Chapter 5

VULNERABILITY AND WELFARE DURING MULTIPLE CRISES

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The triple transition that took place between 2011 and 2019 in Myanmar—from a planned to an open market economy, from military to civilian rule, from conflict to peace—was not without its limitations. As discussed in Chapter 1, poverty reduction was modest relative to economic growth, a fully democratic system was not established, and ethnic conflict continued in many areas. In this mixed context of social welfare improvements and unfulfilled reforms, COVID-19 hit—the first in a series of crises. The pandemic had an immediate adverse impact on Myanmar's economy and pushed many households into poverty. Then, while the country remained under threat from the pandemic, in February 2021, the military took over in a coup, and Myanmar fell into a political crisis. Declines in welfare accelerated for many. One year later, the Myanmar economy faced sharp rises in prices for food, fuel, and fertilizer as a result of a global economic crisis triggered by the start of the conflict in Ukraine. This triple crisis—pandemic, political, economic—has had enormous impacts on welfare and livelihoods in Myanmar. (Chapter 1 summarizes how the triple crisis unfolded; refer to that chapter for details on the causes, levels, and apparent consequences of the sequence of shocks.)

This chapter assesses the economic vulnerability and welfare of Myanmar households in 2022 and the extent to which the shocks associated with the triple crisis reversed the improvements achieved during the earlier triple transition. It compares households' experience of shocks, how households have coped with these shocks, and how they affected household welfare in 2015 during the triple transition and in 2022 during the triple crisis. We first examine the conflict, climate, health, and economic shocks households in Myanmar have faced before exploring how household incomes changed in 2022. We then investigate the coping strategies households used to meet their daily needs in the period of crisis. Last, we discuss the household and local characteristics associated with the income changes and coping strategies reported by households.

Data and methodology

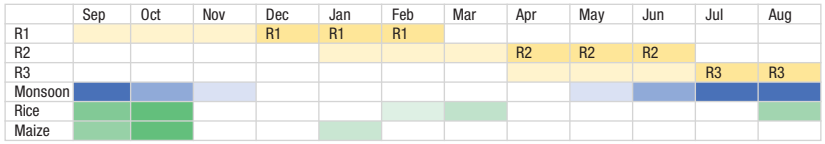
The analysis in this chapter relies on data from the 2015 Myanmar Poverty and Living Conditions Survey (MPLCS) (CSO 2019) and the 2022 Myanmar Household Welfare Survey (MHWS) (MAPSA 2022b). Both datasets are representative at national and urban/rural levels, while MHWS is also representative at the state/region level. MPLCS is a cross-sectional household survey that was conducted in person. It comprised 3,658 households interviewed between January and April 2015.[1] Our analysis of MHWS draws on the entire dataset, pooling data from all three rounds or making comparisons across rounds (Figure 5.1), using the data from households that were interviewed in all three rounds. This reduces the size of our sample relative to that of all households interviewed in at least one of the rounds. There was considerable attrition in the survey sample between rounds—not unexpected given the insecure setting. The MHWS three-round panel sample consisted of 5,978 households interviewed repeatedly between December 2021 and July 2022. The panel was weighted to be representative at the national and urban/rural levels.

The quantitative analysis is mainly descriptive and includes indicators on shocks, livelihoods, asset poverty, income poverty, and coping. The shock indicators include self-reported shocks and a township-level indicator based on secondary information from the Armed Conflict Location & Event Data Project dataset (ACLED 2022). The township-level shock indicator is computed as the sum of all battles, explosions, and violence reported in the ACLED dataset in the three months prior to the interview date.

The poverty line is the minimum welfare level for an individual not to be considered severely deprived (CSO, UNDP, and World Bank 2019). In MPLCS, as in similar surveys, poverty lines are estimated based on a consumption aggregate calculated from detailed expenditure information from each individual's household. However, collecting such detailed expenditure information in a phone survey, like MHWS, is not feasible. Therefore, we constructed an income-based poverty measure. We calculated total monthly household income as the sum of income from 15 different economic activities plus net remittances received in the past month. We then averaged this total income to a daily income measure and adjusted for household size using standard adult equivalency scales (Deaton and Zaidi 2002). To determine

1 We use MPLCS data instead of data from the more recent 2017 Myanmar Living Conditions Survey (MLCS) because of challenges in accessing the latter dataset.

FIGURE 5.1 Myanmar Household Welfare Survey of 2022, timeline of rounds compared with monsoon and maize and rice cropping calendars



Source: Compilation by authors.

Note: Lighter yellow includes the recall period for each round, while darker yellow is the data collection period. Green refers to growing and harvesting. The darker the green, the larger the share of farmers growing/harvesting at that time. Blue refers to rainfall amounts, with darker shades indicating more rainfall during the month. R1 = Round 1. R2 = Round 2. R3 = Round 3.

whether a household was income poor, we compared the daily per adult equivalent income for the households to the national poverty line. We developed the national food-based poverty line by updating the line from the first quarter of 2017. For the period to mid-2020, this was done with the official food consumer price index. After that, we used a food price index developed by the Myanmar Agriculture Policy Support Activity (MAPSA) using data from a national survey of food vendors to update the line (MAPSA 2022c). Finally, we used a spatial price deflator to adjust food prices for rural and urban areas within each state or region based on price information from the national food vendor survey.

We employed exploratory regression analysis to understand better which households are more likely to experience income loss and income poverty. First, we used a random effects logit regression to estimate the impact of shocks on the likelihood of a household being economically affected and being income poor. Second, we employed fixed effects logit models to estimate the impact of shocks on coping strategies. In these models, we considered three main shocks: security, climate, and health. For security shocks, we included in the analyses three quantiles of the number of violent acts toward civilians in the township in the three months prior to the interview. This measure is based on ACLED township-level data (2022). Climate shock is a self-reported measure of any climate shock the household experiences. We defined health shock as a household having reported a member who has passed away as a result of disease. In our analysis, we controlled for the main household income source, other sources of income, and other household and respondent characteristics. The models also included state/region dummies.

To explore income loss and poverty, we ran the first two regressions as random effects models. Using panel data enables us to control for unobserved

heterogeneity, while establishing a random slope allows us to identify a full set of characteristics associated with income loss and poverty. For our exploration of coping, we chose instead to measure overall effects and include household-specific fixed effects to account for unobserved heterogeneity and to control for time-invariant characteristics that might affect coping, such as household preferences.

Shocks

In our analyses of the economic vulnerability and welfare of Myanmar households during this crisis period, we first explore the extent of the negative impacts on households of different shocks and how this changed between 2015 and 2022. Table 5.1 presents a detailed comparison of shocks using the MPLCS data and the MHWS panel. MPLCS asked households to name all shocks they had faced in the 12 months preceding the survey. MHWS asked respondents about different shocks their household or community experienced in the past three months. Because we have only three rounds from MHWS, these shocks are for a 9-month period instead of 12 months. This methodological dissimilarity may result in our analysis understating differences between 2015 and 2022.

Climate shocks were and continue to be an important threat to households' livelihoods and well-being in Myanmar. They are reported to have been more frequent in 2022 compared with 2015 but still within a reasonably similar order of magnitude. In 2015, 20.2 percent of households were negatively affected by a climate shock; in 2022, 25.6 percent were. In 2015, drought was a more commonly cited climate shock; in 2022, flooding was more common.

