

Coping with Shocks

Migration and the Road to Resilience



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Abbreviations

Abbreviation	Name
3mma	3-Month Moving Average
ADB	Asian Development Bank
AE	Advanced Economy
AFG	Afghanistan
BDT	Bangladeshi Taka
BGD	Bangladesh
BTN	Bhutan
CBPS	Cox's Bazar Panel Survey
CEIC	Computer and Enterprise Investigations Conference Global Database
CEM	Country Economic Memorandum
COP26	2021 United Nations Climate Change Conference
COVID-19	Coronavirus (SARS-CoV2)
CPHS	Consumer Pyramid Household Survey
CPI	Consumer Price Index
CPMS	COVID-19 Phone Monitoring Survey
DSSI	Debt Service Suspension Initiative
EFF	Extended Fund Facility
EMBI	Emerging Market Bond Index
EMDE	Emerging Market and Developing Economy
EPS	Employment Permit System
EU	European Union
FCV	Fragile, Conflict, and Violence
FII	Foreign Institutional Investment
FPI	Foreign Portfolio Investment
FTSE	Financial Times Stock Exchange
FY	Fiscal Year
GCC	Gulf Cooperation Council
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GHG	Greenhouse Gas (Emissions)
GNI	Gross National Income
GNP	Gross National Product
GST	Goods and Services Tax
HIES	Household Income and Expenditure Survey

IIASA	International Institute for Applied Systems Analysis
ILO	International Labour Organization
IMF	International Monetary Fund
IND	India
INR	Indian Rupee
IOM	International Organization for Migration
IZA	Institute of Labor Economics
KNOMAD	The Global Knowledge Partnership on Migration and Development
LESSO	Least Absolute Shrinkage and Selection Operator
LCU	Local Currency Unit
LFP	Labor Force Participation
LFS	Labor Force Survey
LKA	Sri Lanka
LMC	Lower-Middle-Income Country
LSS	Living Standards Survey (Nepal)
MDV	Maldives
MFM	Macroeconomic-Fiscal Model (World Bank)
MPO	Macro Poverty Outlook
MSME	Micro, Small, and Medium Enterprise
NBFC	Non-Bank Financial Corporations
NEER	Nominal Effective Exchange Rate
NPC	National Planning Commission
NPL	Nepal
NPL	Non-Performing Loan
NSA	Not Seasonally Adjusted
NSS	National Sample Survey
PAK	Pakistan
PDS	Public Distribution System
PKR	Pakistani Rupee
PMI	Purchasing Managers' Index
PPP	Purchasing Power Parity
R1	Round one
R2	Round two
R3	Round three
RD	Remittance Dependent
RHS	Right-hand side
S&P	Standard & Poor
SAR	South Asia Region
SDGs	Sustainable Development Goals
SDR	Special Drawing Right

TCB	Trading Corporation of Bangladesh
TFP	Total factor productivity
UK	United Kingdom
UMC	Upper-Middle-Income Country
UNDESA	United Nations Department of Economic and Social Affairs
UNHCR	United Nations High Commissioner for Refugees
US	United States
USD	United States Dollar
VAR	Vector Autoregression (Model)
WDI	World Development Indicators
WFP	World Food Programme
WPI	Wholesale Price Index
y-o-y	year-over-year



Executive Summary

In short order, a series of once-in-a-lifetime shocks has hit South Asia. The devastating floods in Pakistan, a full-blown economic crisis in Sri Lanka, and the ongoing war in Ukraine, which caused skyrocketing commodity prices, are happening when countries in South Asia are still trying to recover from COVID-19. As a result of these crises, many households face severe economic hardship. In Sri Lanka, people suffer from shortages of essential items; floods in Pakistan have wreaked havoc on millions of people that lost their homes; soaring food prices across the region have adverse impacts on households' ability to obtain sufficient food; people in Afghanistan suffer from double-digit declines in income and reduced access to core services; and the lives of migrant workers, upended during COVID lockdowns, face uncertainty and possible scarring effects from the pandemic.

The economic headwinds manifest themselves as problems in the balance of payments. Elevated global food and energy prices have increased import bills while a slowdown in the global economy has reduced momentum in the region's export growth. This happens when trade balances were already deteriorating because of a rise in domestic spending: government deficits were increasing because of relief efforts and private consumption rebounded after the lockdowns ended. Falling or stagnating remittance inflows through official channels have worsened the situation further for several countries. The resulting larger current-account deficits are becoming increasingly difficult to finance. Heightened uncertainty in the global markets, together with monetary tightening in advanced economies, have shifted investor sentiment and increased net capital outflows from the region in the first half of 2022. The balance-of-payments pressures have in turn resulted in dwindling foreign exchange reserves and led to requests by Sri Lanka, Pakistan, and Bangladesh to the IMF for support. Countries have also resorted to restrictive measures to curb imports, but with potentially detrimental effects on the economic recovery. Apart from the balance-of-payment problems, several serious domestic challenges also warrant attention, not least the supply bottlenecks and deteriorated asset quality in the financial sectors.

Despite the mounting challenges, there are also optimistic signs, as some sectors and some countries are recovering strongly. In India, services exports have recovered more strongly than in the rest of the world, and India's ample foreign reserve buffers have afforded resilience to the country's external sector. In most countries in the region, telecom and business services are also driving the recovery. The recovery of the tourism sector has remained robust in Maldives, while Bhutan recently fully re-opened its borders to tourists after prolonged lockdowns since 2020.

Against this backdrop, growth forecasts for South Asia have been downgraded. Growth in the region is expected to slow down to 5.8 percent in the calendar year 2022, 1 percentage point lower than forecasted in June, mainly because of a weakening of growth in the second half of 2022. The growth path diverges among South Asian countries: The more services-led economies (India, Nepal, and Maldives) are expected to maintain a reasonable recovery trend despite headwinds, while Afghanistan, Sri Lanka and Pakistan are in more precarious shapes and will see poverty increase in 2022 amid severe domestic crises. All countries in the region will see their resilience tested as global energy prices are expected to remain very high and global demand for goods will weaken. The countries responding to high import prices by setting price caps or quantity barriers—which distort price signals—will experience a negative impact on growth.

The growth forecast depends on the uncertain outlook for commodity prices, growth in high-income countries, and the amount of tightening in global financial markets. The report presents simulations to assess the impact of a changing international environment. The impact differs across countries, but the general conclusion is that changes in commodity prices have the largest impact. The impact of changes in import demand in the rest of the world and of capital-flow reversals is more muted as South Asia has not deeply penetrated export markets and several countries had limited access to private international finance.

Various structural changes are occurring in the background, which creates opportunities for the region's long-term resilience. A realization that the limited fiscal space is impacting debt sustainability has led many countries to undertake revenue measures such as increasing indirect taxes, broadening the tax base, and reducing fuel subsidies, which if fully implemented could improve long-term fiscal viability. Financial innovations and digital technologies that create more flexible employment opportunities could provide people with tools to withstand future shocks and increase the region's resilience. However, it is crucial that the opportunities translate into a more inclusive development path in which workers in the informal sector, and especially women have better access to markets and finance. On the downside, extreme weather events will become much more common with climate change, which calls for the urgent need to improve climate resilience through upgrading adaptation mechanisms and maintaining sufficient financial reserves.

Labor migration, both international and domestic, is a key part of life in South Asia. 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. In parts of Bangladesh, approximately one-third of households out-migrate temporarily during the pre-harvest lean season. The flow of migrants represents the interaction of two economic forces: reallocation of labor to places where it is more productive and adjustment to local economic shocks such as weather-related shocks; both are central to inclusive and resilient development.

Despite the importance of migration to individuals and the region, migrants in South Asia face considerable barriers to mobility. 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. 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, as migrants returning home during COVID-related lockdowns face multiple hardships. New survey-based evidence confirms that the COVID shock substantially slowed down new migration flows and created an unprecedented wave of return migration. The surveys also reveal that return migrants, especially women, struggled to assimilate into the home labor markets, with high unemployment rates among the newly returned migrants. Due to the overall fall in outmigration, migrant-sending households experienced disproportionate declines in income, driven by a drop in remittances received. A troubling possibility is that the pandemic shock has had long-term scarring effects on the costs and frictions associated with migration.

To ensure that migration can continue to play a key role in development and as a coping mechanism in the face of shocks, two policies deserve priority. First, it is vital to address unnecessarily high costs and frictions in migration, particularly those that might have worsened during the COVID crisis. 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.



CHAPTER I

Braving the perfect storm

Introduction

As South Asia trudges ahead on the road to recovery, the region faces extremely difficult economic challenges. Internally, economies are weighed down by scars from the COVID pandemic, as supply bottlenecks and uncertainty over asset quality deterioration in the financial sector persist. Externally, all challenges manifest as problems in the balance of payments. Elevated global food and energy prices, as well as trade restrictions imposed in response, have led to broad-based increases in domestic inflation, contributed to food insecurity in the region, and together with recovering domestic demand have raised import bills for all South Asian countries. A slowdown in the global economy has reduced momentum in the region's export growth, contributing to trade imbalances and balance of payment pressures. Falling or stagnating remittance inflows through official channels may have worsened the situation further for countries that depended on remittances in the past. Heightened uncertainty in the global markets, together with monetary tightening in advanced economies, have shifted investor sentiment and increased net capital outflows from the region in the first half of 2022, exacerbating balance of payments pressures. The balance of payments pressures have in turn resulted in dwindling foreign exchange reserves and led to requests by Sri Lanka, Pakistan, and Bangladesh to the IMF for support. Countries have also resorted to restrictive measures to curb imports, but with potentially detrimental effects on the economic recovery.

Many households face severe economic hardship. Since earlier this year, a full-on economic crisis has unraveled in Sri Lanka, leading to wide spread shortages of essential items; floods in Pakistan have wreaked havoc in a country already bogged down by high inflation and pressures in the external sector; soaring food prices across the region have adverse impacts on households' ability to obtain sufficient food in a region already with food insecurity concerns; and the lives of migrant workers, upended during COVID lockdowns, face uncertainty and possible scarring effects from the pandemic. As a result, social and political tensions are increasing, compounding the macroeconomic challenges.

Despite the mounting challenges, there are optimistic signs, as some sectors and some countries have recovered strongly. Exports and overall economic activity in India, the largest

economy in the region, have recovered more strongly than the rest of the world, and its ample foreign reserve buffers and cautiously calibrated monetary policy steps have afforded resilience to the country's external sector. The recovery of services exports, particularly the tourism sector has remained robust in Maldives, and Bhutan recently fully re-opened its borders to tourists after prolonged lockdowns since 2020.

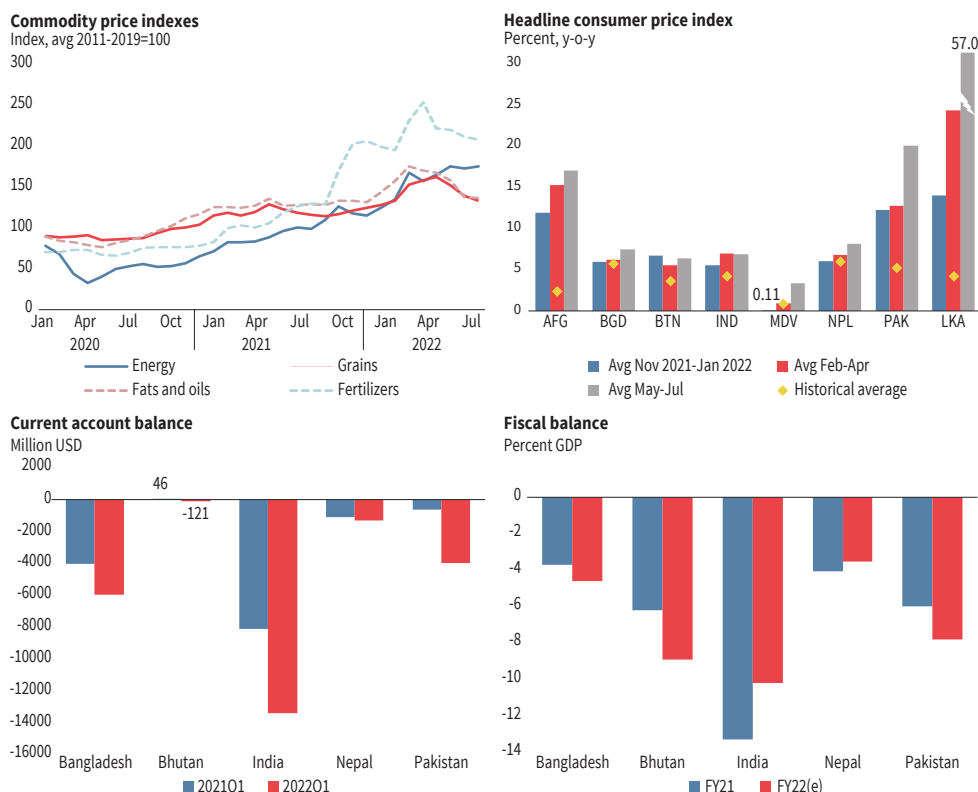
The chapter is divided as follows. Section 1.1 puts South Asia in a global context to highlight the growth strength and persistent difficulties. Section 1.2—Section 1.5 each focus on one challenge facing the region: elevated inflation, exacerbated food shortages, heightened external sector pressures, and vulnerabilities in the financial sector. Section 1.6 characterizes the fiscal and monetary situations and policies in the region.

1.1 A partial recovery amid global headwinds

South Asian countries are faced with a difficult global economic environment. Commodity prices have remained elevated since late 2021. In particular, high oil prices have contributed to higher inflation and larger import bills as most countries in the region are net energy importers. Major global economies are slowing down: in Europe due to the ongoing energy crisis, in the U.S. due to rapid tightening of monetary policy to fight high inflation, and in China due to continued COVID-related lockdowns which have led to significant downward revisions of its growth estimates. The external slowdown has created a drag on South Asia's merchandise exports and tourism, two sectors that are key to the economic growth of regional countries. Heightened global uncertainty and monetary tightening by advanced economies have led to capital outflows from regional economies and thus exacerbated balance of payments tensions.

Higher commodity prices have led to elevated domestic inflation, widening current account deficits (and fiscal deficits). Although global commodity prices have come down from their highest levels in spring, low and middle-income countries still face elevated commodity prices (Figure 1.1). The World Bank commodity price indexes for energy and fertilizers have more than doubled compared to the levels in 2019, while the price index for edible fats and oils and the index for grains remain 60 percent above 2019 levels. The fast-rising global commodity prices contributed to elevated headline consumer price (CPI) inflation, which is now above the historical average for all countries in the region, while currency depreciations against the US dollar have exacerbated the impact of rising global prices (Box 1.1). Since the war started in late February, inflation has risen in all countries, most notably in Afghanistan, Maldives, Pakistan, and Sri Lanka, which depend heavily on energy imports. Current account deficits have widened compared to the same period last year in almost all South Asian countries, as higher prices of imported goods and recovering domestic demand push up import

Figure 1.1. Higher commodity prices led to elevated inflation, widening current and fiscal deficits



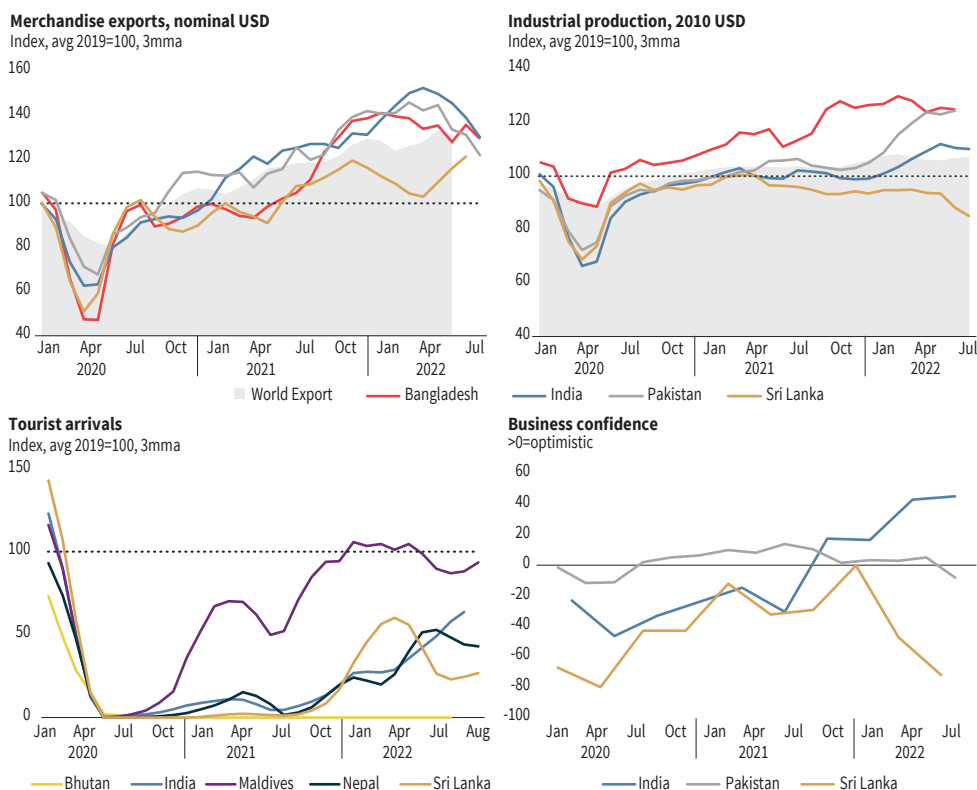
bills faster than increases in exports. At the same time, higher subsidy costs due to higher commodity prices have contributed to rising fiscal deficits in many regional countries.

Despite the external headwinds, some sectors and countries have seen a strong bounce back from the impact of COVID, while others are lagging. Merchandise export values in US dollars from the region's major exporters (except Sri Lanka) have recovered more strongly than the rest of the world (Figure 1.2), although the global slowdown has limited the region's export growth since April.¹ Sri Lanka's exports also recovered in 2022Q2 although still lag behind others in the region. Industrial production in real terms has risen, except in Sri Lanka,

¹ The region lacks high-frequency data on export volumes, and elevated global inflation contributes to the growth in export values. But to the extent that global inflation contributes in the same way to South Asia's export values and to the world export values, the stronger recovery of exports in South Asia compared to the world suggests a stronger recovery in export volumes as well.

since the beginning of the year, as COVID risk subsides, and has surpassed the speed of recovery elsewhere. Tourism continues to recover in Maldives, with tourist arrivals in May 20 percent above the level in the same month of 2019. Tourist arrivals in India and Nepal continue to recover from the lows during COVID but are still below pre-COVID levels, while Bhutan fully reopened to tourists on September 23rd after remaining in lockdown since 2020. With the ongoing economic and balance of payments crises in Sri Lanka, tourism in the country is severely constrained by widespread shortages, and recent tourist arrivals are 50 percent below levels in the same month of 2019. Business confidence, which captures a country's overall economic conditions as perceived by businesses, has become increasingly pessimistic in Sri Lanka, while in India confidence has stayed positive reflecting overall optimism despite rising inflation. In Pakistan, business confidence remains subdued in 2021 and has been dipping since mid-2022.

Figure 1.2. Some sectors and some countries bounced back strongly, but others are lagging

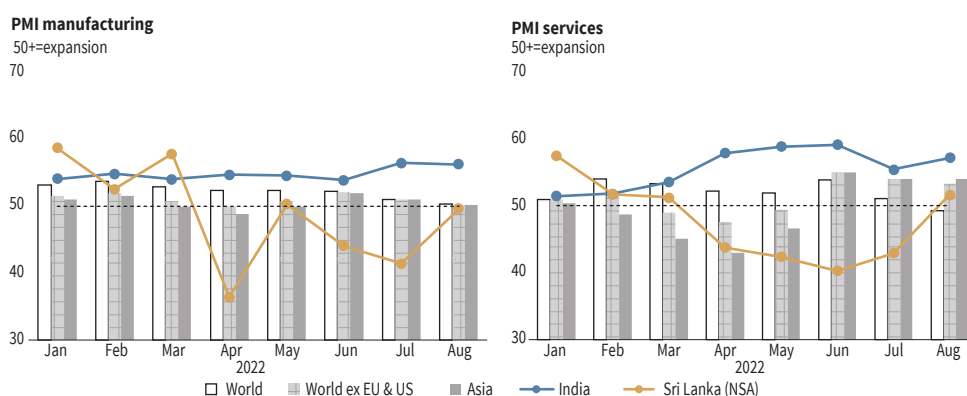


Source: CEIC, GEM, Haver Analytics.

