CHAPTER III

COVID and Migration in South Asia

Introduction

Just before the COVID-19 pandemic began, in 2019, 41.2 million people from South Asia were living outside their country of birth. In some South Asian countries such as Nepal and Sri Lanka, international diaspora numbers are close to 10 percent of the home country’s population. Domestic migration too is sizable in parts of South Asia, although it is dominated by comparatively short distance moves and temporary flows. For example, in 2011, the share of within-district migrants in India’s population was 32 percent, whereas that of cross-district migrants was 14 percent. In parts of Bangladesh, approximately one-third of households out-migrate temporarily during the pre-harvest lean season.

There are two main economic drivers of this mobility, and both are central to the process of economic development. The first is reallocation of labor to places where it is more productive. For example, international emigrants from Bangladesh, Nepal, Pakistan, and Sri Lanka are concentrated in the Gulf Cooperation Council (GCC) region, where they earn 3 to 5 times what they would earn at home and generate some of the largest remittance inflows (as a share of gross domestic product (GDP)) in the world. The second is adjustment to local economic shocks, such as weather-related shocks, to which South Asia’s rural poor population is highly vulnerable.

Mobility costs—pecuniary and non-pecuniary—and frictions in credit and labor markets have hindered these benefits of labor mobility from being fully tapped. For example, on average, Bangladeshi workers were spending the equivalent of more than US$3,000 to move abroad before the COVID pandemic, a figure that represented about 2.5 years of the median household income. Seasonal migrants from rural India faced the equivalent of 80 percent of their daily earnings at the migration destination in daily migration costs, including non-pecuniary costs of harsh living conditions at the destination. The flat pre-COVID trends in international and long-distance internal migration in South Asia are indicative of the persistence of barriers to mobility.
Migration also exposes South Asians to risks because of the precarious labor market conditions that poor migrant workers face. For example, the legal (visa) status of emigrants to GCC countries, the most common international destination for South Asian emigrants, is contingent on their holding temporary jobs in low-skill sectors. Similarly, poor internal migrants in South Asia work largely in the informal sector, where they lack access to social protection.

The COVID crisis exposed this vulnerability on a large scale. The return of migrants to their original homes and the hardships that they face have been covered in the media. New survey-based evidence confirms three facts about this shock to migration. First, the stock of migrants fell sharply because of an unprecedented wave of return migration and a slowdown in new migration outflows. In early 2020, monthly migration outflows from Indian households were 25 percent lower than pre-COVID levels while monthly inflows increased 50 percent because of return migration. Second, return migrants, especially women, struggled to assimilate into the home labor markets. In the early months of the pandemic, the unemployment rate of newly returned migrants in India was 10 percentage points above its typical pre-COVID level. Third, migrant-sending households experienced disproportionate declines in income, driven by a drop in remittance inflows. In Pakistan, from January to March 2020 compared to April to July 2020, households that used to receive domestic (respectively, foreign) remittances just before COVID experienced a 26-percentage point (respectively, 29-percentage point) larger decrease in monthly per capita income than households that were not receiving remittances before COVID.

Given the evidence from household surveys, it is puzzling that aggregate official international remittance inflows to South Asian countries did not decline in 2020. This could have been due to returning migrants liquidating their savings or shifting to formal remittance channels because of a disruption in informal channels, although by 2021, many countries were experiencing a slowdown in aggregate international remittance inflows, with further decreases or stagnation projected, a trend more consistent with what surveys have suggested.

Although the early phase of the COVID crisis highlighted the vulnerability of poor South Asian migrants, the later phase of the pandemic has reemphasized how important migration is to recovery from economic shocks. Survey data suggest that, in late 2021 and early 2022, new migration flows were associated with movement of labor from areas hit hard by the shock to other areas, helping reallocate labor to equilibrate demand and supply in the aftermath of the pandemic. Of individuals who had experienced job loss in the early phases of the pandemic, those who migrated between early 2020 and late 2021 were more likely to have found jobs than those who did not. For example, in Nepal, by late 2021, migrants were 13 percentage points more likely to be employed than those who did not migrate after facing job loss during the early months of the pandemic.
Slow, uneven recovery in migration raises concerns about a potential scarring effect of the pandemic. As of early 2022, migration flows in South Asia appeared to be rebounding. For example, in Bangladesh, 600,000 migrants registered for overseas employment in the first 6 months of 2022, compared with 617,000 in all of 2021. In India, household panel data reveal that monthly migrant outflows have rebounded from an unprecedented low reached in mid-2021 but are still well below pre-COVID levels as of the most recent available survey wave from early 2022. Women and older adults have experienced a slower rebound in migration. This slow recovery could be due to lingering uncertainties or liquidity problems. A more troubling possibility is that the pandemic shock has had long-term impacts on the costs and frictions associated with migration, perhaps because of disruptions in social networks and intermediary markets that ease the process of moving and finding jobs. There may be room for policy intervention to address these concerns and accelerate the pace of migration-driven recovery.

The analysis in this chapter underlines two policy priorities. First, addressing unnecessarily high costs and frictions in migration, particularly those that might have worsened during the COVID crisis, is vital for South Asia’s recovery from the pandemic and its long-run development. The second main policy priority for the region is to learn from the pandemic experience and incorporate measures to “de-risk” migration into migration-supporting policies and institutions. In particular, because many poor migrant workers are employed in informal jobs, reforms to extend social protection to the informal sector should be designed to include migrant workers without deterring mobility.

### 3.1 Importance of economic migration in South Asia

**Migration matters for economic development.** Labor mobility—between and within countries—enables economic development by allowing people to move to locations where they are more productive. It leads to better allocation of resources and increases overall economic output. It is especially beneficial for migrants themselves, especially those who keep in contact with their place of origin, because they can spend their earnings in a place with lower prices.¹ Given large wage gaps between workers of similar skill levels between countries, potential gains from international migration are large, especially for low- and middle-income countries. Wage differences between urban and rural workers are particularly large, suggesting that there are large gains from the movement of people from rural areas to non-farm jobs in urban areas (Gollin, Lagakos, and Waugh 2014; Young 2013). Returns to internal migration are considerable in terms of welfare gains for migrant households and overall aggregate output (Bryan, Chowdhury, and Mobarak 2014; Bryan and Morten 2019).

¹ In addition to direct benefits to emigrants and their households, emigration can also benefit communities more broadly by creating economic linkages and knowledge transfers (Gibson and McKenzie 2011; 2012) and increasing the incentive to investment in human capital (Chand and Clemens 2008).
Migration also helps households manage economic shocks better. Seasonal or temporary migration is one of the primary mechanisms by which poor households diversify income sources and reduce risk in low- and middle-income countries (Banerjee and Duflo 2007). Migration is also used as an income-smoothing mechanism, with people often migrating after experiencing negative income shocks (Meghir et al. 2020; Morten 2019).

International migration is significant in many South Asian countries, although as a region, South Asia does not have an exceptionally high rate of international migration. It is challenging to measure migration consistently over time and across countries because of definitional and data challenges (Box 3.1). A common “stock” measure of international migration is the number of individuals living in one country but having another country of birth (or citizenship in cases where the number of foreign-born is not available).

Figure 3.1. South Asia’s international emigrant stock (as a share of its population) is comparatively low

![Image of Figure 3.1](image_url)

**Source:** Staff calculations based on UNDESA 2019.

**Note:** The vertical axis measures international emigrant stock divided by total population (reported in percentages). International emigrant stock is defined as the midyear (July 1) estimate of the number of people living in a country other than their country of birth (or citizenship in cases where the number of foreign-born is not available).
International migrants from Bangladesh, Nepal, Pakistan, and Sri Lanka are concentrated in the GCC region, where they are typically employed on temporary contracts in low-skilled sectors such as construction (Ahmed and Bossavie 2022). The South Asia–GCC migration corridor is one of the largest in the world. In 2019, approximately half of emigrants from Pakistan and 42 percent from Bangladesh were in the Gulf countries. More than one-quarter of Sri Lankan emigrants and one-fifth of Nepali emigrants were in Saudi Arabia (UNDESA 2019). Approximately half of India’s emigrants are in the Gulf countries; other major destinations are the United States (15 percent) and the United Kingdom (5 percent). There is also sizable intraregional migration within South Asia, although its share in South Asia’s total international migration is not high by global standards (Box 3.2).

International remittance inflows are significant for the economies of Bangladesh, Nepal, Pakistan, and Sri Lanka, which have higher remittance-to-GDP ratios than other countries with similar income levels (Figure 3.5). Remittances are the most important source of external financing for Nepal, which derives approximately 20 percent of its income from remittance inflows. In Bangladesh and Pakistan, remittance revenue is the second most important external financing source, after revenue from exports, accounting for 6 percent and 8 percent of GDP, respectively.

**Long-distance internal migration levels are comparatively low in South Asia.** Comparable estimates of internal migration are not easily available for most countries (Box 3.1), although estimates from India suggest that long-distance internal migration is less common than in other large countries. For example, in 2001, the percentage of the population that had moved across states in the previous 5 years was only 1 percent in India, compared with 3.7 percent in

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**Figure 3.2. The stock of international emigrants as a share of the population varies across South Asian countries**

![Bar chart showing the stock of international emigrants as a share of the population across South Asian countries.](chart.png)

*Source: Staff calculations based on UNDESA 2019.*

*Note: Vertical axis measures international emigrant stock, as defined in Figure 3.1, divided by total population (reported in percentages).*
Box 3.1. (Mis)Measuring Migration

Measuring migration is not straightforward. Definitions of what constitutes a migrant vary considerably between countries and measurement tools, making it challenging to measure consistently over time and between countries. Migration also comes in many forms, ranging from short domestic trips undertaken by seasonal labor migrants to permanent re-settlement abroad. The most common sources of data to measure migration are census data, which aim to survey all people in a country at a given point in time; representative surveys such as labor market surveys, which typically survey a smaller population but ask more-detailed questions; and administrative records such as employment and residency permits and border statistics. This box provides an overview of different types of migration in South Asia and the main challenges associated with their measurement. Data sources and definitions used to measure migration in this chapter are explained in more detail in Appendix A.3.1.

Types of (Labor) Migration

A first important distinction in the migration literature is between “stock” and “flows” of migrants. Migration stock refers to the number of migrants living in a country or region at a given point in time, and migration flows refer to the number of migrants entering or leaving a country or region during a specific period, usually a calendar year. International migration stocks are typically measured using population-wide census data from destination countries because it is difficult for origin countries to collect information on people who no longer live in the country. As a result, the quality of migration data depends to a large extent on the capacity of destination countries to survey migrants who live within their borders (World Bank 2018). The United Nations collects global harmonized migration stock data at 5-year intervals that provide an estimate of the stock of migrants for each country (Buettner and Muenz 2016). Not all countries measure migration flows, and those that do use different definitions and data collection methodologies (e.g., administrative sources, sample survey data), which makes it difficult to compare countries’ migration flows.

Labor migration in South Asia takes many forms but can be roughly classified into three major categories: short-term or temporary migration, semi-permanent migration, and long-term or permanent migration. Short-term or temporary migration occurs typically for a few months and is often seasonal, in response to the agricultural pre-harvest lean season. This type of migration is more prevalent in poorer and rural households, and migration distances are typically short and largely from rural to urban areas. Seasonal migrants typically bring back savings, but periodic remittances are less common because
the migrants are not absent for a long period (Tumbe 2014). Semi-permanent migrants spend most of the year away from home and typically send periodic remittances home. Most migration in the South Asia–GCC corridor is semi-permanent because host countries grant only temporary residence rights to migrants, who typically stay for 2 to 4 years (Ahmed and Bossavie 2022). Some migrants settle permanently in the destination region, sometimes with their families. This chapter considers all three types of migration, but because of measurement limitations, as explained in more detail below, distinguishing between short-term, semi-permanent, and long-term migration is not always possible.

Although the focus of this chapter is on labor mobility, migration statistics include other forms of migration. For example, patrilocal marriage customs, under which women move into the households of their in-laws after marriage, are widespread in the region and the main driver of female migration. Unless stated otherwise, this form of migration is included in all migration statistics in the chapter. In some countries in the region, much of the population is forced to migrate because of conflict or climate emergencies, as is currently the case for Afghanistan and Pakistan. Data sources used in this chapter do not often measure the number of internally displaced people, although they could be included in some cases, and although relevant, this type of migration falls outside the scope of the analysis.

Migration can be international or domestic. Census data typically provide reliable statistics on the stock of long-term international migrants, but a major drawback of census data is the low frequency with which they are collected, which often results in outdated statistics. Representative household surveys such as labor force surveys can provide more up-to-date information on international migrant stocks because they typically include migration-related questions. Short-term international migration is more challenging to measure because its temporary nature and seasonality result in under-reporting of this type of migration in census data or representative household surveys. Administrative records on border statistics and employment or residency permits can, in this case, provide additional information.

Although considerable progress has been made in measuring international migration, statistics on internal or domestic migration are poorly developed in many countries (Skeldon 2015; White and Lindstrom 2005). Domestic short-term migration is typically seriously underestimated in national census and household survey data (Srivastava 2012). Field surveys designed to measure this type of migration are therefore often used instead. Although these migration surveys can provide a more accurate picture of domestic temporary migration, the statistics are valid only for the region under study and are therefore often not representative at the national level.
Box 3.2. Intraregional Migration in South Asia

The share of intraregional migration in total international migration is substantial in many regions of the world (Figure 3.3). In 2010, intraregional migration constituted more than half of all international emigration in Sub-Saharan Africa, non-EU Eastern Europe and Central Asia, and Western Europe and more than one-quarter in low-income Middle Eastern and North African, East Asian and Pacific, South Asian, and North American countries.