COVID-19 introduced a new set of health shocks to Myanmar's households. In 2015, 14.2 percent of households reported that their household was negatively affected by a serious illness, accident, or death of a member in the past 12 months. In 2022, over a 9-month period, 72.9 percent of households reported that their household had been negatively impacted by sickness or death (Table 5.1). This is a fivefold increase from 2015 and is most likely due to the pandemic. At least one household member in 39.2 percent of households was reported to have had COVID-19 symptoms in 2021. Moreover, 43 percent of households reported that a member had had symptoms during the first half of 2022—January through August.

Similar to the case for health shocks, insecurity shocks increased significantly between 2015 and 2022—see Figure 1.5 in Chapter 1. Evidence from the phone survey confirms a major increase in the number of households

TABLE 5.1 Households experiencing negative impacts from shocks, by survey year

Shock	Share of households experiencing shock (%)	
	2015 (12 months)	2022 (9 months)
Climate shock	20.2	25.6
Drought	9.8	5.0
Irregular rain	7.8	5.7
Flood	5.9	13.2
Climate shock other	1.5	0.9
Theft from household	1.4	8.1
Physical assault against household member	0.2	1.5
Confiscation of land	0.8	0.9
MAF/EAO violence against household	0.3	3.9
Breakup of household	0.5	1.7
Sickness or death in household	16.4	72.9
Reduced earnings compared with previous year	14.2	81.7
End of aid/remittances compared with previous year	1.4	2.9
High food prices	8.1	72.8
Crop disease affecting household plots	20.0	11.8
Livestock disease among household livestock	1.8	2.4
Low prices for agricultural outputs for household	7.3	29.0
High cost of agricultural inputs for household	4.3	37.9
Observations	3,648	5,978

Source: Authors' calculations using MPLCS and MHWS data.

Note: The 2015 survey uses a recall period of 12 months. The MHWS three-round panel relies on recall data that covers 9 months. EAO = ethnic armed organization. MAF = Myanmar Armed Forces.

witnessing violence in their community. Table 5.2 shows the increase in insecurity, low social trust, violence, and crime across Myanmar from September 2021 to August 2022. The number of households that reported feeling insecure in their community increased from 18.6 percent in Round 1, which spans September to January 2021, to 19.6 percent in Round 2, which covers February to April 2022, to 22.0 percent in Round 3, which includes April to August 2022. A larger percentage of urban than rural households felt that their community was insecure. When asked in Round 3 to describe the social relationships in their community, 22.1 percent of households reported low trust, an increase from 19.7 percent in Round 1. The share of households experiencing crime and violence in their community also increased across the

TABLE 5.2 Households reporting security shocks by MHWS round, 2022, percentage share

Security shock	Round 1	Round 2	Round 3	Pooled average	Rural average	Urban average
Feel insecure in community	18.6	19.6*	22.0***	20.1	18.9***	23.0
Low social trust	19.7	20.0	22.1***	20.6	18.7***	25.7
Crime in community	7.7	8.7**	9.6**	8.7	6.4***	14.4
Violence in community	6.3	7.0*	7.6	7.0	5.8***	10.0

Source: Authors' calculations using MHWS data.

Note: Asterisks indicate statistically significant difference from the previous MHWS round, as well as the difference between rural and urban locations: * $p < .10$; ** $p < .05$; *** $p < .01$.

2022 period. Both crime and violence were more commonly reported in urban than in rural areas.

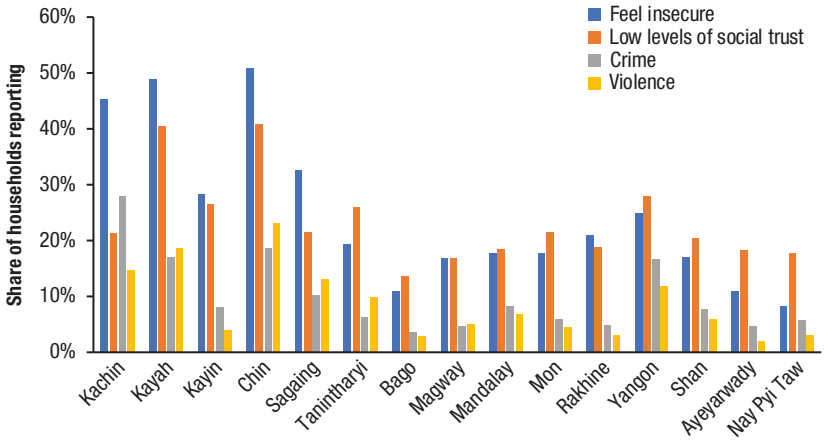
The number of households that felt insecure in their community varied significantly between regions/states (Figure 5.2). Those where households felt the most insecure from September 2021 through August 2022 were Chin, Kayah, and Kachin. Households in Chin and Kayah also had the lowest levels of trust in their community. Over the same period, households in Kachin and Yangon faced the most crime in their community, whereas households in Chin and Kayah reported the most violence. Overall, the insecurity situation in Kayah, Chin, and Kachin is alarming and negatively impacted household well-being.

There has also been an increase in the share of households directly affected by violence. In 2015, 0.3 percent of households experienced violence perpetuated by ethnic armed organizations (EAO) or the Myanmar Armed Forces (MAF), compared with 3.9 percent of households in 2022 (Table 5.1).[2] Physical assault or violence against a household member also increased over the period. Theft increased sixfold between 2015 and 2022, to 8.1 percent. In both surveys, these are likely underestimates of insecurity because sampling households affected by conflict is difficult. At the same time, the downward bias may be larger in the in-person MPLCS because sampling conflict areas is more difficult in person than over the phone.

Finally, the rise in global food, fuel, and fertilizer prices in 2022 had further negative impacts. In 2015, 8.1 percent of households reported facing unusually high food prices. While we do not have a direct comparison for

2 In the MHWS, we define MAF/EAO violence against households as the destruction or appropriation of assets or property, forced payment, or detention of a household member. In the MHWS, the definition is military/rebel violence.

FIGURE 5.2 Conflict shocks by region, September 2021–August 2022



Source: Authors' calculations using the average of pooled Round 1, Round 2, and Round 3 MHWS data.

this shock indicator for 2022, we consider several other indicators to understand the changing situation. Between January 2014 and April 2015, which spans the entire recall period for MPLCS, the food price index increased by 10 percent (CSO, UNDP, and World Bank 2020). This was driven by an increase in the price of rice (7.9 percent between July 2014 and 2015), maize (20.3 percent between July 2014 and 2015), and groundnut oil (75.9 percent between July 2014 and 2015) (FAO 2015). Between January and August 2022, the average price for a basket of food increased by 20 percent, with the price of rice increasing by 13 percent, chicken by 19 percent, fresh fish by 17 percent, and edible oils by 60 percent.