Note: A. Merchandise exports are nominal in US dollars and not seasonally adjusted, then indexed to the average 2019 value. B. Industrial production numbers are real seasonally adjusted values, indexed to the average 2019 value. D. Business confidence is normalized by subtracting each country's baseline (100 for India and Sri Lanka, and 50 for Pakistan) from the raw number.

While Sri Lanka remains in crisis, India is recovering stronger than the rest of the world. Sri Lanka slipped deeper into crisis in June and July 2022, as the country's agriculture, manufacturing, and services sectors are constrained by shortages of imported inputs and a general lack of confidence. The Purchasing Managers' Index (PMI) shows that the country's manufacturing sector has been contracting since June and the services sector since May (Figure 1.3), although the contraction slowed down in August driven by reported improvements in employment and stock of purchases in manufacturing and new businesses in the services sector (Central Bank of Sri Lanka 2022). The Spotlight on Sri Lanka compares the current crisis in Sri Lanka with the Asian Financial Crisis of 1997, highlighting the differences, similarities, and lessons to be learned. In contrast to the struggles in Sri Lanka, both manufacturing and services activities have been expanding in India since at least January, and at faster speeds than the rest of the world. The continued improvement in economic activities is in part thanks to relaxed COVID measures and a pick-up in domestic demand including for contact-intensive services as COVID risk subsides. In the most recent release of GDP growth, India's economy is estimated to have expanded by 13.5 percent (y-o-y) in 2022Q2 (April-June), although it contracted compared to the previous quarter. On the production side, the services and construction sectors expanded at the fastest rates. On the demand side, private consumption expanded from a year ago, but mostly due to a low base effect as the economy was suffering from the impact of the COVID Delta wave in the second quarter of 2021.

Figure 1.3. While Sri Lanka remains in crisis, India is outperforming the rest of the world in some respects



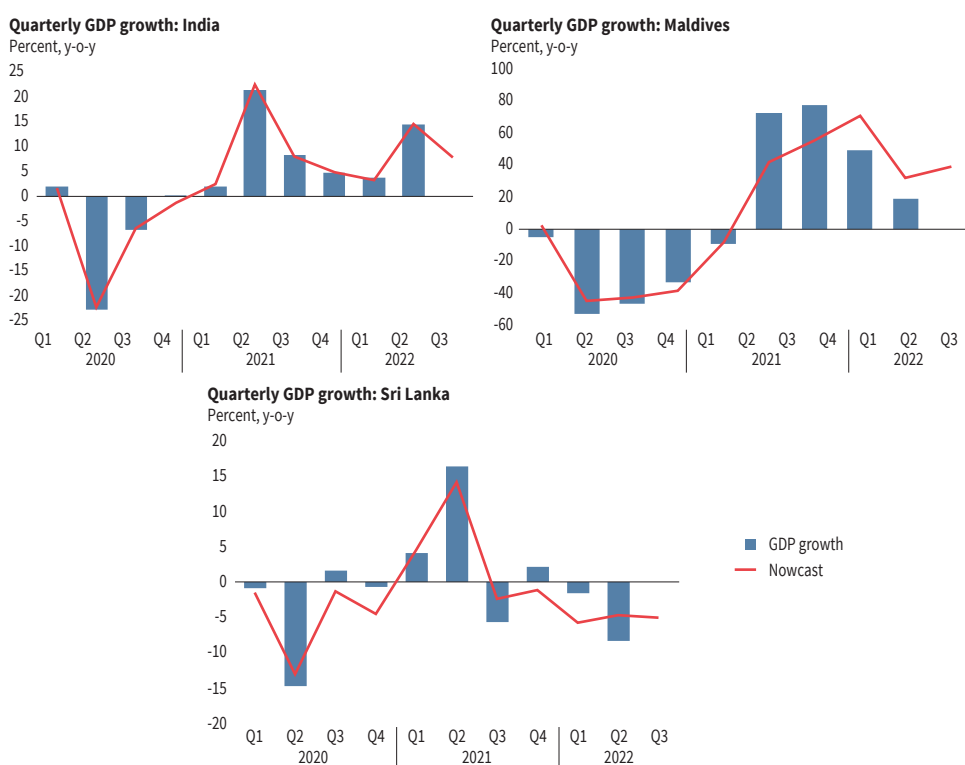
Source: Haver Analytics.

Note: PMI indexes for India, the world, and other regions come from IHS Markit and are seasonally adjusted. Indexes for Sri Lanka are reported by the Central Bank of Sri Lanka and are not seasonally adjusted.

The nowcast of GDP growth in the most recent quarter also suggests an uneven recovery across countries. The nowcast is based on different high-frequency activity indicators, in which a LASSO statistical model is used to select the most relevant economic activity indicators for each country (World Bank 2020). Using the data available up to September 26, 2022

(data cutoff date), the nowcast shows a pick-up in the growth rate in Maldives in 2022Q2 (Figure 1.4), supported by a robust recovery in tourism. It also suggests a relative slowdown of growth in India in 2022Q3 compared to 2022Q2, as the base effect from the low GDP level in 2020Q2 and 2021Q2 continues to dominate. Consistent with the weaknesses demonstrated in recent PMIs, the model suggests continued contraction in Sri Lanka in 2022Q3, reflecting the collapse in demand due to the limited ability to import energy and essential goods.

Figure 1.4. GDP nowcast suggests a continued recovery in India and Maldives and contraction in Sri Lanka



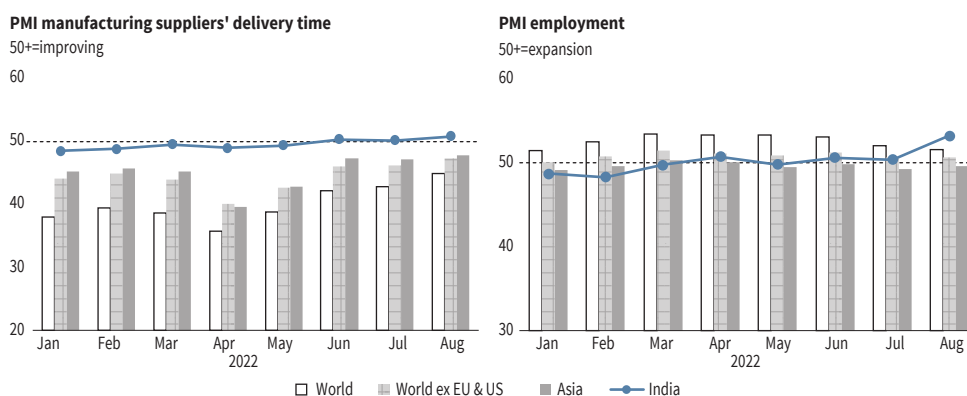
Source: CEIC and Mercer-Blackman et al. 2021.

Note: Data are shown for the calendar year. The nowcasting index uses the set of variables that provide the most accurate in-sample forecast to nowcast the most recent complete quarter.

But even for countries that have recovered relatively strongly, COVID-era scars remain a roadblock. Weaknesses in supply chains and employment remain as COVID scars prove long-lasting, even in India where recovery leads the region. The PMI manufacturing suppliers' delivery time, a gauge for supply chain delays, has only improved slightly in India since June 2022 (Figure 1.5). Globally, the New York Fed supply chain pressure indicator shows early signs of normalizing in global supply chains (Federal Reserve Bank of New York n.d.), but PMI delivery times are still lengthening albeit at decelerating speeds, suggesting that any

relief from global supply chain pressures will take some time to seep into domestic economies. Employment has started expanding in India month to month since March, but the recovery speed was slow (barely expanding, see also Box 2.3) until August when the recovery speed surpassed those in the rest of the world. India's economy-wide employment index is improving month-over-month but at slower speeds than the rest of the world outside of Asia, and demand for the rural work program remains elevated.² As a result, while India's private consumption in the aggregate expanded in 2022Q2, recovery remained uneven: while high-income households' consumption of contact-intensive services and consumer durables recovered, rural and low-income households' consumption remained weak. The return of migrant workers from the region has been slow, possibly due to the scarring effects of the pandemic lockdowns, which reduce migrant-sending households' incomes (Chapter 3).

Figure 1.5. Weaknesses in supply chains and employment persist post-COVID with both barely improving before August



Source: Haver Analytics.

The external headwinds meet pre-existing vulnerabilities to create increasing challenges in some sectors. As most South Asian countries are net energy importers and many also import agricultural products, elevated commodity prices have led to increased shortages and worsening food insecurity in the region. Rising import bills, capital outflows, and lack of growth in remittance inflows have contributed to balance of payments woes, with Sri Lanka and Pakistan facing depletion of foreign reserves and Bangladesh in talks with the IMF to prevent further decline in foreign exchange reserves. Monetary tightening, both abroad and domestically, has increased pressures on the region's financial sector and exacerbated pre-existing financial vulnerabilities. Government policies in response to the rising challenges sometimes have failed to address the underlying issue; poorly designed and ad

² The PMI employment index measures the level of full-time employment this month compared with the situation one month ago. In the calculation, two part-time employees are treated as one full-time employee. Seasonal hiring of employees is excluded in this definition.

hoc policy responses such as certain trade restrictions can sometimes introduce distortions rather than addressing the underlying challenges (see also Section 1.4).

The following sections analyze each of the rising challenges and policy responses.

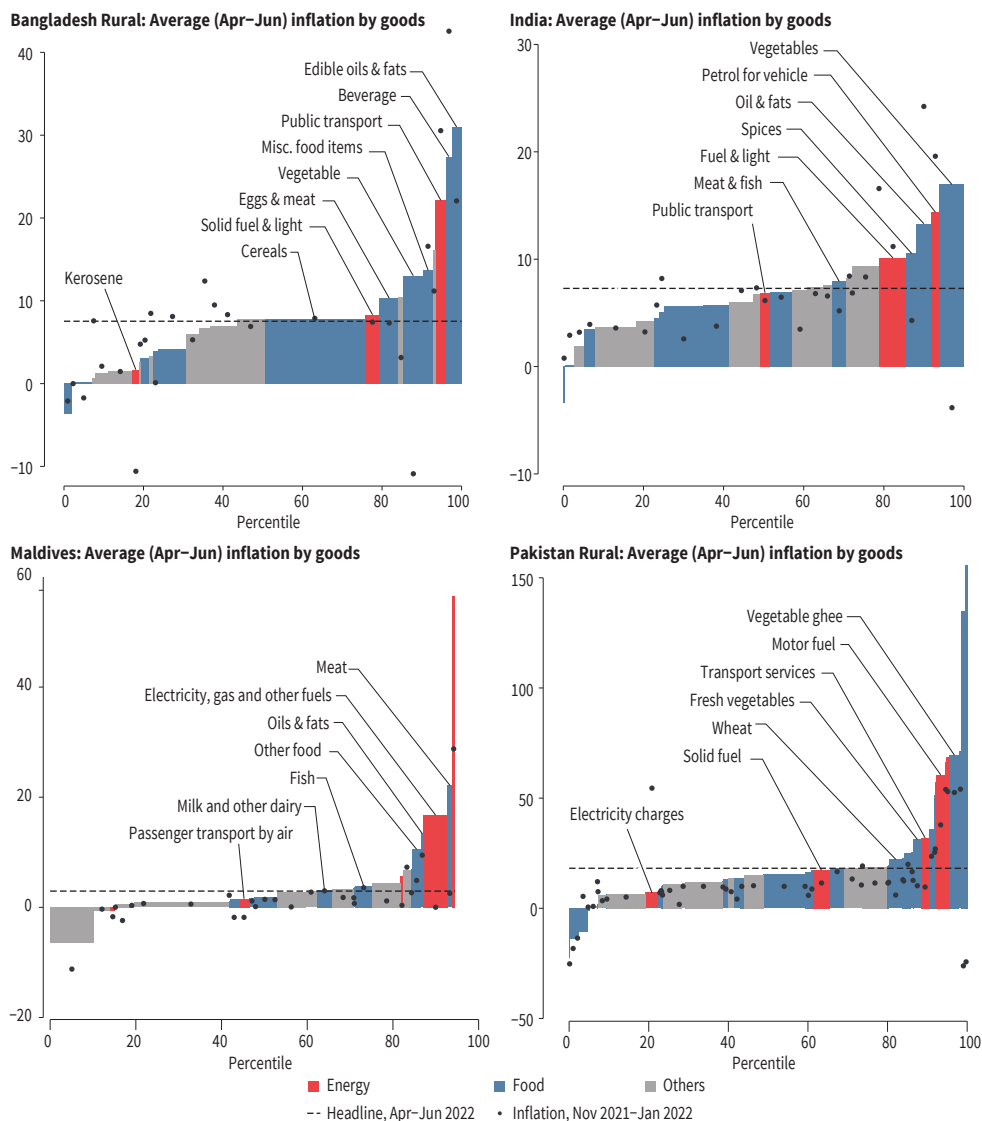
1.2 Inflation becomes more broad-based

Rising global commodity prices continue to contribute to elevated domestic inflation in South Asia. Compared to earlier in the year, headline consumer inflation has risen in all countries in the region (Figure 1.1). Higher energy prices are having a marked impact on the prices of other goods, such as food and fertilizer. Supply bottlenecks and climate-related shocks have also pushed up global food prices, while the elevated global fertilizer prices impact current and future plantings and threaten to keep food prices high. The depreciation of local currencies has also contributed to rising domestic inflation. Although global energy prices are showing signs of declining, the impact of elevated domestic energy prices on other domestic goods may have made inflation more entrenched and harder to contain.

Inflation has become more broad-based in South Asian countries, as higher inflation spreads to non-energy goods. Across goods categories, higher inflation was mainly concentrated in energy-related categories and edible oils in the second quarter of 2022 following the start of the war in Ukraine (World Bank 2022a). In recent months, inflation of a broader group of food items has risen above the average headline inflation (Figure 1.6), including vegetables, beverages, and meat and eggs for some countries, as high costs of transport, fertilizers, and feed raise the cost for agricultural products. Wheat price inflation in rural areas of Pakistan increased from 4.8 percent in January to 38 percent in July. In India, vegetable price inflation increased from 5.1 percent in January to 17.3 percent in June. During the same period, inflation of food, beverage, and tobacco in rural areas of Bangladesh increased from 5.9 percent to 8.9 percent. Higher inflation has also spread to other goods and services, such as clothing and footwear in India, healthcare in Maldives, and household services in Bangladesh, as the inflation in these non-food, non-energy goods rise compared to earlier periods (Nov 21-Jan 22). As inflation becomes more broad-based, it also threatens to be more entrenched in the economy.

With elevated commodity price inflation, headline inflation may not accurately capture the price inflation for the average household. This happens because the weights of the consumer price index are fixed and have not been adjusted recently. For example, India's current CPI weights were based on the Consumer Expenditure Survey 2011-12, while Bangladesh's weights were derived from surveys of 2005-06. Households' spending pattern changes over time, which makes the fixed weights outdated after some time. In particular, households'

Figure 1.6. Consumer inflation in energy and food items remains elevated, while in some countries inflation in other goods is rising



Source: Haver Analytics, Bangladesh Bureau of Statistics, and staff calculations.

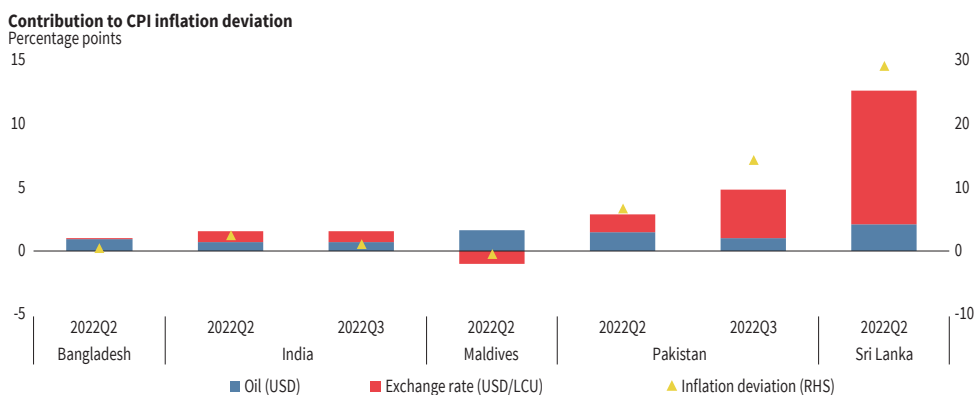
Note: Monthly inflation is computed as the year-over-year change in the price index for each month. The width of each bar indicates the weight of the good in the CPI index. Energy categories include energy utilities used in households and energy used in transportation. Food items include food and non-alcoholic beverages. The horizontal broken line indicates the average headline inflation during the period.

expenditure share of energy rises over time in developing countries (e.g., Bangladesh Bank 2008), as rising incomes lead more consumers to purchase appliances and vehicles that use energy. As such, headline inflation tends to under-estimate the price inflation felt by the

average household. At the same time, households' expenditure on food as a share of total consumption has declined over time, which means the CPI headline inflation with outdated weights could overestimate the actual average inflation when food prices rise rapidly. For example, the average household's expenditure share on food fell from 60 percent in 2000 to 47 percent in 2016 in Bangladesh (Household Income and Expenditure Survey).

Higher global oil prices and depreciating exchange rates contribute to the elevated inflation levels in South Asia. Although global oil prices only have moderate effects on domestic consumer price inflation in South Asia (World Bank 2022a), elevated oil prices for an extended period can substantially raise consumer price inflation through the impact on input prices. Also, the currencies of many regional countries have depreciated in recent months. In Sri Lanka and Pakistan, the local currency has depreciated 80 percent and 36 percent vis-à-vis the US dollar since the beginning of 2022, respectively (Section 1.4). Accordingly, the exchange rate and oil prices together account for around half of the total deviations of 2022Q2 inflation from the long-run average (Figure 1.7). In India, the recent depreciation of the rupee vis-à-vis the US dollar contributed to higher inflation, as do higher oil prices. Maldives, like most other South Asian countries, is a net importer of energy, and so oil prices have a positive impact on its inflation. But because Maldives's currency is pegged to the US dollar, its currency appreciated against most other currencies during the recent strengthening of the dollar, and so exchange rate movements have a negative impact on inflation. The contribution of the exchange rate is slightly positive in Bangladesh, as the country's currency depreciated against the dollar in June 2022. In Pakistan, estimates using data from July-August show a large contribution of currency depreciation, as the rupee fell more than 14.4 percent vis-à-vis the dollar in July.

Figure 1.7. Fluctuations in the exchange rate and oil prices help explain recent inflation



Source: Haver Analytics and staff calculations.

Note: Based on a sign-restricted Bayesian vector autoregressive model with stochastic volatility. Inflation is computed as the year-over-year percent change in price indexes. The exchange rate shock is identified as a shock that depreciates the local currency, increases inflation, but has no contemporaneous impact on output. See Appendix 1.3 in World Bank (2021) for more details. Oil and exchange rate contributions to inflation are deviations from a longer-run average inflation rate (for example in India this is 5.1 percent). Variables are modeled in log changes.

Box 1.1. Pass-through of global commodity prices in South Asia

The pass-through of global commodity prices to domestic prices varies across countries and goods, and over time (Abbas and Lan 2020; Jiménez-Rodríguez and Morales-Zumaquero 2022; Sahoo, Kumar, and Gupta 2020). In general, the pass-through of global commodity price changes is stronger for markets that trade with the rest of the world. As such, with increased integration with the global market, the pass-through has strengthened in emerging markets, especially in goods for which a country is a larger importer or exporter. At the same time, price policies including subsidies, price controls, and ceilings dampen the pass-through. This box compares the price changes in the global and domestic markets for four commodities (wheat, diesel, edible oils and fats, and sugar) that are widely traded by South Asian countries. The focus here is on the more direct pass-through to domestic prices of these four items in three countries (India, Bangladesh, and Pakistan) for which detailed goods-level price data are available.

