costs of living across countries.

Myanmar joined the ICP for the first time in the 2011 round. Myanmar's ICP data was collected by conducting nationwide price surveys in urban as well as rural areas. From the 2011 ICP data, Myanmar's consumption purchasing power parity exchange rate (PPP) is estimated to be 320.6 kyat per US dollar in 2011.

As of 2015, the international poverty line (IPL) in PPP terms has been set to USD 1.90 in 2011 PPP to account for the new data emerging from the 2011 PPP round, which captured updated data on global relative prices. The USD 1.90 in 2011 PPP line was derived by: (I) inflating the 2005 values of the 15 country lines to 2011 using domestic Consumer Price Indexes (CPIs), and (ii) converting the resulting values to US dollars (in 2011 prices) using the 2011 PPPs for these 15 countries.

During this round, two IPLs were added: a lower middle-income class poverty line at USD 3.20 in 2011 PPP and an upper middle-income class poverty line at USD 5.50 in 2011 PPP to account for the differences in the set of goods and services that countries need to reduce poverty and to allow for cross-country comparisons both within and across developing regions.[62]

International poverty measurement uses income or expenditure per capita as the welfare aggregate in a given country.

62 https://blogs.worldbank.org/developmenttalk/richer-array-international-poverty-lines

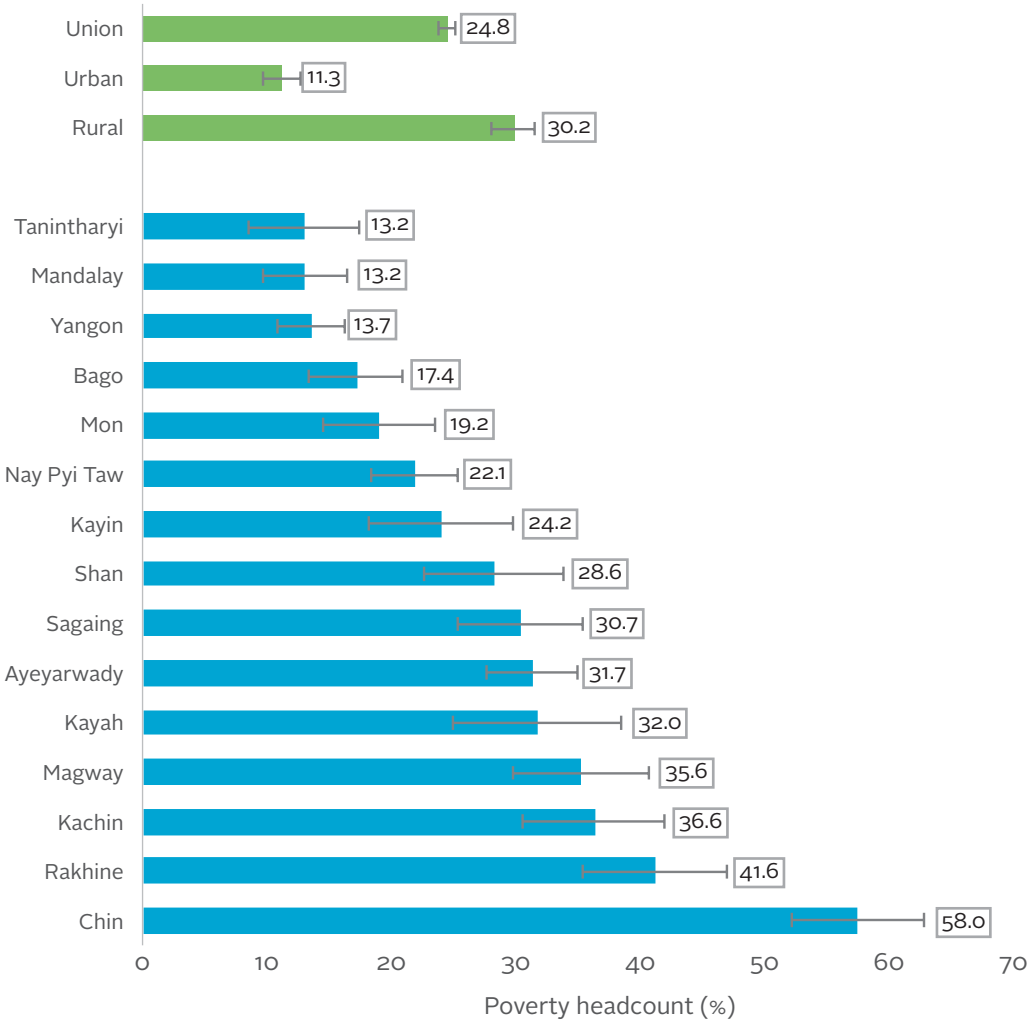
Traditionally to estimate poverty with an IPL, the following steps apply: 1) deflate the welfare aggregate to 2011, using the national CPI; 2) convert the 2011-deflated aggregate to US Dollars using the PPP conversion-factor; and 3) compare the resulting distribution with a reference poverty line, set at USD 1.90 a day. Formally, a household is defined as poor if:

$$Income_y^{2011PPP}(\$) = Income_y * \left(\frac{CPI_{2011}}{CPI_y}\right) * \left(\frac{1}{PPP_{2011}}\right) < \$1.90$$

with $Income_y$ be the welfare aggregate (per capita income or expenditure) in a given country in year y, expressed in local currency unit (LCU).