Farming households face their own set of shocks, including from crop disease, extreme weather, low crop prices, and high input prices. Therefore, we also compare issues farmers faced in the two periods. In 2015, households were asked to list all the challenges they faced. Among farm households, 7.3 percent mentioned low prices for their agricultural outputs, and 4.3 percent mentioned high prices for agricultural inputs. Meanwhile, in each of the three survey rounds of MHWS, respondent farmers were asked to select their main challenge for agricultural production and for agricultural marketing. Despite the survey not covering a full year, a much larger share of farm households in 2022—29.0 percent—mentioned low output prices for their crops as a main challenge, and 37.9 percent cited high prices for agricultural inputs as a main challenge (Table 5.1).

Income

Livelihoods

To understand how households cope with shocks, it is crucial to understand the sectors from which they earn their income. Table 5.3 presents different income sources by share of households. In 2022, households' own nonfarm enterprise was one of the most important sources of income: 43 percent of households—59.0 percent of urban households and 37.2 percent of rural households—earned some income from this source. Further, 27.7 percent of households earned their main income from this source. Own crop farming was also an important source of income: 37.6 percent of households earned some income from their own farming, and it was the main source of income for 23.0 percent of households.

In 2022, 21.3 percent of households reported earning income from nonagricultural salaried work (Table 5.3). This was predominately an urban source of employment. Salaried work in agriculture was much less common, reported by only 1.3 percent of households. Nonagricultural casual wage work engaged 26 percent of households, although this fluctuated by survey round. Agricultural casual wage work was as important as nonagricultural casual wage work, with 24.1 percent of households earning such income. This source of income was almost entirely rural. The principal harvest period for rice, maize, pulses, and oilseeds spans October to January. The second harvest of maize and rice, as well as the harvest of pulses in the Delta, is from February to May. As a result, agricultural casual wage work is also seasonal, with few households earning agricultural casual wage income in April, May, and June.

Income reduction

The combination of increased conflict across the country, disease preventing household members from working, COVID-19 mitigation measures, and disruption to trade from border closures has reduced earnings in Myanmar. In 2015, 14.2 percent of households reported a reduction in earnings compared with the previous year. In 2022, the figure was 81.7 percent (Table 5.1). Further, relative to May through August 2021, total nominal own-farm agricultural income for May through August 2022 decreased by 48 percent, total nominal own-farm livestock income decreased by 35 percent, and total nominal own-farm fishing/aquaculture income decreased by 36 percent.

MHWS asked households how their total household income in the previous three months compared with their total household income in the same period a year earlier. In Round 3, 46 percent of households reported a

TABLE 5.3 Income sources by share of households, 2022

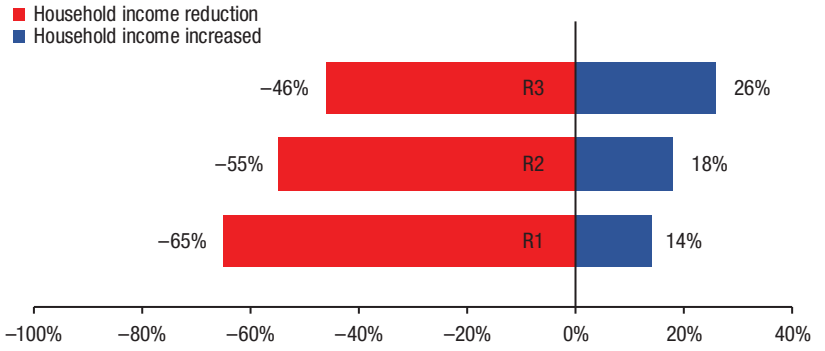
Source	National	Rural	Urban
Income sources (number)	1.9	2.0**	1.8
Own or operate household nonfarm enterprise (%)	43.3	37.2**	59.0
Own or operate household crop farm (%)	37.6	49.6**	7.1
Own or operate household livestock business (%)	13.7	17.7**	3.6
Own or operate household fishing or aquaculture business (%)	2.8	3.7**	0.6
Salaried work—nonagricultural (%)	21.3	13.9**	40.3
Salaried work—crop farming (%)	0.7	0.7	0.8
Salaried work—fishing or aquaculture (%)	0.3	0.4*	0.2
Salaried work—livestock (%)	0.2	0.2	0.2
Wage work—nonagricultural (%)	25.8	23.5**	31.8
Wage work—crop farming (%)	22.9	30.5**	3.5
Wage work—fishing or aquaculture (%)	0.8	1.0**	0.2
Wage work—livestock (%)	0.4	0.4**	0.2
Receive remittances (%)	15.9	15.9	15.7
Receive gifts, donations, pensions, or other assistance (%)	9.0	7.5**	12.9
Rent out land or properties (%)	3.1	2.5**	4.6
No employment and no income sources (%)	0.6	0.5	0.7

Source: Authors' calculations using the average of pooled Round 1, Round 2, and Round 3 MHWS data.
Note: Asterisks indicate statistically significant differences between rural and urban areas: * $p < .05$; ** $p < .01$.

reduction in income—27.6 percent reported a large reduction (greater than 20 percent), while 18.0 percent reported a small reduction (1–20 percent). However, compared with the two previous survey rounds, fewer households reported decreased income in Round 3 (Figure 5.3). Twenty-three percent of panel households reported income losses in all three periods. Another 30.6 percent of panel households reported income reductions in two periods. Of those, 65 percent reported income reductions between Rounds 1 and 2 compared with only 35 percent between Rounds 2 and 3.

Compared with households earning income from other sources, more casual nonfarm and farm wage-earning households experienced income loss compared with the previous year. Lower income in Round 3 compared with the previous year was reported by 50.6 percent of farm wage-earning households and 52.0 percent of casual nonfarm wage-earning households (Figure 5.4). While this is significantly lower than the shares reporting income reductions in Round 2, when 59.6 and 63.5 percent of households earning income from nonfarm wage work and farm wage work, respectively,

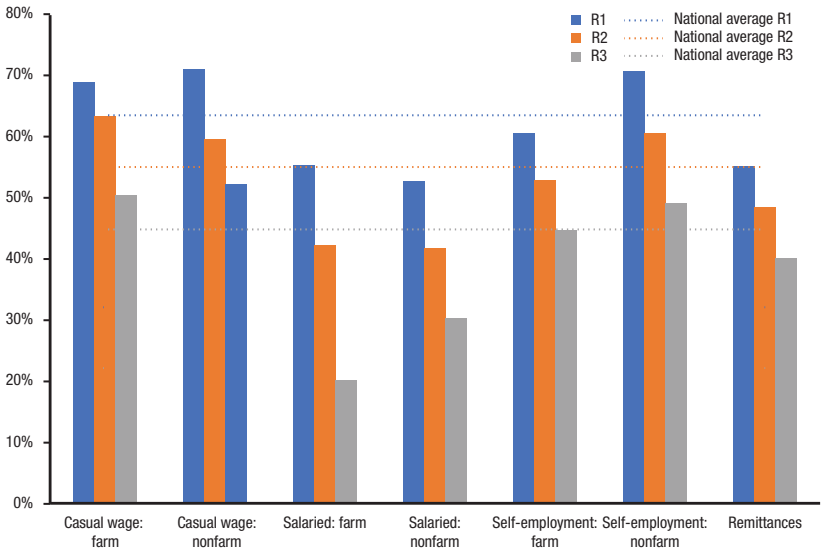
FIGURE 5.3 Households whose income in previous three months was lower (or higher) than in same period one year earlier, by MHWS round



Source: Authors' calculations using MHWS data.