Comparing the global price inflation of key commodities with the inflation of similar goods in the domestic market over 2017-June 2022 (Table 1.1) shows distinct patterns across goods and countries, and over time.

- Consumer price inflation, measured as the change in the price paid by domestic households in local currencies, is generally lower and less volatile than the price inflation for the same goods in international markets. The correlation of consumer price inflation with global price inflation varies widely across products and countries.
- **Across goods**, the correlations between domestic and global price changes are stronger for **edible oils** than for other goods, likely because all three countries are importers of edible oils which increases the global price pass-through.
- **Across countries**, wheat and sugar price fluctuations in **India** have a very low (or negative) correlation with the respective global prices.³ The country is a large producer of both products and can use domestic stocks to buffer against international price movements. Diesel prices in **Bangladesh** exhibit low volatility, and price changes are uncorrelated with global price movements, as fuel subsidies play an important role in domestic pricing.

³ Boffa and Varela (2019) look at international price transmission for food items in India and find that for edible oils, rice, and bananas, it takes an average of five to fourteen months for international price troughs to transmit to the domestic markets.

- Correlations between domestic and global price movements also change **over time**. For example, in Pakistan, the correlations are stronger in all four commodities in the pre-2021 subsample compared to the full sample, especially for wheat and sugar, suggesting reduced pass-through of global price movements since 2021.

The co-movement of domestic price changes with global price inflation—wheat in Bangladesh, diesel in Pakistan and India, edible oils in all three countries, sugar for Bangladesh—suggests that the local market is well-connected with the global market for the goods. But few countries have a one-to-one pass-through of global price volatility to the local market, because other factors, such as incomplete pass-through of exchange rate movements and taxes and subsidies, also play a role in determining domestic price inflation.

Table 1.1. Local price inflation is less volatile than global price inflation for the same goods, and correlation with the global price inflation varies by goods and across countries

Standard deviation of monthly CPI inflation				
	World	India	Bangladesh	Pakistan
Wheat	22.0	5.2	11.4	16.8
Diesel	47.0	10.3	7.7	25.6
Edible oil	29.4	11.9	15.7	17.2
Sugar	24.6	10.2	16.7	18.8
Correlation with world price inflation for the commodity				
	India	Bangladesh	Pakistan: Up to Dec 2020	Pakistan: 2021-July 2022
Wheat	-0.26	0.68	0.34	-0.50
Diesel	0.64	0.27	0.77	0.27
Edible oil	0.81	0.75	0.76	0.02
Sugar	0.24	0.71	0.80	0.60

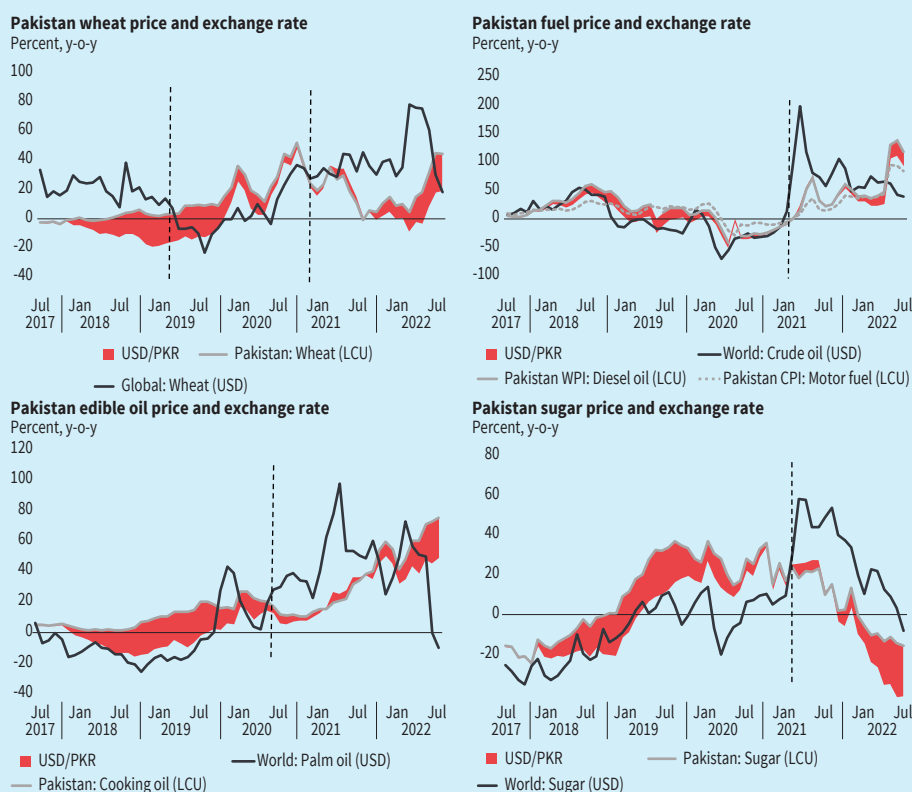
Source: Haver Analytics, World Bank commodity prices Pink Sheet, and staff calculations.

Note: All prices are in US dollars, and local prices are converted using the monthly average exchange rate with the US dollar. The sample is taken from January 2017-June 2022 except for edible oil and sugar for Pakistan (since July 2017). The pre-2021 subsample for Pakistan ends in December 2020. For fuel prices, crude oil prices (world) and diesel prices (for each country) are used. For edible oil prices, palm oil prices (world and Bangladesh), the average price for oils and fats (India), and cooking oil prices (Pakistan) are used.

The case of Pakistan is illustrative of how pass-through in commodity markets has changed over time.

Exchange rate movements affect local prices, and depreciation of the local currency vis-à-vis the dollar can lead to domestic price inflation even without changes in the dollar price in the global market (see also Box 1.2). Indeed, in Pakistan, where the exchange rate has been more volatile than in some other countries in the region, exchange rate fluctuations (measured as the year-over-year change in the USD-PKR exchange rate), can explain some of the differences between the global and local price inflation differentials before 2021. Figure 1.8 compares global dollar price inflation

Figure 1.8. Exchange rate movements and pass-through of global commodity prices in Pakistan



Source: Haver Analytics, CEIC, World Bank commodity prices Pink Sheet, and staff calculations.

Note: A negative USD/PRK y-o-y change (%) indicates the currency depreciated vis-à-vis the dollar since a year ago, and it is represented by a shaded area below the domestic price inflation. Vertical dotted lines mark the period when the depreciating exchange rate contributed to domestic inflation in the commodity.

with local price inflation in the Pakistani rupee, and attributes part of the difference between the two to the impact of exchange rate movements. The domestic price inflation (in local currency) was higher than the inflation in the global market (in the US dollar), before mid-2020 for edible oils and before 2021 for diesel and sugar. That coincided with a period of depreciation of the Pakistani rupee vis-à-vis dollar, which contributed to the higher domestic inflation. The same relationship held between domestic and global price inflation for wheat during 2019-2020, but not pre-2019, likely due to price controls on domestic wheat prices in the earlier period.

But since 2021, exchange rates have had much smaller effects on domestic prices of the four commodities in Pakistan, while price controls and price relief policies play an increasing role. With the rapid rise in global commodity prices since mid-2021, domestic price inflation fell below global price inflation for the same goods, despite the sizable depreciation of the local currencies since late 2021 (Section 1.4, Figure 1.15). The falling domestic food and fuel inflation was the result of price relief policies. For example, the government enacted energy price relief policies in February 2022, which lowered the domestic fuel price inflation when global energy prices were rising. The subsequent removal of those measures in May-June raised domestic price inflation as global inflation was moderating.⁴

While subsidies and price controls dampen the impact of global price fluctuations on domestic markets, they also distort local prices and lead to an increased fiscal burden on the government. Targeted cash transfers or income relief that direct resources toward vulnerable households may be more efficient policy choices.

Higher global commodity prices contribute to the rising domestic food and fuel prices, but the pass-through is not one-to-one. Some items may have locally segmented markets that are not affected by global prices, while others track changes in global prices. Local markets also change over time. In addition, exchange rate fluctuations, price relief policies, and subsidies can weaken the pass-through of global commodity prices. Box 1.1 looks at the historical pass-through in four major food and energy markets in Bangladesh, India, and Pakistan, and finds that the pass-through is stronger before 2021 while price-related local policies play a bigger role in determining local prices after mid-2021.

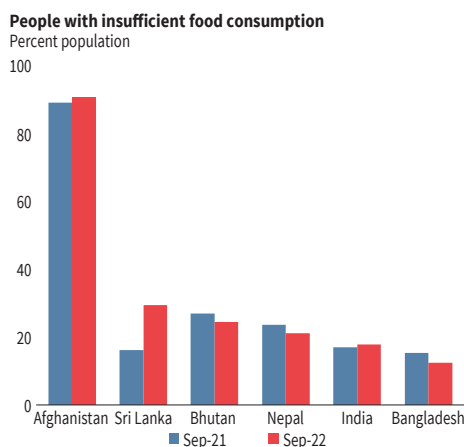
⁴ Amaglobeli et al. (2022) also find reduced pass-through post-2021 for global fuel prices for countries around the world.

1.3 Elevated global prices and protectionist policies exacerbate shortages

Elevated global commodity prices contribute to existing food shortages and food insecurity in South Asia. Food insecurity has always been a concern in many South Asia countries. Five out of twelve Asian countries with the highest prevalence of insufficient food consumption are in South Asia (WFP 2022). High food prices have likely worsened the situation, making food less affordable for households. Higher transport costs due to more expensive fuels also contribute to higher food prices. Rapidly rising fertilizer prices can reduce their use, leading to lower agricultural production and higher food prices amid lower supplies. Rising prices of food and other basic goods have also eroded people's real income, contributing to poverty levels.⁵

Increasing shares of the population have insufficient food consumption as high food prices and shortages persist. In Afghanistan, food inflation reached 25 percent in July, while in Sri Lanka food price inflation has stayed above 50 percent since May. In Afghanistan, food insecurity also stems from a lack of income as on-budget aid dried up. As a result, even though surveys report the availability of food items in stores (World Bank 2022c), food has become unaffordable for an increasingly large group due to the nominal drop in income and increase in prices. Over 90 percent of the population is estimated to have insufficient food consumption (Figure 1.9). In Sri Lanka, limited harvests, higher transport costs, lack of fertilizers, and the inability to finance food imports as the country's currency depreciated drastically and foreign reserves depleted, have all contributed to food shortages and skyrocketing food prices. By September 2022, 33 percent of the population is estimated to have insufficient food consumption, compared to 17 percent a year ago.

Figure 1.9. Food insecurity has worsened in Sri Lanka and remains dangerously high in Afghanistan



Source: HungerMap Live (database), World Food Programme (accessed September 7, 2022). <https://hungermap.wfp.org/>.

Note: Numbers are actual in Afghanistan and are predicted for the other countries according to the WFP methodology outlined in WFP HungerMap Live.

⁵ World Bank poverty numbers have been recently updated. Poverty lines using purchasing power parity exchange rates to allow comparisons across countries have been updated (World Bank 2022b). Most of the region's poor live in India and Bangladesh, particularly in urban centers in India. However, data for India, Nepal and Bangladesh is based on household expenditure patterns from more than a decade ago (6 years for Bangladesh). The new numbers from Pakistan suggest considerable progress in eradicating poverty prior to COVID and the 2022 floods. Appendix A.1.1 provides the numbers.

The recent floods in Pakistan threaten to put food out of reach in the most affected regions of the country. The catastrophic floods are expected to have a profound impact on the country's food supply as 9.4 million acres of crops are affected, close to 1 million livestock were lost, and large swathes of agricultural land are now submerged (Gishkori 2022; Government of Pakistan 2022). The uncertainty about when the water will recede has affected the next planting season and hence may impact future food supplies. Prices of vegetables are already rising amid food shortages, threatening to aggravate inflation (Mangi and Dilawar 2022) and putting food out of reach for an increasingly large group of vulnerable people (see also World Bank 2022d).

With rising commodity prices and supply disruptions due in large part to the war in Ukraine, South Asian countries have resorted to export restrictions on food and fertilizers to ensure domestic supplies, amplifying the food shortages for others in the region. Afghanistan, Bangladesh, and India implemented export restrictions on grains and grain products in 2022, while India and Pakistan have capped the volume of sugar exports (Table 1.2). India is the largest rice exporter by volume and accounts for 40 percent of the global rice trade (Parija and Afonso 2022). The country's recent ban on broken rice export is expected to impact about one-fifth of the country's rice exports (Parija and Pradhan 2022), which could lead to global supply concerns and allow rival exporters (e.g., Thailand and Vietnam) to raise prices, adding to global food inflation. While South Asian countries are small producers of sugar and wheat, India and Pakistan are responsible for large proportions of those goods in the regional market.

In general, export restrictions feed into higher global prices. Export restrictions are often the result of rapidly rising global prices or localized shortages. But by limiting the quantity of goods available on the global market, the restrictions in turn raise global prices further (Espitia, Rocha, and Ruta 2022; Pangestu and van Trotsenburg 2022). The restrictions can also lead to hoarding, which feeds into rising global prices. Sometimes, even without shortages in the local market, countries use export restrictions as precautionary measures to ensure sufficient supply in the domestic market before supplying to the global market. India restricted sugar exports despite a large harvest earlier this year (Firstpost 2022). While the practice may not limit global supply in the end, export restrictions by a large producing country can generate speculation in the global commodity exchanges about future price increases (Associated Press 2022; Robles, Torero, and von Braun 2009). Past experiences have also shown that restrictions by one country can also prompt other exporting countries to follow suit, leading to a bad equilibrium with much higher prices (Giordani, Rocha, and Ruta 2016; Glauber, Laborde, and Mamun 2022).

Export restrictions by trade partners have adversely impacted global markets in products imported by South Asian countries. Among trading partners, export licensing rules on

Table 1.2. Export restrictions on food and fertilizers by South Asian countries and major trading partners

Current Food Export Restrictions			
Country	Measure	Period	Global market share (Kcal, USD)
South Asian countries			
Afghanistan	Export ban on wheat	5/20/2022 – 12/31/2022	0
Bangladesh	Export ban on rice	6/29/2022 – 12/31/2022	0.02%, 0.04%
India	Export ban on wheat	5/13/2022 – 12/31/2022	0.12%, 0.15%
	Export licensing on sugar	6/1/2022 – 10/31/2022	3.72%, 4.36%
	Export ban on sugar	6/1/2022 - 10/31/2022	3.74%, 4.36%
	Export licensing on wheat flour and related products	7/12/2022 – 12/31/2022	1.48%, 2.17%
	Export ban on wheat flour, semolina, maida	8/25/2022 - 12/31/2022	1.48%, 2.17%
	Export ban or taxes on rice	9/9/2022 - 12/31/2022	25.93%, 30.32%
Pakistan	Export ban on sugar	4/15/2022 – 12/31/2022	1.92%, 1.69%
Major trading partners of SAR			
Indonesia	Export licensing on palm oil, palm kernel oil	1/31/2022 – 6/7/2022 (inactive)	54.61%, 51.68%
Russia	Export ban on wheat, meslin, rye, barley, maize, sugar	3/13/2022 - 6/30/2022 (inactive)	13.41%, 13.11%
	Export ban on sugar	3/14/2022—8/31/2022 (inactive)	0.35%, 0.36%
	Export ban on rapeseed	4/1/2022— 2/1/2023	1.79%, 1.39%
	Export ban on sunflower seeds	4/1/2022 - 8/31/2022 (inactive)	8.64%, 5.29%
	Export taxes on wheat, barley, and corn	4/13/2022 – 12/31/2022	13.49%, 13.19%
	Export licensing on sunflower oil	4/15/2022 - 8/31/2022 (inactive)	17.08%, 18.24%
	Export taxes on sunflower oil and meal	4/15/2022 – 12/31/2022	12.45%, 13.66%
	Export taxes on soya beans	4/15/2022 – 8/31/2024	0.44%, 0.36%

Table continues on the next page

Table 1.2 continues

Current Fertilizer Export Restrictions			
Country	Measure	Period	Global export share in nitrogenous, potash, phosphates
Major trading partners of SAR			
China	Export licensing on fertilizers	9/24/2021 – 12/31/2022	10.6%, 1.2%, 11.4%
	Export ban on phosphate rock	9/28/2021 – 12/31/2022	0.60%
Russia	Export licensing on nitrogenous fertilizers	11/3/2021 – 12/31/2022	10.1%, 2.8%, 8.5%
	Export ban on fertilizer	2/2/2022 – 8/31/2022 (inactive)	10.1%, 18.7%, 8.6%

Source: World Bank food security update September 15, 2022 (World Bank 2022e), food and fertilizer restrictions during the Ukraine-Russia crisis (dataset), World Food Programme (accessed September 18, 2022), <https://public.tableau.com/app/profile/laborde6680/viz/ExportRestrictionsTracker/FoodExportRestrictionsTracker>.

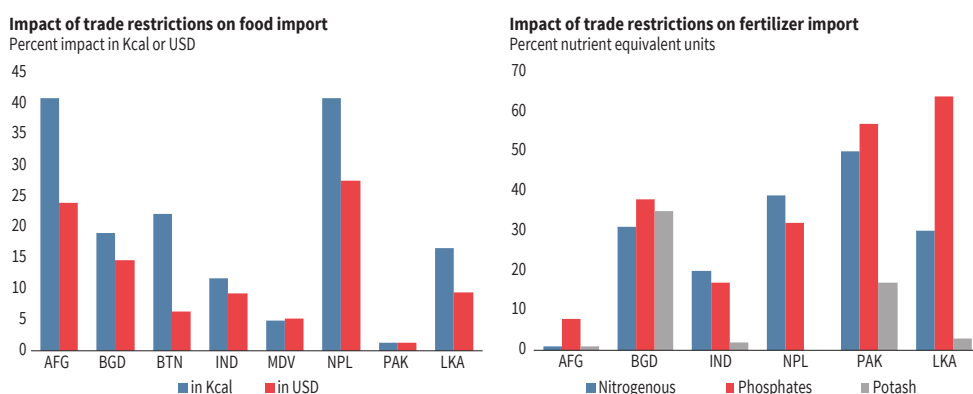
Note: Food and fertilizer restrictions during the Ukraine-Russia crisis were constructed following the methodology in Laborde and Mamun (2022).

palm and palm kernel oils were in effect in Indonesia until June, which affected over half of the global market share for palm oils. Russia, a major exporter of agricultural products, implemented export bans, taxes, or licensing policies on a range of edible oils, grains, and sugar. These restrictions affect over 13 percent of the global market share for wheat, barley, and corn, and over 15 percent for sunflower oil. Rising energy prices raise the cost of fertilizer production, and major producing countries such as China and Russia initiated export bans or licensing on fertilizer products in late 2021 or early 2022. The two countries supply large shares of the global fertilizer output and significant portions of fertilizers in South Asia, for example, fertilizers from the two countries took up 35 percent of India's total fertilizer imports in 2019. As such, the restrictions severely limited global supplies and adversely impacted South Asia's access to fertilizer imports.

Estimates based on countries' historical bilateral trade flows and export restrictions of trading partners both within and outside the region suggest that the trade restrictions can have large immediate impacts on South Asian countries' food and fertilizer imports (Figure 1.10). Between 20 to 30 percent of total food imports (in USD) are impacted in Afghanistan, Bangladesh, and Pakistan, while about 30 percent of India's food imports are impacted. Note that this does not mean countries' total food imports are reduced by these amounts. Instead, countries find alternative sources for imports by shifting trading partners (Section 1.4), but often at higher prices, and as a result the total food import value likely increased due to trading partners' trade restrictions. The scales are even larger in calories, as many impacted food items are also ones with higher calorie contents per price unit, such as edible oils. As these foods provide more affordable options for sufficient daily calorie intake, the

trade restrictions could have outsized impacts on the poorer households in the importing countries, worsening existing consumption inequalities. The restrictions on fertilizers have a larger impact on the imports of Bangladesh, Nepal, Pakistan, and Sri Lanka. As the world's largest fertilizer importer, India's fertilizer imports are also impacted by trading partners' policies, but a diversified group of trading partners, including Saudi Arabia and UAE, in addition to China and Russia, helps mitigate the overall impact.