Figure B-1

Poverty headcount, by residential area and state/region (in percent)



Note: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State (Buthidaung and Maungdaw) and the Wa Self-Administered Division. The survey only includes conventional households. The error bars denote the 95 percent confidence intervals.
Source: 2017 MLCS

Annex C for chapter 3

Table C-1

Correlates of primary, middle and high school enrolment, probit model, marginal effects

	Total net primary enrolment	Total net middle enrolment	Total net high enrolment
Female	0.011	0.047***	0.088***
	[0.007]	[0.014]	[0.021]
Urban	-0.017	0.002	0.001
	[0.012]	[0.021]	[0.029]
Number of younger siblings aged 0-15	-0.009*	-0.040***	-0.022**
	[0.005]	[0.007]	[0.009]
Number of older siblings aged 0-15	-0.012***	-0.046***	-0.223***
	[0.004]	[0.011]	[0.062]
Primary school exists in community	0.033*		
	[0.019]		
Middle school is in close proximity		0.104***	
		[0.026]	
High school is in close proximity			0.089***
			[0.028]
School age (ref. Age 5)			
Age 6	0.081***		
	[0.015]		
Age 7	0.102***		
	[0.014]		
Age 8	0.097***		
	[0.015]		
Age 9	0.102***		
	[0.015]		
School age (ref. Age 10)			
Age 11		0.194***	
		[0.021]	
Age 12		0.214***	
		[0.021]	
Age 13		0.197***	
		[0.021]	
School age (ref. Age 14)			
Age 15			0.056**
			[0.022]

	Total net primary enrolment	Total net middle enrolment	Total net high enrolment
Mother's educational attainment (ref. No education)			
Monastic	-0.033	0.158***	0.011
	[0.041]	[0.045]	[0.084]
Below primary	0.032***	0.140***	0.167***
	[0.012]	[0.029]	[0.039]
Primary	0.021	0.197***	0.245***
	[0.014]	[0.031]	[0.044]
Middle	0.047***	0.304***	0.391***
	[0.015]	[0.034]	[0.057]
High	0.058***	0.305***	0.483***
	[0.019]	[0.048]	[0.100]
Tertiary	0.021	0.296***	0.487***
	[0.025]	[0.041]	[0.069]
Mother does not live in household	-0.001	0.107***	0.167***
	[0.013]	[0.032]	[0.046]
Father's educational attainment (ref. No education)			
Monastic	0.082***	0.090**	0.086
	[0.025]	[0.042]	[0.058]
Below primary	0.092***	0.084**	0.061
	[0.024]	[0.038]	[0.054]
Primary	0.085***	0.125***	0.142***
	[0.025]	[0.040]	[0.052]
Middle	0.098***	0.206***	0.265***
	[0.026]	[0.042]	[0.064]
High	0.104***	0.115*	0.346**
	[0.028]	[0.070]	[0.137]
Tertiary	0.091***	0.182***	0.269***
	[0.031]	[0.056]	[0.089]
Father does not live in household	0.063***	0.080**	0.078
	[0.018]	[0.036]	[0.053]
Consumption quintile (ref. Quintile 1)			
Quintile 2	0.025*	0.062***	0.143***
	[0.013]	[0.023]	[0.034]
Quintile 3	0.031**	0.120***	0.185***
	[0.012]	[0.023]	[0.038]
Quintile 4	0.049***	0.155***	0.235***
	[0.013]	[0.024]	[0.037]
Quintile 5	0.041***	0.153***	0.321***
	[0.015]	[0.028]	[0.042]
State/Region fixed effects	Yes	Yes	Yes
Observations	5,740	5,065	2,303

Note: Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1
State/Region fixed effects are included in the regression but not reported here.

Table C-2

Correlates of per student educational expenditures, OLS model

	Log educational expenditures (per student)			
	Model 1	Model 2	Model 3	Model 4
Consumption quintile (ref. Quintile 1)				
Quintile 2	0.482***	0.394***	0.369***	0.347***
	[0.038]	[0.035]	[0.034]	[0.033]
Quintile 3	0.779***	0.617***	0.574***	0.557***
	[0.039]	[0.036]	[0.035]	[0.034]
Quintile 4	1.061***	0.841***	0.767***	0.758***
	[0.042]	[0.038]	[0.037]	[0.036]
Quintile 5	1.633***	1.271***	1.130***	1.108***
	[0.046]	[0.042]	[0.040]	[0.038]
Enrolled school level (ref. Primary)				
Middle		0.516***	0.504***	0.254***
		[0.023]	[0.022]	[0.029]
High		1.468***	1.449***	1.018***
		[0.033]	[0.032]	[0.050]
Individual characteristics				
Enrolled in private school		0.996***	0.925***	0.902***
		[0.068]	[0.066]	[0.064]
Urban			0.326***	0.241***
			[0.029]	[0.029]
School age				0.052***
				[0.005]
Female				0.023
				[0.016]
Number of siblings aged 0-14				-0.033***
				[0.010]
State/Region fixed effects	No	No	No	Yes
R-squared	0.245	0.509	0.528	0.567
Observations	12,844	12,844	12,844	12,844

Note: Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1
State/Region fixed effects are included in but not reported for model 4.