Note: R1 = Round 1. R2 = Round 2. R3 = Round 3.

FIGURE 5.4 Households reporting earning less money compared with previous year, by main source of household income



Source: Authors' calculations using MHWS data.

Note: R1 = Round 1. R2 = Round 2. R3 = Round 3.

reported lower incomes, these households still experienced greater income loss than those whose main income came from other sources.

Households employed in salaried work, both farm and nonfarm, were the least likely to see an income reduction compared with the previous year. Further, there was a significant improvement for these salaried workers compared with earlier in 2022. In Round 3, 30.5 percent of nonfarm salaried workers and 20.2 percent of farm salaried workers reported a reduction in their income, while in Round 2, 41.9 percent and 43.3 percent, respectively, saw the same.

In Round 1, 18.9 percent of salaried and casual wage workers pointed to their own poor health or the poor health of a family member as their most significant challenge to earning income. However, this was an issue for only 3.1 percent of households in Round 2 and 4.4 percent in Round 3. Further, and likely related, in Round 1, 43.4 percent of households reported reduced working hours as their main challenge. This improved to 21.8 and 20.7 percent of households in Round 2 and Round 3, respectively, but was still the largest issue facing salaried and casual wage workers. Finally, in some areas, it continued to be unsafe for workers to reach their work location. While this improved after Round 1, if insecurity worsens, it may be an issue moving forward.

Many self-employed farmers and nonfarm households also earned less income than in the same period in the previous year. In Round 3, this included 44.8 percent of self-employed crop, livestock, or aquaculture farming households and 49.3 percent of self-employed nonfarm households. While farmers, like salaried and casual wage workers, fared better in Round 3 compared with Round 1, they continued to face many challenges in crop production, including the increasing price of fuel, high input prices, and pest and disease infestations. Most of the positive change between survey rounds seems to have been from fewer weather-related issues, which are seasonal. While self-employed nonfarm households fared better, their businesses still faced issues with high raw material and fuel prices.

Although fewer households reported lower income in Round 3 compared with Round 2 and Round 1, it is important to highlight that 23 percent of panel households reported lower income in all three periods, making these households especially vulnerable. Further, this is a comparison with the previous year (2021), when COVID-19 was widespread in the country and households already had lower income compared with the previous year. Although we do not have estimates of income loss at the national level for 2021, we can get a feel for how dire the situation was from a sample of households in

urban Yangon and the rural Dry Zone. Among these households, 77.4 percent reported lower income in June 2020 compared with June 2019 (MAPSA 2022a). Finally, the comparison with the previous year also masks the chronic vulnerability of some households and regions.

Income poverty

From 2010 to 2017, the proportion of the population living below the poverty line declined from 37.5 percent to 24.8 percent (CSO, UNDP, and World Bank 2019). COVID-19 slowed down or reversed this progress. Drawing on data from the 2017 Myanmar Living Conditions Survey (MLCS) (CSO 2019) and a 2020 Household Vulnerability Survey, the United Nations Development Programme (UNDP) estimates that, from January 2019 to December 2020, poverty could have risen by as much as 6 to 11 percentage points. Further, it projects that the ongoing political crisis could increase poverty by as much as 50 percent, with the share of the population living in poverty reaching 48.2 percent in its worst-case scenario (UNDP 2021).

The MHWS income data support this projection of rising poverty (Table 5.4). Regarding households' per capita daily incomes, in Round 1, half of Myanmar's population (51 percent) lived on an income below the national poverty line. This share rose rapidly to 57 percent in Round 2 and 62 percent in Round 3. Most of the increase occurred in rural areas: rural poverty increased by 14 percentage points over the period, while urban poverty rose by 4 percentage points.

Income poverty increased at different rates in the different states and regions (Figure 5.5). Particularly alarming is the high share of households with low incomes in Chin and Kayah States in Round 3 (90 and 87 percent of the population, respectively). In mid-2022, income poverty in Kachin, Kayin, Tanintharyi, Magway, Rakhine, Shan, Sagaing, and Ayeyarwady was above the national level. This is a stark difference from six months earlier, when the share of the population with low incomes in Kayah, Sagaing, Magway, and Ayeyarwady was below the national level.

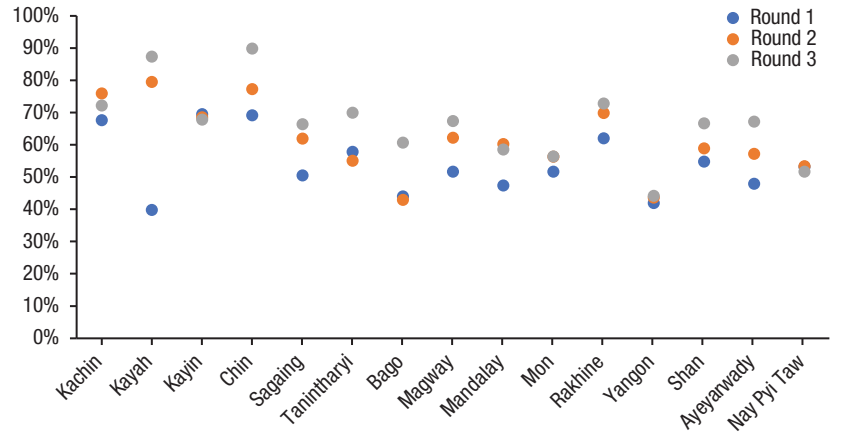
Figure 5.6 shows the percentage of households with per capita daily income below the poverty line by principal source of household income. Households whose main income comes from a farm casual wage or a farm salary are the most vulnerable: 81 percent of these households had a very low income in mid-2022. Further, the position of households earning their primary income from their own farm deteriorated between Round 1 and Round 3, with 37 percent of these households having a critically low income in Round 1 but 62 percent

TABLE 5.4 Income-poor households by MHWS round, September 2021–August 2022

	Share of population (%)		
Household location	Round 1	Round 2	Round 3
National	46.3	52.6*	58.2*
Rural	48.4	56.4*	62.7*
Urban	40.9	42.6*	46.6*

Source: Authors' calculations using MHWS data for Round 1, Round 2, and Round 3.
Note: Asterisks indicate statistically significant differences from previous round: * $p < .01$.