Figure 1.10. Trading partners' exports restrictions could have large immediate impacts on South Asian countries



Source: Laborde and Mamun 2022, Food and fertilizer restrictions during the Ukraine-Russia crisis (dataset), World Food Programme (accessed September 18, 2022), <https://public.tableau.com/app/profile/laborde6680/viz/ExportRestrictionsTracker/FoodExportRestrictionsTracker>.

Note: Methodology in Laborde and Mamun (2022), based on average 2018–2020 bilateral trade flows at the HS6 level. The numbers shown are for current trade restriction measures and do not take into account exceptions made to export bans.

Export restrictions raise domestic prices for South Asian countries and add to countries' fiscal burden as subsidy costs rise. South Asian countries are large importers of edible oils, and restrictions on edible oil exports by Indonesia earlier limited countries' ability to import and led to rapidly rising edible oil prices. Bangladesh, Bhutan, Nepal, Sri Lanka, and Afghanistan all import sugar from India, and India's cap on sugar exports can significantly raise the import and retail prices.⁶ The CPI inflation for sugar increased to over 30 percent in June for both urban and rural areas of Bangladesh, while domestic sugar inflation stayed below 5 percent in India. India's 20 percent duty on rice exports imposed recently (see Table 1.2) is expected to increase rice prices in regional countries. Following fertilizer export restrictions by China and Russia in late 2021, Pakistan's wholesale price (WPI) inflation for fertilizers reached above 40 percent in November 2021 and over 80 percent in July 2022. As the importing countries struggle to deal with rising prices, many find subsidy costs rising as the difference between the import price and the price ceiling at retail widens (Section 1.6). Price

⁶ Bhutan was granted a special concession to import wheat and sugar from India.

subsidies have short-term benefits: fertilizer subsidies can help farmers contain costs and avoid disruptions in food production, while price subsidies on basic food items alleviate burdens on poorer households and reduce the risk of food insecurity. But similar to fuel subsidies, food and fertilizer subsidies increase the government's fiscal burden. Subsidies also distort domestic market prices, encourage overuse of fertilizers, and could contribute to rising trade and current account deficits.

Export restrictions sometimes can backfire and hurt the exporting country. For an exporter that produces a large share of the global market, export restrictions can raise global prices relative to domestic prices. Seeing the higher global prices, local producers could start hoarding to export at the higher price later. Research on the food crisis and countries' policies during 2008-2010 suggests that export restrictions together with reactions by the importing countries can lead to a full transmission of higher prices to the exporting country (Anderson, Martin, and Nelgen 2010; Anderson and Nelgen 2012), and thus defeating the purpose of the export restrictions. Export restrictions that last for a longer period can also reduce domestic production as producers shift to goods and sectors without restrictions and with higher profits. Over time, export restrictions reduce importing countries' perception of the exporters' reliability as a supplier, thus impairing the exporters' competitive position. Both the short-term and long-term adjustments of local producers lead to a shortage in the local market, driving up domestic prices and defeating the initial goal of the restrictions.

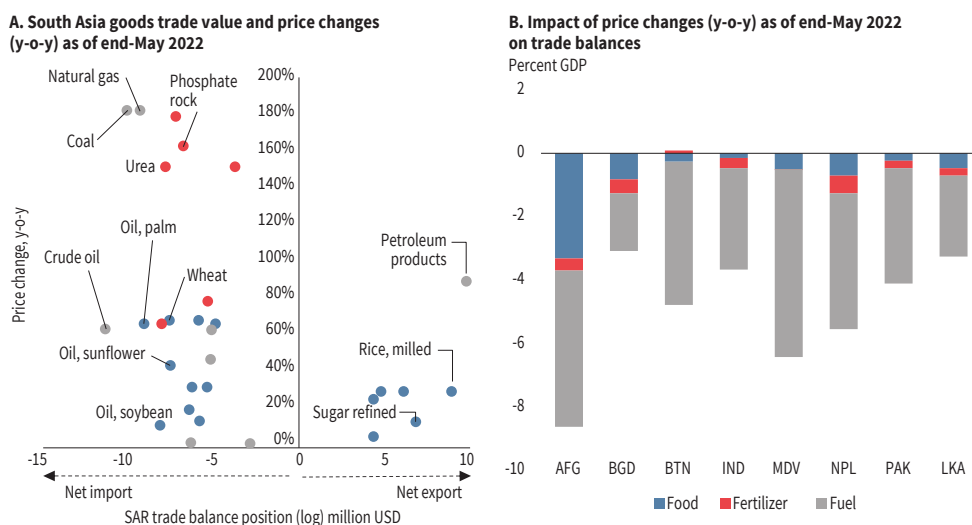
1.4 Mounting external sector pressures

With shifting global and domestic economic situations, South Asian countries face rising trade deficits, stagnating remittance inflows, and increased net capital outflows. In Sri Lanka, pressures in the external sector have morphed into an economic crisis, while in Pakistan, foreign reserve levels are dangerously low.

Higher commodity prices have raised import prices for South Asian countries, contributing to rising trade deficits. Estimates based on countries' recent historical trade flows and assuming no change in trade volumes show that global fuel and food price increases as of the end-May 2022 have had a large impact on the countries' trade balances (Figure 1.11). The region is especially vulnerable to price surges in crude oil, coal, and palm oil, due to its large net import positions in these commodities. Afghanistan is particularly vulnerable to higher food prices, as the country has large negative trade balances in wheat and wheat products. While all countries in the region are vulnerable to fuel price increases, the impact is largest in Afghanistan and Maldives, as both are large net importers of petroleum products relative to the size of their economies. In Afghanistan, this is partially offset by its positive net export position in coal. India has large negative trade balances in coal and crude oil but is a net

exporter of petroleum products, which also helps offset the impacts of higher coal and crude oil prices. Although fertilizer prices have increased drastically, the impact on the region is relatively small as fertilizer takes up a small proportion of total imports. As commodity price inflation moderates in recent months, the impact of commodity price changes (y-o-y) has come down to below 3 percent of GDP as of end-August.

Figure 1.11. Impact of commodity price changes on South Asian countries (May 2021-May 2022)



Source: Staff calculations based on 2016-2020 country food trade matrix and 2015-2019 country fertilizer trade database from the Food and Agricultural Organization (FAO); 2015-2019 country fuel trade data from Comtrade (dataset); and price changes from tradingeconomics.com and World Bank commodity prices Pink Sheet.

Note: The calculations include 17 food groups most traded in South Asia (e.g., rice, refined sugar, wheat, palm oil), 6 fertilizer items (e.g., DAP, Urea), and 8 fuel items (e.g., coal, crude oil, petroleum products, natural gas). The calculation assumes no change in trade volumes from the average historical levels. Country GDP is average from 2016-2019. See Appendix A.1.2 for more details.

Worsening terms of trade and unfavorable price elasticities exacerbate trade imbalances.

In addition to commodity prices, global prices of many intermediate and consumer goods—South Asia’s main exports—have also gone up, but less so than the prices of basic commodities.⁷ This asymmetric price movement leads to a deterioration in the region’s terms of trade. In fact, because the price elasticity of demand for commodities is generally low similar to other necessity goods, when prices increase, consumers dissave to sustain similar levels of

⁷ South Asia’s main exports include textiles and clothing, petroleum oils excluding crude, etc. Raw materials take up 7.6 percent of the region’s total export value, while intermediate and consumer goods take up 30.5 and 46.2 percent, respectively, as of 2016. Maldives and Afghanistan have the largest shares of raw materials out of their exports; while Bangladesh, Sri Lanka, and Pakistan have the largest shares of consumer goods. Out of the region’s imports, raw materials take up 32 percent, intermediate goods 30.7 percent, capital goods 22.4 percent, and consumer goods 14.2 percent (World Integrated Trade Solution, last accessed August 24, 2022).

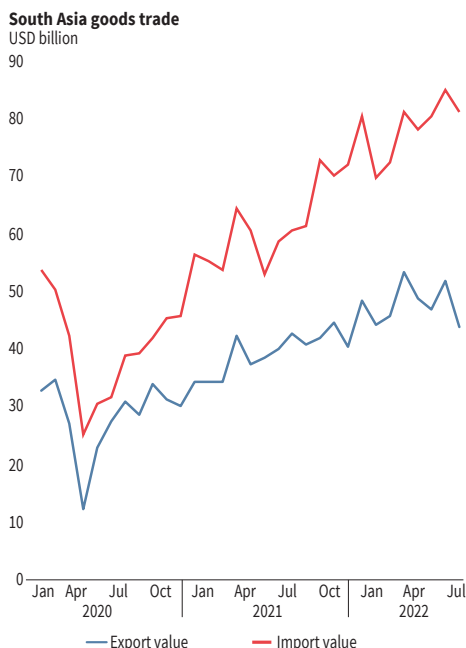
consumption. In contrast, the price elasticity of demand for most consumer goods, especially durables, is high, and so when prices increase, consumers reduce consumption of these items, and South Asia's export receipts fall. As such, the different price elasticities mean that a rise in prices can lead to a deteriorating current account even without worsening terms of trade. Box 1.2 explores the effect of dollar invoicing on the region's trade. Added to that, import demand is rising as South Asian economies recover, while weakening global growth limits the region's export growth. As a result, the region's trade deficit widens (Figure 1.12).

Rising commodity prices have led countries in the region to shift trading partners.

Afghanistan increased exports of coal and fruits to Pakistan since late 2021, which has helped Afghanistan improve the trade balance, increase revenue collection and boost income, while Pakistan benefits from access to coal close to home. To reduce average import prices, Pakistan relaxed trade restric-

tions with India for certain goods, and trade between the two countries picked up sharply in 2022Q2 (Dilasha and Mishra 2022). In response to Indonesia's ban on palm oil exports during the first half of the year, India increased imports of edible oils from Malaysia, which softened the blow of the trade restriction. India also increased its share of oil imports from Russia. Historically, India imported 2-4 percent of the total value of its mineral fuel and oil imports from Russia. The share has risen to over 10 percent in April-May 2022 (Haver Analytics). The increase is even larger in shares of total volume, considering that India has been getting discounts on its oil imports from Russia that amounted to \$20-30 per barrel initially and fell to \$7-8 per barrel more recently (Verma 2022). The ability to shift trading partners affords countries greater flexibility and helps reduce import bills.⁸

Figure 1.12. South Asia goods trade import-export gap widens



Source: CEIC and staff calculations.

Note: South Asia export and import values are calculated as the sums of all regional countries' goods export and import values. Afghanistan, Bhutan, and Maldives are not included in the June and July 2022 numbers due to data release lags.

⁸ One way to reduce trade costs and increase flexibility in trade is through free trade agreements. Franco-Bedoya (2022) quantifies the trade creation effects of trade agreements signed by South Asian countries since 1990 and finds that they on average increase trade by at least 20 percent in South Asia, especially for intra-regional agreements and in the agriculture sector.

In addition to widening goods trade deficits, weak growth in official remittance inflows and the slow recovery of tourism also contributed to current account deficits. South Asian countries typically have larger goods import bills than export receipts. In the past, net services exports (e.g., tourism) and remittance inflows cover most of the gap, leaving modest current account surpluses or deficits. But tourism has been slow to recover from the COVID shock in most countries in the region, while official remittance growth stagnates (see also Chapter 3).⁹ All the factors contribute to rising current account deficits.

- Sri Lanka is facing pressures from all angles, including falling remittances and tourism income (Spotlight on Sri Lanka, Figure S.10).
- In Bangladesh and Pakistan, while remittance inflows have recovered since 2021 and stayed above the pre-pandemic levels, the year-over-year growth of remittance inflows has slowed and even turned negative in some months. As a result, remittance inflow can only offset part of the trade deficits, leading to widening current account deficits (Figure 1.13.A-B).
- In Nepal and Bhutan, the slow recovery in tourism means the countries are missing an important source of income that in the past offset trade deficits (Figure 1.13.C-D). While Nepal's remittance inflows have grown in recent months, the country's tourism income—a small part of total exports but helped offset goods trade deficits in the past—is yet to recover to the pre-pandemic level. Bhutan's tourism sector was hit hard during COVID, with the borders closed to tourists until September 2022.

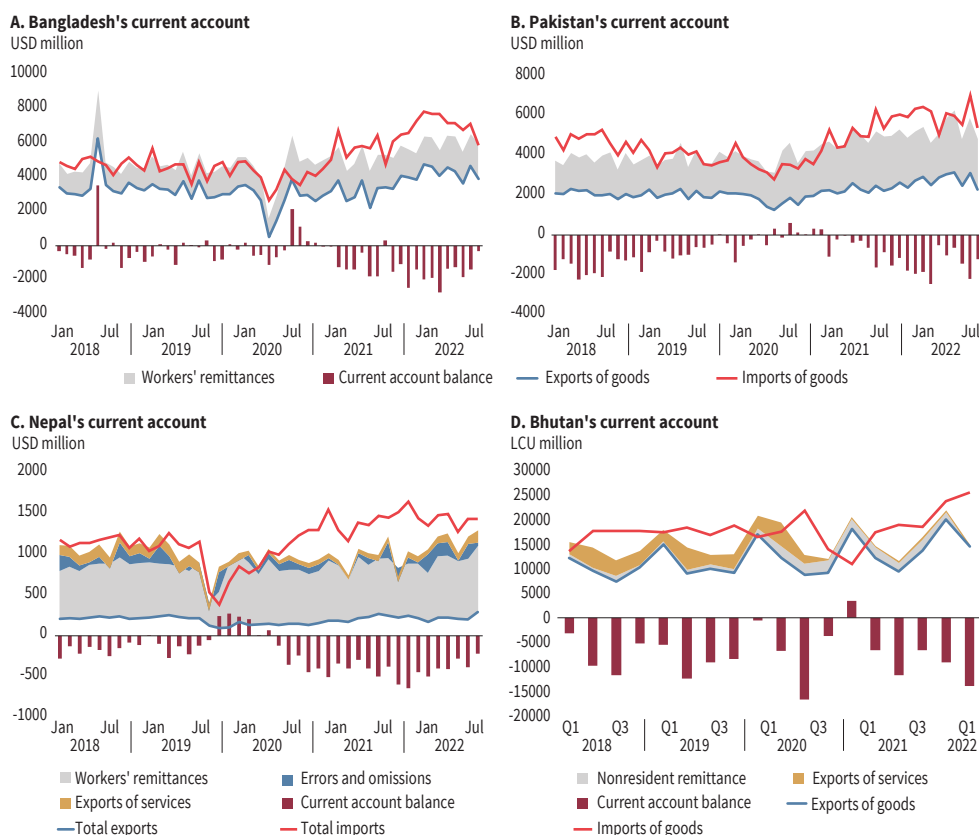
Capital outflows add to balance of payments pressure. As advanced economies started monetary tightening sooner than India, the difference in returns between India and advanced economies narrowed in the first half of 2022. India witnessed a foreign portfolio investment (FPI) net outflow of US\$29.7 billion in the first six months of 2022 (Figure 1.14). But starting in July, portfolio investors turned into net buyers in India as tightening by the Reserve Bank of India widened the rate gap with advanced economies (see also Section 1.5).

As pressures over the balance of payments rise, countries' exchange rate faces depreciation pressures. Major currencies in the region have depreciated against the US dollar and the currencies of main trading partners since January 2022 (Figure 1.15.A).¹⁰ The Sri Lankan

⁹ It is possible that the resumption of travel has allowed more remittances to flow in through informal channels, although recent data on household receipt of remittances (both formal and informal) are not available. Remittances that come into the country through unofficial channels are not being recorded as secondary income in the current account. They may appear as errors and omissions or as private capital inflows in the balance of payments, and they still help increase the consumption of receiving households, even though they do not count towards official reserves.

¹⁰ The countries' currency also depreciated vis-à-vis the US dollar in real terms, as inflation (y-o-y) also reached high levels in the U.S. in recent months. The real exchange rate for Indian rupee depreciated more than the nominal exchange rate because of higher inflation in the U.S. than in India. For Pakistan and Sri Lanka, the real exchange rate also depreciated but less than the nominal exchange rate.

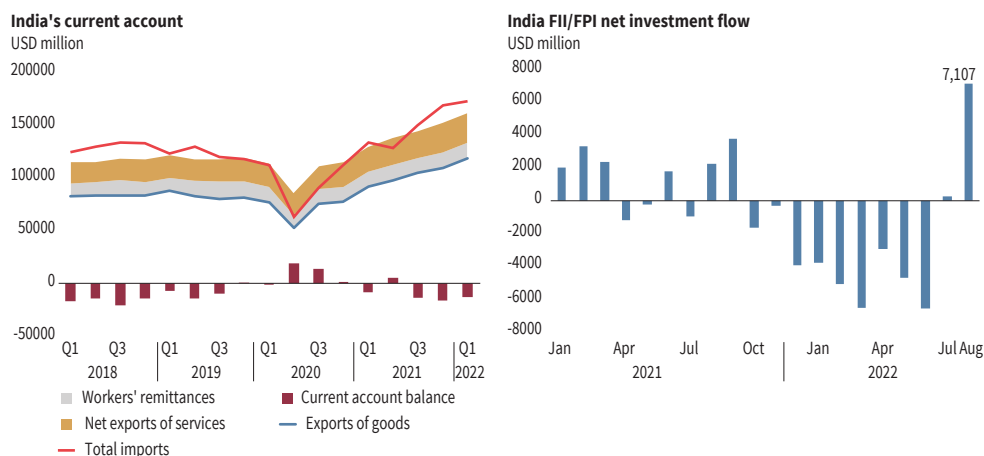
Figure 1.13. In addition to rising trade deficits, weak growth in remittance inflows (Bangladesh and Pakistan) and slow recovery of services exports (Nepal and Bhutan) also contribute to current account deficits



Source: Haver Analytics and staff calculations.

Note: Monthly data, except current account composition for Bhutan's and India's which is in quarterly frequency. All except Bhutan's data are expressed in US dollars. Nepal's current account errors and omissions are included in the figure as the item usually contains unofficial remittance inflows and informal trade.

rupee, which has had the largest depreciation, fell over 80 percent against the dollar and 40 percent against trading partners' currencies from January to July 2022. Pakistan, which has a market-determined exchange rate, saw its currency depreciate by 36 percent against the dollar between January and September, and 14 percent against trading partners between January and July (more recent data not available). Facing increased pressure on its exchange rate and a rising gap between the official and informal exchange rates, Bangladesh switched to a floating regime in early June but only for a few days, which resulted in a depreciation of about 11 percent against the US dollar. In mid-September, the Bangladesh Bank adjusted the official exchange rate in line with market rates, leading to an 11.7 percent depreciation

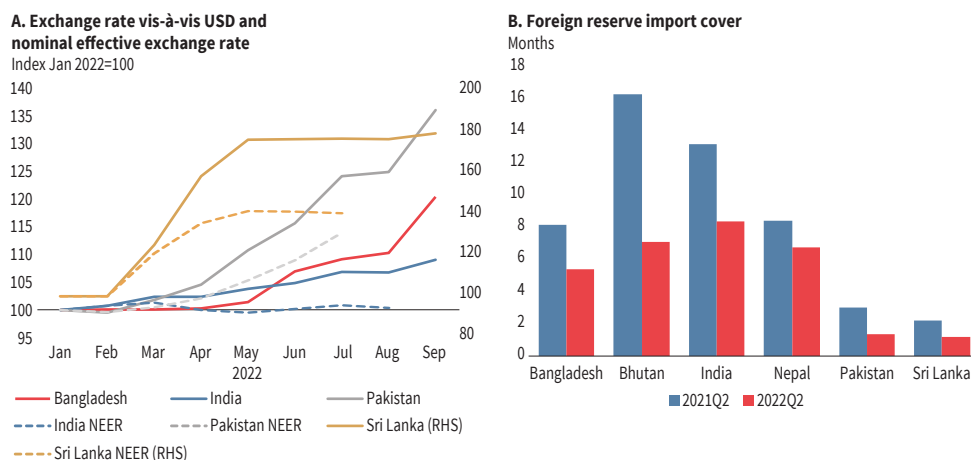
Figure 1.14. FPI net outflows (India) contributed to balance of payment tension

Source: Haver Analytics and staff calculations.