Annex D for chapter 4

Table D-1

Correlates of healthcare utilisation, probit model, marginal effects

	Any type of healthcare facilities	Public healthcare facilities	Private healthcare facilities
Urban	-0.011	-0.089***	0.068***
	[0.021]	[0.021]	[0.020]
Absent from normal activities in the last 30 days	0.019***	0.007***	0.009***
	[0.001]	[0.001]	[0.001]
Household head characteristics			
Female	0.058***	0.011*	0.033***
	[0.008]	[0.007]	[0.008]
Household composition			
Number of members 15 to 24 years old	-0.032*	-0.033**	-0.000
	[0.017]	[0.015]	[0.016]
Number of members 25 to 39 years old	-0.085***	-0.020*	-0.072***
	[0.015]	[0.012]	[0.013]
Number of members 40 to 59 years old	-0.078***	-0.036***	-0.048***
	[0.014]	[0.012]	[0.012]
Number of members over 60 years old	-0.044***	-0.027**	-0.045***
	[0.016]	[0.013]	[0.015]
Household sector (ref. Agriculture only)			
Agriculture and non-agriculture	0.054***	0.011	0.054***
	[0.016]	[0.013]	[0.015]
Non-agriculture only	0.059***	-0.025	0.088***
	[0.019]	[0.017]	[0.020]
No working members	0.001	0.004	0.011
	[0.032]	[0.027]	[0.027]
Consumption quintile (ref. Quintile 1)			
Quintile 2	0.071***	0.013	0.052***
	[0.020]	[0.015]	[0.018]
Quintile 3	0.110***	0.049***	0.053***
	[0.019]	[0.016]	[0.018]
Quintile 4	0.136***	0.026	0.105***
	[0.020]	[0.017]	[0.020]
Quintile 5	0.162***	0.007	0.152***
	[0.021]	[0.018]	[0.020]
Lives in close proximity to:			
Government hospital	0.045**	0.031	0.016
	[0.021]	[0.023]	[0.018]
Government health centre	0.026	0.084***	-0.037**
	[0.017]	[0.017]	[0.017]
Government health post	0.053***	0.099***	-0.029*
	[0.017]	[0.016]	[0.016]

	Any type of healthcare facilities	Public healthcare facilities	Private healthcare facilities
Private hospital	0.001	-0.075***	0.036*
	[0.020]	[0.023]	[0.019]
Private clinic/doctor	0.017	-0.058**	0.093***
	[0.022]	[0.023]	[0.020]
State/Region (ref. Yangon)			
Kachin	-0.034	0.064*	-0.119***
	[0.032]	[0.037]	[0.034]
Kayah	-0.043	0.007	-0.091**
	[0.033]	[0.039]	[0.036]
Kayin	0.057*	-0.057	0.098***
	[0.033]	[0.036]	[0.035]
Chin	-0.257***	-0.035	-0.224***
	[0.037]	[0.035]	[0.030]
Sagaing	0.008	0.025	-0.073**
	[0.039]	[0.038]	[0.035]
Tanintharyi	-0.075**	0.004	-0.076**
	[0.033]	[0.039]	[0.031]
Bago	-0.113***	-0.074**	-0.121***
	[0.031]	[0.033]	[0.027]
Magway	0.002	-0.116***	0.105***
	[0.030]	[0.034]	[0.032]
Mandalay	-0.011	-0.120***	0.090**
	[0.035]	[0.033]	[0.037]
Mon	0.136***	-0.033	0.126***
	[0.036]	[0.036]	[0.038]
Rakhine	-0.132***	-0.112***	-0.018
	[0.029]	[0.032]	[0.029]
Shan	-0.125***	0.006	-0.153***
	[0.037]	[0.039]	[0.030]
Ayeyarwady	-0.114***	-0.120***	-0.023
	[0.031]	[0.032]	[0.031]
Nay Pyi Taw	0.088***	-0.011	0.097***
	[0.030]	[0.037]	[0.035]
Observations	17,672	17,672	17,672

Note: Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Table D-2

Correlates of health expenditures as a share of total household consumption, probit model, marginal effects

	Health expenditures as a share of total household consumption equal:			
	10%	15%	20%	25%
Urban	-0.003	0.015	0.010	0.011
	[0.014]	[0.011]	[0.009]	[0.008]
Household head characteristics				
Female	0.007	0.008	-0.002	-0.002
	[0.010]	[0.009]	[0.007]	[0.006]
Completed middle school or higher	-0.009	0.001	-0.001	-0.002
	[0.012]	[0.010]	[0.008]	[0.007]
Household composition				
Number of members aged 0-4	0.055***	0.028***	0.016***	0.008
	[0.009]	[0.007]	[0.006]	[0.005]
Number of members aged 5-14	-0.021***	-0.016***	-0.014***	-0.009***
	[0.004]	[0.003]	[0.003]	[0.003]
Number of members aged 15-59	0.006*	0.002	0.003	0.000
	[0.003]	[0.003]	[0.002]	[0.002]
Number of members aged 60+	0.053***	0.037***	0.025***	0.019***
	[0.006]	[0.005]	[0.004]	[0.003]
Household sector (ref. Agriculture only)				
Agriculture and non-agriculture	0.013	0.002	-0.007	-0.003
	[0.012]	[0.009]	[0.008]	[0.007]
Non-agriculture only	0.017	0.006	0.004	0.001
	[0.013]	[0.011]	[0.009]	[0.008]
No working members	0.162***	0.095***	0.095***	0.072***
	[0.027]	[0.022]	[0.021]	[0.018]
Consumption quintile (ref. Quintile 1)				
Quintile 2	-0.031**	-0.035***	-0.027**	-0.022**
	[0.016]	[0.013]	[0.011]	[0.010]
Quintile 3	-0.035**	-0.040***	-0.035***	-0.027***
	[0.015]	[0.013]	[0.011]	[0.010]
Quintile 4	-0.020	-0.026**	-0.024**	-0.023**
	[0.015]	[0.012]	[0.011]	[0.010]
Quintile 5	-0.030*	-0.036***	-0.032***	-0.026**
	[0.016]	[0.014]	[0.012]	[0.010]
Lives in close proximity to:				
Government hospital	0.024**	0.009	0.008	0.005
	[0.012]	[0.009]	[0.008]	[0.007]
Government health centre	0.005	0.008	0.013*	0.011*
	[0.011]	[0.008]	[0.007]	[0.006]