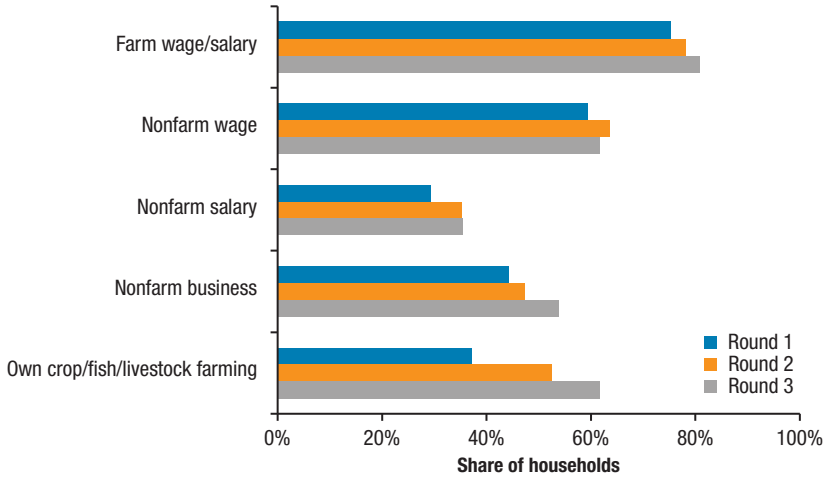
FIGURE 5.5 Share of population with daily per capita income below poverty line, across three survey rounds, by states/regions, 2022



Source: Authors' calculations using MHWS data.

by mid-2022. Some of the increase may be seasonal, as the Round 3 recall period was during the lean season. Nonfarm casual wage workers are less vulnerable than farm casual wage workers but poorer than own-farm households, with 62 percent having a critically low income. Households with a nonfarm business as their main source of income are faring better than farm and casual wage households. However, they are still highly vulnerable, with 54 percent having a critically low income. Finally, even among households with a nonfarm salaried worker, typically considered better-off households, 35 percent have consumption levels below the poverty line.

FIGURE 5.6 Households with per capita daily income below poverty line, by main income source and by rural/urban location



Source: Authors' calculations using MHWS data.

Coping

Shocks can be particularly damaging to household well-being when either the household cannot deploy a coping mechanism to maintain the same living standard or uses a coping mechanism that results in permanent loss of assets, income, or safety. Table 5.5 compares coping strategies used in 2015 with those used in 2022. First, we must note important differences between the MPLCS and MHWS questionnaires. For each shock with a negative impact, MPLCS households were asked what they had done to regain their former level of well-being. On the other hand, MHWS households were asked if, in the past 30 days, anyone in the household had taken any actions from a list of coping strategies provided to cope with a lack of food or money. Therefore, there are two major differences between the surveys: the MPLCS does not ask about coping strategies for the full sample of households, and the MHWS asks about coping strategies only with a one-month recall three times over a nine-month period. Since 97.9 percent of panel households in the MHWS experienced a shock over the period, we do not expect polling all households to lead to an overestimate. Further, while the MHWS will not capture coping strategies used during non-enumerated months, coping is likely captured in greater detail in each round because of the shorter recall period. Therefore,

TABLE 5.5 Comparison of household coping strategies in 2015 and 2022, nationwide, rural, and urban

	Share of households (%)					
	2015 During the past 12 months			2022 At least once in the past 30 days (across three survey periods)		
Coping strategy	National	Rural	Urban	National	Rural	Urban
Borrowed money	21.6	25.2**	12.1	57.7	62.2**	46.2
Spent savings	6.6	7.1*	5.3	73.8	73.4	74.8
Reduced food expenditure	6.4	6.4	6.2	70.5	72.2**	66.1
Reduced expense on health and education[a]	0.3	0.2	0.4	56.7	58.9**	1.0
Sold nonagricultural productive assets/transport	1.5	1.2*	2.3	6.8	6.6	7.6
Sold agricultural productive assets (agricultural households only)	1.0	1.0	1.1	9.7	10.0**	4.0
Sold/consumed seed stocks (agricultural households only)	2.1	2.2*	0.5	28.8	29.3	21.5
Observations	3,648	2,364	1,284	5,978	4,145	1,833

Source: Authors' calculations using MPLCS and MHWS data.

Note: [a] The MPLCS captures both health and education expenditures, whereas the MHWS covers only health expenditures, owing to extensive school closures in the months preceding the interviews. Asterisks indicate statistically significant differences between rural and urban areas: * $p < .05$; ** $p < .01$.

it is unclear by how much the MHWS values are underestimated. Regardless, we present the numbers together in Table 5.5 to demonstrate the contrast between the years.

Twice as many households reported having experienced any shock in the 9-month recall period of the MHWS (97.9 percent) compared with during the 12-month recall period of the MPLCS (46.5 percent). We expect that a much larger share of households would report using coping mechanisms in 2022 and find a much more than twofold increase in the use of coping mechanisms. Different patterns of coping mechanism use are also observed. This suggests, on the one hand, that households and communities were in a different socioeconomic position in 2022 compared with 2015 and, on the other hand, that the shocks were more severe and widespread in 2022.

Borrowing money was by far the most commonly reported coping mechanism in 2015, with 21.6 percent of households (Table 5.5). In 2022, a much larger share, 57.7 percent, borrowed money to cope with shocks. However, borrowing was not the most prevalent coping mechanism in 2022. Instead, spending savings was most commonly reported, followed by reducing

food expenditure. In 2015, only 6.6 percent of households reported having spent some of their savings to regain their former level of well-being; in 2022, 73.8 percent of households reported doing so. Similarly, in 2015, only 6.4 percent of households reduced food expenditures, while in 2022, 70.5 percent of households did so. Further, in 2015, less than 0.05 percent of households reduced their expenses on health and education. In 2022, 56.7 percent of households reduced spending on health alone. Finally, among farm households, in 2015, 1.0 percent sold agricultural productive assets, and 0.8 percent sold or consumed seed stocks. In 2022, 9.7 percent of farm households sold agricultural productive assets, and 28.8 percent sold or consumed seed stocks. It may be that households' socioeconomic status in early 2020, prior to the crises, was better than in 2015, and therefore, households had a wider range of coping mechanisms available to them. However, the severity and the range of shocks were also much greater in 2022, likely requiring households to resort to more and different coping strategies than in 2015.

Table 5.6 provides detailed shock information by MHWS round. Overall, 85.1 percent of households had used at least one coping mechanism in the past 30 days across survey rounds (pooled estimate). More rural than urban households used coping mechanisms, at 85.1 and 75.1 percent, respectively. Ninety-six percent of panel households reported using at least one coping mechanism in the three rounds. The average was 9.3 different coping mechanisms employed during the nine months.

The share of households using coping mechanisms—in general, but also for specific coping strategies—declines over time. In Round 1, 89.8 percent of households used a coping mechanism; in Round 2, 83.3 percent; and in Round 3, 82.3 percent (Table 5.6). However, this decline may relate to a decline in the ability to use coping mechanisms rather than a reduced need to use them.