Figure 3.3. In some parts of the world, international migrants primarily move within their region

Intraregional migration, based on the documented stock of migrants, is low in South Asia and has declined over time. Approximately 9 million emigrants from South Asia were residing in other South Asian countries in 2019, out of a total of about 41.2 million international emigrants (UNDESA 2019), whereas in 1990, intraregional migrants constituted nearly 56 percent of international emigrants from South Asia (Figure 3.4). It is likely that documented migrant stocks underestimate the extent of intraregional migration in South Asia, because there is widespread undocumented, irregular migration and circular seasonal migration in the region (Srivastava and Pandey 2017). For example, although reliable data on this front are lacking, calculations using data from national labor force and household surveys suggest that about 1.6 million Nepali people emigrate seasonally to India seeking employment (Adhikary et al. 2020).
Intraregional migration may be economically beneficial because the costs of migration decrease with spatial, linguistic, and cultural proximity. Gravity models of bilateral migration show that, conditional on wage differentials between destination and origin country (among other factors), bilateral migration levels are negatively correlated with distance between them (World Bank 2018). A 1 percent increase in distance between origin and destination countries is associated with a 0.29 percent smaller migrant stock from the origin country in the destination country. Contiguity also matters; conditional on wage differentials, distance, and other factors, migration is 56 percent higher between neighboring countries. Countries with a shared language and colonial history also have larger bilateral migration. The presence of a larger origin-country migrant network in the destination country is also associated with more migration. These patterns suggest that the pecuniary and non-pecuniary costs of intraregional migration may be lower because it involves shorter distances and contiguous borders and a shared language. Studies also suggest that shorter distances between origin and the destination countries are associated with lower costs of sending remittances (Frankel 2011; Lueth and Ruiz-Arranz 2008; McCracken, Ramlogan-Dobson, and Stack 2017).

More intraregional migration could boost intraregional investment and economic growth in South Asia. Migrant networks stimulate overseas investment by reducing information friction and transaction costs (Burchardi, Chaney, and Hassan 2018; Javorcik et al. 2011). Especially between countries with low bilateral trust, migrant networks might be important drivers of intraregional investment. In South Asia, regional migration has helped develop intraregional investment and value chains. South Asian firms with chief executive officers or founders with migration networks in destination countries in the region are found to make more foreign direct investments (Kathuria, Yatawara, and Zhu 2021). Given the importance of the service sector for the economies of several countries in South Asia, the region could benefit from greater intraregional

Figure 3.4. South Asian nationals living abroad within and outside the subregion, 1990-2019 (millions)

<table>
<thead>
<tr>
<th>Year</th>
<th>South Asian nationals abroad residing outside of the subregion</th>
<th>South Asian nationals abroad residing within the subregion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>10.95</td>
<td>13.81</td>
</tr>
<tr>
<td>1995</td>
<td>11.13</td>
<td>11.03</td>
</tr>
<tr>
<td>2000</td>
<td>11.09</td>
<td>12.52</td>
</tr>
<tr>
<td>2005</td>
<td>16.13</td>
<td>9.40</td>
</tr>
<tr>
<td>2010</td>
<td>23.28</td>
<td>9.59</td>
</tr>
<tr>
<td>2015</td>
<td>28.98</td>
<td>8.92</td>
</tr>
<tr>
<td>2019</td>
<td>32.39</td>
<td>8.83</td>
</tr>
</tbody>
</table>

Source: Staff calculations based on UNDESA 2019.
Note: The data represent the stock of international migrants as a share of the population for South Asia.
flows of highly skilled professionals, such as information technology professionals, which could complement domestic skills.

Migration policies shape the level and nature of intraregional migration. Changes in migration policies can have major consequences for the type of regional migration flows countries receive. For example, the end of the Bracero Program in 1965, which provided a legal framework for the temporary migration of Mexican agricultural workers to the United States, changed the nature of the migrant flows without affecting their size. Undocumented migrants replaced legal temporary migrants as labor market demand for Mexican workers remained in place (Massey and Pren 2012).

There is a role for research and regional cooperation to measure intraregional migration more accurately and devise policies to better harness the benefits of this type of migration. The determinants, costs, and even economic benefits of intraregional migration in South Asia are not well understood but could be significant. This suggests a role for research to inform policy, as well as regional cooperation and dialogue to identify ways to channel the untapped gains from intraregional migration in the region. For example, the region could benefit from harmonizing data collection by adopting common international standards and definitions of migration indicators (ILO 2018).

Brazil, 4.7 percent in China, and 9.9 percent in the United States (Kone et al. 2018). Trends in long-distance internal migration have also been flat. In 1991, 3 percent of India’s population had ever moved across states, and this share had increased to just 4 percent by 2011 (Figure 3.6.A). The percentage of India’s population that had ever moved to a different district in the same state was 7 percent in 1991, increasing to only 10 percent by 2011. Similarly, in Pakistan, approximately 2 percent of the population had moved to a different province, and 6 percent had moved to a different district within the same province in 2001-02 and there was no change in these numbers by 2010-11 (Figure 3.6.B).

Temporary and seasonal internal migration is also significant in parts of South Asia, especially for rural households, for whom permanent migration is less prevalent (Banerjee and Duflo 2007; Munshi and Rosenzweig 2016; Topalova 2010). In the Rangpur region of

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2 Figures are based on national population censuses for 2000-01 when India had 35 states, Brazil 27 states, China 37 provinces, and the United States 51 states. Internal migrants are defined as individuals whose place of enumeration in the census is different from their last usual place of residence. Possible explanations for differences between countries include languages, policies, size of states or provinces, and ease of moving abroad.
Figure 3.5. Some South Asian countries receive comparatively large foreign remittance inflows

Source: Staff calculations based on KNOMAD 2019.
Note: The vertical axis measures remittances as a percentage of gross domestic product (GDP) and the horizontal axis measures the log of GDP per capita (adjusted for purchasing power parity, constant 2017 international $). Remittances are measured as the sum of two items in the International Monetary Fund’s Balance of Payments Statistics Yearbook: personal transfers and compensation of employees. For some countries, data are obtained from the country’s central bank and other relevant official sources. The graph is restricted to non-FCV (Fragile, Conflict, and Violence) countries, except Afghanistan and countries with a population of more than 5 million, except Bhutan and Maldives. The regression line is weighted by the total population. The size of the circles represents the population of the country.

Figure 3.6. Across-district internal migration is low and stagnant in India and Pakistan

Source: Staff calculations based on data from the Population Census of India and the Pakistan Labor Force Survey.
Note: The vertical axis measures the stock of internal migrants as a percentage of the population for India and as a percentage of the total sample for Pakistan. In the Population Census of India, a migrant is defined as someone for whom place of enumeration during the census is different from place of immediate last residence. In the Pakistan Labor Force Survey, migrants are defined as individuals aged 10 and older who indicate that they ever moved to another administrative district. Individual survey weights are used for Pakistan to make the data representative of the population.
Bangladesh, approximately one-third of households use outmigration as a coping mechanism for the pre-harvest lean season (Bryan, Chowdhury, and Mobarak 2014; Khandker, Khaleque, and Samad 2011). In north India, data from a special survey in high-migration areas show that temporary migration is high during the summer and winter (29-35 percent of the population) and drops to 10 percent during the monsoon season, which is the peak agricultural season in this region (Coffey, Papp, and Spears 2015; Imbert and Papp 2020a). The all-India rural average is, however, much lower at 3.5 percent. 3

3.1.1 Mobility friction and institutional gaps may have prevented South Asia from fully tapping gains from migration in recent decades.

The potential benefits of economic migration principally depend on the wage difference between places relative to the cost of moving. In standard economic models of migration, individuals compare the expected benefits and costs of moving to another location when deciding whether to migrate (Box 3.3). Migration can be beneficial because it enables access to higher earnings and better locational amenities, but there are costs involved in migrating, including transportation costs, costs related to policies (e.g., visa fees in the case of international migration), and various non-pecuniary or psychological costs that moving to an unfamiliar place and being separated from family may impose. 4 In addition, migrants may be more vulnerable in their destination areas and have limited access to social protection. 5

Global evidence suggests that potential income gains to South Asians from migration are sizable. For example, winning a lottery that facilitated migration from Bangladesh to Malaysia nearly doubled income (Mobarak, Sharif, and Shrestha 2021). Similar increases have been seen for migration from Tonga to New Zealand (Gibson et al. 2018; McKenzie, Stillman, and Gibson 2010). Moving from rural Kenya to Nairobi also more than doubled income (Baseler 2021). A study in Bangladesh found that a monetary incentive offered to households in the Rangpur region to migrate seasonally during the pre-harvest lean season allowed migrant households to increase their monthly consumption substantially (Bryan, Chowdhury, and Mobarak 2014). 6

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3 The National Sample Survey, which defines temporary migration as any trip by household members outside the home district lasting between 30 and 180 days, was the source of these temporary or seasonal migration statistics. See Imbert and Papp (2020b) and Morten (2019) for an in-depth discussion of short-term migration in India.

4 Migrants may also face loss of religion, food, language, and cultural norms, as well as social discrimination, labor market discrimination, and absence of a support system (Terragni et al. 2014). There are also cases of xenophobic attacks and violence against migrants in destination countries (Crush and Ramachandran 2010; Shaw 2007).

5 Estimating the economic benefits of migration is challenging because those who migrate might differ from those who do not migrate in unobserved productivity dimensions. Likewise, it is likely that comparing income earned in potential destination regions with income derived in the home region will overestimate what a potential migrant would earn from moving, because migrants may be less skilled than natives in destination areas. To address this concern, some studies have compared winners and losers of migration lotteries in which the winners are randomly selected from a pool of individuals interested in migrating. Others have used encouragement designs wherein individuals have been given an incentive to migrate to measure returns to migration.

6 In this study, a randomized monetary incentive of US$8.5 was given to households to encourage temporary seasonal migration in the pre-harvest lean season.
Box 3.3. Determinants of economic migration: A framework

This chapter follows standard economic models of migration in conjecturing that individuals compare the expected benefits and costs of migrating when deciding whether to migrate. Gains from migrating consist of the difference in earnings and locational amenities between the place of migration and the home location. Immediate and future gains both matter, with individuals basing their migration decision on their expectations of total current and (discounted) future gains. The costs of migration include the time, effort, and monetary expenses entailed in long-distance moving and the process of finding employment and housing in a new location. If moving to another country, visa fees and other policy-related expenses are also involved. There are also non-pecuniary or psychological costs associated with family separation, moving away from home, and assimilating to a new place.

Economic models of migration distinguish between one-time moving costs (e.g., visa fee, payments to migration intermediaries) and recurring costs of migrating. It is optimal to migrate if the expected gains from migrating (net of the expected recurring costs of migrating) exceed the fixed cost of migrating.

Although this cost-benefit model captures the key drivers of economic migration, several possible sources of friction, that are not easily described in terms of a pure cost-benefit analysis, may impede labor mobility. For example, even if it is optimal for an individual to migrate, it may not be possible for them to finance the cost of moving. This financial constraint may be particularly binding on poor individuals. Informational friction too can constrain migration; for example, pessimistic beliefs about wages at potential destinations could deter migration. Labor market friction can make it especially difficult for new immigrants to assimilate to destination job markets. In the case of international migration, host country policies such as those tying visas to employment can add to labor market friction. Social networks among immigrants play a key role in easing destination labor market assimilation and other sources of mobility friction. McKenzie (2022) emphasizes the constraints that behavioral aspects place on the decision-making of potential migrants, such as a “status quo bias” for their home location.

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7 See, for example, McKenzie (2022) for a more formal version of this standard model of migration.
8 See, for example, the review in Munshi (2020).
Are poorer individuals necessarily more likely to migrate? This chapter’s framework suggests that the relationship between migration and income is complex. Gains from migrating should fall as income rises, although rising income could ease credit and information-related constraints on migration. Because such constraints are more likely to be binding for poor households, the relationship between income and migration could be positive for them. Consistent with this hypothesis, access to cash transfers increased migration to the United States of financially constrained Mexican households (Angelucci 2015). Similarly, a randomized study from China found that access to microcredit increased internal migration, especially in locations with low asset levels and high migration costs (Cai 2020). It is likely that financial and informational constraints on migration are less binding on richer households, potentially leading to a negative relationship between income and migration for them. Hence, the overall relationship between income and migration could have a reverse U-shaped pattern, as observed in some household-level studies from low- and middle-income countries (Clemens 2014).

Similarly, there is an inverted U-shaped relationship between per capita income and international emigration. Emigration rises with per capita income (in purchasing power parity terms) in low- and lower-middle-income countries. This pattern reverses in upper-middle- and high-income countries, with a negative relationship between emigration and per capita income in countries roughly above a per capita income level of US$7,000 to US$8,000 (purchasing power parity in 2010) (Clemens 2014). This relationship is puzzling if only the gains from migration are considered because they should fall as income rises, although it could be that credit and informational constraints on migration ease with economic development in lower-income countries, increasing emigration rates. Credit and informational constraints on moving may cease to matter at a high-enough level of per capita income, reversing the relationship between economic growth and migration.
Credit constraints and other friction can prevent gains from migration from being fully realized. Even if the net benefits from moving are positive, credit constraints may make it difficult to finance the upfront costs of moving. Misinformation about costs and benefits of moving and labor market friction that prevent immigrants from assimilating into destination job markets may also distort migration. Social networks among immigrants play a role in easing such friction (Munshi 2020).

Migration patterns in South Asia are broadly consistent with the idea that migrants move in search of higher earnings. Most South Asian international emigrants move to higher-income countries. Similarly, domestic migrants move to cities and regions with higher wages within their home country. In India, 1 percent greater district-level nightlight intensity—which has been shown to be a proxy for economic development at local levels (Asher et al. 2021)—is associated with 0.6 percent more domestic district-level long-term migrants (Figure 3.7).