Note: Positive FII/FPI net flows mean net inflows into the country.

in a single day. India has had relatively small currency pressures, especially against trading partners' currencies, while its dollar exchange rate fell slightly as the US dollar strengthened. Relatively smooth exchange rate adjustments help reduce the balance of payments tensions, as cheaper domestic goods and more expensive imports help correct trade deficits. But a drastic depreciation can feed into inflation through imports and raise costs in local currency terms for domestic borrowers trying to make repayment on foreign debt. Continued depreciation can also lead to diminished confidence in the currency and limit foreign currency inflow, as for Sri Lanka.

Regional countries adopted various policies to support the balance of payments and stabilize the exchange rate. With increasing import bills, stagnating official remittance growth, and increasing net capital outflows, countries' foreign exchange reserves dwindled (Figure 1.15.B). To stabilize the exchange rate, countries with a managed exchange rate regime sold foreign currency, which contributed to falling reserves. Although Pakistan has a floating exchange rate regime, its increased debt payment and lack of external financing led to falling foreign reserves (The Economic Times 2022), which are now enough to cover little over a month's imports. Many countries in the region implemented import controls, and Bangladesh adopted broader quantity controls (Table 1.3), such as rolling blackouts and closing diesel power production, to curb electricity consumption and reduce oil and gas imports. To attract foreign currency inflows, countries enhanced incentives to attract remittance inflows through the official channel and removed interest rate caps on non-resident deposits.

Figure 1.15. Major South Asian currencies depreciate, while foreign exchange reserves fall

Source: Haver Analytics, CEIC, Royal Monetary Authority of Bhutan.

Note: A. Exchange rates vis-à-vis the US dollar are local currency per US dollar, indexed to 100 in January 2022. The nominal effective exchange rate (NEER) is also indexed to 100 in January 2022 and inverted so that a higher value indicates a depreciation of the local currency. B. Foreign reserve import covers are computed using the total imports (goods and services) over the past year.

Restrictive and ad hoc quantity control policies can be counter-productive. Import controls can be effective in limiting the growth of import bills in the short term. But tight restrictions on a broad set of import goods can limit economic activities and damage export performance. A recent impact evaluation of the series of import bans introduced in Sri Lanka in early 2020 shows that these bans have a negative impact on exports through input-output linkages (Fernandes et al. 2022). Over the medium term, import restrictions have also been shown to become implicit export taxes, as the tariffs raise domestic prices relative to global prices and thus create incentives for local producers to sell domestically instead of exporting (World Bank 2022f). Broader quantity controls such as rolling blackouts and closing of energy-intensive plants in Bangladesh can exacerbate existing supply constraints. Quantity controls can also fuel inflation if supplies fall short of domestic demand due to reduced output or imports.

Policies to formalize remittances have limited impacts in the presence of parallel exchange rate markets. Exchange rate management that artificially props up the local currency can give rise to parallel exchange rate markets where the informal exchange rate is higher than the official rates. As a result, incentives to encourage remittances and other foreign deposits to come in through official channels can be ineffective. This was the case in Sri Lanka earlier in the year, and it is in Bangladesh now.

Table 1.3. Intervention policies to restore the balance of payments and stabilize the exchange rate

	Exchange rate management	Quantity controls	Incentive policies
Bangladesh	Sold foreign currency to contain depreciation; temporarily switched to floating rate in June.	Blackouts and factory closures to reduce energy imports; LNG imports from the spot market postponed; 100 percent of advance payments required for a letter of credit for luxury and non-essential items (starting July); imports in excess of US\$3 million scrutinized by Bangladesh Bank; government purchase of vehicles stopped; less important development projects deferred.	Interest rate ceiling on non-resident foreign currency deposits withdrawn; ceiling on internet banking transfers and proof of source of income no longer apply for remittances.
Bhutan	Pegged to INR	Bans on imports of vehicles except utility vehicles and agricultural machinery as of Aug 2022.	Remittance incentives scheme extended and enhanced from 1 to 2%.
India	Sold foreign currency and operations in the forward and futures market to contain depreciation.	No existing import quantity controls.	Removed rate cap on non-resident deposits, and banks can freely increase rate to compete for foreign deposits.
Maldives	Pegged to USD with a narrow range	Capital control through convertibility measures: residents not allowed to exchange for foreign currency through the banking system.	—
Nepal	Pegged to INR	Increased cash margins for trade finance transactions and customs duty for non-essential commodities; extended a ban on import of non-essential goods imposed until August 30; tightened import of two-wheelers and mobile phone sets; cash deposit required to open letter of credit for imports.	Additional 1% interest rate on remittance deposits in BFIs (Aug 2021); increased daily threshold for money remitted from abroad from NPR 1m to NPR 1.5m (Aug 2022); non-resident Nepalese allowed to open foreign currency saving account (Nov 2021).

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Table 1.3 continues.

	Exchange rate management	Quantity controls	Incentive policies
Pakistan	Market determined	Temporary import ban on 694 goods in May; import approval requirement for 25 mostly electronic products; in August bans were replaced with import duties.	Digital accounts introduced in Sept 2020 to allow non-resident Pakistanis easy access to banking services to attract foreign currencies; interest paid to dollar-denominated deposits in the account at 6-7%.
Sri Lanka	Managed float since May 12	Foreign exchange rationing for fuel and other essential imports; surrender requirements on export proceeds and remittances; temporary bans on imports; increased duties and licensing requirements.	Incentive to attract remittance in place previously.

Source: World Bank country economists.

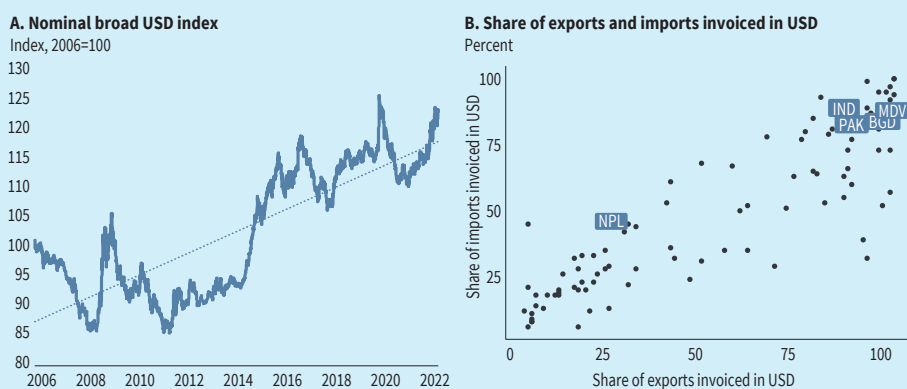
With depleted foreign exchange reserves, Sri Lanka requested financing support from the IMF and Pakistan renewed its earlier arrangement. Both countries have reached agreements with the organization as of early September. In Sri Lanka, the funding facility of US\$2.9 billion that is planned to operate for four years marks an important step in resolving its ongoing economic and balance of payments crises. For Pakistan, the agreement revives and extends the long-stalled 2019 Extended Fund Facility (EFF) program until mid-2023 and allows the disbursement of additional funding. Amid increasing balance of payments pressure and falling foreign exchange reserves, Bangladesh requested financial support from the IMF in July, making it the third country in the region—after Pakistan and Sri Lanka—to be engaging with the IMF this year.¹¹ But unlike the other two countries, Bangladesh's reserves have not fallen to dangerously low levels, the country is not facing political instability, and inflation is still below 10 percent although it is above recent historical levels.

¹¹ Nepal also has a program under the Extended Credit Facility.

Box 1.2. The dollar is whose problem: Impact of the US dollar dynamics on bilateral trade

The US dollar has appreciated vis-à-vis most currencies since 2021. The ongoing monetary policy tightening in the US and its safe-haven status have attracted capital flows into the country amid the deterioration of global growth prospects. As a result, the US dollar has seen a strong rally that continues with the trend observed since the Global Financial Crisis in 2008 (Figure 1.16.A). Historically, the US dollar fluctuations have a profound impact on other economies, as the then US treasury secretary John Connally famously put in 1975, “The dollar is our currency, but it’s your problem.” For countries that issue debt in US dollars, a depreciation of the local currency translates directly into higher borrowing costs (see also Section 2.3). Another important mechanism for the region is the impact of the exchange rate movement on trade.

Figure 1.16. US dollar evolution and share of trade invoiced in US dollars



Source: A. Federal Reserve Bank of St Louis. B. Boz et al. 2022.

Note: A. An increase shows a US dollar appreciation against all other currencies. The dotted line shows a linear trend. B. For each country, the figure shows the data for the last available year for each country. As shown by Boz et al. (2022), these shares do not change much over time.

Standard economic models suggest that the US dollar dynamics are not important by themselves. Instead, the bilateral exchange rate is more important when assessing the impact of exchange rate movements on trade prices and volumes (e.g., the Mundell-Fleming framework). But modern trade models (such as the dominant currency paradigm, Gopinath et al. 2020) have shown that short-term price stickiness and the invoicing currency—the currency in which bilateral trade prices are set—also matter for trade flows. Trade prices are typically sticky in the short term because of

the duration of signed contracts.¹² Most international trade prices are set in US dollars, especially in emerging economies (Boz et al. 2022).¹³ Figure 1.16.B plots the share of total trade that is invoiced in US dollars for 110 countries. South Asian countries rank among those with the largest share of trade invoiced in dollars. Four of the eight regional countries have more than 80 percent of their trade invoiced in US dollars (data for Afghanistan, Sri Lanka, and Bhutan are not available).¹⁴

Because of short-term sticky trade prices and the dominance of the US dollar in international trade, even if countries do not have direct trade with the U.S., their trade volumes can be impacted by exchange rate fluctuations vis-à-vis the dollar. To illustrate the role of the US dollar in bilateral trade, take Pakistan as the home country and consider Pakistan's trade with the Euro area.

If trade is **invoiced in US dollar**, the import price in rupee is given by the product of the euro price, the dollar-euro exchange rate, and the rupee-dollar exchange rate:

$$P_{\text{imports}}^{\text{rupees}} = ER_{\text{rupee}}^{\text{USD}} \times \underbrace{ER_{\text{USD}}^{\text{euro}} \times P_{\text{euros}}}_{= P_{\text{USD}}}$$

Importantly, the assumption of the sticky price implies that the dollar price P_{USD} is sticky and does not change in the short term.

For simplicity, assume that only the rupee depreciates against the dollar. Because the dollar price P_{USD} is sticky in the short term, while the rupee-dollar exchange rate increases, while the rupee-euro exchange rate increases following the rupee depreciation, Pakistan's import price in rupee $P_{\text{imports}}^{\text{rupees}}$ also increases. This leads to falling import volume in the short term.

At the same time, Pakistan's export price in euro:

$$P_{\text{exports}}^{\text{euros}} = ER_{\text{euro}}^{\text{USD}} \times \underbrace{ER_{\text{USD}}^{\text{rupee}} \times P_{\text{rupee}}}_{= P_{\text{USD}}}$$

¹² When contracts are signed, they specify the price for a certain period, which leads to sticky prices. In some cases, one of the parties may try to renegotiate the price before the contract expires, for example in response to exchange rate movements. But negotiations take time, which also leads to sticky trade prices.

¹³ Exporting firms may invoice their products in their own (exporter's) currency, the destination country's currency, or a third country's currency like the dollar. The choice of invoicing currency depends on factors like strategic complementarities (keeping the price of products as close as possible to those of competitors), returns to scale (if facing capacity constraints), and the currency of imported intermediate inputs (exporters may seek to match the currency of exports and imports). Adler et al. (2020) discuss this in more detail and show that US dollar pricing is linked to the use of imported intermediate goods (and participation in global value chains) but also that additional factors come into play.

¹⁴ The large shares of US dollar trade invoicing are not just driven by import price invoicing. In fact, larger shares of exports than imports are invoiced in US dollars in Bangladesh, Pakistan, and Maldives.

does not change, the dollar price is sticky in the short term and the euro-dollar exchange rate is assumed unchanged. This leads to no change in export volume. In other words, all the volume adjustment takes place on the import side.

This result may seem counter-intuitive, as one would expect the currency depreciation to make goods relatively cheap for European buyers, benefitting Pakistan's exporters. But in the short term, this mechanism is often muted. For example, when the Pakistani rupee depreciated rapidly against the US dollar in 2019, Pakistan's exporters did not expand shipments as fast as expected (Ahmad 2019), even though the depreciation gave them a price advantage relative to competitors. Brun, Gambetta, and Varela (2022) show that part of the low export response to depreciation is related to dollar price stickiness and US dollar invoicing.

During the most recent dollar rally, as the euro also depreciated against the dollar, European consumers face higher euro prices of imports from Bangladesh, because the bilateral trade is invoiced in the US dollar and the dollar prices are sticky in the short term. As a result, Bangladesh exporters do not benefit from the taka depreciation vis-à-vis the dollar.

While the above example illustrates how the invoicing currency matters in bilateral trade, the impact depends crucially on sticky prices in the short term. Over time, as exporters adjust prices, both the exports and imports will fully adjust to reflect movements in the bilateral exchange rate (e.g., the rupee-euro exchange rate). Nevertheless, the impact of dollar invoicing is particularly relevant now and for emerging economies (Boz et al. 2022).

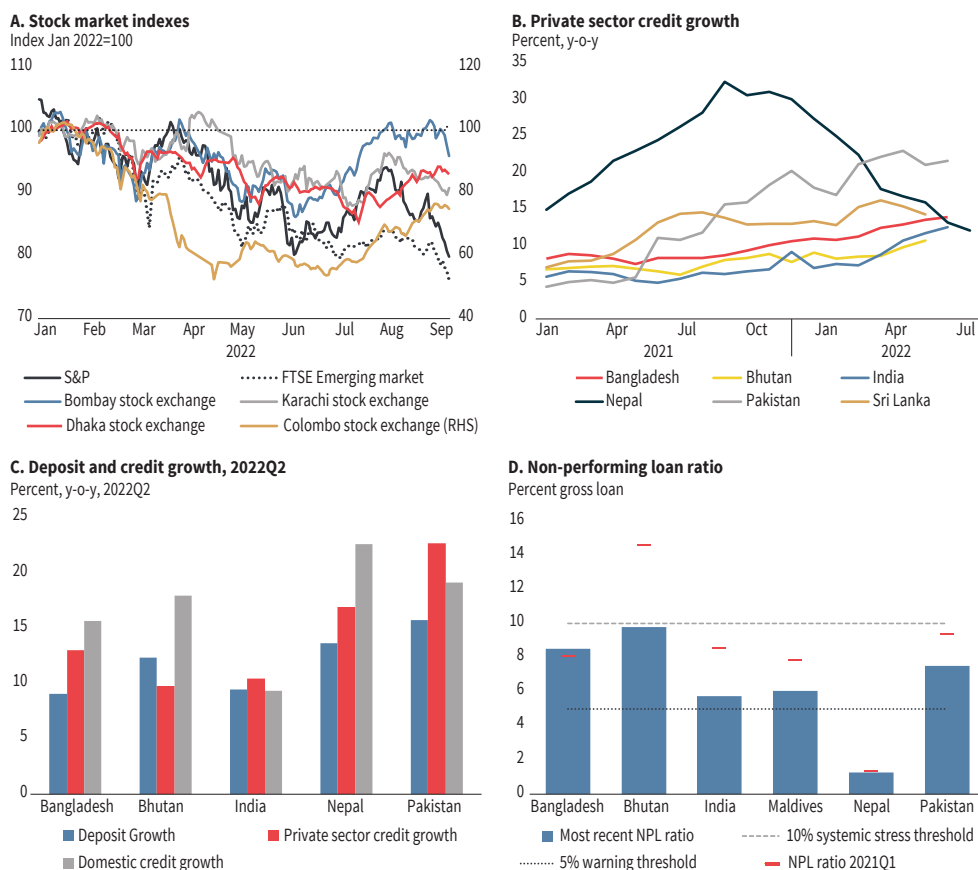
1.5 New challenges meet existing vulnerabilities in the financial sector

Equity market indexes drop as investment sentiment deteriorates with only India showing resilience. As advanced economies started monetary tightening earlier and more aggressively than some of the South Asian countries (e.g., India and Bangladesh), the interest rate differential with the U.S. narrowed, making the South Asian markets relatively less attractive to investors. At the same time, investor appetite for risk shifted due to heightened uncertainty following the war in Ukraine. As a result, investors withdrew funds from the South Asian markets, and major stock indexes dropped in February and underperformed the S&P index in the spring (Figure 1.17.A). During May-July, as South Asian countries sped up monetary tightening, the region's markets outside of Sri Lanka performed better than the world

indexes, although weak investor demand kept all indexes below the pre-war levels. In the meantime, capital outflows continued, contributing to weak stock market performance: India saw a record US\$29.7 billion in net FPI outflow in the first half of 2022, while Pakistan's Special Convertible Rupee Accounts registered a US\$1.2 billion net outflow during July 2021-May 2022. But demand by domestic investors remained robust in India as the country's economy showed signs of resilience. As foreign capital turned net buyer in India since July, the country's index returned to the pre-war level, while all other major indexes in the region remain below pre-war levels.

Growth in private sector credit demand continues rising and has outpaced deposit growth in some countries. A few factors have fueled private sector credit growth in the region (Figure 1.17.B). As capital market borrowing rates rise, private sector borrowers have shifted

Figure 1.17. New and existing challenges in the financial sector



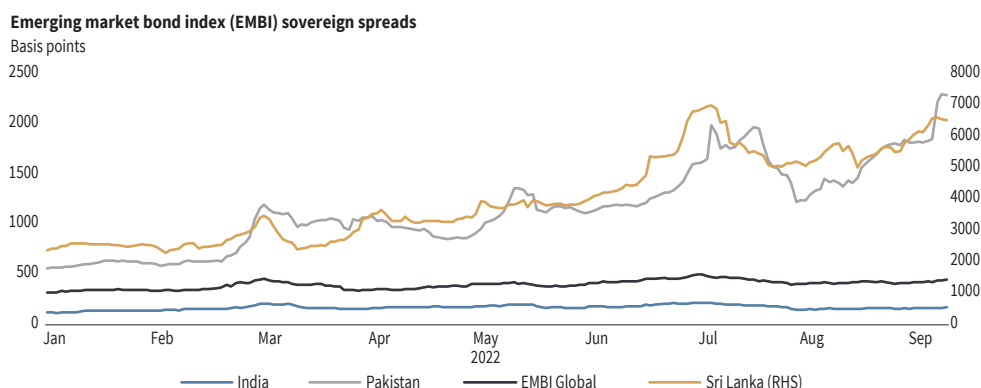
Source: Haver Analytics, CEIC, Royal Monetary Authority of Bhutan.

Note: Most recent non-performing loan data reported are as of 2022Q2 for Pakistan and Maldives, 2022Q1 for Bangladesh, Bhutan, India, and Nepal.

to borrowing from banks. With elevated inflation, firms require higher working capital, while import financing needs also rise. The region's demand is also recovering from the impact of COVID a year ago. In Pakistan, private sector credit has grown at over 20 percent year-over-year for each month since March, as high inflation and currency depreciation require companies to increase borrowing. In Nepal, private sector credit growth has moderated in response to monetary tightening, but credit growth still outpaced deposit growth (Figure 1.17.C). Not all increased credit goes into investment, as some is a response to higher inflation, and so there is less concern for an investment bubble. But credit demand growth that outpaces deposit growth can lead to bank liquidity concerns.