Overall, the most common coping strategies were spending savings (69.9 percent on average across the three rounds), reducing nonfood expenditures (57.9 percent), and reducing food expenditures (57.9 percent). The share of households spending savings was higher in rural than in urban areas. Reducing food expenditure was also more common in rural areas, whereas rural and urban households reduced nonfood expenditure at the same rate. Fewer households relied on these coping methods in Round 3 compared with Round 1. However, in all three periods, 24.5 percent spent some of their savings, 21.8 percent reduced nonfood expenditure, and 15.7 percent reduced food expenditure. Finally, households that reduced their food expenditure did so mainly by decreasing their spending on meat (84.9 percent); fish

TABLE 5.6 Households that used coping strategies in month prior to interview, 2022, by MHWS round

Use of coping mechanisms	Round 1	Round 2	Round 3
Coping mechanisms used (number)	3.7	3.0***	3.0
Used at least one coping mechanism (%)	89.8	83.3***	82.3*
Spent savings (%)	76.1	67.8***	66.0**
Reduced nonfood expenditures (%)	65.7	55.7***	52.5***
Reduced food expenditures (%)	67.0	54.5***	52.4***
Reduced expenditures on health (%)	41.0	34.6***	31.0***
Borrowed money (%)	45.2	36.9***	35.0**
Purchased food on credit or borrowed (%)	42.1	32.7***	34.1**
Mortgaged household assets (%)	23.9	19.7***	18.7
Sold household assets (%)	20.1	15.1	13.5***
Mortgaged nonagricultural productive assets or transport vehicle (%)	1.0	0.8***	0.9
Sold nonagricultural productive assets or transport vehicle (%)	4.7	3.3	2.9
Mortgaged or sold house (%)	1.7	1.9	1.3***
Mortgaged or sold land (%)	0.5	0.4	0.5
Mortgaged or sold other assets (%)	1.6	1.8***	1.8
Engaged in high-risk activities (%)	4.5	3.6*	5.0***
Children (under age 15 years) need to work (%)	6.4	7.3	5.8***
Migrated entire household (%)	1.3	1.4	1.4
Reduced agricultural input expense (% agricultural households only)	60.3	53.2***	50.2*
Sold or consumed seed stocks (% agricultural households only)	25.3	22.7*	21.0
Mortgaged or sold agricultural productive assets (% agricultural households only)	1.9	1.4***	1.3
Observations	12,100	12,142	12,128
Farming households	5,465	5,605	5,678

Source: Authors' calculations using MHWS data.

Note: Asterisks indicate statistically significant differences from the previous round: * $p < .10$; ** $p < .05$; *** $p < .01$.

(75.6 percent); oils, fats, and butter (76.6 percent); and restaurant or takeaway meals (51.1 percent).

The number of households that borrowed money also decreased over time, from 45.2 percent in Round 2 to 35.0 percent in Round 3. Fifty-seven percent of panel households borrowed money in at least one of the three periods. The share of households that borrowed food or purchased it on credit (36.3 percent) decreased between Rounds 1 and 2 but increased slightly between Rounds 2 and 3. Given the protracted crisis, we expect that households found it increasingly difficult to obtain a loan—either in cash or in

kind. In rural areas, borrowing money and purchasing food on credit was more common than in urban centers. This is likely related to better social networks among rural communities that facilitate borrowing. Although borrowing is decreasing, indebtedness is a growing issue in Myanmar, especially in rural areas. In Round 1, 61.5 percent of households owed money to loan or credit providers, including banks, microfinance institutions, moneylenders, shops, traders, suppliers, relatives, or friends (Table 5.7). After Round 3, 55.0 percent of households owed money. Significantly more rural than urban households owed money. Among panel households, only 25 percent did not owe money over the entire survey period. Further, 37 percent reported owing money in Round 1 and continued to report owing money in Round 3.

To cope with a lack of food or money, some households mortgaged household assets (20.7 percent), including gold, jewelry, furniture, electronics, and appliances, or sold those assets (16.1 percent). Mortgaging assets was more common in rural areas, whereas selling assets was more common in urban areas. Combining assets sold or mortgaged, 29.5 percent of households sold or mortgaged gold or jewelry, 3.2 percent means of transport, 2.7 percent livestock, and 2.3 percent residential parcels. Focusing on panel households only, 7.0 percent sold or mortgaged an asset in all three rounds, and 13.0 percent did so in two rounds.

At risk of jeopardizing their future income-generating capacity, 3 percent of households sold nonagricultural productive assets, and less than 1 percent mortgaged them. Nonagricultural productive assets include sewing machines, wheelbarrows, bicycles, cars, and other means of transportation. Finally, some households also mortgaged or sold critical assets such as their dwelling (1.6 percent) or agricultural land (0.5 percent). Households in rural areas were more likely to use these strategies. Further, among panel households, 6.8 percent and 1.3 percent sold or mortgaged nonagricultural productive assets during the 9-month panel survey period, respectively. Given the recall period of 30 days, the share of households that mortgaged or sold household assets is concerning.

Households also pursued risky activities to meet their daily needs—4.4 percent of households engaged in income-generating activities that they themselves considered risky, while children were reported to work in 6.5 percent of households to supplement the household income. Both of these coping strategies were more commonly employed in rural areas. Most households that engaged in a risky activity did so only in one round. Finally, 1.4 percent of families migrated with their entire household to deal with their dire economic situation.

TABLE 5.7 Households that owed money to a lender, 2022, by MHWS round

Household location	Round 1	Round 2	Round 3
National (%)	61.5	56.2**	55.0*
Rural (%)	66.6	60.7**	59.5
Urban (%)	48.4	44.5**	43.5

Source: Authors' calculations using MHWS data.

Note: Asterisks indicate statistically significant differences from the previous round: * $p < .10$; ** $p < .01$.

Farm households were asked about a specific set of farm-related coping mechanisms. Nationally, 54.9 percent of farm households reduced their agricultural input expenses. Farm households also consumed or sold their seed stocks (23.0 percent) and sold other agricultural assets (1.6 percent). The most common agricultural asset sold was livestock. Seventy percent of farm panel households reduced agricultural input expenses at least once during the three rounds, while 28.8 percent sold their seed stocks at least once. Reducing agricultural input expenses, selling or consuming seed stocks, and selling agricultural assets will likely lower yields, with the potential to create food shortages across the country.

Monetary transfers into the household may help households cope with shocks. Households in Myanmar receive little support from local and international relief organizations or the government. Most transfers into the household come from friends and family. Table 5.8 shows that, in 2022, remittances were the largest monetary transfers households received. Sixteen percent of households received money from remittances over the year. However, this marks a decrease from before COVID-19 and the coup. In 2017, 19.5 percent of households received some income from remittances (CSO, UNDP, and World Bank 2020). Because of the pandemic, many migrants who had been sending remittances returned home. Although migration picked up rapidly after the 2021 coup, by mid-2022, earnings from remittances had yet to return to pre-COVID levels.

After remittances, the most common form of support was friends or family. Across the period, 8.0 percent of households received money from this source. Pensions were the third-largest transfer into the household. Around 4 percent of households received pensions—3.2 percent of rural and 7.9 percent of urban households. Receiving support from relief organizations was less common. Local relief organizations provided support to around 1.2 percent of households at the beginning of 2022. International relief organizations provided

TABLE 5.8 Households receiving support, 2022, by MHWS round

	Share of households (%)		
Form of support	Round 1	Round 2	Round 3
Remittances	15.9	16.7*	14.5***
Family, friend, or other individual	8.1	8.9**	7.0***
Pension	4.6	4.6	4.2
International relief organization	1.7	1.9	1.9
Local relief organization/local NGO	1.4	1.1*	1.0
State administration council/local governing entities	0.7	0.8	0.5**
Monastery, church, or other religious group	0.6	0.5	0.5***
Community-based savings/credit group	0.3	0.3	0.1***
Unemployment benefits	0.3	0.1***	0.1

Source: Authors' calculations using MHWS data.