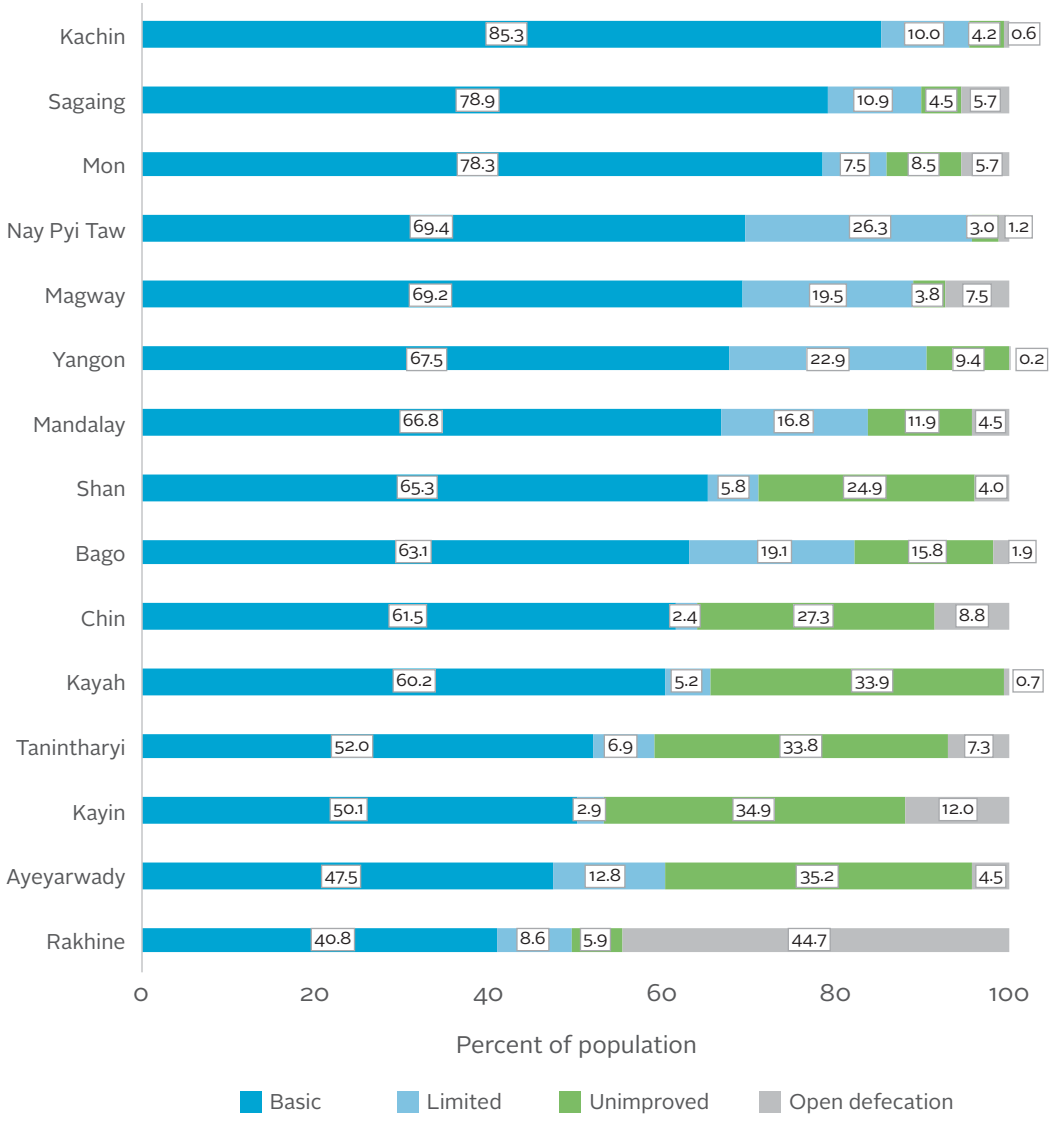
	Health expenditures as a share of total household consumption equal:			
	10%	15%	20%	25%
Government health post	0.004	0.002	-0.007	-0.004
	[0.011]	[0.008]	[0.007]	[0.006]
Private hospital	-0.025*	-0.026***	-0.023***	-0.018**
	[0.013]	[0.009]	[0.008]	[0.008]
Private clinic/doctor	-0.045***	-0.030***	-0.020**	-0.015**
	[0.013]	[0.010]	[0.008]	[0.007]
State/Region (ref. Yangon)				
Kachin	-0.112***	-0.075***	-0.046***	-0.032***
	[0.019]	[0.015]	[0.014]	[0.012]
Kayah	-0.155***	-0.095***	-0.067***	-0.046***
	[0.016]	[0.014]	[0.011]	[0.010]
Kayin	-0.024	-0.009	-0.010	-0.005
	[0.022]	[0.018]	[0.014]	[0.013]
Chin	-0.029	-0.010	-0.001	0.002
	[0.021]	[0.018]	[0.015]	[0.014]
Sagaing	-0.013	-0.012	0.001	0.002
	[0.021]	[0.017]	[0.014]	[0.012]
Tanintharyi	-0.008	-0.001	-0.008	-0.012
	[0.021]	[0.017]	[0.014]	[0.012]
Bago	0.029	0.010	0.014	0.016
	[0.021]	[0.017]	[0.014]	[0.013]
Magway	-0.044**	-0.041**	-0.031**	-0.025**
	[0.019]	[0.016]	[0.014]	[0.012]
Mandalay	-0.040**	-0.044***	-0.033***	-0.020*
	[0.020]	[0.014]	[0.012]	[0.011]
Mon	0.018	0.024	0.028*	0.029*
	[0.023]	[0.018]	[0.017]	[0.015]
Rakhine	0.043*	0.037*	0.026*	0.020
	[0.024]	[0.019]	[0.014]	[0.013]
Shan	-0.103***	-0.072***	-0.044***	-0.029***
	[0.018]	[0.014]	[0.012]	[0.011]
Ayeyarwady	-0.029	-0.020	-0.024*	-0.017
	[0.019]	[0.016]	[0.013]	[0.012]
Nay Pyi Taw	-0.016	-0.018	-0.013	-0.017
	[0.022]	[0.018]	[0.016]	[0.012]
Mean of outcome	0.198	0.123	0.083	0.061
Observations	13,730	13,730	13,730	13,730