Emigrants from South Asia benefit from substantial wage premiums in destination countries (Ahmed and Bossavie 2022). For example, the monthly earnings of Bangladeshi emigrants in all major migration corridors (US$400) are, on average, 4 times their earnings in Bangladesh (US$100). On average, Indian immigrants in Saudi Arabia earned 3 times as much as their average earnings in their home country, Pakistani immigrants in Saudi Arabia earned 4.8 times their earnings at home, and Nepali immigrants in Qatar earned almost 5 times their home earnings.

The wage premiums that internal migrants in South Asia earn may also be sizable. There is limited direct evidence of the extent of the increase in earnings for internal migrants in South Asia, but the indirect evidence is striking. In India, from 1994 to 2012, secondary school-educated urban workers in a district at the 75th percentile of the district-level wage distribution
earned about 2 to 2.5 times as much as their counterparts in a district at the 25th percentile. Although slightly lower for less-educated workers, similar gaps persisted for all educational categories (Liu et al. 2019).

Most countries in South Asia have experienced stagnation in international migration over the last two decades. International migrant stocks as a share of the population have stagnated since 2000 for Bangladesh at approximately 5 percent, for Pakistan at approximately 3 percent, and for India and the Maldives at approximately 2 percent (Figure 3.8). Migrant stocks as a share of the population in Afghanistan and Bhutan have decreased over this period, whereas those in Nepal and Sri Lanka have risen.

Stagnation in international and long-distance internal migration in South Asia before the COVID pandemic suggests that sources of friction impeding mobility and limiting gains from migration have remained high. In low- and lower-middle-income countries, international emigration levels have risen with economic development. This may seem counterintuitive because the gain in potential earnings from moving abroad should decline as the sending country becomes richer but easing of credit and informational constraints on migration from economic development offset this. The positive relationship between migration and income holds until a turning point—a per capita income level of about US$7,000 to US$8,000 (purchasing power parity in 2010 US$)—is reached, at which point it reverses (Clemens 2014; see elaboration in Box 3.3). A similar logic applies to internal migration. Hence, the stagnation in long-distance migration in South Asia is puzzling given that the region’s per capita income levels have been rising but are generally not above the turning point for migration, suggesting that the costs and sources of friction impeding labor mobility remain pervasive despite decades of economic growth.
3.1.2 The COVID crisis brought to the fore long-standing problems with migration in South Asia while also underlining its potential benefits

The disruption in migration during the COVID crisis highlighted another problem with migration in South Asia: the vulnerability of poor migrants. Poor migrants have lost access to the traditional informal insurance networks that help protect them from shocks at home (Munshi and Rosenzweig 2016). They work in precarious jobs with limited access to formal social protection systems and secure housing (Srivastava 2020a). For poor international migrants, another source of insecurity is that their visa status is often tied to their employment (Ahmed and Bossavie 2022). As discussed in Section 2 of this chapter, COVID-19 exposed these vulnerabilities on a large scale.

The recovery phase of the pandemic has also re-emphasized the role of migration as a coping mechanism for managing shocks. As discussed in Section 3 of this chapter, migration appears to have helped in the economic recovery from the COVID shock, with evidence found of an association between migration and job recovery after the first two waves of the pandemic.

A key question is whether the pandemic has had a scarring effect on migration in South Asia. Section 3 of this chapter discusses how, as of early 2022, migration appeared to be recovering from COVID, albeit in a limited, uneven way. This could be a temporary problem, perhaps because migrants were still hesitating to remigrate after returning home, and employers were hesitant to hire because of labor market uncertainties. Lingering liquidity problems from the COVID income shock could also deter migration. The more troubling possibility is that the pandemic-induced shock has had a long-term impact on the costs and sources of friction associated with migration due to disruptions in social networks and intermediary markets that ease the process of moving and finding jobs. As discussed in Section 4, this potential scarring effect should be considered when designing measures to address labor mobility friction.

3.2 How the initial COVID shock affected migrants and their dependent households

International migrant workers were particularly vulnerable to the economic slowdown from the COVID-19 shock and restrictive measures employed within and across borders to curb the spread of the virus. These measures led to a severe decline in global economic activities (Jackson 2021; Ozili and Arun 2020; Verschuur, Koks, and Hall 2021; World Bank/KNOMAD 2020a). The world economy contracted by 3.3 percent in 2020, compared with projected 2.5 percent growth according to the World Bank Global Economic Prospects in January 2020 (World Bank 2020a; 2022b). Nonessential businesses—especially small, medium, and informal—were ordered to close, causing job losses for millions of people,
including migrants (Ivakhnyuk 2020; Khanna 2020; World Bank/KNOMAD 2020a; 2020b). Temporary international migrants were particularly vulnerable because of the time-bound nature of their employment and holding visas tied to specific jobs (Fasani and Mazza 2020; Rajan and Arokkiaraj 2022). The pandemic also greatly affected sectors in destination countries that employ migrants, such as food and hospitality, retail and wholesale, tourism and transport, and manufacturing (Chowdhury and Chakraborty 2021; World Bank/KNOMAD 2020a). Restrictions on movement resulted in unemployment, underemployment, cuts in benefits, and lower or non-payment of wages.

The pandemic and the repressed global demand for petroleum, leading to lower prices, affected the Gulf countries, the main destination areas for South Asian migrants, simultaneously (World Bank/KNOMAD 2020a). The construction sector in the Gulf countries, which employs many migrant workers from South Asia, was closed to reduce the spread of the virus. Gulf countries also imposed nationwide lockdowns, closed nonessential businesses, restricted travel, and banned flights, including those coming from India (Rajan and Arokkiaraj 2022).

Containment measures within borders also affected internal migrants. South Asian countries took quick action to impose lockdowns to curb the spread of COVID. Most countries in the region imposed lockdowns within a month of the first diagnosed COVID case, with the exception of India, which did so slightly later (Salman et al. 2022). In addition to lockdowns, other measures that South Asian countries took to contain the spread of the virus included social distancing, closure of businesses, suspension of visas, and imposition of complete international and domestic travel bans. Like international temporary migrants, many internal migrants in the region lost their jobs, leading to their displacement and mass exodus to their native villages (Mukhra, Krishan, and Kanchan 2020).

Pandemic-induced lockdowns and restrictions on mobility caused widespread shocks to employment and earnings in South Asia. In the direct aftermath of the first COVID shock in early 2020, the World Bank launched the South Asia Region COVID-19 Phone Monitoring Survey (SAR-CPMS), designed to examine the immediate labor market impacts of the pandemic on 45,000 people in South Asia (World Bank 2022a). According to this survey, more than 33 percent of workers in the region employed in January 2020 (before COVID) experienced a negative labor market shock in the form of a job loss or an earnings loss at the time of the first round of the surveys (conducted 5-12 months after imposition of the first major lockdown in each country). For example, in Nepal, more than half the workers were affected, with 30 percent of workers employed in January 2020 losing their pre-COVID job, and an additional 22 percent having reduced earnings. In terms of the type of negative shocks, cross-country

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9 In India, the lockdown measure on March 25, 2020, was about 7 weeks after its first confirmed case.
differences are stark, with job losses more prevalent in Nepal and Maldives and earnings losses affecting a larger proportion of the population in Bangladesh and Sri Lanka.

The labor market impacts of the pandemic were heterogeneous in terms of the sector and demographic characteristics. Job losses were concentrated in the non-agricultural sector and affected women and the youngest age cohorts disproportionately (World Bank 2022a). Early in the pandemic, workers in the informal sector also suffered a more severe shock than those in the formal sector (Bussolo, Kotia, and Sharma 2021). The pandemic-induced contraction in economic activity and humanitarian operations hit the displaced Rohingya community in the Cox’s Bazar district of Bangladesh especially hard (Box 3.4).

Job losses during the pandemic triggered large return flows of migration in all South Asian countries. The pandemic led to a sharp increase in return migration (World Bank/KNOMAD 2020b). Emigrants were able to return home through repatriation operations by their governments, and internal migrants returned by train and bus, or even on foot. For instance, the Indian government repatriated about 4 million Indian citizens under the Vande Bharat Mission by the end of 2020, 72 percent of whom were repatriated from GCC countries. By January 2021, 3,610,810 Indian citizens were repatriated to the country by air, 3,987 by sea, and 397,106 by land (ADB 2022). Many of the 562,571 Nepali migrants repatriated by September 2021 returned from India, Malaysia, Qatar, Saudi Arabia, Singapore, the Republic of Korea, and the United Arab Emirates (ADB 2022). Up to 1 million Afghan migrants returned home from Pakistan and Iran because of the pandemic (IOM 2021). Media reports also estimated that about 666,000 Bangladeshi emigrant workers were sent home after the COVID-19 outbreak and that about 2 million faced possible deportation during the initial stages of the pandemic (Noman 2020). There were also significant internal migrant flows; the return migration of internal migrants was estimated to have been 2.5 times that of international emigrants early in the pandemic (World Bank/KNOMAD 2020a). Early assessments suggested that the lockdown affected the jobs and livelihoods of at least 40 million internal migrant workers in India, a significant share of internal migrants, and 50,000 to 60,000 individuals who migrated from urban to rural areas in just a few days at the start of the pandemic (World Bank/KNOMAD 2020a). Official telecom administrative data showed that up to 10 million telecom subscribers (15 million to 20 million, if relatives and household staff are added) left Dhaka after the announcement of a 10-day lockdown early in the pandemic (Dhaka Tribune 2020).

10 Although unemployment rates generally tend to be higher among youth, this evidence of differential job loss rates suggests that the gap between youth and non-youth unemployment rates increased during the early pandemic period.

11 Although the initial travel restrictions and lockdowns affected the mobility of migrants and their ability to return home (Chowdhury and Chakraborty 2021; IOM 2020; World Bank/KNOMAD 2020b).
Box 3.4. Labor market impacts of COVID-19 on the displaced Rohingya population in Cox's Bazar, Bangladesh

In mid-2017, Bangladesh witnessed a massive influx of people from the Rohingya community fleeing violence in Myanmar. About 745,000 Rohingya people have since been hosted in the Cox’s Bazar district of Bangladesh, joining the 200,000 who had migrated earlier (UN Strategic Executive Group 2019). As of July 2022, approximately 919,000 displaced Rohingya people were living in camps in the region (UNHCR 2022), one of the largest and most densely populated camps for displaced people in the world (Hussam 2019).

Between March and August 2019, the Yale MacMillan Center, the Gender and Adolescence: Global Evidence initiative of the Overseas Development Institute, and the Poverty and Equity Global Practice of the World Bank conducted the baseline survey for the Cox’s Bazar Panel Survey (CBPS) to generate an evidence base to inform policy on managing the influx of displaced Rohingya people. The sample consisted of 5,019 households (9,685 adults) split roughly evenly between hosts and the displaced population.

When the COVID-19 crisis hit Bangladesh in early to mid-March, it affected the camps in Cox’s Bazar as well. To understand the labor market effects of the pandemic on the displaced Rohingya people and the host communities in Cox’s Bazar, rounds of rapid follow-up phone surveys were conducted with the Cox’s Bazar Panel Survey sample. The timeline of the surveys is shown in Figure 3.9.

Figure 3.9. Timeline of COVID-19 lockdowns and CBPS data collection rounds in Bangladesh

Labor force participation rates among the displaced Rohingya people in the camps were as low as 33 percent, as opposed to 95 percent in the host communities, before the pandemic (baseline). Among Rohingya adults participating in the labor force,
unemployment rates were high (36 percent). Most of this employment was informal and restricted to work within the camp. Given that the displaced Rohingya people in the camps could participate in cash-for-work programs or volunteer activities at fixed wage rates, the labor market within the Rohingya camps should have been somewhat shielded from the broader labor market shocks that the pandemic caused, but because many of these programs relied on humanitarian relief, which faced operational difficulties during the lockdowns, economic activity also contracted within the camps.

The pandemic-induced loss of job opportunities within the camps, combined with an increase in entry of people into the labor force to compensate for the loss of income, led to a sharp increase in unemployment rates within Rohingya camps. Labor force participation in the camps has nearly doubled, as have unemployment rates (Figure B3.4.2). A large inflow of women into the labor force, from 10 percent at baseline to 40 percent around the time of the second lockdown, has driven the increase in the unemployment rate. Consequently, the unemployment rate reached nearly 90 percent among displaced Rohingya women in the second round of the survey and continued to be high in the third round.

Figure 3.10. Supply-side pressures in Rohingya camps caused an increase in labor force participation rates and unemployment rates

Note: LFP refers to the labor force participation rate. The unemployment rate is calculated as a percentage of the labor force. R1 refers to Round 1, R2 refers to Round 2, and R3 refers to Round 3 of the Cox’s Bazar Panel Survey, as shown in Figure 3.9.
There was a large contraction in the employment rate directly after the first lockdown, but the rate has since almost recovered to pre-pandemic levels. Employment as a share of the working age population fell from nearly 21 percent to 8.5 percent after the first lockdown was imposed but has steadily increased since then, reaching 17.6 percent at the third round of the survey (Figure 3.11). Job recovery among men has driven this recovery in employment, whereas female employment has remained low, with no visible signs of improvement.

The easing of restrictions on cash-for-work programs, coupled with renewal of humanitarian livelihood efforts within the camps, is likely helping employment and earnings among the Rohingya to slowly rebound to pre-pandemic levels. The share of wage laborers in camps, who constituted the majority of the workforce at baseline, has risen to 82 percent at the third round of the survey, with median labor hours recovering to 24 hours at the second round and 30 hours at the third round (compared with 33 hours at baseline).