Note: NGO = nongovernmental organization. Asterisks indicate statistically significant differences from the previous round: * $p < .10$; ** $p < .05$; *** $p < .01$.

support to about 1.9 percent of households during the same period, primarily in urban areas. Given the limited number of households that receive relief from the government or local and international organizations, it is unlikely that households can rely on transfers from these sources to cope with a lack of food or money.

Vulnerability analysis

This section uses regression analysis to explore how shocks and household characteristics are associated with vulnerability. More specifically, we explore the extent to which household characteristics and different shocks are associated with household outcomes in terms of being economically affected, having a critically low income, and coping strategies employed. Households are defined as economically affected if they have experienced a reduction in income or had no income at all in the previous three months. Households are considered to have critically low income if their per capita daily income is below the poverty line.

Table 5.9 presents the marginal effects from the random effects logit regressions. The results show that households facing security, climate, and health shocks are more likely to experience a reduction in income and, so, be economically affected (column 1 in Table 5.9). Households that face violence, either medium or high levels, are 1.6 and 4.9 percentage points more likely to be economically affected than those facing low levels of violence.

Household livelihood sources matter. Compared with households whose main source of income is from their own farm, farm wage households are the most likely to be economically affected. Households whose main source of income is a farm wage have an 8.5 percentage point probability of being economically affected compared with farm households. Similarly, nonfarm casual wage and nonfarm business households are more likely to be economically affected than farm households, at a slightly lesser magnitude than farm wage households, at 7.3 and 6.9 percentage points, respectively. On the other hand, households earning money from a salaried job are less likely to be economically affected than farm households.

Households in which the head has completed only primary education are more likely to be economically affected, as are households with a greater than the median ratio of nonworking to working household members. Further, households in rural areas are less likely to be economically affected than those in urban areas. At the same time, though, households that are in the third quartile of remoteness are more likely to be economically affected. Finally, compared with households in Mandalay, those in Kachin, Kayah, Kayin, Chin, Sagaing, Bago, and Yangon are more likely to be economically affected.

Turning to income poverty (column 2 in Table 5.9), shocks significantly increase the probability that a household is income poor. There is a significant, though small, association of income poverty with experiencing a health shock and with experiencing high levels of violence, compared with a low level of violence. However, there is no clear association with climate shocks.

Compared with households with a farm income, households that rely on income from a nonfarm business, nonfarm casual wage work, and farm casual wage work are more likely to be income poor. Farm casual wage workers have a 25.4 percentage point higher probability than farm households of being income poor. Remittances, on the other hand, help avert income poverty. Households that receive remittances are 16.7 percentage points less likely to be income poor. Households that have migrated in the last two years are also less likely to be income poor.

On the other hand, households with a greater than the median ratio of nonworking to working household members, households with large families, and households in which the head has completed only primary education are more likely to be income poor. Households living in communities with low or medium compared with high median household wages are more likely to be income poor. More remote households, as well as rural households, are also more likely to be income poor. Finally, households in Kachin, Kayah, Kayin,

TABLE 5.9 Marginal effects from exploratory regression analysis of characteristics associated with income loss and income poverty

	(1) Economically affected		(2) Income poor	
Characteristic	Coefficient	SE	Coefficient	SE
Climate shock	0.074***	0.008	0.012	0.008
Violence: medium vs. low	0.016**	0.006	–0.008	0.006
Violence: high vs. low	0.049***	0.008	0.012*	0.007
Health shock	0.068***	0.017	0.033**	0.016
Farm wage vs. farm household	0.085***	0.010	0.254***	0.010
Nonfarm wage vs. farm household	0.073***	0.009	0.097***	0.009
Salary vs. farm household	–0.112***	0.009	–0.100***	0.009
Nonfarm business vs. farm household	0.069***	0.007	–0.005	0.007
Remittances	–0.034***	0.008	–0.167***	0.007
Assistance from family or friends	–0.012	0.009	–0.098***	0.009
Migrated <2 years ago	–0.008	0.015	–0.055***	0.015
High dependency ratio	0.041***	0.006	0.169***	0.005
More than five household members	0.009	0.007	0.136***	0.007
Primary education only	0.019**	0.008	0.069***	0.007
Women-only household	–0.012	0.013	–0.014	0.012
Respondent is female	0.016**	0.006	0.108***	0.006
Community wages: low vs. high	–0.014	0.013	0.053***	0.012
Community wages: medium vs. high	0.007	0.007	0.037***	0.007
Remoteness: medium vs. low	0.010	0.008	0.016**	0.007
Remoteness: high vs. low	0.023***	0.009	0.017**	0.009
Rural	–0.026***	0.008	0.030***	0.007
Kachin vs. Mandalay	0.055***	0.019	0.087***	0.019
Kayah vs. Mandalay	0.186***	0.032	0.113***	0.031
Kayin vs. Mandalay	0.037**	0.019	0.107***	0.018
Chin vs. Mandalay	0.156***	0.028	0.220***	0.028
Sagaing vs. Mandalay	0.029**	0.013	0.016	0.012
Tanintharyi vs. Mandalay	0.011	0.019	0.036*	0.019
Bago vs. Mandalay	0.031**	0.013	–0.039***	0.012
Magway vs. Mandalay	0.021	0.014	0.017	0.013
Yangon vs. Mandalay	0.081***	0.012	–0.051***	0.011
Mon vs. Mandalay	0.029*	0.017	–0.013	0.016
Rakhine vs. Mandalay	0.025	0.017	0.063***	0.017

(continued)

TABLE 5.9 (continued)

Characteristic	(1) Economically affected		(2) Income poor	
	Coefficient	SE	Coefficient	SE
Shan vs. Mandalay	0.016	0.013	0.002	0.012
Ayeyarwady vs. Mandalay	0.025**	0.012	0.012	0.012
Nay Pyi Taw vs. Mandalay	−0.015	0.021	−0.031	0.020
Round 2 vs. Round 1	−0.084***	0.006	0.086***	0.006
Round 3 vs. Round 1	−0.186***	0.006	0.116***	0.006
Observations	35,754		34,872	

Source: Authors' calculations using MHWS data.

Note: Households are defined as economically affected (column 1) if they experienced a large or a small reduction in income or if they have had no income at all in the past three months. In column 2, the dependent variable is income poverty. Violence quartiles are based on number of violent events against civilians from ACLED (2022). Community wages are quartiles of median township wages spatially adjusted. Remoteness is quartiles of travel time to the nearest market in hours. SE = standard error. * $p < .10$; ** $p < .05$; *** $p < .01$.

Chin, and Rakhine are more likely to be income poor than those in Mandalay, while households in Bago and Yangon are less likely to be so.

We also use regression analysis to examine the relationships between shocks and five coping strategies commonly observed as being employed following economic and violent shocks. Table 5.10 presents the results from logit fixed effects models between experiencing a security or climate shock and using each of the following coping strategies: reducing nonfood expenditure (column 1), reducing food expenditure (column 2), borrowing money (column 3), selling household assets (column 4), and selling productive assets (column 5). Households that experienced significantly more violence than in a previous period (the third quantile of the number of violent events against civilians) are significantly more likely to reduce their nonfood expenditure, their food expenditure, borrow money, sell household assets, and sell productive assets. While climate shocks have a similar impact in terms of magnitude on reducing nonfood expenses, food expenses, and borrowing money, they are associated with a larger probability of selling household assets. On the other hand, they are associated with a smaller probability of selling productive assets. A death in the household makes households more likely to employ each coping strategy.