Loan moratorium policies have masked possible asset quality deterioration and contributed to banks' credit risks. Reported non-performing loans (NPL) as shares of gross loans have fallen (in Bhutan, India, Maldives Nepal, and Pakistan), or increased less than expected (in Bangladesh) given the tightening liquidity constraints and softening economic conditions (Figure 1.17.D). But the reported NPLs may not reflect the extent of deterioration in asset quality. Loan delinquencies among loans restructured under the COVID-era moratorium programs may not have been fully captured in the data, since loan delinquencies take time to show up in data and the forbearance programs expired only recently in some countries and are still ongoing in others (World Bank 2022a Box 1.3). For example, Bangladesh extended its loan payment moratorium through the end of 2022 and relaxed NPL restructuring requirements; broad-based support remained in place in Bhutan until the end of June 2022 when measures became more targeted. These program extensions further delay the full recognition of asset quality, and the longer these programs are maintained, the worse the fallout would be if it turns out that many of these firms and banks are insolvent. Monetary tightening that is ongoing in the region can also expose asset quality problems and lead to higher delinquencies as higher borrowing costs make it harder for borrowers to roll over debt.

Rising sovereign risks can spill into the financial sector, while financial sector risks can lead to bailouts and thus sovereign risks. The J.P. Morgan emerging market bond index (EMBI) spreads, which measure investors' perceptions of risk, show drastic increases for Pakistan and Sri Lanka since the beginning of the year, suggesting increased sovereign risk in both countries, while the risk for India remains subdued (Figure 1.18). Heightened sovereign risk can spill into the country's financial sector. In Pakistan, banks' capital adequacy calculations assume the government is a risk-free borrower, which means sovereign risks are not fully accounted for in banks' balance sheets. In Sri Lanka, as the country defaulted on its external debt payment in April, the banking sector, which had sizable exposures to sovereign debt (about 40 percent of bank balance sheets) and has been facing severe liquidity issues (Spotlight section). At the same time, financial sector risks including bank credit and liquidity risks can lead to bailouts by the government, which shift the risks to the sovereign and compound the rising sovereign risks.

Figure 1.18. Sovereign risks rise in Sri Lanka and Pakistan

Source: JP Morgan Markets.

Stronger supervision and regulation are needed to reduce systemic risks in the financial sector. Segments like micro, small and medium enterprises (MSMEs), non-bank financial corporations (NBFCs), and microfinance faced the brunt of the impact during the pandemic, and stress in these segments can also be easily overlooked without strong supervision. As these are also the sectors that had high participation rates in the loan restructuring and forbearance programs during the pandemic, stronger supervision is needed to ensure asset quality deteriorations in these sectors do not spill over to other parts of the economy. Similarly, a comprehensive review of bank balance sheets is needed to reduce the potential impact of sovereign risk on banks.

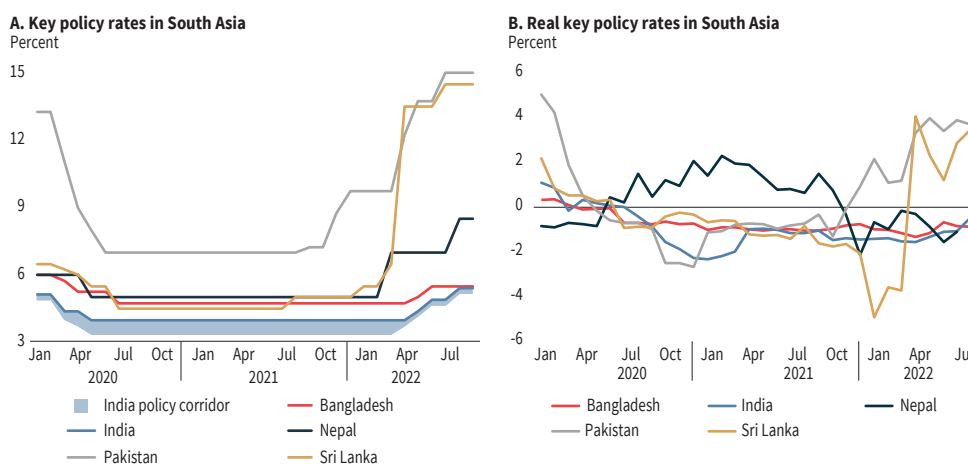
1.6 Monetary policy continues to tighten while fiscal policy is constrained by space

South Asian countries continue to tighten monetary policy to fight inflation, anchor inflation expectations, and stabilize capital flows. Pakistan and Sri Lanka started the tightening cycle relatively early—in late 2021 or the beginning of 2022—and have been more aggressive. Pakistan has increased its key policy rate by 8 percentage points during the current tightening cycle, whereas Sri Lanka has raised its repo rate by 10 percentage points (Figure 1.19.A). India and Bangladesh started tightening later than most advanced economies but have also started since April. Through three rounds of policy actions in May–August, India increased its key policy rate, the repo rate, from 4 to 5.4 percent. The country’s headline consumer inflation has eased since May, although it is still above the central bank’s target range. Bangladesh similarly tightened in May with a 25-basis point hike, although it has not been enough to bring down the country’s inflation rates, as interest rate caps introduced in 2020

prevent banks from passing higher rates to borrowers. Box 1.3 estimates the effectiveness of regional central banks' actions in affecting macroeconomic variables and finds that prices were not responding to monetary policy shocks.

Aggressive tightening in Pakistan and Sri Lanka has pushed up real rates, while real policy rates remain negative for other South Asian countries despite historically high policy rates. Because of elevated inflation and inflation expectations, the real rates in Bangladesh, India, and Nepal have stayed negative since mid-2020 (Figure 1.19.B), reflecting an accommodative monetary environment. In contrast, the real policy rates computed using one-year ahead inflation expectations have turned positive in Pakistan since late 2021, as rapid tightening curbed expectations about future inflation. But with the drastic currency depreciation since April 2022 (Section 1.4), the country's inflation has risen further to above 20 percent since June. Similarly, the real policy rate based on one-year ahead inflation expectations in Sri Lanka has also stayed positive following a large policy hike in April.

Figure 1.19. Monetary policy tightens but real rates in most countries are still negative



Source: Haver Analytics, CEIC, Consensus Economics, and staff calculations.

Note: India's policy corridor is computed as the difference between the repo rate and a policy floor rate, which was the reverse repo rate before April 2022 and the standing deposit facility rate afterward. Real rates are constructed using one-year ahead inflation expectations from Consensus Economics, except for Nepal where the measure is not available.

Box 1.3. How effective is monetary policy in South Asia?

The functioning of the monetary policy transmission mechanism is crucial in achieving central banks' objectives. Elevated inflation (Figure 1.1) and potential de-anchoring of inflation expectations could make the tasks of monetary authorities in the region increasingly challenging. The analysis in this box examines the strength of monetary transmission from interest rates to output growth and inflation in a panel of four South Asian economies – Bangladesh, India, Pakistan, and Sri Lanka. The empirical approach is based on Brandao-Marques et al. (2020) and uses Jordà (2005)'s local projection method and monthly data between January 2003 and June 2017.¹⁵ We first identify monetary policy shocks and subsequently estimate whether a contractionary policy reduces economic activity and prices in the region.

The identification approach assumes that monetary policy shocks are changes in policy interest rates that are not related to current and expected macroeconomic conditions. In other words, deviations from the Taylor-type rules aim to capture the non-systematic and unexpected part of monetary policy actions in the spirit of Romer and Romer (2004). More specifically, the monetary shocks for each country in our sample are residuals from the following regression:

$$\Delta i_{it} = \alpha_{0i} + \alpha_{1i} E_t \Delta y_{it+12} + \alpha_{2i} E_t \pi_{it+12} + \sum_{j=1}^2 \alpha_{3ij} \Delta y_{it-j} + \sum_{j=1}^2 \alpha_{4ij} \Delta p_{it-j} + \sum_{j=1}^2 \alpha_{5ij} \Delta neer_{it-j} + \sum_{j=1}^2 \alpha_{6ij} i_{it-j} + \varepsilon_{it}$$

where $E_t \Delta y_{it+12}$ and $E_t \pi_{it+12}$ are the 12-month-ahead market forecasts of GDP growth and inflation as measured by Consensus Forecasts, while y , p , i , and $neer$ denote output, prices, a short-term interest rate, and the nominal effective exchange rate (in logs), respectively.

We estimate the response of industrial production and prices to such identified policy shocks for each horizon h , as follows:

$$y_{it+h} = \mu_i^h + \sum_{j=0}^2 \gamma_j^h \hat{\varepsilon}_{it-j} + \delta_0^h \Delta neer_{it}^* \hat{\varepsilon}_{it} + \sum_{j=0}^2 \beta_{1j}^h Z_{it-j} + \sum_{j=1}^2 \beta_{2j}^h i_{it-j} + \mathbf{x}_{it}^h \boldsymbol{\lambda}^h + \omega_{it}^h$$

where μ_i^h stands for a country fixed effect and the vector Z includes contemporaneous and lagged values for y , p , and $neer$. The vector \mathbf{x} comprises global and country-specific controls, including the VIX, a commodity price index, the first principal component of the shadow policy rates for the United States, euro area, and Japan, and country-level

¹⁵ The dataset from Brandao-Marques et al. (2020) covers the considered period.

monthly temperature and precipitation anomalies. The behavior of the exchange rate is explicitly considered given its importance in monetary policy transmission in small open economies. The coefficient associated with the contemporaneous country-specific policy shock (γ_o^h) reflects the impact on output (or prices) when the exchange rate channel is shut down, whereas the interaction term coefficient (δ_o^h) adds to the total output (or price) response after considering the amplifying effect of exchange rates.

Results in Figure 1.20 indicate that the transmission from interest rates to inflation is absent in the region. Output declines with a lag, in line with conventional theory, and peaks at a negative 0.7 percent after 12 months. The effect of one standard deviation policy hike on prices, however, is more muted and not significantly different from zero. The outcome does not change even if we account for a potential appreciation, in contrast to the estimates for a broader sample of EMDEs in Brandao-Marques et al. (2020). Results on the monetary transmission are largely ambiguous in other studies that estimate VAR models for countries in South Asia (Mishra, Montiel, and Sengupta 2016; Lakdawala and Sengupta 2021, among others).

Figure 1.20. Despite negative effects on output, prices do not respond to a contractionary policy shock



Source: Brandao-Marques et al. 2020 and staff calculations.

Note: IRFs to a contractionary policy interest rate shock of one standard deviation with 90-percent confidence intervals. The unbalanced panel includes monthly data from January 2003 to June 2017 for four South Asian economies (Bangladesh, India, Pakistan, and Sri Lanka). Dependent variables are the logarithms of industrial production and price level.

The weak monetary policy transmission could be associated with different structural factors. Gupta and Sengupta (2016) and Acharya (2020), for example, document that the fiscal dominance of monetary policy in India might hamper its transmission

mechanism. Brandao-Marques et al. (2020) show that having a modern monetary policy framework (i.e., inflation targeting, an independent central bank, and transparent monetary policy) leads to a stronger transmission, and more so than financial development or other characteristics. During most of the sample period, the regional countries did not have inflation targeting. The only exception is India, which introduced inflation targeting in late 2016.¹⁶ A longer sample covering more of the inflation targeting period in India might yield stronger results.

An alternative explanation is that our findings feature methodological drawbacks. A causal interpretation of the results is conditional on the monetary policy shocks being correctly identified. It is possible that Taylor-rule residuals still contain an important systematic component and are not fully exogenous, especially if the country does not use an interest rate as its main monetary policy tool. To address this, we use high-frequency identification of shocks available for India (Lakdawala and Sengupta 2021) but the outcome remains the same.

In addition, we estimate a Bayesian Structural VAR using sign restrictions to identify structural shocks (for a critical survey see Fry and Pagan 2007). The VAR model includes four variables – the growth of industrial production, prices, and nominal exchange rate, as well as the policy interest rate. A monetary policy shock is identified by assuming that a monetary contraction leads to a contemporaneous price and output decrease and nominal currency appreciation.¹⁷ Estimated impulse response functions do not alter the previous conclusions – the effects of a policy rate increase on prices are not statistically significant.

The central banks' effectiveness in containing inflation could be improved in various ways. More credible monetary policy frameworks with clear and transparent communication and independent authorities could anchor inflation expectations better, reducing the degree of policy tightening needed to achieve the desired effects on inflation and activity. Clear guidance should help shape the expectations of financial markets, households, and firms in a way that does not destabilize the economy (Coibion, Gorodnichenko, and Weber 2022). This is particularly important in light of the recent developments and soaring prices worldwide.

¹⁶ The Central Bank of Sri Lanka officially moved to a flexible inflation targeting framework in 2020 (IMF AREAR database).

¹⁷ An alternative assumption of no contemporaneous effects on output is also considered, but the outcome does not differ significantly.

Table 1.4. Food and fertilizer subsidies in South Asian countries

	Food subsidy	Fertilizer subsidy
Bangladesh	Through the state-owned Trading Corporation of Bangladesh (TCB), the government is running its Open Market Sales (OMS) operations which provide necessary food items to the poor at a subsidized rate. Food subsidy at BDT55 bn in FY21/22.	The government recently increased the price of fertilizer in the domestic market marginally, but subsidy payments are expected to remain elevated. Fertilizer subsidy at BDT120 bn in FY21/22
Bhutan	The government fixed the prices of vegetables and fruits at the beginning of 2022.	Fertilizers imported from India via a special concession; prices of fertilizers in the domestic market are fixed. There were no changes in fertilizer prices between FY20/21 and FY21/22. In the past, the government subsidy on fertilizers amounted to below 1 percent of total expenditure and declined by 70 percent in FY20/21.
India	Under the Public Distribution System (PDS), grains are procured by the government from farmers at prices above market and sold at subsidized rates or free to vulnerable and poor households. Food subsidies accounted for almost 1.2 percent of GDP in FY2021-22.	100 percent subsidy on various types of fertilizers, paid to fertilizer companies based on sales.
Maldives	Blanket food subsidies mainly on rice, flour, and sugar; these subsidies have not changed over the past year.	—
Nepal	Subsidy on the producer side through subsidies on seeds and agricultural equipment and reduced electricity tariff for irrigation.	Subsidies on chemical fertilizers.
Pakistan	Large scheme for wheat (which is largely procured through the government at set prices – above market) and sugar (subsidies along the value chain), direct subsidies to farmers.	Multiple subsidies on fertilizer, including direct transfers to fertilizer producers and cheaper gas available to fertilizer companies.
Sri Lanka	Price controls on agricultural products in 2021 and early 2022, now still used sporadically such as maximum price on rice.	

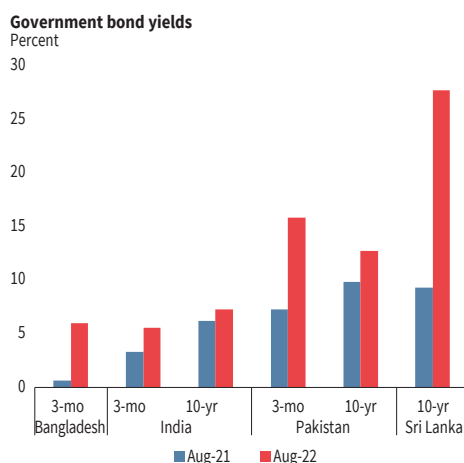
Source: World Bank country economists.

On the fiscal side, government spending needs rose due to rising subsidy costs. With higher food and fertilizer prices, subsidies on these goods (Table 1.4) are also becoming more expensive to sustain. In India, the cost of fertilizer subsidies had already exceeded the FY23 (ending April 2023) budget allocation by June (Mukherjee 2022). The cost of fertilizer subsidies for FY22 (ended June 2022) in Bangladesh is 30 percent higher than the initial allocation. Food subsidies are also expected to increase compared with budget estimates due to the extension of the free food grain program for vulnerable households. The cost of food subsidies

for FY22 was 50 percent higher than the previous year in Bangladesh. At the same time, elevated fuel import prices are making pre-existing fuel subsidies (World Bank 2022a) increasingly expensive for governments. Countries such as India cut fuel taxes to reduce the burden of higher fuel prices on the domestic economy, but this created an additional fiscal burden (The Indian Express 2022). In contrast, other countries have steered away from protecting consumers from fuel price increases, thus reducing the fiscal burden. Pakistan cut electricity and petroleum price subsidies multiple times in May and June as part of the program with the IMF (Business Standard 2022). Bhutan and Nepal are committed to no fuel subsidies, while Maldives is considering a reform of the country's fuel subsidies to reduce the fiscal burden. In August, Bangladesh increased fuel price by an average 50 percent to reduce energy subsidies.

Rising debt servicing costs due to higher government borrowing costs are further reducing fiscal space. As countries continue tightening monetary policy, and as capital inflow falls and the sovereign risk rises in some countries (Section 1.5), governments face higher borrowing rates. In India, yields for 3-month government securities have increased by over 1.2 percentage points in August 2022 from a year ago, while the 10-year government yield rose by 3 percentage points in Pakistan and over 18 percentage points in Sri Lanka (Figure 1.21).¹⁸ Higher government bond yields raise debt servicing costs, which are more difficult to cut than most other expenditure items (Blanchard, Felman, and Subramanian 2021). Pakistan's interest payments on government debt are budgeted to increase from 4.7 percent of GDP in FY22 to 5.1 percent of GDP in FY23 (July 2022-June 2023).

Figure 1.21. Government borrowing rates in some South Asian countries, driven by rising policy rates and sovereign risk



Source: Haver Analytics.

Capital or development spending faces difficulties in both budget and execution in some countries. As South Asian countries rebuild post-COVID, many have planned or have already started on large public projects. The devastation left by floods in Pakistan will require extensive rebuilding as the flooding submerged more than one-third of the country with estimated economic losses of over US\$10 billion and planned funding requirements of US\$160

¹⁸ In Bangladesh, due to capital controls and limited access to capital markets, domestic banks hold domestic government debt securities. In 2021, higher levels of remittance inflows resulted in excess liquidity, which pushed down the short-term government bond yield. The trend reversed in 2022, as remittance inflow stagnated, contributing to higher short-term bond yields.

million. In countries with high current expenditure needs and low revenue growth, the budgeted capital expenditure is likely to be squeezed. Countries that implemented large public projects (e.g., Bangladesh and Bhutan) saw increases in the import of capital goods, which contributed to trade imbalances. Low execution of capital expenditure, which is a common challenge in developing countries due to capacity constraints, became worse due to COVID-related restrictions. For example, the capital budget execution rate in Nepal was only 50-60 percent in FY20 and FY21, but as COVID-related restrictions were eased increased to an estimated 79 percent in the fiscal year that just ended in mid-July. The ongoing import controls in many countries (Table 1.3) to reduce current account deficits have further limited execution. In Bangladesh, the government recently deferred lower priority development projects that require significant imports to ease balance of payments pressure. In contrast, India's government has ramped up capital expenditure with the aim of crowding in private investment, while policies to rein in current spending have allowed more resources for capital projects.

Nominal tax revenues have increased in some regional countries, but to meet rising expenditure needs, governments are raising taxes. In Bangladesh, nominal tax revenue increased, supported by a trade-related tax on rising imports. But expenditure growth still outpaces revenue growth, leading to an increase in fiscal deficit from 3.7 percent of GDP in FY21 to 4.6 percent in FY22. In Bhutan, a contraction of the electricity sector due to hydropower plant maintenance has led to lower revenues from the hydropower sector. To increase revenues, Bhutan is revamping tourism and increasing the daily tourist tax from US\$65 to US\$200; Maldives is raising goods and services tax (GST) on residents and tourists; India is raising general GST and increasing import duties on gold, with windfall taxes on petroleum exports also helping to boost revenue; and Pakistan's budget for FY23 (July 2022-June 2023) increases petroleum levy and income tax on high-earning individuals. Higher taxes and revenue consolidation in general help alleviate current account deficits, especially those targeting imported goods. But they could lead to lower demand, which in turn reduces revenue collection from income and trade-related taxes, putting additional pressures on countries' fiscal positions.