Newly analyzed survey data from India indicate that the pandemic led to an unprecedented reduction in total migrant stock because of return migration. The Consumer Pyramid Household Survey (CPHS), a high-frequency household panel survey covering more than 170,000 Indian households three times per year, has provided valuable information on COVID-induced change in India's migration flows. In a typical (pre-COVID) month, approximately 2 percent of individuals migrated out of their home district, whereas monthly migration inflows, which include new household members and migrants returning to their...
households, were on average approximately 1 percent of the total population.\textsuperscript{12} In the direct aftermath of the pandemic, outmigration started dropping and fell to 1.5 percent by June 2021, equivalent to a 25 percent reduction of the monthly outmigration. At the same time, monthly migrant inflows temporarily increased by 50 percent in the months after the first COVID shock. This sharp increase in migration inflows suggests that an unprecedented share of migrants returned to their home districts after the pandemic began (Figure 3.12).\textsuperscript{13}

Evidence from early in the pandemic shows that, despite the widespread mobility restrictions implemented in response to the pandemic, displacement of migrants may still have contributed to the spread of the pandemic in the region. An increase of 1 standard deviation in prior emigration relative to the district-wise average in India and Pakistan predicts a 48 percent increase in the number of cases per capita, and the extent of internal migration is significantly related to the increase in COVID-19 cases in India (Lee et al. 2021a).\textsuperscript{14} In these countries, the association between emigration and COVID-19 cases increased over the study period, which examined the early months of the pandemic. Similar evidence in other countries, such as Italy, shows that migration patterns were significantly correlated with the spread of COVID-19 (Valsecchi and Durante 2021), although long-term restrictions on international mobility are unlikely to provide significant benefits in reducing the transmission of future

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3_12.png}
\caption{In India, the COVID shock led to a drop in migrant out-flows and an increase in migrants returning to their home districts.}
\end{figure}
pandemics, according to a combination of data from prior influenza epidemics and epidemiological models (Clemens and Ginn 2020).\textsuperscript{15}

Return migrants moved (at least temporarily) into less-favorable sectors and occupations or were unemployed. In India, CPHS data indicate that male migrants who returned to their home communities after the initial COVID shock were 10 percentage points less likely to be employed than return migrants in pre-COVID cohorts (Figure 3.13), although this unemployment shock was temporary, and the employment rate for male return migrants recovered to pre-COVID levels after May 2021. Another survey of roughly 4,600 return migrants in the Indian states of Bihar and Chhattisgarh showed that they transitioned primarily into unemployment and agriculture (Allard et al. 2022). According to this survey, a large fraction of female and male return economic migrants was unemployed after the onset of the pandemic. During the Delta wave of the pandemic, as many as 52.9 percent of female and 36.7 percent of male return migrants, all of whom had been employed before the pandemic, were unemployed when surveyed. An additional 11.4 percent of female and 19.2 percent of male migrants had been absorbed into agriculture, whereas before the pandemic, a very small percentage of economic migrants were in agriculture.

Formal international remittances to South Asian countries did not exhibit the same declines in 2020 as observed for the number of international migrants, probably because returning migrants repatriated assets or because of the formalization of remittances. Except for Afghanistan and Nepal, formal remittance inflows increased in 2020, although between 2020 and 2021, more than half of the countries in the region experienced a drop in

\textsuperscript{15} Even an extreme 50 percent reduction in international mobility was found to be associated with 1- to 2-week later arrival of the disease in epidemiological models of previous pandemics, with no detectable associated reduction in mortality.
remittance inflows. Afghanistan experienced the largest decline (62 percent),\footnote{It is unclear whether this decline reflects the effects of the pandemic, or the regime change that took place in August 2021, after which the financial system collapsed because of sanctions.} followed by Bhutan (33 percent), Sri Lanka (23 percent), and the Maldives (10 percent). Bangladesh, India, and Pakistan continued to experience growth in formal international remittances through 2021 (Figure 3.14).\footnote{The data source is KNOMAD. The numbers may differ slightly from individual countries’ official data.} This growth in Pakistan and Bangladesh might be partially attributable to the introduction of programs such as the Roshan Digital Account initiative in Pakistan in 2020, which allowed non-resident Pakistanis to access digital banking in Pakistan without visiting a consulate, embassy, or bank branch.

In contrast to the data on formal remittances, analysis of new survey data from Pakistan shows that remittances received fell sharply for households dependent on remittances from either international or internal migrants. While a roughly comparable percentage of Pakistani households reported receiving domestic remittances during COVID as before COVID, among those who received domestic remittances, the value of domestic remittances received fell 21 percent during COVID, from Pakistani rupees (PKR) 29,402 to PKR 23,266 (Table 3.1). The percentage of households reporting receipt of international remittances fell from 4.2 percent to 3.6 percent, and the average value of international remittances received fell 35 percent, from PKR 52,721 to PKR 34,267. The much sharper decline in remittances that
households received than is reflected in macro balance-of-payments numbers suggests that formalization of remittance flows during the COVID period boosted the latter but may also reflect that the macro numbers are annual, whereas the survey data reflect point-in-time declines.

Table 3.1. Domestic and foreign remittances received in Pakistan before and during COVID

<table>
<thead>
<tr>
<th></th>
<th>Households that received remittances, %</th>
<th>Average monthly remittances received, Pakistani rupees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before COVID</td>
<td>During COVID</td>
</tr>
<tr>
<td>Domestic</td>
<td>4.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Foreign</td>
<td>4.2</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Source: Staff calculations based on the Pakistan COVID Special Survey 2020.
Note: Before COVID refers to January to March 2020; during COVID refers to April to July 2020. Columns 1 and 2 refer to share of households that received remittances as a percentage of all households in the sample (N=5,475). Columns 3 and 4 refer to average monthly remittances received, conditional on a household having received the respective type of remittance during the period.

As a result, migrant- and remittance-dependent households suffered disproportionately larger income losses. Original estimations using data from the Pakistan Special Survey related to COVID show that remittance-dependent households (households that received remittance income before COVID) experienced disproportionately larger negative income shocks during COVID relative to before COVID than did non-remittance-dependent households (Figure 3.15.A). Specifically, domestic (respectively, foreign) remittance-dependent households experienced a 26–percentage point (respectively, 29–percentage point) greater drop in per capita income than households that were not dependent on remittances. The drop in remittances that remittance-dependent households received partially drove these negative income shocks (Figure 3.15.B). This result is robust to varying the level of controls included in the regression. (See Tables A.3.1-A.3.4.)

\[^{18}\text{Figure 3.15.A shows the coefficients from a log-linear panel regression where each household is observed in two periods: before and during COVID. The depicted Non-remittance-dependent (RD) households estimate corresponds to the "During COVID" coefficient, Domestic-RD households corresponds to the "During COVID x Domestic-RD" coefficient, and "Foreign-RD households" corresponds to the "During COVID x Foreign-RD" coefficient in Table A.3.5. These have been converted into percentage point differences for ease of interpretation using the following calculation: percentage change in remittances for Non-RD households is calculated as 1-exp("During COVID" coefficient), which is 19 percent, and percentage change in remittances for the RD groups is calculated as 1-exp("During COVID" coefficient + "During COVID x Domestic (respectively, Foreign)-RD" coefficient), which is 45 percent for Domestic-RD households and 47 percent for Foreign-RD households.}\]
Figure 3.15. Remittance-dependent households experienced a larger drop in income than other households during COVID in Pakistan, likely driven by the drop in remittance income

A. Estimated change in log (per capita total income)

B. Estimated change in log (per capita remittance income)

Source: Staff calculations based on the Pakistan COVID Special Survey 2020.

Note: The dependent variable in Panel A is the log per capita total income (sum of labor income, remittance income, and other income) and that in Panel B is the log per capita remittance income. The figure shows the estimated coefficients along with 95% confidence intervals. The regression includes household fixed effects and a full set of controls (including interactions between controls and the time dummy for during COVID). See Appendix A.3.3 and Tables A.3.1-A.3.4 for the regression specification and detailed results on the components of per capita total income. “Non-RD households” corresponds to the “During COVID” coefficient, “Domestic-RD households” corresponds to the “During COVID x Domestic-RD” coefficient, and “Foreign-RD households” corresponds to the “During COVID x Foreign-RD” coefficient in Tables A.3.1-A.3.4.

Households in India also faced a negative shock to their remittance income in the aftermath of the COVID shock. According to the CPHS panel data, on average, for households receiving remittance flows before COVID, monthly remittance inflows nearly halved in the first few months of the pandemic, in 2020 (Figure 3.16). They started recovering in late 2020, but it is unclear whether they had recovered to their pre-COVID levels by early 2022.

Similarly, remittance-dependent households in Nepal and Bangladesh experienced a disproportionate drop in earnings driven by a drop in remittances. Panel surveys covering both, a sample previously enrolled in a randomized controlled trial to experimentally induce international migration in Bangladesh and in high-propensity-to-migrate subsamples of households in northwestern Bangladesh and southwestern Nepal showed that migrant household earnings declined 25 percent more than those of non-migrant households.

Because “Non-RD households” are defined as households that did not receive remittances before COVID, the positive (but statistically insignificant) coefficient on “Non-RD households” indicates that some of the households that were not receiving remittances before COVID received positive remittance inflows during COVID.
Evidence from Nepal and Bangladesh suggests that South Asian households that rely on labor migration were uniquely vulnerable during the pandemic. The income shock that migrant-dependent households experienced resulted in real economic distress because migrant-dependent households were 4 times as likely to be food insecure during this period, indicating that they were unable to smooth consumption (Barker et al. 2020).

There is, however, heterogeneity among migrant households; although some migrant households may have been advantaged at baseline, others were poorer than non-migrant households, suggesting that targeting of policies toward migrant households must be carefully calibrated. Data from household surveys in Bangladesh, India, Nepal, and Pakistan suggest that, on average, migrant-sending households were better off than those that did not send migrants in the pre-pandemic period, with higher asset and consumption levels (Tables A.3.5-A.3.8). This may reflect the impact of past remittances or the selective nature of migration: that is, the positive relationship between income and likelihood of emigration in lower-income households (Box 3.3). Regardless, the fact that migrant-sending households were better off than other households on average suggests that they may have been better placed to manage the pandemic shock, although these averages mask the heterogeneity among migrant households. The quantile regressions in Figure 3.17 show that, at least in Bangladesh, in terms of consumption, internal migrant households at the lower end of the distribution were less well off than non-migrant households and that such households in India at the lowest end of the distribution were at least as vulnerable. This suggests room for targeting policies toward migrant households with the aim of ensuring their resilience during shocks.

Figure 3.16. In India, remittance-dependent households faced a shock to their remittance income in the aftermath of the COVID shock

Source: Staff calculations based on the Indian Consumer Pyramid Household Survey (CPHS) using survey waves 16 to 25.
Note: The vertical axis measures average remittance income derived by remittance-dependent households, defined as households that received positive remittance income before January 2019. Based on this definition, 52,781 households were remittance dependent as of January 2019, equivalent to 14.8 percent of surveyed households in wave 16 of the CPHS.

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20 The study consists of Bangladeshi individuals who applied for a work visa in Malaysia in a government-to-government visa lottery. The random allocation of visas provides experimental variation in propensity to migrate, with visa lottery winners 58 percentage points more likely to have a household member migrate in the subsequent 5 years. Details of the original study are described in Shrestha, Mobarak, and Sharif (2019).
for policy intervention, although targeting will be critical to ensuring that aid reaches the poorest and most vulnerable households.

Even as pre-COVID migrants and their dependent households were uniquely vulnerable to job and income loss during the early phase of the pandemic, the ability to migrate anew was associated with better outcomes and may have been a coping mechanism. The World Bank SAR-CPMS indicated that, even early in the pandemic, geographic mobility of labor played an important role in recovery, with internal migration significantly increasing the likelihood of finding a new job among those who lost their pre-COVID employment (World Bank 2022a). In all South Asian countries except the Maldives, internal migration was associated with a significantly higher likelihood of finding a new job among those who lost their pre-COVID jobs. In Bangladesh, the recovery rate among those who moved since the lockdown was 28 percent, compared with 13 percent among those who did not move. Likewise, in India, Pakistan, and Sri Lanka, the rate of recovery was 6 to 8 percentage points higher in the migrant group than among non-migrants. This role of post-pandemic migration is explored further in the next section.

Figure 3.17. There exists significant heterogeneity in non-land wealth and consumption across the distribution of migrant-sending and non-sending households in Bangladesh and India

Source: Staff calculations based on the Bangladesh Household Income and Expenditure Survey (2016) and the India National Sample Survey (2007-08).
Note: Non-land assets refer to durable and financial assets that a household owns. Consumption has been annualized. Quantile regressions include district fixed effects.
3.3 Post-pandemic migration and the recovery from the crisis

3.3.1 Migration is helping with the recovery process from the COVID shock in South Asia

Post-pandemic migration is associated with the flow of labor from areas hit hard by the shock to other areas, helping reallocate labor to equilibrate demand and supply. In places hit hard economically by the pandemic, labor migration can help families and communities manage economic hardship. In India, in early 2022, out-migration rates for men were higher in districts that experienced more severe employment losses during the COVID shock (Figure 3.18). A similar labor reallocation has been taking place in other South Asian countries, such as Bhutan, Pakistan, and Sri Lanka, where districts with higher in-migration rates have also experienced higher job recovery rates, according to the second round of the World Bank SAR-CPMS, conducted approximately 20 months into the pandemic (Figure 3.19).

Migration served as a coping mechanism for households that experienced employment losses during the pandemic. The SAR-CPMS found domestic labor mobility to be associated with the recovery process in all South Asian countries (World Bank 2022a).