Note: Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Annex E for chapter 5

Figure E-1

Percentage of the population with access to type of toilet, by state/region



Source: 2017 MLCS

Annex F for chapter 6

Table F-1

Correlates of coping mechanisms adopted by households affected by one or more shocks, probit model, marginal effects

	Borrowed	Used savings	Did nothing
Consumption quintile (ref. Quintile 1)			
Quintile 2	-0.006	0.042*	-0.012
	[0.029]	[0.022]	[0.021]
Quintile 3	-0.014	0.032	0.02
	[0.030]	[0.021]	[0.023]
Quintile 4	-0.046*	0.065***	0.028
	[0.027]	[0.021]	[0.023]
Quintile 5	-0.087***	0.084***	0.049**
	[0.029]	[0.022]	[0.023]
Shock type (ref. Climate)			
Agricultural	0.148***	-0.047***	-0.086***
	[0.022]	[0.017]	[0.020]
High food price	-0.155***	-0.177***	0.069***
	[0.020]	[0.017]	[0.023]
Income	0.238***	-0.029	-0.235***
	[0.030]	[0.024]	[0.019]
Health	0.309***	-0.100***	-0.252***
	[0.025]	[0.019]	[0.017]
Other	-0.145***	-0.048	0.223***
	[0.030]	[0.036]	[0.043]
Quintile 1 mean of outcome	0.456	0.156	0.201
Observations	7,634	7,634	7,634

Notes: Sample is restricted to households that were negatively affected by a shock in the 12 months preceding the survey. The unit of observation is the shock.

Source: 2017 MLCS

Annex G for chapter 7

Table G-1

Correlates of labour force participation, probit model, marginal effects

	Union	Female	Male
Individual characteristics			
Female	-0.226***		
	[0.005]		
Urban	-0.030***	-0.041***	-0.017**
	[0.007]	[0.010]	[0.008]
Married	-0.029***	-0.112***	0.078***
	[0.006]	[0.008]	[0.008]
Has an identification card	-0.006	-0.008	-0.022**
	[0.010]	[0.014]	[0.011]
Disabled	-0.252***	-0.227***	-0.234***
	[0.016]	[0.026]	[0.017]
Age group (ref. Age 70 plus)			
Age 15 to 17	0.131***	0.242***	0.089***
	[0.019]	[0.029]	[0.021]
Age 18 to 22	0.389***	0.504***	0.302***
	[0.017]	[0.026]	[0.017]
Age 23 to 59	0.493***	0.600***	0.381***
	[0.014]	[0.021]	[0.014]
Age 60 to 69	0.222***	0.261***	0.165***
	[0.016]	[0.024]	[0.015]
Education (ref. No schooling)			
Monastic education	0.024	-0.001	0.046**
	[0.015]	[0.023]	[0.018]
Primary school	0.072***	0.060***	0.096***
	[0.011]	[0.014]	[0.016]
Middle school	0.098***	0.091***	0.107***
	[0.013]	[0.016]	[0.017]
High school	-0.019	-0.025	0.001
	[0.013]	[0.017]	[0.017]
University or more	0.166***	0.205***	0.102***
	[0.015]	[0.019]	[0.020]
Household composition			
Child aged 0-5 in household	-0.045***	-0.090***	0.007
	[0.006]	[0.008]	[0.008]
Child aged 6-14 in household	-0.006	-0.006	-0.007
	[0.006]	[0.008]	[0.007]
Number of adults aged 15-59 in household	-0.013***	-0.020***	-0.007**
	[0.002]	[0.003]	[0.003]
Retired elderly in household	-0.095***	-0.068***	-0.110***
	[0.007]	[0.009]	[0.007]

	Union	Female	Male
Survey quarter (ref. Quarter 1)			
Quarter 2	-0.012	-0.008	-0.018*
	[0.011]	[0.015]	[0.010]
Quarter 3	-0.014	-0.006	-0.024**
	[0.011]	[0.014]	[0.011]
Quarter 4	-0.016*	-0.002	-0.031***
	[0.010]	[0.013]	[0.010]
State/Region (ref. Yangon)			
Kachin	-0.100***	-0.080***	-0.117***
	[0.017]	[0.019]	[0.023]
Kayah	0.042***	0.079***	0.011
	[0.016]	[0.023]	[0.015]
Kayin	-0.102***	-0.078***	-0.129***
	[0.016]	[0.021]	[0.018]
Chin	-0.040*	0.018	-0.108***
	[0.024]	[0.028]	[0.024]
Sagaing	0.059***	0.120***	-0.006
	[0.014]	[0.020]	[0.014]
Tanintharyi	0.046***	0.053**	0.039***
	[0.014]	[0.021]	[0.013]
Bago	-0.007	0.016	-0.036*
	[0.018]	[0.022]	[0.021]
Magway	0.048***	0.094***	-0.007
	[0.015]	[0.020]	[0.015]
Mandalay	0.068***	0.103***	0.035***
	[0.012]	[0.018]	[0.012]
Mon	-0.067***	-0.075***	-0.062***
	[0.015]	[0.022]	[0.017]
Rakhine	-0.033*	-0.046*	-0.019
	[0.017]	[0.025]	[0.017]
Shan	0.098***	0.160***	0.033**
	[0.016]	[0.022]	[0.017]
Ayeyarwady	-0.009	-0.022	0.011
	[0.015]	[0.022]	[0.015]
Nay Pyi Taw	0.030**	0.038**	0.021*
	[0.013]	[0.019]	[0.013]
Consumption quintile (ref. Quintile 1)			
Quintile 2	-0.010	-0.006	-0.011
	[0.011]	[0.014]	[0.013]
Quintile 3	-0.005	-0.015	0.012
	[0.011]	[0.015]	[0.013]
Quintile 4	-0.027**	-0.046***	-0.002
	[0.011]	[0.015]	[0.013]
Quintile 5	-0.054***	-0.071***	-0.025*
	[0.012]	[0.015]	[0.014]
Mean of outcome	0.648	0.543	0.771
Observations	43,244	23,354	19,890