Households that added income from farm wages are more likely to reduce their nonfood and food expenditures, borrow money, sell household assets, and sell productive assets. Households that moved beyond the median ratio of nonworking to working household members are more likely to reduce their

TABLE 5.10 Estimates from logit fixed effects models of shocks on coping mechanisms

	(1) Reduced nonfood expense		(2) Reduced food expense	
Characteristic	Coef.	SE	Coef.	SE
Climate shock	0.347***	0.068	0.357***	0.070
Violence: medium vs. low	0.037	0.057	–0.066	0.059
Violence: high vs. low	0.372***	0.075	0.366***	0.078
Health shock	0.470***	0.143	0.900***	0.158
Farm wage	0.248***	0.073	0.235***	0.074
Nonfarm wage	0.132**	0.067	0.114*	0.069
Salary	–0.117	0.079	0.046	0.084
Nonfarm business	–0.036	0.064	0.085	0.067
Farming	0.030	0.084	–0.183**	0.087
Remittances	–0.001	0.070	0.014	0.073
Assistance from family or friends	0.021	0.078	–0.040	0.083
Migrated <2 years ago	0.692*	0.369	0.322	0.344
High dependency ratio	0.153***	0.059	0.119*	0.061
More than 5 household members	0.342***	0.117	0.237*	0.124
Primary education only	0.085	0.140	0.238*	0.144
Women only household	0.198	0.230	–0.152	0.231
Respondent is female	0.323	0.203	0.425**	0.211
Reduced consumption depleted	–18.485	373.47	NA	NA
Reduced consumption depleted	NA	NA	–19.858	876.80
Borrowed money depleted	NA	NA	NA	NA
Sold nonproductive assets depleted	NA	NA	NA	NA
Sold productive assets depleted	NA	NA	NA	NA
Observations	12,561		11,270	
Households	4,821		4,312	

Source: Authors' calculations using MHWS data.

Note: Rural and state/regional dummies are omitted from the regressions because they change for less than 1 percent of the sample. Violence quartiles are number of violent events against civilians from ACLED (2022). Coef. = Coefficient. SE = standard error. NA = not applicable. * $p < .10$; ** $p < .05$; *** $p < .01$.

nonfood and food expenditure, borrow money, and sell household assets. Finally, households that had already borrowed money in the past 12 months or sold household or productive assets were less likely to again employ these coping mechanisms.

(3) Borrowed money		(4) Sold household assets		(5) Sold productive assets	
Coef.	SE	Coef.	SE	Coef.	SE
0.311***	0.07	0.555***	0.095	0.174**	0.080
0.156**	0.061	0.057	0.086	0.210***	0.078
0.362***	0.080	0.371***	0.110	0.508***	0.102
0.702***	0.166	0.483**	0.196	0.924***	0.190
0.211***	0.073	0.190*	0.106	0.201**	0.087
−0.056	0.071	−0.006	0.092	−0.040	0.094
−0.124	0.086	−0.105	0.115	−0.041	0.119
−0.066	0.068	−0.083	0.094	−0.255***	0.087
−0.051	0.086	−0.167	0.117	0.420***	0.115
−0.037	0.076	−0.151	0.108	−0.071	0.099
0.087	0.083	0.166	0.115	0.038	0.114
1.296***	0.461	−0.187	0.472	0.548	0.632
0.188***	0.062	0.222***	0.085	0.128	0.079
0.186	0.122	0.327**	0.163	0.571***	0.160
0.146	0.143	0.014	0.203	−0.244	0.191
−0.139	0.246	−0.541	0.360	−0.028	0.362
−0.095	0.218	−0.080	0.303	0.104	0.259
NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA
−0.756***	0.059	NA	NA	NA	NA
NA	NA	−0.998***	0.061	NA	NA
NA	NA	NA	NA	−1.019***	0.073
10,158		5,568		6,122	
3,892		2,137		2,343	

Conclusions

Almost no households in Myanmar were spared from shocks in 2022: climate, health, and conflict shocks were widespread and severe. Within 9 months, at least one of these shocks negatively affected 97.9 percent of households, more than twice the share negatively affected by any shock over 12 months in 2015.

Whereas the experience of climate shocks was relatively similar in 2015 and 2022, experiences of health and conflict shocks were much higher in 2022. Nearly three-quarters of all households (72.9 percent) had a sick household member in 2022, compared with 14.2 percent in 2015. Moreover, there was a major increase in conflict across the country in 2022, and the incidence of households witnessing crime, violence, and insecurity continued to increase over the three MHWS rounds, showing a worrying trend for the future.

In response to these major setbacks, households relied on coping strategies to deal with a lack of food or money. Nearly all households (96.2 percent) employed at least one coping strategy to meet their daily needs during the month prior to one of the three survey rounds. The three most common coping strategies were spending savings, reducing nonfood expenditures, and reducing food expenditures. Households also borrowed money, leaving 55.0 percent of the population in debt by mid-2022. Sixteen percent of households sold household assets, eroding their quality of life. Finally, 7.6 percent of households sold or mortgaged productive assets, jeopardizing future income streams.

Our data further confirm concerns that large shares of the population have fallen back into poverty, and others have experienced a deepening of poverty. Even though 2021 was the first year of the pandemic in Myanmar, 55.0 percent of households reported lower income in the first half of 2022 compared with the same period in the previous year. Further, when comparing households' average daily per capita income with the national poverty line, at least 56.5 percent of the population lived in households with a critically low income between September 2021 and August 2022. Household vulnerability is worrisome, especially if food prices continue to rise. Moreover, the difficulty in interviewing internally displaced and heavily conflict-affected households further raises concerns that the situation is even worse than what this chapter shows.

Further analyses exploring the association of different factors with economic vulnerability, low incomes, and the use of coping mechanisms clearly show that shocks—particularly violent shocks—are detrimental to household welfare and significantly increase vulnerability. However, factors historically associated with poverty, such as level of education, household size, and having young children, continue to be significant predictors of household vulnerability. Further, farm and nonfarm wage-earning households are particularly vulnerable: they are more likely to have reduced incomes, be income poor, and use coping strategies. Of course, these findings should be interpreted with caution. While random effects models can address issues of unobserved

heterogeneity, there could still be endogeneity and time-varying confounders that lead to biased and inconsistent estimates. Nonetheless, these results show that, in addition to offering support to households directly affected by violence, resources and support should be directed to those that rely for their livelihoods mainly on farm and nonfarm casual wage work, to those with members with low educational attainment, and to larger households with young children.

Finally, receiving remittances significantly lowers a household's probability of having a reduced income, being income poor, and using coping strategies. Hence, remittances offer an important safety net to 15.1 percent of Myanmar's households. Therefore, supporting safe migration and facilitating remittance flows will continue to be imperative to the well-being of many households in Myanmar, even in this new setting.

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