Specifically, at the time of the first round of the SAR-CPMS, which was 6 to 12 months after the start of the pandemic depending on the country, those who lost their pre-COVID jobs were significantly more likely to migrate than those who did not (Figure 3.20). This pattern suggests that job loss in the first wave of the pandemic-induced lockdowns prompted people to move for employment. Labor mobility in this period was highest in Pakistan and Bhutan, with 18 percent and 15 percent, respectively, of those who had lost their job having migrated at the time.

Source: Staff calculations based on the Indian Consumer Pyramid Household Survey using waves 15 to 24.

Note: The vertical axis shows the job loss rate as change in average district-level male unemployment share between the pre-COVID period (September 2018 to December 2019; waves 15-18) and the COVID shock period (January 2020 to August 2021; waves 19-23). The horizontal axis shows the district-level out-migration rate for men as a percentage of the working-age population in the recovery phase for September 2021 to December 2021 (wave 24). The coefficient of correlation between the job loss rate and male outmigration rate is 0.10. Data have been plotted for districts with positive migration rates.

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21 This could include previous migrants who returned to their home location after the start of COVID, because migration in the SAR-CPMS wave 1 is defined based on whether an individual resided in a different location (within the same country) at the time of the survey than before March 2020, although as discussed further in this section, data from SAR-CPMS wave 2 suggest that return migration did not drive the observed patterns.
of the survey. In Afghanistan, Bangladesh, India, and Nepal, approximately 10 percent of those who experienced a pandemic-related employment loss had migrated 1 year after the crisis. Labor mobility in this period was lower for Sri Lanka, where only 5 percent of those who had lost their jobs during the COVID crisis had migrated to a new location.

Job recovery rates were higher among those who migrated from their home communities at the start of the pandemic than among those who did not migrate (World Bank 2022a). Internal migration was associated with significantly greater likelihood of finding a new job among those who lost their pre-COVID employment in all countries in the region (Figure 3.21). Of individuals who lost their jobs, those who migrated after March 2020 had a 6– to 15–percentage point greater likelihood of being in a job 6 to 12 months after the first lockdowns. The difference in job recovery rates according to migration status was largest for Bangladesh, where internal migrants were twice as likely to have found a new job than non-migrants. In Afghanistan, Bhutan, India, Pakistan, and Sri Lanka, migrants were 6 to 8 percentage points more likely to be employed than non-migrants in the aftermath of the first COVID shock. Labor market outcomes for migrants were not substantially different from those of non-migrants in the Maldives and Nepal in this phase of the recovery.

Job recovery rates remained higher among post-pandemic migrants than non-migrants 20 months after the start of the pandemic. At the time the second round of SAR-CPMS was conducted in Bhutan, Nepal, Pakistan, and Sri Lanka, approximately 18 to 20 months after the first COVID shock, the initial gaps in labor market outcomes between migrants and non-migrants observed in the aftermath of the COVID shock persisted (Figure 3.22). Most people who had lost their job during the initial COVID shock early in 2020 were employed by then, but those
who had migrated were significantly more likely to have recovered their employment status. The difference in job recovery rate in this later phase of the recovery was largest for Nepal, where migrants were 13 percentage points more likely to be employed than those that did not migrate. Migrants in Bhutan, Pakistan, and Sri Lanka were 5 to 10 percentage points more likely to have regained employment in this later stage of the recovery period than non-migrants.
Labor market outcomes associated with post-pandemic migration appear to be improving with time. The first rounds of the SAR-CPMS surveys found that, of individuals who were employed 6 to 12 months after the pandemic, those who had migrated after the pandemic were more likely to have transitioned to a different industry than those who had not moved. The former were also more likely than non-migrants to have moved to a lower-skilled job and experienced a drop in earnings from pre-pandemic levels (World Bank 2022a). This could be because those who moved were more desperate to find jobs and less selective in the kinds of jobs they accepted and because migrants are likely to be highly selected on these and other characteristics, but by the time of the second round of the SAR-CPMS, labor market outcomes in terms of earnings had improved significantly for migrants in Bhutan, Nepal, Pakistan, and Sri Lanka (Figure 3.23).

3.3.2 Slow, uneven recovery in migration flows raises concerns about the scarring effect of COVID-19 on migration

International migration in South Asia is recovering. Recent data from national administrative records on registered overseas workers in Bangladesh, Pakistan, and Sri Lanka show that international migration in South Asia is recovering and appears to have rebounded to pre-COVID levels in the first half of 2022 (Figure 3.24). In Pakistan, approximately 240,000 migrants registered for overseas employment in 2021, compared with a 5-year pre-COVID annual average of 657,000. The recovery of international migration is somewhat stronger in Bangladesh, where 617,000 migrants registered for overseas employment in 2021, compared with a 5-year pre-COVID annual average of 750,000. Recent data on permits issued in the first half of 2022 show that migration flows might rebound to pre-COVID levels or even beyond in Pakistan and Bangladesh. For example, in Bangladesh, 600,000 migrants registered for overseas employment in the first 6 months of 2022, compared with 617,000 in all of 2021.
Figure 3.23. Twenty months after the pandemic began, those who migrated post-pandemic were less likely to be in a lower-earning job (compared to their pre-pandemic job)

**A. % Employed in a lower skilled job vs. pre-pandemic job**

<table>
<thead>
<tr>
<th>Country</th>
<th>Migrants</th>
<th>Non-migrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhutan</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>Nepal</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>21%</td>
<td>13%</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>13%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**B. % Employed in a lower earning job vs. pre-pandemic job**

<table>
<thead>
<tr>
<th>Country</th>
<th>Migrants</th>
<th>Non-migrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhutan</td>
<td>65%</td>
<td>6%</td>
</tr>
<tr>
<td>Nepal</td>
<td>52%</td>
<td>13%</td>
</tr>
<tr>
<td>Pakistan</td>
<td>49%</td>
<td>13%</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>50%</td>
<td>10%</td>
</tr>
</tbody>
</table>

**Source:** Staff calculations based on SAR COVID-19 Phone Monitoring Survey, Second Round.

**Note:** The sample includes individuals who were employed in a different job after March 2020 than in January 2020. Labor mobility is defined based on whether an individual resided in a new location (within the same country) at the time of the second round of the survey than before lockdowns in March 2020 (a period of 18.6 months in Bhutan, 19.9 months in Nepal, 20.2 months in Pakistan, and 20.8 months in Sri Lanka). The transition to a lower-skilled job is defined based on the 1-digit International Standard Classification of Occupations code, with codes 5 to 9 signifying lower-skilled jobs and codes 1 to 4 signifying higher-skilled jobs. An individual was considered to have moved to a lower-skilled job if they were employed in a higher-skilled job in January 2020 and a lower-skilled job by the time of the second round of the survey. Lower earnings category is defined based on whether the individual’s earnings in their job at the time of the second round of the survey were lower than their earnings before March 2020. The change-in-earnings data are missing for individuals who were unemployed at the time of the second round of the survey, self-employed in the first round of the survey and a wage worker in the second round, or unemployed in the first round and employed as an own-account worker in January 2020.

Figure 3.24. Registered annual overseas employment showing signs of recovery

**Source:** Staff calculations based on data from Pakistani Bureau of Emigration and Overseas Employment; Bangladeshi Bureau of Manpower, Employment, and Training; Sri Lanka Bureau of Foreign Employment.

**Note:** The data measure the annual flow of registered overseas migration for employment and show the annual number of workers registered for employment outside the country for Pakistan, the annual number of workers registered for overseas employment for Bangladesh, and annual registered departures for foreign employment for Sri Lanka. The overseas employment numbers for 2022 are based on permits issued in the first 6 months of the year, whereas the measures for previous years are based on permits issued during the entire year.
Migration flows in India show a first sign of recovery but remain below pre-COVID levels. Data on monthly internal and international outmigration from the CPHS survey in India show that the monthly rate at which men emigrated started to recover in the second half of 2021 (Figure 3.25). The pandemic affected female monthly migration outflows less severely, and they began to recover as early as January 2021. The reason for this gender difference in outmigration could be the different reasons behind migration decisions for men and women in India. Women moving into the household of in-laws after marriage mainly drives female in- and outmigration, whereas economic reasons more predominantly drive male migration. Nevertheless, at the start of 2022, female and male monthly outmigration rates were still far below pre-COVID levels.

The migration-driven recovery was partial and uneven in South Asia; of those who lost or changed their pre-COVID job, women and older people were less likely to migrate (World Bank 2022a). The SAR-CPMS surveys showed that migration costs may have constrained specific demographic subgroups such as women and older workers from moving and subsequently recovering from job losses (Figures 3.26 and 3.27). In the 6 to 12 months after the first lockdown, women were 3 to 14 percentage points less likely than men to have migrated after a job loss in most countries in South Asia (Figure 3.26). Gender differences in outmigration after job losses had widened 18 to 20 months into the pandemic in Pakistan (from 3 to 21 percentage points) and Sri Lanka (from 6 to 11 percentage points) (Figure 3.27). In Nepal, women were slower to start migrating but more than caught up in the medium term—from 2 percentage points behind men in terms of migration rates after the first shock to about 10 percentage points more likely than men to have migrated nearly 2 years later. Labor migration after job loss was much higher for younger age cohorts in all countries in South Asia, especially Bhutan, India, Nepal, and Sri Lanka (Figure 3.26). Although labor mobility increased across all cohorts when travel restrictions eased, older cohorts lagged behind 20 months into the pandemic (Figure 3.27). Although the lower initial mobility of the older cohorts could have protected them from the risk of infection from COVID-19, it could also have hampered their ability to recover quickly from a job loss.
Figure 3.26. Six to twelve months after the pandemic began, among those who lost their pre-pandemic jobs, women and the elderly were less likely to migrate.

A. Labor mobility by gender

B. Labor mobility by age

Source: Staff calculations based on SAR COVID-19 Phone Monitoring Survey, First Round.
Note: The sample includes individuals who lost or changed the job they had in January 2020. Labor mobility is defined based on whether an individual resided in a different location (within the same country) at the time of the first round of the survey than before lockdowns in March 2020.

Figure 3.27. Twenty months after the pandemic began, among those who lost their pre-pandemic jobs, women and the elderly were still less likely to migrate.

A. Labor mobility by gender

B. Labor mobility by age

Source: Staff calculations based on SAR COVID-19 Phone Monitoring Survey, Second Round.
Note: The sample includes individuals who lost or changed the job they had in January 2020. Labor mobility is defined based on whether an individual resided in a different location (within the same country) at the time of the second round of the survey than before lockdowns in March 2020 (a period of 18.6 months in Bhutan, 19.9 months in Nepal, 20.2 months in Pakistan, and 20.8 months in Sri Lanka).

The slow, uneven recovery in migration might reflect a scarring effect of the COVID shock on migrant-supporting institutions, but it could also be a temporary phase related to the global and complex nature of the shock. The scope for leveraging migration as a coping mechanism is greatest in the case of localized shocks. Hence, the global nature of the COVID shock may have inherently limited the role of migration as a recovery mechanism after the...
pandemic. This could be part of the explanation for the slow recovery in migration. There are also many potential causes of temporary disruption in migration channels, some related to the multidimensional nature of the COVID shock. There is lingering uncertainty about labor markets and government recovery policies. Travel channels are still disrupted. International migration is disrupted because of continued policy restrictions and backlogs in visa processing. Income loss from the COVID shock may have made it more difficult for poor households to finance new migration. In addition, it is possible that COVID has had long-term effects on migrant-supporting institutions. Potential challenges include the unraveling of the social networks that help migrants and deep shocks to the markets that mediate migration. It could be that migration has become more friction prone and costly since the pandemic. More evidence on these potential long-term problems would be very policy relevant.

3.4 Policy priorities — facilitating mobility and de-risking migration

Reducing frictions to labor mobility, including those that have increased during the COVID crisis, is vital for South Asia’s recovery from the pandemic and its long-run development. The COVID crisis put further restrictions on labor mobility and exposed risks that migrants face when they lose their jobs. Although many of the restrictions and risks were temporary, it is likely that the crisis had a scarring long-term effect on labor mobility. Healing these scars and reducing the costs and restrictions migrants face should be high on policy agendas because temporary and permanent labor movements are important coping mechanisms when shocks occur and are crucial elements of long-term development. Climate change, to which countries in South Asia are particularly vulnerable, will further increase the need for institutions that facilitate temporary and permanent migration, as the recent floods in Pakistan highlight (Box 3.5).

Learning from the pandemic experience, measures to de-risk migration and make it more resilient to future shocks should be integrated into migration-supporting policies and institutions. The pandemic revealed that many countries lack plans and implementation systems for managing systemic shocks to migration. Governments had to devise and implement relief and reintegration measures hastily to help displaced migrants. This experience could contribute to the design of more shock-resilient migration policies, which will not only help migrants and their families cope during similar future shocks, but also facilitate migration by reducing the risks entailed in moving. Close coordination between receiving and sending regions is a key part of measures to de-risk migration.

Providing information about the costs and benefits of migration will lead to better migration decisions. Research has shown that potential migrants lack accurate information, which leads to unwarranted optimism or pessimism. To realize benefits for migrants, as well as destination and origin locations, well-targeted labor mobility is needed.
Box 3.5. Migration and climate change in South Asia

South Asian countries are among the most vulnerable to the effects of climate change, ranging from sudden disruptions due to intensifying extreme events such as rainfall and temperature to longer-term changes that reach tipping points such as sea level rise. One adaptation strategy is to move temporarily or permanently, internally or internationally; short-term climate events may lead to short-term migration, whereas longer-term migration for climate adaptation may be a response to longer-term changes (Conigliani, Costantini, and Finardi 2021). By 2050, as many as 40.5 million people in South Asia may become internal climate migrants because of local environmental changes, with 19.9 million in Bangladesh (Clement et al. 2021). Cross-border migration patterns may also change as climate change affects the environment and labor demand in destination countries. Cross-border migration provides remittances, allowing households to hedge against environmental shocks at home. Changing cross-border migration patterns could be challenging for Nepal, Pakistan, and Sri Lanka, whose remittances are above the South Asian average of 4.2 percent of GDP (World Development Indicators 2020). For policy makers, understanding how climate change affects migration and the effects of climate-related migration on productivity is important for inclusive, sustainable development.