Note: Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Table G-2

Heckman selection model of log hourly nominal wages

	Union	Female	Male
Individual characteristics			
Female	-0.352***		
	[0.019]		
Urban	0.106***	0.061**	0.143***
	[0.023]	[0.027]	[0.027]
Has an identification card	0.070***	0.039	0.083**
	[0.025]	[0.031]	[0.033]
Disabled	-0.171***	-0.319***	-0.063
	[0.053]	[0.099]	[0.054]
Age	0.035***	0.024***	0.040***
	[0.004]	[0.005]	[0.005]
Age squared	-0.000***	-0.000***	-0.001***
	[0.000]	[0.000]	[0.000]
Educational attainment (ref. No schooling)			
Monastic education	0.059	-0.101	0.125**
	[0.045]	[0.085]	[0.056]
Primary school	0.095***	0.051	0.145***
	[0.030]	[0.037]	[0.046]
Middle school	0.158***	0.087*	0.212***
	[0.034]	[0.046]	[0.050]
High school	0.219***	0.178***	0.263***
	[0.035]	[0.047]	[0.050]
University or more	0.788***	0.938***	0.559***
	[0.040]	[0.049]	[0.060]
Household sectoral participation			
Household engaged in farming	-0.099***	-0.090**	-0.080**
	[0.030]	[0.044]	[0.037]
Household operates a non-farm business	-0.067***	-0.087**	-0.046*
	[0.022]	[0.034]	[0.027]
State/Region (ref. Yangon)			
Kachin	0.014	-0.088*	0.068
	[0.037]	[0.051]	[0.047]
Kayah	0.099***	0.030	0.145***
	[0.034]	[0.046]	[0.043]
Kayin	-0.138**	-0.119	-0.147**
	[0.055]	[0.073]	[0.065]
Chin	0.045	0.031	0.070
	[0.040]	[0.053]	[0.051]

	Union	Female	Male
Sagaing	-0.188***	-0.256***	-0.135***
	[0.032]	[0.042]	[0.040]
Tanintharyi	0.118***	-0.038	0.200***
	[0.032]	[0.049]	[0.039]
Bago	-0.227***	-0.291***	-0.183***
	[0.033]	[0.040]	[0.042]
Magway	-0.313***	-0.320***	-0.311***
	[0.042]	[0.054]	[0.049]
Mandalay	-0.188***	-0.244***	-0.154***
	[0.046]	[0.048]	[0.059]
Mon	-0.116***	-0.238***	-0.051
	[0.034]	[0.049]	[0.043]
Rakhine	-0.190***	-0.200***	-0.175***
	[0.040]	[0.050]	[0.054]
Shan	-0.046	-0.081	-0.038
	[0.050]	[0.057]	[0.060]
Ayeyarwady	-0.299***	-0.366***	-0.253***
	[0.031]	[0.043]	[0.039]
Nay Pyi Taw	-0.200***	-0.214***	-0.197***
	[0.038]	[0.050]	[0.043]
Observations	42,746	23,142	19,604

Note: Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Table G-3

Heckman selection model, selection equation

	Earns wages (marginal effects)		
	Union	Female	Male
Individual characteristics			
Female	-0.124***		
	[0.005]		
Urban	-0.022***	-0.032***	-0.008
	[0.008]	[0.009]	[0.011]
Married	-0.035***	-0.070***	0.020**
	[0.006]	[0.007]	[0.010]
Has an identification card	0.007	-0.005	0.013
	[0.009]	[0.011]	[0.013]
Disabled	-0.114***	-0.074***	-0.157***
	[0.018]	[0.023]	[0.025]
Age	0.016***	0.013***	0.018***
	[0.001]	[0.001]	[0.002]
Age squared	-0.000***	-0.000***	-0.000***
	[0.000]	[0.000]	[0.000]
Educational attainment (ref. No schooling)			
Monastic education	0.031**	0.011	0.044**
	[0.014]	[0.021]	[0.022]
Primary school	0.034***	0.013	0.059***
	[0.011]	[0.011]	[0.018]
Middle school	0.018	-0.008	0.042**
	[0.012]	[0.014]	[0.019]
High school	-0.028**	-0.050***	-0.010
	[0.013]	[0.014]	[0.020]
University or more	0.170***	0.194***	0.088***
	[0.014]	[0.015]	[0.023]
Household composition			
Child aged 0-5 in household	-0.037***	-0.056***	-0.015*
	[0.006]	[0.008]	[0.008]
Child aged 6-14 in household	-0.021***	-0.021***	-0.019**
	[0.006]	[0.006]	[0.008]
Number of adults aged 15-59 in household	-0.004	-0.007***	0.000
	[0.002]	[0.003]	[0.003]
Retired elderly in household	-0.044***	-0.035***	-0.049***
	[0.007]	[0.008]	[0.011]
Household income sources			
Household engaged in farming	-0.299***	-0.220***	-0.385***
	[0.007]	[0.008]	[0.009]
Household operates a non-farm business	-0.176***	-0.152***	-0.209***
	[0.007]	[0.008]	[0.010]