Box 1.4. Voices from South Asia

As in the last seven editions of this report, we conducted an opinion survey among experts and researchers in the South Asian academic, policymaking and consultancy communities. This time, as countries are confronted with multiple headwinds and policymakers face policy dilemmas and trade-offs, the survey focused on the experts' views on the macroeconomic policy trade-offs and alternatives. We also surveyed views on migration issues.¹⁹

Experts' opinions suggest a continued economic recovery, albeit a less promising prospect. Eighteen percent of the experts see the level of economic activity already at or above the pre-COVID level, a strong improvement from 13 percent in the spring, and 8 percent in fall 2021 (Figure 1.22). However, only 47 percent of experts expect an increase in real GDP growth within the next six months, which reflects the experts' belief of heightened risks to recovery. Among potential risks to economic recovery, high inflation is perceived as the biggest threat in the short run by 37 percent of respondents (Figure 1.23). The second biggest risk comes from financial sector stress, as 17 percent of the experts rank it as the top risk. A few respondents (13 percent) noted widening current account deficits and sluggish consumption and/or investment as risks to the recovery, followed by increasing budget deficits. By contrast, the risk of another wave of the pandemic has largely subsided according to respondents, a marked decline compared to the Fall 2021 and Spring 2022 surveys.

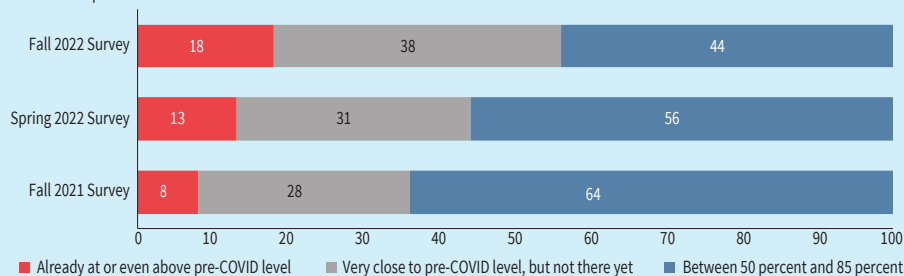
To curb inflation, experts are moderately supportive of monetary tightening and hold strong views that alternative tools can be used to mitigate the adverse impact of policy hikes (Figure 1.24). While South Asian countries face elevated inflation, some have aggressively raised policy rates (Section 1.6). Experts continue to see global commodity prices and supply chain disruption as the primary sources of inflation. Since most inflationary pressures are coming from abroad, South Asian countries are forced to delicately trade-off between support for economic recovery and policies that stabilize prices. However, only 37 percent of experts agree that central bank policy rate hikes effectively achieve the intended goal of curbing inflation, whereas 37 percent of the experts hold the opposite opinion (see also Box 1.3). Furthermore, only half of the experts agree that the benefits of monetary tightening outweigh the costs, such as rising borrowing costs. However, when asked whether

¹⁹ We received 47 responses from six countries: 34 percent are from India, 30 percent from Pakistan, 19 percent from Bangladesh, and less than 10 percent each from Nepal, Bhutan, and Sri Lanka; 72 percent identify as macroeconomists, 46 percent as policy advisors, and 9 percent as policymakers.

Figure 1.22. Experts see continued economic recovery but are less optimistic about the future

Where do you think the level of economic activity is compared to pre-COVID?

Percent of respondents



What do you expect to happen to real GDP growth in your country within the next six months?

Percent of respondents

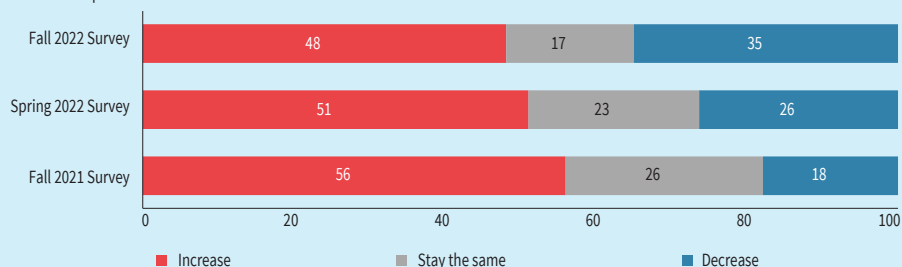
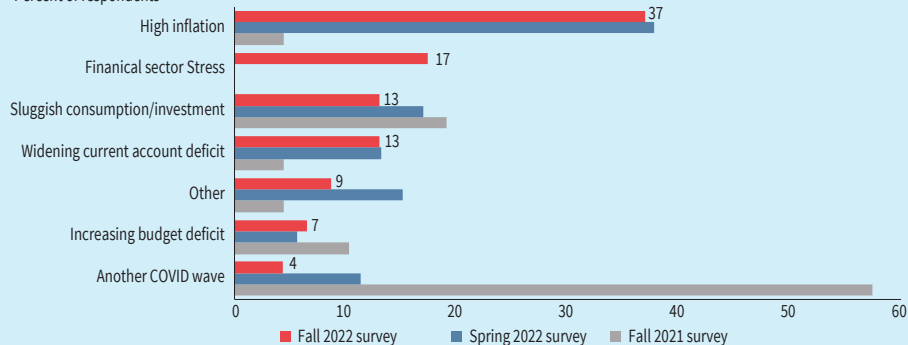


Figure 1.23. Inflation continues to be perceived as the top risk to recovery, while COVID risks have largely subsided

What is the biggest risk to the economic recovery in your country within the next six months?

Percent of respondents



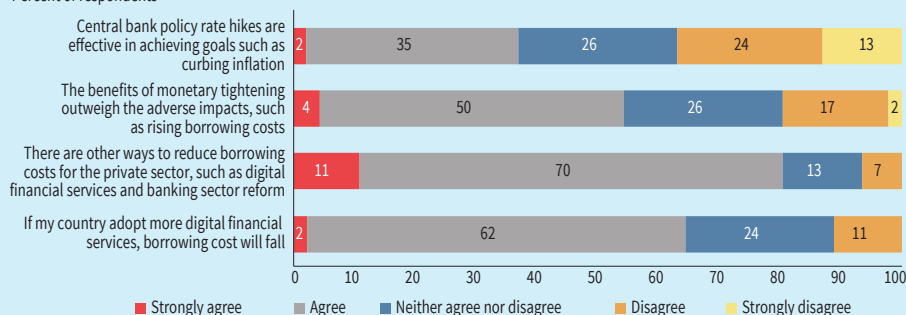
Note: Financial sector stress was not included as a potential risk in the fall 2021 and spring 2022 surveys.

digital financial services and banking sector reforms can help reduce borrowing costs, 81 percent of experts agree. Moreover, 62 percent believe that if their respective countries adopt more digital financial services, borrowing costs will fall. These views show that while the cost of monetary tightening may be inevitable, innovative tools, such as technological adoption and reform, could help mitigate the adverse impacts (see also Box 2.2).

Figure 1.24. Trade-offs of monetary policy in response to high inflation

Regarding impact of monetary policy on inflation management in your country, how much do you agree with the following statements?

Percent of respondents

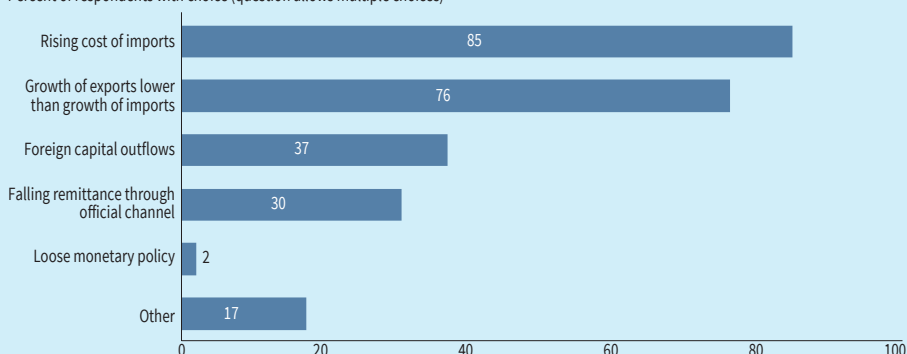


Among policies to reduce the tension over the balance of payments, experts are not in support of import controls. The rising cost of imports is considered the top reason for the balance of payment disequilibrium by 85 percent and 76 percent of the respondents, respectively (Figure 1.25.A). This is followed by foreign capital outflows and falling remittances through official accounts. While policymakers in some countries have used import bans to reduce the tensions over the balance of payments (Section 1.4), this measure is considered the least effective by the experts, with support from only 30 percent of the respondents (Figure 1.25.B). Meanwhile, monetary tightening to control capital outflow is considered adequate by 52 percent of experts, while incentives to attract workers' remittances from abroad or foreign deposits are supported by 67 percent of experts.

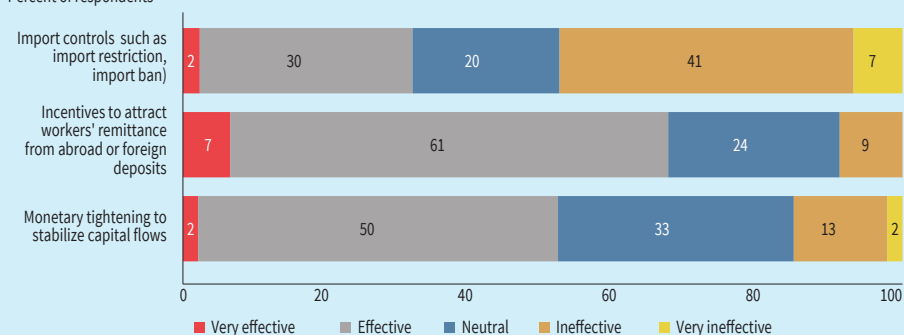
As elevated food and energy prices contribute to rising food insecurity (Section 1.3), 70 percent of the respondents believe that food insecurity has worsened in their countries. Almost three-quarters of respondents see elevated global prices and irregular climate events as the leading causes of heightened food insecurity (Figure 1.26.A). While many countries around the world implement export restriction policies to ensure the domestic supply of food, 59 percent of the experts either stay neutral

Figure 1.25. Tension over the balance of payments and policy responses**A. Source of deteriorating balance of payments****What is the main reason for the balance of payments disequilibrium in your country?**

Percent of respondents with choice (question allows multiple choices)

**B. Policy response to restore balance of payments****If your country has the following policies to reduce tensions over balance of payments, what are your opinions about them? If your country doesn't have the policy now, please consider it in hypotheticals.**

Percent of respondents

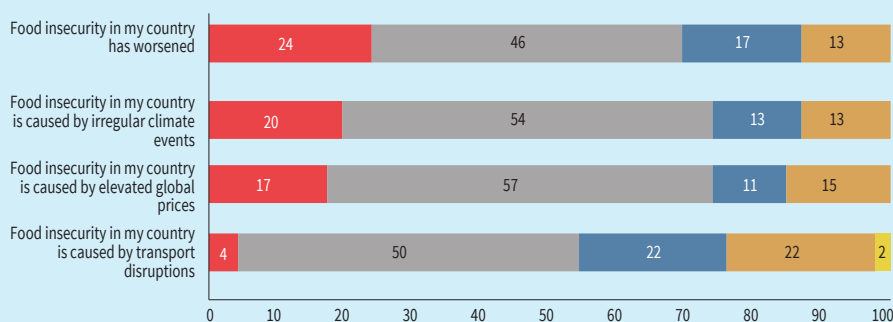


or question the effectiveness of export restrictions in alleviating domestic food shortages, and 70 percent of experts recognize that restrictive measures by their trading partners have aggravated food insecurity (Figure 1.26.B). An overwhelming share (87 percent) of experts believe food insecurity cannot be addressed without global coordination.

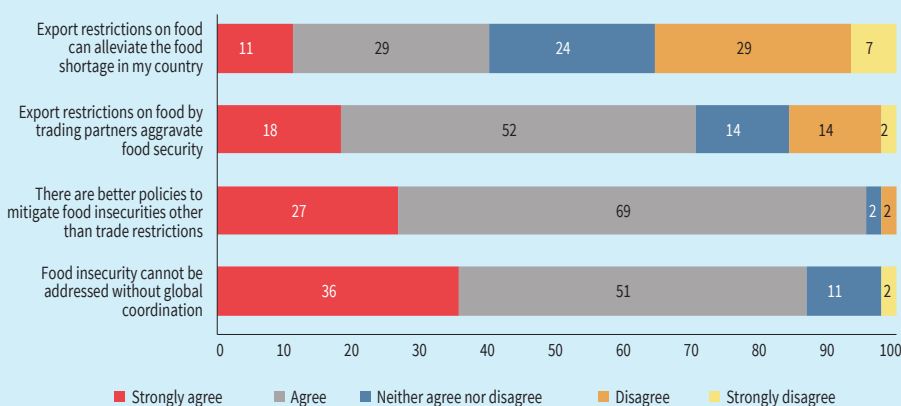
While the majority of respondents (78 percent) believe that public debt as a share of GDP will increase in the next six months, experts hold mixed opinions over ways to reduce the fiscal burden (Figure 1.27). For example, countries may consider removing fuel subsidies to reduce the fiscal deficit, but at the cost of higher consumer prices for fuels at a time when global energy prices remain elevated. Experts, however, believe that the cost of removing fuel subsidies can be justified. Some countries in

Figure 1.26. Food insecurity and policy choices**A. Source of food insecurity****On the food security situation, how much do you agree or disagree with the following statements?**

Percent of respondents

**B. Policy responses****If you think your country is experiencing worsened food insecurity, what is your opinion on the following policy responses to food insecurity? If your country is not experiencing food insecurity, please give your opinion on these policies as hypotheticals.**

Percent of respondents

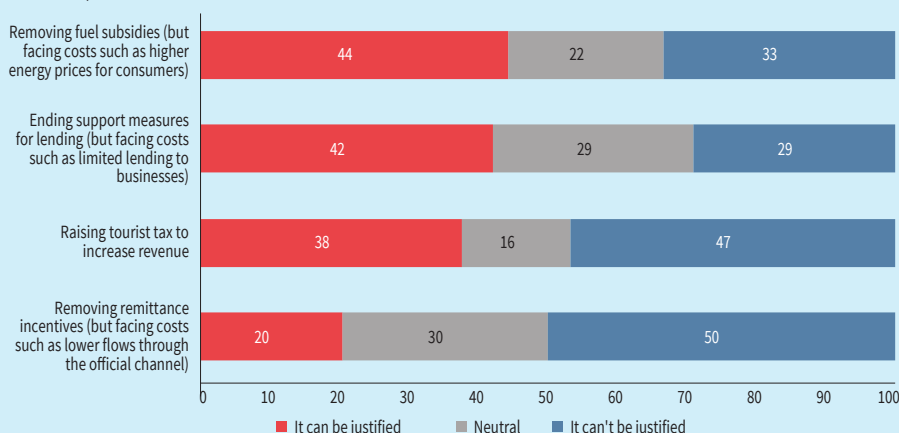


the region have extended loan moratorium programs, which mask the deterioration of asset quality (Section 1.5); 42 percent of experts believe the benefit outweighs the cost of ending lending support measures. Forty-seven percent of respondents were not in favor of raising taxes on tourism, against 38 percent in favor. Finally, removing remittance incentives, a measure that could have a small short-term fiscal reprieve but could divert remittance flows away from the formal channel, was deemed less favorable: only 20 percent of experts consider that the benefits of this measure justified the costs.

Figure 1.27. Policy responses to reduce fiscal deficits

If your country has the following policies to reduce the fiscal deficit, do you think the benefits justify potential costs? If your country doesn't have a policy now, please consider it in hypotheticals.

Percent of respondents



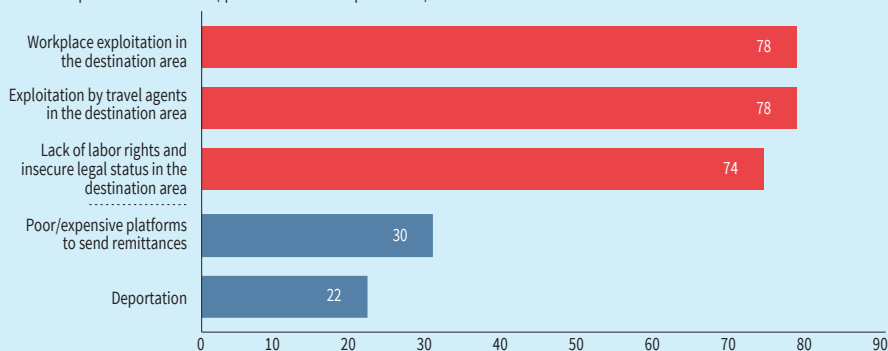
Experts also recognize the importance of migration in economic development but voice concerns over the hardships that migrants face. Ninety-eight percent of respondents believe both international and domestic migration is important for economic development. Eighty-one percent of respondents believe the role of re-migration is important for economic recovery from the COVID-19 pandemic, and 44 percent expect the return of migration only within one year but no sooner than 6 months. Experts also believe costs are high for both international and domestic migration. Workplace exploitation, exploitation by travel agents, and lack of labor rights are cited as the top three sources of hardships that migrants face (Figure 1.28). Most experts suggest reskilling and upskilling, bilateral or regional agreements, and labor market reintegration as the top three solutions to promote re-migration and future de-risking.

Many experts, especially those from Bangladesh, voice concerns about the adverse impact of recent policies on official remittance flows. Remittance flows remain a key economic benefit of migration in South Asia and an important source of foreign exchange. Forty percent of respondents believe remittances have increased, and about one-third of respondents believe that the declining use of official channels to send remittances is the main reason for the increasing balance of payment pressure. But many respondents still note issues such as lack of incentives and the fact that many migrants who came back during the pandemic have not yet traveled abroad.

Figure 1.28. Hardships that migrants face mostly pertain to conditions in the destination area

What are the biggest vulnerabilities that you think labor migrants or aspiring migrants face before and after migration?

Percent of respondents with choice (question allows multiple choices)



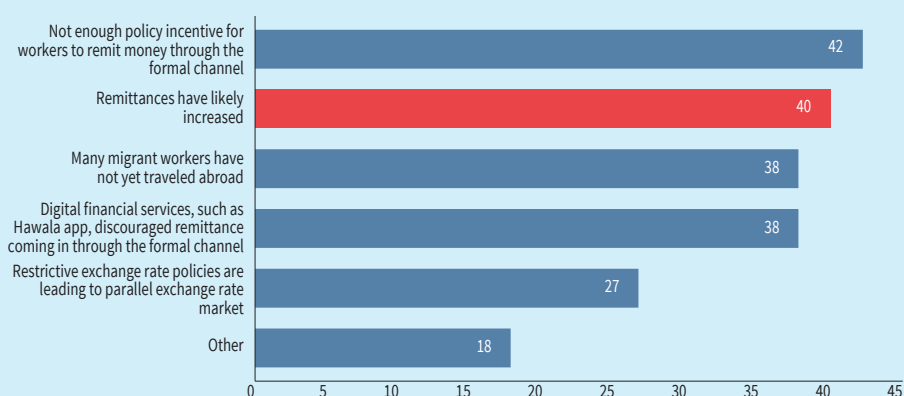
Note: Figure shows the highest and lowest ranked hardships.

About two-thirds of experts from Bangladesh think the parallel exchange market, together with rising digital financial services as an informal channel for remittance flow, and the lack of policy incentives in formal remittance channels, contributed to the slow growth of official remittance in the past six months.

Figure 1.29. Experts note a variety of reasons why a marked increase in remittances is not yet evident

What do you think were the main drivers of changes in official remittance inflows from abroad in your country over the past 6 months?

Percent of respondents with choice (question allows for multiple choices)



Appendices

Appendix A.1.1 Updated poverty numbers in South Asia from the latest World Bank Poverty and Shared Prosperity Report

Table A.1.1. Despite progress in reducing poverty, the most recent international poverty estimates remain double-digit in India and Bangladesh

Country	Year	Poverty at 2017 PPP \$2.15 a day (Low-income threshold)	Poverty at 2017 PPP \$3.65 a day (lower-middle income threshold)	Poverty at 2017 PPP \$6.85 a day (Upper-middle-income threshold)
Bangladesh	2016	13.5	51.6	86.9
Bhutan	2017	0.9	9.4	39.5
India	2019	10	44.8	83.8
Maldives	2019	0	0	3.9
Nepal	2010	8.2	40	80.4
Pakistan	2018	4.9	39.8	84.5
Sri Lanka	2019	0.9	13.3	49.9

Source: World Bank Poverty and Inequality Platform (accessed September 26, 2022). <https://pip.worldbank.org/home>.
Note: The most recent official data for India are from 2011, with international poverty estimated at 22.5 percent. Sri Lanka’s estimate uses the more updated 2019 Household Income and Expenditure Survey, which is more updated than the estimate in World Bank (2022b). There remains considerable uncertainty over the trend and level of poverty in India. Given the absence of official data, other data sources have been used to understand the evolution of poverty: The Poverty and Inequality Platform and World Bank (2022b) use Sinha Roy and van der Weide (2022) based on imputed consumption and estimate a poverty rate of 10 percent in 2019 (\$2.15 2017 PPP).