Water is one of the leading climate threats to the region. Most flood-exposed people live in South and East Asia and the share of the poor population that is flood exposed is high in South Asia as well as in Sub-Saharan Africa (Figure 3.28) (Rentschler, Salhab, and Jafino 2022). In regions with seasonal flooding risk, people have adapted by diversifying to avoid migration (Chen and Mueller 2018) or migrating temporarily (Mobarak and Reimão 2020). Despite their adaptation, they may not be able to cope with extreme events, which can alter temporary migration patterns. For example, severe flooding may disrupt seasonal migration to cope with lean seasons in rural areas because potential migrants would rather stay with their families or face limited transportation options (Mobarak and Reimão 2020). These disadvantaged households may have additional vulnerabilities because of their limited ability to migrate. Similarly, droughts lower agricultural productivity and increase migration out of rural areas more than flooding (Dallmann and Millock 2017; Zaveri et al. 2021). The poorest people are 80 percent less likely to migrate, so they struggle with water shortages, reduced economic opportunities in their home region, and lack of resources to find opportunities elsewhere (Zaveri et al. 2021). The link between water and migration highlights the need to address the distributional impact of water risk and related policies, such as water management in agriculture.
South Asia has also seen increasing average temperatures, which increase the likelihood of extreme heat. These events reduce agricultural productivity and increase migration from rural areas (Mani et al. 2018). Increasing temperatures are associated with greater migration than flooding and other natural disasters (Baez et al. 2017; Mueller, Gray, and Kosec 2014). Likewise, air pollution worsens with heat, and recent evidence shows that pollution is associated with outmigration of skilled workers and lower aggregate productivity (Khanna et al. 2021). These examples highlight the role of rising temperatures on productivity and migration.

Figure 3.28. Share of population that is flood exposed and living below $5.50 per day

Sea level rise is one of the permanent future consequences of climate change that the region faces. This is a gradual process, and households adapt through other means before resorting to migration (Hauer et al. 2020). In coastal Bangladesh, the gradual increase in soil salinity is associated more with increasing aquaculture and increasing internal and cross-border migration than with direct flooding (Chen and Mueller 2018, 2019). Understanding the thresholds that prompt migration due to rising sea levels will be crucial to designing policies that address the potential distributional impact because households are affected differently and have different resources to migrate.

Another risk related to climate change is the expected rise in zoonotic diseases. Most climate migrants will move to urban areas, and disease transmission is likely to worsen because the risk of infectious disease spread is higher in an environment of poor sanitation and limited public services (Lall et al. 2021). The COVID-19 pandemic highlights
the importance of building urban resilience to cope with climate change (World Bank 2021a). The pandemic also highlights the role of migration in disease transmission (Lee et al. 2021a). Bilateral migration links with COVID-affected areas have been used to create a risk exposure index in Bangladesh (Ahsan et al. 2020). Recent evidence also shows the unintended consequences of lockdowns, the most widely implemented policy response. Lockdowns pushed South Asian migrant workers to return home, and evidence from Bangladesh, India, and Pakistan suggests that, although internal migration is a weaker predictor of infection, international migration is associated with community spread seeded by migrants (and others) returning from abroad (Lee et al. 2021a). The pandemic and its policy response also reduced earnings and increased food insecurity more in migrant households than in non-migrant households in Bangladesh and Nepal (Barker et al. 2020). These adverse effects may persist for migrant households because most migrants are in low-paying jobs overseas, and opportunities at home are limited. The short-term strategy of providing a social safety net for migrant workers should be complemented with a long-term strategy such as building a migrant worker database and developing a more-skilled workforce as a migration strategy (Karim, Islam, and Talukder 2020).

As climate change continues to affect migration, it is important to understand who these migrants are and what the implications are for productivity at the destination and place of origin. Policy makers should also consider the tradeoff between encouraging migration and investing in measures to help residents stay in regions that face high climate risks. Social protection can mitigate the need to migrate, but limiting migration as an adaptation strategy may lower the welfare of potential migrants and add to disaster preparedness costs (Dasgupta et al. 2022). Without a better understanding of the tradeoffs, policies that focus on no-regret solutions such as market access for coastal households (Dasgupta et al. 2016), agricultural insurance (Mobarak and Reimão 2020), and increasing urban resilience (Lall et al. 2021) should be prioritized to protect livelihoods in urban and rural areas.

3.4.1 Reducing frictions to labor mobility

International migrants from South Asia often face high explicit moving costs for transportation, visa and passport fees, and agent (broker) fees. Explicit migration costs vary substantially between migration corridors and sometimes are prohibitive. For example, on average, Bangladeshi workers spent the equivalent of more than US$3,000 to move abroad—approximately 2.5 years of the median household income in Bangladesh. These costs are greatest for the Bangladesh–Qatar corridor (Bangladeshi taka (BDT) 337,000, ~US$4,000) and least for the
Bangladesh–Malaysia corridor (BDT 245,000, ~US$2,900). Pakistani migrants in Saudi Arabia incur even higher costs (~US$5,000 on average). The main elements of these costs are for transportation, visa fees, and the fees that migration agents charge (Ahmed and Bossavie 2022).

Bilateral and multilateral agreements could reduce migration costs. The Employment Permit System (EPS) that South Korea established reduced migration costs from more than US$3,700 to approximately US$1,000, making Korea one of the lowest-cost international destinations for low-skilled migrant workers. This was the result of a government-to-government program based on bilateral agreements with many Asian countries, including Bangladesh, Pakistan, Nepal, and Sri Lanka. The EPS limited the role of private intermediaries in the employment process by increasing the transparency of costs and processes that caused international migrant workers to incur hefty broker fees on both sides of the border (Cho et al. 2018). The government-to-government visa lottery program established between Bangladesh and Malaysia in 2012 to overcome recruitment malpractice by private agencies and the migration bans imposed thereafter helped reduce migration costs for Bangladeshi workers by a factor of eight—from an average of BDT 390,000 to BDT 45,000—and the debt that they had to incur by 16 percentage points (Shrestha, Mobarak, and Sharif 2019).

The cost of moving can be high for internal migrants too, but limited knowledge of the exact sources of these costs hinders effective policy design. One-time expenses such as travel costs, recurring expenses such as higher cost of urban living, and non-monetary or psychological costs of living away from home can add up for internal migrants. For example, on average, migrants in Indonesia must be compensated by 39 percent of their income to be induced to move (Bryan and Morten 2019). For seasonal migrants from rural India, daily migration costs are estimated to be as high as 80 percent of daily earnings at the destination, including the non-monetary costs of living in harsh conditions away from home (Imbert and Papp 2020a). These non-monetary costs may originate, for example, from marriage disruption and loss of support system (Arguillas and Williams 2010; Barnes 2013; Landale and Ogena 1995; Ward 2004) or from losing customs, religion, food, and languages (Bhugra and Becker 2005). They could also be due to friction in land markets and urban policy gaps that limit migrants’ access to housing, infrastructure, and services in destination cities, but such cost estimates are essentially inferred from observed wage gaps and migration behavior, and there is limited knowledge on what exactly drives them. This makes it difficult to devise appropriate policy responses or even determine whether there is scope for welfare-improving interventions.22

22 More knowledge on the impacts of emigration on sending communities may also help identify new scope for welfare-improving policies. For example, there is much debate as to whether emigration of skilled individuals results in a costly brain drain in sending locations. Recent estimates suggest that productivity impacts of international brain drain on sending locations are small, but many questions remain unanswered (Gibson and McKenzie 2011). Large-scale emigration could also affect the productivity of sending locations by skewing the population dependency ratio; this possibility is not well researched either. Finally, the impact of return migrants on local social norms may be worth examining (see, e.g., Joseph et al. 2022).
Policies that indirectly deter internal labor mobility deserve attention. Although South Asian countries do not place explicit restrictions on internal migration, certain policies might restrict mobility indirectly. For example, in India, given the possibility that low interstate portability of social protection schemes for poor households might deter interstate migration, policies to make social protection benefits more portable could be helpful. Recent policy announcements such as the One-Nation-One-Ration-Card scheme—which introduces interstate portability of ration card benefits—are steps in the right direction.

Strengthening the remittance infrastructure could further unlock gains from migration and make it more attractive. A growing experimental and nonexperimental literature on digital remittance infrastructure shows that it can increase remittances and reduce poverty among remittance recipients (Lee et al. 2021b; Suri and Jack 2016). Greater access to digital remittance technologies in Bangladesh has been shown to result in greater migration from rural areas (Batista and Vicente 2022; Lee et al. 2021b). Improvements to international and domestic remittance technologies, as well as other reductions in cost, could increase the economic returns to migration.

3.4.2 De-risking migration

More-flexible visa policies could help host countries manage labor market shocks by facilitating job mobility of migrant workers. Temporary migrants may hold visas or work permits that are linked to a single employer, increasing risks for migrants and thus reducing labor mobility (Wright, Groutsis, and Van Den Broek 2017; Zou 2015). These risks were exposed on a large scale during the COVID crisis, but immediate policy responses to the crisis provide suggestions for more-permanent reforms that reduce risks for migrants. During the pandemic, several countries announced measures to give migrant workers more time to adjust to the shock. For example,

- The government of Thailand allowed registered migrant workers and their families to stay temporarily in the country, without a fine, if their visas expired during the pandemic (ILO 2020a). The Ministry of Labor estimated that 1.2 million work permits for migrant workers (and their families) were renewed or approved by June 30, 2020 (ILO 2020b).
- The government of Singapore similarly extended all expiring work visas for migrant workers for 3 to 5 months (ILO 2020a).
- Bahrain announced the termination of monthly work fees and fees for issuance and renewal of work permits for 3 months, decreased fees for flexible work permits, and provided amnesty for migrants in an irregular situation until December 31, 2020, so

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23 See Srivastava (2020b) for a detailed discussion of the portability of social security schemes in India.
that migrants would not have to pay to regularize their residency status or leave the
country (Gulf Insider 2020).
• Kuwait announced an extension of visas if workers fell into irregular status during the
lockdown (Arab News 2020).
• Kenya’s Ministry of Labor and Social Protection announced that regular migrant
workers who lost their jobs as a result of COVID-19 would not be considered irregular
migrants and that their residence or work permit would remain valid for the period
previously stipulated (ILO 2020c).
• In its EPS temporary migration program, Korea relaxed regulations on sectors of
employment for temporary migrants to allow them to work in agriculture and
extended the job search period for migrant workers seeking to change jobs (Moroz,
Shrestha, and Testaverde 2020).

Drawing on this experience, host countries may consider instituting more-flexible policies
that give migrant workers more time to search for jobs and hence better meet the needs of
the labor market.24

Migrant welfare funds and inclusion of mechanisms to support migrant workers during
shocks in bilateral migration agreements could also help de-risk international migration.
Governments in South Asia could consider increasing migrant welfare funds, which Bangladesh,
Nepal, Pakistan, and Sri Lanka have used, to respond to migrant worker needs in emergencies
and to fill gaps in social protection policies in destination countries. The International Labor
Organization recommends that bilateral labor agreements contain mechanisms to protect
migrant workers and facilitate their safe return, with force majeure clauses to ensure that situa-
tions such as pandemics are covered (Jones, Mudaliar, and Piper 2020). In Korea, foreign workers
under the EPS were eligible to benefit from fiscal measures to support small and medium enter-
prises enacted in response to the COVID-19 outbreak, including employment retention sub-
sidies and paid leave subsidies (Moroz, Shrestha, and Testaverde 2020). Governments may explore
options to make such arrangements a more regular feature of bilateral migration agreements.

Measures to preserve access to urban housing and introduction of urban temporary work-
fare programs that are open to migrant workers could help prevent costly, unnecessary
displacement of internal migrants during shocks. In addition to job loss, loss of access to
employer-provided housing may have been a factor behind the widespread displacement of
internal migrants during the early COVID lockdown phase (Moroz, Shrestha, and Testaverde
2020). This unnecessary displacement imposed a cost on society by aiding the spread of
COVID (Lee et al. 2021a) and hindering labor market recovery from the shock. To prevent

24 The evidence that international migrants may face labor market discrimination also suggests that more-flexible employment
and visa-related policies could be welfare enhancing (Aldashev, Gernandt, and Thomsen 2012; Samuel 2009; Walani 2015).
this from happening again, governments may wish to consider alternative housing market arrangements for migrant workers that are more resilient to shocks. They could also consider introducing a temporary workfare or job guarantee scheme in urban areas in addition to the existing rural schemes, such as India’s rural employment guarantee scheme—the Mahatma Gandhi National Rural Employment Guarantee Act 2005 (Ravallion 2019; Sukhtankar 2017). Some Indian states have recently implemented urban employment guarantee programs. A recent survey found that low-wage workers in urban India were willing to give up approximately one-quarter of their daily wage for a job guarantee (Dhingra and Machin 2021). For migrant workers facing job loss in urban areas, such a scheme would not only grant temporary relief, but might also prevent costly displacement by giving them time to find another job.