	Earns wages (marginal effects)		
	Union	Female	Male
State/Region (ref. Yangon)			
Kachin	-0.073***	-0.084***	-0.059***
	[0.013]	[0.016]	[0.019]
Kayah	-0.012	-0.024	0.004
	[0.014]	[0.015]	[0.020]
Kayin	-0.096***	-0.102***	-0.087***
	[0.016]	[0.018]	[0.024]
Chin	-0.102***	-0.112***	-0.093***
	[0.015]	[0.018]	[0.021]
Sagaing	-0.030*	-0.033**	-0.023
	[0.015]	[0.015]	[0.023]
Tanintharyi	0.019	-0.002	0.042*
	[0.016]	[0.018]	[0.023]
Bago	0.020	0.027*	0.006
	[0.013]	[0.015]	[0.018]
Magway	-0.011	-0.003	-0.025
	[0.015]	[0.015]	[0.021]
Mandalay	0.010	0.018	-0.000
	[0.014]	[0.014]	[0.020]
Mon	-0.040***	-0.082***	0.004
	[0.014]	[0.016]	[0.021]
Rakhine	-0.091***	-0.094***	-0.088***
	[0.016]	[0.020]	[0.021]
Shan	-0.062***	-0.057***	-0.064***
	[0.015]	[0.016]	[0.020]
Ayeyarwady	-0.043***	-0.039***	-0.049***
	[0.013]	[0.015]	[0.018]
Nay Pyi Taw	-0.017	-0.037***	0.009
	[0.013]	[0.014]	[0.019]
Consumption quintile (ref. Quintile 1)			
Quintile 2	-0.048***	-0.046***	-0.049***
	[0.012]	[0.013]	[0.016]
Quintile 3	-0.063***	-0.056***	-0.068***
	[0.011]	[0.013]	[0.015]
Quintile 4	-0.099***	-0.086***	-0.111***
	[0.011]	[0.013]	[0.014]
Quintile 5	-0.143***	-0.131***	-0.148***
	[0.012]	[0.013]	[0.016]
Survey quarter (ref. Quarter 1)			
Quarter 2	-0.001	-0.004	0.000
	[0.009]	[0.011]	[0.013]
Quarter 3	0.004	0.002	0.006
	[0.009]	[0.010]	[0.013]
Quarter 4	-0.019**	-0.016	-0.022*
	[0.009]	[0.011]	[0.013]
Observations	42,746	23,142	19,604

Note: Standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.1

Annex H for chapter 8

Map H-1

Net recent migration rate (per 1,000 people)

a) Union

b) Male

c) Female

Notes: Outreach activities for the 2017 MLCS took place over the 12 months of data collection, but it was not possible to conduct interviews in two townships of Northern Rakhine State and the Wa Self-Administered Division.

Source: 2017 MLCS

Table H-1

Correlates of being temporary economic migrant, probit model, marginal effects

	Temporary economic migrant		
Works in non-agriculture	0.055***	0.061***	0.070***
	[0.006]	[0.007]	[0.007]
Has more than one job	0.125***	0.112***	0.113***
	[0.006]	[0.006]	[0.006]
Urban		-0.026***	-0.019**
		[0.007]	[0.008]
Female		-0.073***	-0.074***
		[0.005]	[0.004]
Married		-0.025***	-0.024***
		[0.005]	[0.005]
Age group (ref. Age 15-20)			
Age 21-39		-0.016**	-0.013
		[0.008]	[0.008]

	Temporary economic migrant		
Age 40-59		-0.057***	-0.053***
		[0.008]	[0.008]
Age 60+		-0.086***	-0.082***
		[0.010]	[0.010]
Other household member works in agriculture			0.023***
			[0.006]
Consumption quintile (ref. Quintile 1)			
Quintile 2			-0.015*
			[0.008]
Quintile 3			-0.020**
			[0.008]
Quintile 4			-0.019**
			[0.008]
Quintile 5			-0.007
			[0.009]
State/Region (ref. Yangon)			
Kachin	0.092***	0.079***	0.075***
	[0.018]	[0.018]	[0.018]
Kayah	0.023*	0.010	0.007
	[0.012]	[0.012]	[0.012]
Kayin	-0.025**	-0.028***	-0.030***
	[0.010]	[0.011]	[0.011]
Chin	0.000	-0.005	-0.012
	[0.012]	[0.012]	[0.012]
Sagaing	0.009	0.004	0.000
	[0.011]	[0.011]	[0.011]
Tanintharyi	0.058***	0.050***	0.046***
	[0.014]	[0.014]	[0.014]
Bago	0.107***	0.101***	0.099***
	[0.016]	[0.016]	[0.016]
Magway	0.026**	0.025*	0.020
	[0.012]	[0.013]	[0.013]
Mandalay	-0.016	-0.019*	-0.021*
	[0.010]	[0.011]	[0.011]
Mon	0.002	0.003	0.002
	[0.012]	[0.013]	[0.013]
Rakhine	0.063***	0.056***	0.053***
	[0.017]	[0.017]	[0.017]
Shan	-0.007	-0.013	-0.018*
	[0.010]	[0.011]	[0.011]
Ayeyarwady	0.038***	0.030***	0.027**
	[0.011]	[0.011]	[0.011]
Nay Pyi Taw	0.013	0.006	0.003
	[0.012]	[0.012]	[0.012]
Observations	28,405	28,405	28,405

Notes: The sample is restricted to employed members of the labour force. Standard errors in brackets. * p < 0.05, ** p < 0.01, *** p < 0.001
Source: 2017 MLCS