Migrant reintegration programs could also help de-risk migration, although there is limited evidence of this. Evidence based on the labor market trajectories of foreign migrants who returned home to Bangladesh and Nepal suggests that they face significant obstacles to finding jobs upon return and could benefit from labor market reintegration programs that help them find jobs or self-employment at home (Ahmed and Bossavie 2022). Migrants who return home earlier than planned because of lower-than-expected gains or adverse shocks at their destination might need more-intensive support than planned returnees, although there is limited evidence of the effectiveness of reintegration programs for internal and international migrants, and more careful piloting and evaluation of such programs would be helpful for policy makers.

Comprehensively extending social protection systems to the informal sector would also reduce risks for migrants without access to social protection programs. South Asia’s vast informal sector is vulnerable to shocks, and a large segment of it is outside the reach of formal social protection systems for delivering unemployment insurance, labor market training, and matching jobseekers to employers. Because simply extending existing formal-sector benefits and social protection infrastructure to this segment is too costly, there is a need for innovative, multipronged approaches to providing social protection to the informal sector (Bussolo and Sharma, forthcoming). Governments are moving in this direction by including the informal sector in social protection reform plans and exploring the potential of digital technologies to deliver social protection at low cost. For example, Nepal’s most recent (15th) economic development plan includes universalization of social protection and expansion of noncontributory social assistance programs and contributory programs to the informal sector (NPC 2020). The Indian government has introduced an online portal where informal workers can register for access to social protection programs.27

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25 For example, in Kerala, the Bhavanam Foundation, a public sector nonprofit company, implemented a migrant hostel program to house interstate migrants.

26 Urban employment guarantee programs have been introduced recently in Tamil Nadu and Rajasthan.

The design of new social protection programs for the informal sector and their supporting data infrastructure should consider how to include internal migrants without inadvertently deterring mobility. Because temporary migrant workers are largely in the informal sector, the trend toward extending social protection bodes well in terms of de-risking migration. Inclusion of migrants in new programs for the informal sector may require that their eligibility conditions and the mechanisms for program access and delivery be sensitive to their situation. This may entail specific investments in information systems and administrative capacity. Consideration should also be given to ensuring that dependents who move with migrants (e.g., children and female family members who accompany male migrants) are not excluded. Furthermore, making the benefits fully portable may be necessary to ensure that such programs do not deter migration by tying benefits to home locations.

3.4.3 Information, uncertainty, and the psychology of moving

Misinformation about the risks of and returns from moving distorts migration decisions. There is some evidence that potential migrants do not correctly assess risks of and returns from moving. For example, potential migrants from Nepal overestimate the increase in earnings and the risk of mortality involved in moving to Malaysia and GCC countries for work. A randomized experiment found that providing inexperienced potential migrants with information about true wages at their destination would reduce their migration rate, whereas correcting their overly pessimistic expectations about the risk of mortality from moving would increase their migration rate (Shrestha 2020). Better information can help correct distorted migration choices.

Information and training programs are helping potential migrants make better decisions about moving. Bangladesh, India, and Sri Lanka have programs that provide pre-decision and pre-departure information to help potential migrants make better decisions about whether to move, where to move, and how to navigate the migration and remittance-sending process (Ahmed and Bossavie 2022). For example, Bangladesh’s Safe Migration program uses community volunteers, radio programs, and interactive theater to provide pre-decision and pre-departure information to potential migrants. This program reduced the rate of migration among poor households, which could be because it deterred poor migration choices motivated by overly optimistic expectations (Das et al. 2019), although a survey of interactive media programs that help potential migrants better picture life under different migration scenarios showed mixed results (McKenzie 2022). For example, providing labor market information increased migration from rural Kenya (Baseler 2021) but had no impact on seasonal migrants from Bangladesh (Bryan, Chowdhury, and Mobarak 2014).
References


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Appendices

Appendix A.3.1 Consumer Pyramid Household Survey—India

The Center for Monitoring Indian Economy administers the Consumer Pyramid Household Survey (CPHS) to a panel of 174,000 Indian households over a 4-month period, called a “wave,” three times per year. Each survey wave is representative of the Indian population. A household surveyed in one wave is resurveyed in the next wave approximately 4 months later. In this sense, the set of households covered in 1 full month of the survey can be considered a monthly “cohort” that reappears in the CPHS panel after 4 months. The survey is planned and executed so that the households surveyed each month are well distributed over the country and each monthly cohort gives a balanced picture of the country.

For all analyses in this chapter, we define waves 15 to 18 as the pre-COVID period (September 2018-December 2019). The initial lockdown in India was imposed on March 24, 2020 (and fell in the middle of wave 19 of the survey) and was extended several times, until the end of May 2020. In the following months, more-localized policy measures continued to restrict mobility, and in April 2021, because of the Delta waves, several states re-instated complete lockdowns. As a result, mobility did not begin to return to pre-COVID levels until the second half of June 2021, after restrictions were eased. We consider this whole period between March 2020 and June 2021 as the COVID period for the purpose of the analysis in this chapter. During this period, the CPHS survey was administered in four more waves (waves 19-23). Wave 24, which was administered in September 2022, is considered to be the start of the post-COVID recovery. The latest available round of data is from January 2022, which is the first month of wave 25.

CPHS provides information on the status of each household member three times per year. A member can continue to reside in the household from the past wave or have left the household through migration or death or because the entire household moved. New members can join the household by migrating into the household, returning after migrating in previous waves, or through birth. Hence, in this chapter, outmigration is measured as the total number of household members that had emigrated at the time of the survey but had been part of the household during the previous survey round. In-migration is measured as the number of household members who had joined the household at the time of the survey round but had not been part of the household in the previous round. In-migration, therefore, includes
returning migrants and new household members, such as daughters-in-law after marriage, which is common in India

The survey is typically conducted face to face but owing to the COVID lockdown in India after the third week of March, the face-to-face interview format was replaced with a telephonic format, allowing the Center for Monitoring Indian Economy to continue gathering data. Response rates dropped from an average of approximately 80 percent in the early months of the pandemic to 64 percent in wave 19 and 44 percent in wave 20 but recovered again to 70 percent by wave 21. Sample weights and weights to adjust for non-response ensure that the data are representative of the population across all waves (Vyas 2020). However, CPHS does not provide sample weights for household members who migrate out of the household, so non-response cannot be adjusted for in all analyses in which migration statistics are used. To the extent that households with migrants were less or more likely to respond to the survey during the COVID period than households with no migrants, migration might have been slightly over- or underestimated.

Appendix A.3.2 World Bank SAR COVID-19 Phone Monitoring Surveys

COVID-19-induced lockdowns in countries in South Asia greatly reduced mobility, which in turn affected economic outcomes in these countries. Soon after the initial COVID shock, the World Bank launched the SAR COVID-19 Phone Monitoring Survey to explore the effects of the pandemic on labor market outcomes. The first round of the survey was conducted 5 to 12 months after the first lockdown was imposed (depending on the country) and the second round approximately 20 months after the first lockdown was imposed. For the purposes of this analysis, baseline is defined as January 2020 (before lockdowns). The first round of the survey covered 44,880 individuals from all eight South Asian countries (Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, Sri Lanka), and the second round covered 1,370 individuals from four South Asian countries (Bhutan, Nepal, Pakistan, Sri Lanka). In this analysis, a migrant is defined as a person residing in a different location in the same country at the time of the survey than before the lockdowns in March 2020. It is not possible to distinguish new migrants from return migrants using this definition of mobility; some of the migration observed here might include return migration.

28 Respondents were selected using random digit dialing, and geographic quotas on sub-national sample sizes were used. At least 30 percent of the respondents were required to be female.
29 In the Maldives, Pakistan, and Sri Lanka, migration can be measured within and between provinces but not within a district.
Figure A.3.1. Spatial correlation between net migration and job recovery rates (district-level)

Note: The graphs show the scatterplots of districts for each of the four South Asian countries in the sample. The x-axis reports the ratio of the number of individuals residing in the district at the time of the second round of the survey who were employed in a different job after March 2020 than in January 2020 to the number of individuals residing in the district in January 2020 who lost or changed the job that they had in January 2020 between March 2020 and the time of the first round of the survey. The y-axis reports the district-level net migration rate (in-migration rate minus outmigration rate) between January 2020 and the time of the second round of the survey. The right tail for the district job recovery rates and the net migration rates has been winsorized (top-coded) at the 95th percentile for outliers. In addition, for Nepal, four additional outlier observations, which are included in the statistical analysis, have been removed from the graph above for visual representation purposes.

Appendix A.3.3 Pakistan COVID Special Survey (2020)—Data and analysis

The Pakistan Bureau of Statistics conducted a special survey between October and November 2020 to evaluate the socioeconomic impact of COVID-19 on the well-being of people using the 2017 Population and Housing Census to design the sample for this survey. Data from this survey were used in the current report to investigate the initial impacts of COVID-19 on migrant-dependent households in Pakistan during the national lockdown period, which lasted from April to July 2020. A household-level panel was created covering three periods: before COVID-19 (January-March 2020), during COVID-19 (April-July 2020), and after COVID-19 (after the lockdown period and during the week before the survey).
In this analysis, a household is defined as remittance dependent if it reported receiving remittances before COVID-19. Remittance-dependent (RD) households are divided into domestic RD households and foreign RD households based on whether they received domestic remittances or foreign remittances before COVID-19. Only a small share of households received domestic and foreign remittances. The households that did not receive either of these remittances before COVID-19 are classified as not RD.

Tables A.3.1 to A.3.4 illustrate the impacts of the initial lockdown on RD households. The outcome variables of interest in the regressions are the logs of per capita labor, remittance, other, and total income (sum of per capita labor, remittance, and other income). Equation (1) is the dense household fixed-effects regression model that was used to estimate the impact of the initial lockdown on all of the outcome variables. In each of the tables, column 1 shows results from a simple regression model with no controls; column 2 shows results from a sparse regression model that controls for the education of household head, whether the household has agricultural land, and whether the household is in an urban or rural region (as well as the interactions between these variables and the time dummy for during COVID-19); and column 3 shows results from the dense regression model, which additionally controls for household attributes such as education, industry affiliation, household size, working age population, share of women, region (rural/urban), asset ownership, and the province in which the household is located (as well as the interactions between these variables and the time dummy for during COVID-19).

\[
Y_{it} = \alpha_1 Dur_{it} + \alpha_2 Dur_{it} \times D_{it} + \alpha_3 Dur_{it} \times F_{it} + \alpha_4 D_{i} + \alpha_5 F_{i} + (\beta_1 X_{i,j} + \beta_2 X_{i,j} + \ldots + \beta_{10} X_{i,10,j}) + (\gamma_1 Dur \times X_{i,j} + \gamma_2 Dur \times X_{i,j} + \ldots + \gamma_{10} Dur \times X_{i,10,j}) \tag{1}
\]

Here, \(Y_{it}\) is the outcome variable of interest for household \(i\) in time \(t\) (where \(t=1\) for during COVID-19 and \(t=0\) for before COVID-19). \(Dur_{it}\) is a dummy for during COVID-19, \(D_{it}\) is a dummy for domestic RD households, and \(F_{it}\) is a dummy for foreign RD household. \(X_{i,j}\) to \(X_{i,10,j}\) are the set of controls. The main coefficients of interest are \(\alpha_2\) and \(\alpha_3\).
### Table A.3.1. Regression of per capita labor income on remittance-dependence (RD) status during COVID in Pakistan

<table>
<thead>
<tr>
<th>Model</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>log (1 + per capita labor income)</td>
<td>log (1 + per capita labor income)</td>
<td>log (1 + per capita labor income)</td>
</tr>
<tr>
<td></td>
<td>Fixed effects</td>
<td>Fixed effects</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>During COVID</td>
<td>-0.302***</td>
<td>-0.294***</td>
<td>-0.460**</td>
</tr>
<tr>
<td></td>
<td>(0.0157)</td>
<td>(0.0333)</td>
<td>(0.194)</td>
</tr>
<tr>
<td>During COVID x Domestic RD</td>
<td>-0.311***</td>
<td>-0.310***</td>
<td>-0.268***</td>
</tr>
<tr>
<td></td>
<td>(0.0922)</td>
<td>(0.0918)</td>
<td>(0.0869)</td>
</tr>
<tr>
<td>During COVID x Foreign RD</td>
<td>-0.227***</td>
<td>-0.193**</td>
<td>-0.0652</td>
</tr>
<tr>
<td></td>
<td>(0.0902)</td>
<td>(0.0901)</td>
<td>(0.0892)</td>
</tr>
<tr>
<td>Education of household head</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Has agricultural land</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No. of household members</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of household members in working age group</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of women in household</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owns a house</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wealth index</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Province controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>8,135</td>
<td>8,135</td>
<td>8,135</td>
</tr>
</tbody>
</table>

**Source:** Staff calculations, Pakistan COVID Special Survey 2020.

**Note:** Regressions include household fixed effects. Columns (2) and (3) include controls for household characteristics and their interactions with the “During COVID” time dummy. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Table A.3.2. Regression of per capita remittance income on remittance-dependence (RD) status during COVID in Pakistan

<table>
<thead>
<tr>
<th>Model</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fixed effects</td>
<td>Fixed effects</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>During COVID</td>
<td>0.129***</td>
<td>0.0550</td>
<td>0.370</td>
</tr>
<tr>
<td></td>
<td>(0.0246)</td>
<td>(0.0523)</td>
<td>(0.333)</td>
</tr>
<tr>
<td>During COVID x Domestic RD</td>
<td>-2.496***</td>
<td>-2.528***</td>
<td>-2.741***</td>
</tr>
<tr>
<td></td>
<td>(0.144)</td>
<td>(0.144)</td>
<td>(0.149)</td>
</tr>
<tr>
<td>During COVID x Foreign RD</td>
<td>-2.978***</td>
<td>-3.038***</td>
<td>-3.189***</td>
</tr>
<tr>
<td></td>
<td>(0.141)</td>
<td>(0.142)</td>
<td>(0.153)</td>
</tr>
<tr>
<td>Education of household head</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Has agricultural land</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No. of household members</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of household members in working age group</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of women in household</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owns a house</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wealth index</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Province controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>8,135</td>
<td>8,135</td>
<td>8,135</td>
</tr>
</tbody>
</table>

Source: Staff calculations, Pakistan COVID Special Survey 2020.

Note: Regressions include household fixed effects. Columns (2) and (3) include controls for household characteristics and their interactions with the “During COVID” time dummy. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Table A.3.3. Regression of per capita other income on remittance-dependence (RD) status during COVID in Pakistan

<table>
<thead>
<tr>
<th>Model</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fixed effects</td>
<td>Fixed effects</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>log (1 + per capita other income)</td>
<td>1.828***</td>
<td>2.506***</td>
<td>2.424***</td>
</tr>
<tr>
<td></td>
<td>(0.0586)</td>
<td>(0.122)</td>
<td>(0.771)</td>
</tr>
<tr>
<td>During COVID x Domestic RD</td>
<td>0.320</td>
<td>0.381</td>
<td>0.436</td>
</tr>
<tr>
<td></td>
<td>(0.343)</td>
<td>(0.336)</td>
<td>(0.345)</td>
</tr>
<tr>
<td>During COVID x Foreign RD</td>
<td>-0.615*</td>
<td>-0.634*</td>
<td>-0.320</td>
</tr>
<tr>
<td></td>
<td>(0.336)</td>
<td>(0.330)</td>
<td>(0.354)</td>
</tr>
<tr>
<td>Education of household head</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Has agricultural land</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No. of household members</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of household members in working age group</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of women in household</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owns a house</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wealth index</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Province controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>8,135</td>
<td>8,135</td>
<td>8,135</td>
</tr>
</tbody>
</table>

Source: Staff calculations, Pakistan COVID Special Survey 2020.
Note: Regressions include household fixed effects. Columns (2) and (3) include controls for household characteristics and their interactions with the “During COVID” time dummy. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Table A.3.4. Regression of per capita total income on remittance-dependence (RD) status during COVID in Pakistan

<table>
<thead>
<tr>
<th>Model</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>log (1 + per capita total income)</td>
<td>log (1 + per capita total income)</td>
<td>log (1 + per capita total income)</td>
</tr>
<tr>
<td></td>
<td>Fixed effects</td>
<td>Fixed effects</td>
<td>Fixed effects</td>
</tr>
<tr>
<td>During COVID</td>
<td>-0.151***</td>
<td>-0.103***</td>
<td>-0.212</td>
</tr>
<tr>
<td></td>
<td>(0.0151)</td>
<td>(0.0322)</td>
<td>(0.196)</td>
</tr>
<tr>
<td>During COVID x Domestic RD</td>
<td>-0.356***</td>
<td>-0.376***</td>
<td>-0.371***</td>
</tr>
<tr>
<td></td>
<td>(0.0886)</td>
<td>(0.0886)</td>
<td>(0.0877)</td>
</tr>
<tr>
<td>During COVID x Foreign RD</td>
<td>-0.481****</td>
<td>-0.482****</td>
<td>-0.423****</td>
</tr>
<tr>
<td></td>
<td>(0.0868)</td>
<td>(0.0870)</td>
<td>(0.0901)</td>
</tr>
<tr>
<td>Education of household head</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Has agricultural land</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>No. of household members</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No. of household members in working age group</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share of women in household</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owns a house</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wealth index</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Province controls</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observations</td>
<td>8,135</td>
<td>8,135</td>
<td>8,135</td>
</tr>
</tbody>
</table>

Source: Staff calculations, Pakistan COVID Special Survey 2020.
Note: Regressions include household fixed effects. Columns (2) and (3) include controls for household characteristics and their interactions with the “During COVID” time dummy. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Appendix A.3.4 Differences in the characteristics of migrant-sending and non-sending households

To understand how migrant-sending households differed in demographic and financial characteristics from non-sending households in South Asian countries before the pandemic, we used data from household surveys and ran simple regressions at the household level, with district or province fixed effects. The analysis (Tables A.3.5-A.3.8) suggests that migrant-sending households are systematically different from non-sending households on multiple characteristics, although this could reflect differential selection into migration or a cumulative effect of a household’s migration history and remittance receipts.

Across countries in this analysis, migrant-sending households were found, on average, to be wealthier, more likely to own a house or land, and had higher annual consumption. Among migrant-sending households, those with foreign migrants were significantly wealthier in Bangladesh and Pakistan and had substantially higher consumption expenditures in Bangladesh and India, probably because of remittance inflows from migrants earning higher wages abroad.

Table A.3.5. Differences between migrant-sending and non-sending households in Pakistan

<table>
<thead>
<tr>
<th></th>
<th>Household head age</th>
<th>Rural share</th>
<th>Share of women</th>
<th>Own agricultural land?</th>
<th>Own a house?</th>
<th>Average working age members in household</th>
<th>Wealth Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic migrant-sending households</td>
<td>1.352</td>
<td>0.047</td>
<td>0.127***</td>
<td>0.065***</td>
<td>0.049</td>
<td>-0.155</td>
<td>2.849***</td>
</tr>
<tr>
<td></td>
<td>[0.91]</td>
<td>[0.03]</td>
<td>[0.01]</td>
<td>[0.02]</td>
<td>[0.03]</td>
<td>[0.12]</td>
<td>[0.97]</td>
</tr>
<tr>
<td>Foreign migrant-sending households</td>
<td>3.896***</td>
<td>0.02</td>
<td>0.129***</td>
<td>0.089***</td>
<td>0.077**</td>
<td>0.222*</td>
<td>4.941***</td>
</tr>
<tr>
<td></td>
<td>[0.92]</td>
<td>[0.03]</td>
<td>[0.01]</td>
<td>[0.02]</td>
<td>[0.03]</td>
<td>[0.12]</td>
<td>[0.98]</td>
</tr>
<tr>
<td>Observations</td>
<td>5,451</td>
<td>5,464</td>
<td>5,464</td>
<td>5,462</td>
<td>5,462</td>
<td>5,464</td>
<td>5,464</td>
</tr>
</tbody>
</table>

Source: Staff calculations, Pakistan COVID Special Survey 2020.
Note: The data from this survey are from during the pandemic, although these results have been used as an indicator of pre-pandemic differences, because wealth measures are usually slow to change. The wealth index ranges from 0 to 100, with 0 indicating that the household had no assets and 100 that the household had all 35 assets. Migration was measured at the household level, with a household defined as a migrant-sending household if it depended on remittances from domestic or foreign migrants. For the purposes of this analysis, only 5,475 households with at least one member of working age (15-64) have been included. Regressions include province fixed effects. Standard errors reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Table A.3.6. Differences between migrant-sending and non-sending households in Bangladesh

<table>
<thead>
<tr>
<th></th>
<th>Domestic migrant-sending households</th>
<th>Foreign migrant-sending households</th>
<th>Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household size</td>
<td>-0.27***</td>
<td>-0.25***</td>
<td>45,411</td>
</tr>
<tr>
<td># Working age members in household</td>
<td>-0.18***</td>
<td>-0.38***</td>
<td>45,411</td>
</tr>
<tr>
<td># Male members in household</td>
<td>-0.32***</td>
<td>-0.63***</td>
<td>45,110</td>
</tr>
<tr>
<td>Household head male?</td>
<td>-0.20***</td>
<td>-0.44***</td>
<td>45,111</td>
</tr>
<tr>
<td>Household head age</td>
<td>6.02***</td>
<td>0.39</td>
<td>45,411</td>
</tr>
<tr>
<td>Household head educated?</td>
<td>0.00</td>
<td>0.09***</td>
<td>45,411</td>
</tr>
<tr>
<td>Rural?</td>
<td>0.07***</td>
<td>0.07***</td>
<td>45,481</td>
</tr>
<tr>
<td>Annualized consumption expenditure (Bangladeshi taka)</td>
<td>6,061</td>
<td>52,498</td>
<td>45,481</td>
</tr>
<tr>
<td>Value of non-land assets owned (Bangladeshi taka, '000)</td>
<td>413.57***</td>
<td>1,225.66***</td>
<td>45,481</td>
</tr>
<tr>
<td>Own house currently residing in?</td>
<td>0.05***</td>
<td>0.12***</td>
<td>45,481</td>
</tr>
<tr>
<td>Own agricultural land?</td>
<td>0.08***</td>
<td>0.16***</td>
<td>45,391</td>
</tr>
<tr>
<td>Area of agricultural land owned (acres)</td>
<td>-0.13</td>
<td>0.02</td>
<td>45,391</td>
</tr>
</tbody>
</table>

[0.07] [0.05] [0.05] [0.02] [0.54] [0.02] [0.01] [5,498] [123.34] [0.01] [0.02] [0.08]

[0.06] [0.04] [0.05] [0.01] [0.42] [0.01] [0.01] [4,652] [110.57] [0.01] [0.01] [0.09]

Source: Staff calculations, Bangladesh Household Income and Expenditure Survey 2016.

Note: This data source is a comprehensive nationally representative survey covering 46,080 households. Migration was measured at the household level, with a household defined as a migrant-sending household if any member of the household had migrated domestically or internationally during the previous 5 years. Regressions include district fixed effects. Standard errors reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Table A.3.7. Differences between migrant-sending and non-sending households in Nepal

<table>
<thead>
<tr>
<th></th>
<th>Household head male?</th>
<th>Household head age</th>
<th>Household head educated?</th>
<th>Annualized consumption expenditure (Nepalese rupee)</th>
<th>Value of non-land assets owned (Nepalese rupee)</th>
<th>Own house?</th>
<th>Own agricultural land?</th>
<th>Area of agricultural land owned (sq. m.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic migrant-sending households</td>
<td>1.02***</td>
<td>0.16**</td>
<td>-0.20***</td>
<td>3.53***</td>
<td>0.07***</td>
<td>13,296*</td>
<td>0.01**</td>
<td>0.03**</td>
</tr>
<tr>
<td></td>
<td>[0.09]</td>
<td>[0.06]</td>
<td>[0.05]</td>
<td>[0.02]</td>
<td>[0.50]</td>
<td>[5,777]</td>
<td>[14,792]</td>
<td>[0.00]</td>
</tr>
<tr>
<td>Foreign migrant-sending households</td>
<td>0.88***</td>
<td>-0.14**</td>
<td>-0.31***</td>
<td>1.13**</td>
<td>-0.13***</td>
<td>4,075</td>
<td>0</td>
<td>-0.01</td>
</tr>
<tr>
<td></td>
<td>[0.06]</td>
<td>[0.04]</td>
<td>[0.04]</td>
<td>[0.01]</td>
<td>[0.40]</td>
<td>[3,714]</td>
<td>[7,645]</td>
<td>[0.00]</td>
</tr>
<tr>
<td>Observations</td>
<td>5,654</td>
<td>5,654</td>
<td>5,654</td>
<td>5,654</td>
<td>5,654</td>
<td>5,654</td>
<td>5,654</td>
<td>5,654</td>
</tr>
</tbody>
</table>


Note: This data source covers 6,000 households in 400 communities in non-metropolitan areas of Nepal (according to the 2010 Census definition, excluding households in the Kathmandu Valley). Migration was measured at the household level, with a household defined as a migrant-sending household if any members of the household were living away from home at the time but economically linked to the household. Regressions include district fixed effects. Standard errors reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.
Table A.3.8. Differences between migrant-sending and non-sending households in India

<table>
<thead>
<tr>
<th></th>
<th>Household size</th>
<th># Working age members in household</th>
<th># Male members in household</th>
<th>Household head male?</th>
<th>Household head age</th>
<th>Household head educated?</th>
<th>Annualized consumption expenditure (Indian rupee)</th>
<th>Area of land owned (hectares)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic migrant-sending</td>
<td>0.10***</td>
<td>0.32***</td>
<td>-0.08***</td>
<td>-0.07***</td>
<td>6.26***</td>
<td>-0.07***</td>
<td>3,322***</td>
<td>0.60***</td>
</tr>
<tr>
<td>households</td>
<td>[0.03]</td>
<td>[0.02]</td>
<td>[0.02]</td>
<td>[0.00]</td>
<td>[0.14]</td>
<td>[0.01]</td>
<td>[542]</td>
<td>[0.02]</td>
</tr>
<tr>
<td>Foreign migrant-sending</td>
<td>-0.08</td>
<td>-0.14*</td>
<td>-0.44***</td>
<td>-0.24***</td>
<td>7.54***</td>
<td>0.09***</td>
<td>27,022***</td>
<td>0.23***</td>
</tr>
<tr>
<td>households</td>
<td>[0.10]</td>
<td>[0.06]</td>
<td>[0.06]</td>
<td>[0.02]</td>
<td>[0.48]</td>
<td>[0.02]</td>
<td>[2,133]</td>
<td>[0.06]</td>
</tr>
<tr>
<td>Observations</td>
<td>125,578</td>
<td>125,578</td>
<td>125,578</td>
<td>125,578</td>
<td>125,578</td>
<td>125,578</td>
<td>125,456</td>
<td></td>
</tr>
</tbody>
</table>

Source: Staff calculations, India National Sample Survey—64th Round (2007-08).

Note: This data source consists of a nationally representative sample of 125,578 households. Migration was measured at the household level, including members who had migrated at any time in the past. For this analysis and for consistency with the Bangladesh Household Income and Expenditure Survey, a household was defined as a migrant-sending household if it had a member who had migrated during the previous 5 years. Regressions include district fixed effects. Standard errors reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1.