Annex I for chapter 9

Table I-1

Percentage of households engaged in each income strategy, by state/region

	Kachin	Kayah	Kayin	Chin	Sagaing	Tanintharyi	Bago	Magway	Mandalay	Mon	Rakhine	Yangon	Shan	Ayeyar-wady	Nay Pyi Taw
Farming and allied	**55.5**	**68.6**	**69.5**	**83.2**	**72.2**	**63.6**	**69.4**	**61.0**	**48.6**	**46.1**	**70.4**	**18.5**	**76.7**	**72.0**	**42.2**
Crop production	38.9	57.2	43.8	65.9	58.5	43.3	41.6	47.2	36.4	31.6	43.1	8.0	69.0	43.0	25.9
Livestock rearing	45.6	51.8	56.4	71.9	60.8	37.9	61.2	52.3	38.7	21.0	51.7	14.6	46.3	59.6	33.2
Fishing	3.5	3.7	25.8	14.7	2.2	13.1	15.8	0.7	2.1	8.4	18.7	4.7	8.5	18.9	2.9
Non-farm business	**35.8**	**26.0**	**40.1**	**13.6**	**40.9**	**43.2**	**37.6**	**27.5**	**39.7**	**41.2**	**36.1**	**50.7**	**25.1**	**33.0**	**29.7**
Agricultural labour	**19.6**	**18.3**	**17.2**	**8.6**	**31.7**	**35.3**	**31.1**	**33.7**	**22.2**	**21.6**	**30.3**	**9.1**	**27.0**	**39.0**	**28.2**
Non-agricultural labour	**43.6**	**49.8**	**29.0**	**37.7**	**37.2**	**39.9**	**35.2**	**30.0**	**46.5**	**39.0**	**30.3**	**66.6**	**26.9**	**29.1**	**47.3**
Remittances	**14.5**	**22.8**	**40.2**	**28.8**	**19.0**	**25.9**	**19.2**	**18.8**	**16.8**	**40.8**	**22.9**	**16.2**	**14.4**	**18.7**	**19.9**
Other	**15.9**	**29.8**	**23.4**	**33.7**	**49.3**	**26.8**	**51.7**	**40.4**	**30.4**	**31.4**	**40.0**	**32.8**	**8.3**	**31.0**	**56.8**
Rent	4.4	2.1	4.6	0.8	4.4	4.1	2.2	5.4	3.3	3.4	7.5	0.4	0.8	2.1	1.1
Public/social transfers	5.1	21.9	4.2	28.5	12.7	11.7	32.7	10.3	9.8	7.9	29.7	13.3	3.8	14.3	50.4
Miscellaneous	7.3	8.6	16.1	7.6	42.3	14.5	27.6	31.4	20.4	23.0	9.1	23.0	3.9	20.2	11.7
Agricultural activities	**60.8**	**72.6**	**72.0**	**84.5**	**78.9**	**74.3**	**76.5**	**74.9**	**56.2**	**57.2**	**78.5**	**22.5**	**81.1**	**80.8**	**56.6**
Non-agricultural activities	**65.3**	**64.7**	**57.5**	**45.6**	**64.0**	**64.7**	**60.7**	**49.7**	**68.6**	**64.2**	**55.4**	**88.1**	**44.8**	**52.3**	**65.4**

Table I-2

Income differentials by income sources

	Per capita monthly income	
	Model 1	Model 2
Farming and allied	-35,087***	-22,656***
	[2,873]	[2,495]
Non-farm business	36,056***	32,799***
	[2,467]	[2,480]
Agricultural labour	-18,813***	-14,578***
	[1,576]	[1,529]
Non-agricultural labour	5,051**	1,218
	[2,298]	[2,329]
Remittances	13,434***	13,495***
	[2,935]	[3,049]
Other	5,957***	5,302**
	[2,046]	[2,187]
Urban		25,822***
		[3,621]
Mean of outcome	68,691	68,691
State/Region fixed effects	No	Yes
R-squared	0.09	0.104
Observations	13,730	13,730

Notes: Income is reported in 2017 quarter 1 kyat. Standard errors in brackets. State/Region fixed effects are included in model 2 but not reported.
* p < 0.05, ** p < 0.01, *** p < 0.001
Source: 2017 MLCS

Table I-3

Correlates of rice yields per acre of land, OLS model

	Rice yield (kg per acre)		
Poor	-211.1***	-110.1**	-117.7**
	[55.0]	[52.3]	[49.0]
Uses tractor or power tiller		242.7***	300.7***
		[60.4]	[60.2]
Has irrigated plot		95.4*	99.0*
		[56.4]	[55.8]
Uses inorganic fertilizer		166.2***	167.4***
		[61.5]	[60.0]
Uses organic fertilizer		101.5*	42.8
		[53.9]	[49.5]
Uses pesticides		39.5	61.9
		[57.7]	[57.0]
Market is less than 3 miles away		208.3***	216.3***
		[65.0]	[67.7]
Cultivated land area (acres)		-18.8***	-20.5***
		[3.0]	[3.0]
Cultivated land area squared		0.0***	0.1***
		[0.0]	[0.0]
Household head's education (ref. No schooling)			
Monastic		148.4*	20.2
		[84.6]	[87.0]
Primary		248.8***	51.8
		[64.4]	[72.8]
Middle		375.5***	154.9
		[80.7]	[94.7]
High or more		319.5***	142.1
		[87.1]	[92.0]
Mean of outcome	1,477.7	1,477.7	1,477.7
State/Region fixed effects	No	No	Yes
R-squared	0.009	0.078	0.140
Observations	2,977	2,977	2,977

Notes: Standard errors in brackets. State/Region fixed effects are included in column 3 but not reported. * p < 0.05, ** p < 0.01, *** p < 0.001
Source: 2017 MLCS

Table I-4

Income diversification: household participation in different activity combinations and income shares derived from each activity (in percent)

		Income shares of income activity combinations (%)				
Rank	Percent of households	Farming	Agricultural labour	Non-agricultural labour	Non-farm business	Remittances and Other
1	19.5	73.9				26.1
2	11.7			84.3		15.7
3	10.9	24.7	59.7			15.6
4	10.2				90.0	10.0
5	9.3			41.5	49.4	9.1
6	8.4	22.0			66.5	11.5
7	7.4	24.8		63.8		11.4
8	4.2	8.8	33.7	48.6		8.8
9	3.7	14.3		33.2	44.7	7.8
10	3.6					100.0
11	3.4		74.6			25.4
12	2.8	16.7	28.2		44.8	10.4
13	2.1		36.3	53.8		10.0
14	1.2		40.0		51.5	8.5
15	1.0	7.7	24.4	32.0	27.5	8.5
16	0.7		19.2	38.4	35.5	6.9

Source: 2017 MLCS

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