Appendix A.1.2 Goods and price changes used in the calculation for commodity price impact on trade balances (Figure 1.11.A)

Table A.1.2. Commodities included in the calculation of commodity price impact

Individual Food Security Items	Individual Fertilizer Items	Individual Fuel Items
Rice, milled	Diammonium phosphate (DAP)	Coal
Sugar refined	Urea	Crude oil
Rice, broken	Potassium chloride (muriate of potash) (MOP)	Petroleum oil
Rice, husked	Phosphate rock	Methanol
Oil, coconut (copra)	Superphosphates above 35%	Naphtha
Oil, groundnut	Urea and ammonium nitrate solutions (UAN)	Natural gas
Oil, palm kernel		Propane
Oil, rapeseed		Uranium
Milk, skimmed dried		
Maize		
Flour, wheat		
Milk, whole dried		
Beans, dry		
Oil, sunflower		
Wheat		
Oil, soybean		
Oil, palm		

Note: Items are the most traded items by South Asian countries in each category.

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SPOTLIGHT

Crisis in Sri Lanka: Lessons from the Asian financial crisis

Sri Lanka is in the middle of a deep and unprecedented economic crisis after a series of macroeconomic shocks. Before the pandemic, the economy was already vulnerable to external shocks owing to inadequate international reserves and elevated risks to public debt sustainability, exacerbated by the Easter Sunday terrorist attacks in 2019, large tax cuts, and loss of access to the international sovereign bond market. The impact of COVID-19 resulted in the historically largest contraction of the Sri Lankan economy, with a sharp drop in foreign exchange flows from trade, tourism, and all other sectors of the economy. Sri Lanka experienced a combined balance of payments and sovereign debt crisis owing to inadequate external buffers and later a sovereign debt default. The fiscal deficit increased sharply to 11.6 percent of GDP in 2021 and 9 percent of GDP as of 2022Q1,¹ raising public debt well above 100 percent of GDP.

As Sri Lanka goes through one of the most difficult episodes in the country's history, looking at previous crises in the world can be instructive. The Asian financial crisis of 1997 also started in the external sectors, and the Asian countries that had the largest contractions recovered quickly, showing a distinctly V-shaped adjustment. Comparisons with earlier balance-of-payments crises, such as the 1980s crises in Latin America, can also be informative. This spotlight compares the situations of the East and Southeast Asian crisis countries in the 1990s with Sri Lanka now to draw lessons for Sri Lanka and other developing economies. Table S.1 summarizes the main similarities and differences between the two crises.

¹ Quarterly fiscal deficit as percent of GDP comes from Haver Analytics, computed using quarterly central government overall deficit (Ministry of Finance Sri Lanka) and quarterly GDP (Sri Lanka Department of Census and Statistics), both are not seasonally adjusted.

Table S.1. Summary of key similarities and differences between the Asian financial crisis and Sri Lanka's current crisis

Similarities			
Pre-crisis	Decline in productivity		
	Substantial external debt		
	Large short-term external debt		
	Low foreign reserves		
	Large current account deficit		
	Periods of low interest rates and ample credit from abroad		
During the crisis	Large currency depreciation		
	Large fall in foreign reserves		
	Fall in imports*		
Differences			
	Asian financial crisis countries		Sri Lanka
Pre-crisis	External debt composition:	Mainly private	Mainly public
	Public foreign debt held by:	Mainly bilateral and multilateral	Mainly private sector creditors
During the crisis	Origin of the crisis:	Financial sector fragilities	Longstanding debt overhang and unsustainable fiscal policies
	External shock:	Speculative shock on currency	Real shock from COVID-19

Note: The fall in imports started in Sri Lanka in 2022.

S.1 Vulnerabilities before the crisis

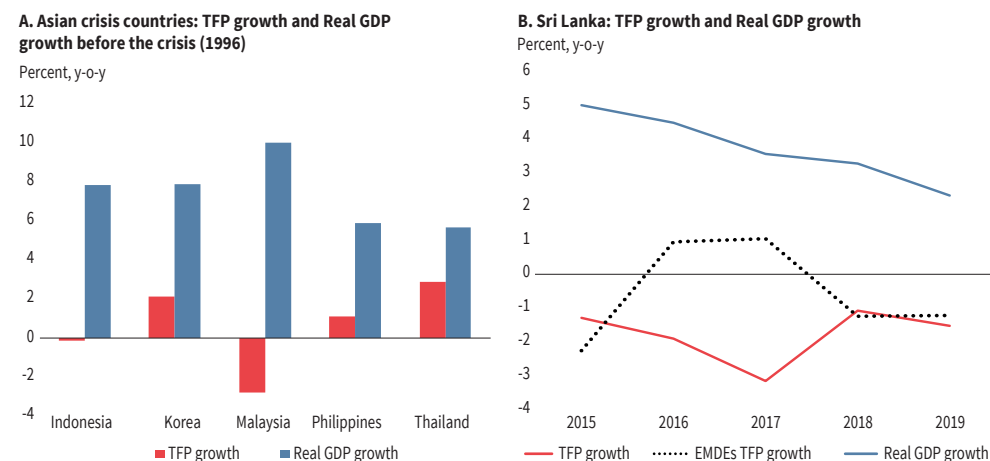
At the start of 1997, the countries of East and Southeast Asia were economic “miracles” of the developing world, with rapid growth that put several close to the advanced-country status. However, the economies shared several weaknesses, some of which were also shared by Sri Lanka before the current crisis:

1. Lack of productivity growth

Despite the rapid output growth, the Asian economies saw little improvement in productivity, in terms of output per unit of input (Färe, Grosskopf, and Margaritis 2001; Kim and Lau

1994; Krugman 1994; Krugman, Obstfeld, and Melitz 2014; Young 1992; 1994; 1995). In 1996, for example, the total factor productivity (TFP) growth was estimated to be below 3 percent or even negative for Indonesia (-0.13%), Korea (2.10%), Malaysia (-2.81%), Philippines (1.09%) and Thailand (2.88%), even though their real GDP growth was between 6-10 percent (Figure S.1). Similarly, **Sri Lanka** experienced negative TFP growth during 2015-2019, even during the earlier period when real GDP growth was above 4 percent.

Figure S.1. Little increase in productivity for most countries prior to the crisis



Source: Penn World Table and Haver Analytics.

Note: EMDEs TFP growth is averaged.

2. Financial sector fragility

Among the factors that contributed to the onset of the Asian crisis, financial fragility was the main source of the increased vulnerability. This involved two related aspects.

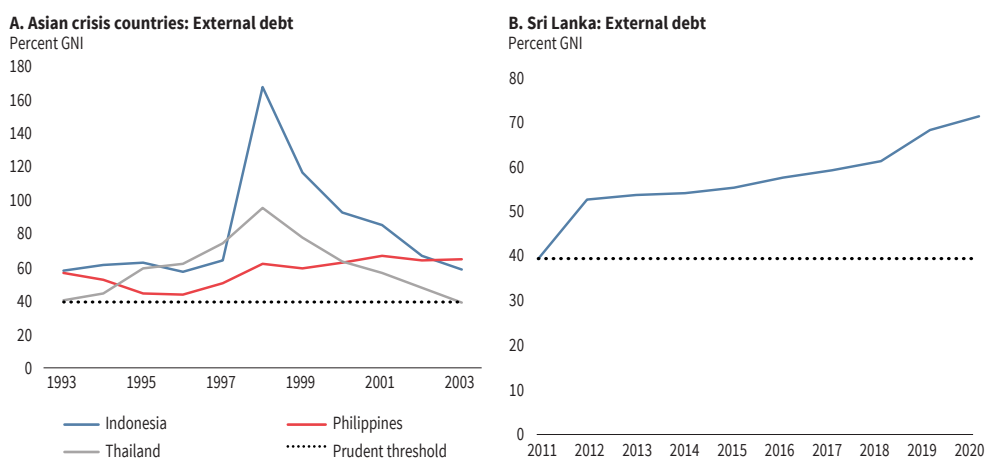
First, the size and composition of the country's external debt. All crisis countries had substantial external debt prior to the crisis, exceeding the 40 percent of GNP prudent threshold (Williamson 1999) (Figure S.2.A).² Because of low borrowing rates in the global market, the local financial sector (both banks and nonbanks) borrowed heavily in foreign currencies and issued loans in local currency to domestic projects. That exposed the financial sector to currency mismatch. At the same time, their balance sheets were vulnerable to maturity mismatch. The financial sector accumulated large short-term foreign loans that exceeded the

² GNI (Gross National Income) is based on a similar principle to GNP (Gross National Product). The World Bank defines GNI as "the sum of value added by all resident producers plus any product taxes (minus subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad." The World Bank now use GNI rather than GNP.

country's available total reserves (Figure S.3.A) while lending mostly went to long-term projects in the form of loans (Figure S.4.A).³ Both kinds of balance-sheet mismatches increased the countries' vulnerability. To varying degrees, exchange rate risk was either borne by financial institutions (in Korea and Thailand), passed on to corporations through lending (thereby converting exchange risk to credit risk), or borne directly by corporations that borrowed such debt (in Indonesia).

Sri Lanka's external debt reached 72 percent of GNI in 2020, almost doubling since 2011 (Figure S.2.B). Concessional loans stood at 17.5 percent of GNI in 2021. At the same time, its short-term debt has exceeded the stock of reserves since 2015 (Figure S.3.B). Different from Asian countries back then, Sri Lanka's external debt consists of mostly government debt (Figure S.4.B). While the official sector held most of the public external debt in the Asian crisis countries (except Malaysia), a large share of Sri Lanka's public foreign debt was held by private creditors (Figure S.5) who can be hard to negotiate with during crises. High external debt and foreign exchange shortages make public debt vulnerable to large macroeconomic shocks.

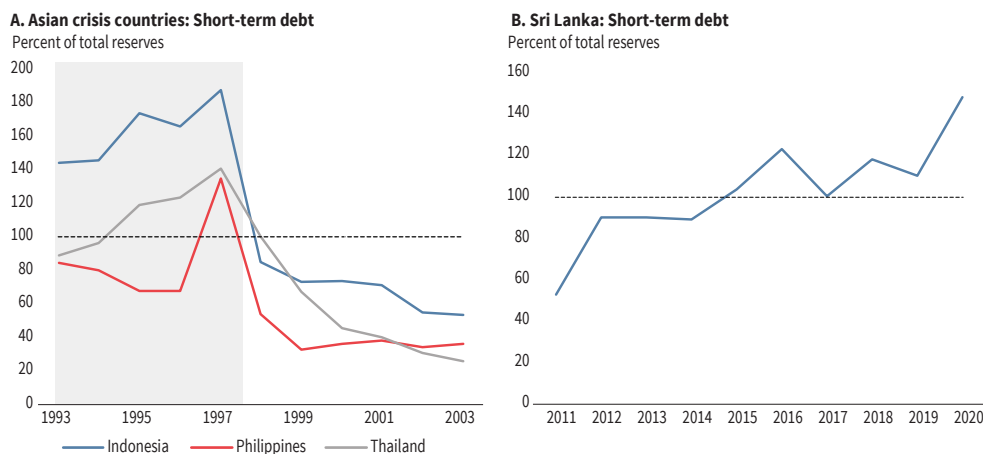
Figure S.2. Substantial (over 40 percent of GNI) external debt prior to the crisis



Source: Haver Analytics.

³ The role of short-term debt in triggering financial crises has been hotly debated. Some studies find that while short-term debt exposes borrowers to roll-over risks, it is likely to be a symptom of weak financial institutions rather than a cause of financial distress (Benmelech and Dvir 2013; Diamond and Rajan 2001a). Moreover, some argue that maturity mismatch might be an optimal ex-ante capital structure for banks when they confront limited capacity to repay investors of illiquid investments because banks have to borrow short-term to maintain liquidity (Benmelech and Dvir 2013; Diamond and Rajan 2001a, 2001b). Similarly, the maturity mismatch hypothesis that firms with large short-term debt should suffer most from capital outflows was disputed (Bleakley and Cowan 2010).

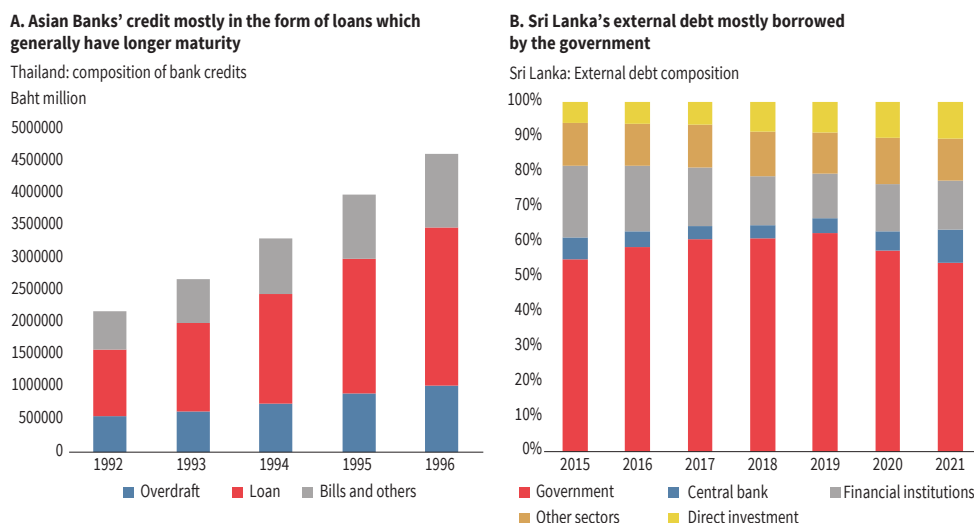
Figure S.3. Large short-term external debt exceeding stock of reserves prior to the crisis



Source: Haver Analytics.

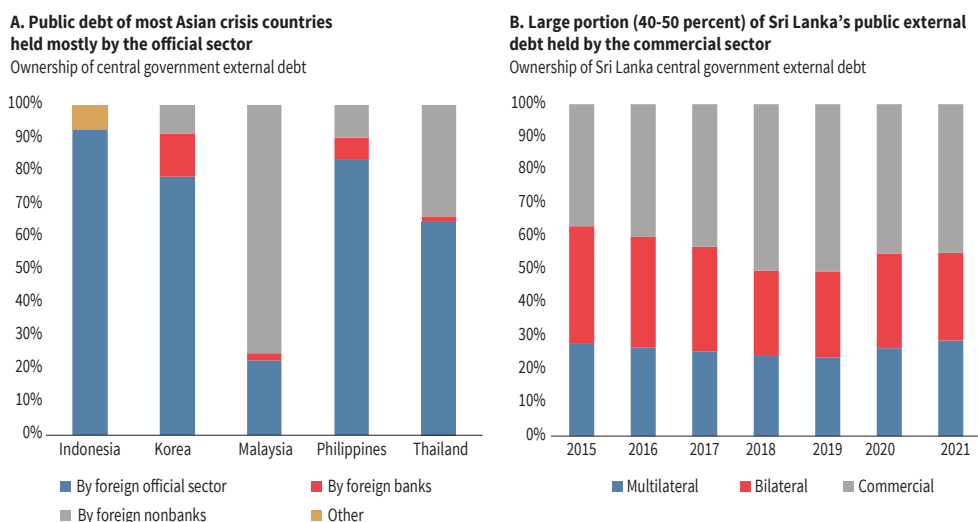
Note: A. Shading indicates the pre-crisis period with high short-term debt.

Figure S.4. Different compositions of external debt



Source: A. Bank of Thailand. B. Haver Analytics.

Second, the Asian crisis countries' financial systems had structural weaknesses, including ineffective financial supervision and regulation and a tradition of implicit government guarantees. These weaknesses were exacerbated by the countries' rapid financial market globalization: liberalization of short-term inflows before long-term investments increased the countries' exposure to the more volatile short-term capital, and liberalization without a sound financial system also exposed countries to unnecessary risks (Lane et al. 1999).

Figure S.5. Sri Lanka's public foreign debt mostly held by private sector creditors

Source: Haver Analytics.

Note: A. Annual average of 1992-1998 for all countries except Korea, where only 1998 data is available and used.

Domestic depositors and foreign investors, encouraged by the strong economic performance and assuming implicit government guarantees of local banks, treated the local banks as safe investments and provided easy access to cheap credits. Without effective supervision, local banks borrowed excessively and took on riskier projects, which led to a build-up of risks.

Sri Lanka's crisis was also preceded by a period of ultra-low interest rates in the global market, while heavy reliance on financial inflows from abroad, including credit from Eurobonds and Chinese banks, and large-scale borrowing in foreign currencies also increased the country's external debt.

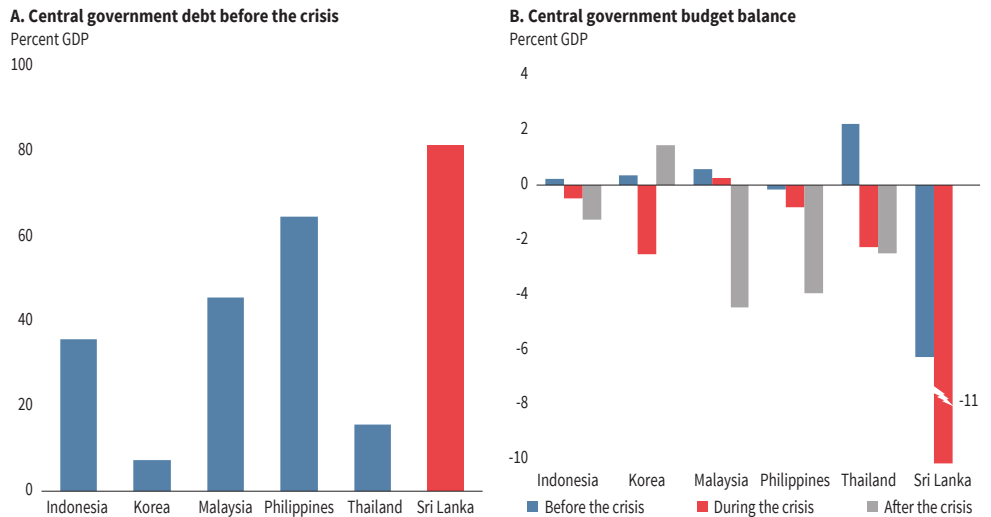
3. Weak legal framework

One important weakness of the Asian economies was the lack of good legal frameworks for bankruptcy resolution, particularly in comparison to advanced countries (Lane et al. 1999). When the crisis happened, troubled companies stopped paying debts and could not operate effectively or receive funding until outstanding debts were repaid. At the same time, creditors could not get paid. The shortcomings in the legal framework delayed the recapitalization and restructuring of the financial system, making the costs larger. **Sri Lanka's** resolution framework is said to be responsible for the large capital deficiencies in finance companies, which account for about 6 percent of total financial sector assets and serve higher-risk borrowers (IMF 2022). A new Banking Act is expected to be finalized and adopted in 2022. It would be important to upgrade the resolution framework for all financial institutions by

setting up a special resolution regime, broadening resolution tools, improving deposit insurance, and enhancing emergency liquidity assistance.

While **Sri Lanka** shared many vulnerabilities that the Asian countries faced back then, its weakness in the fiscal sector was not shared by the Asian crisis countries (Figure S.6). Sri Lanka’s public debt has become unsustainable due to widened fiscal deficit following the 2019 tax cuts, economic contractions during the COVID-19 pandemic, currency depreciation, and rising debt burden from state-owned enterprises mainly to state banks. The heavy public sector burden means that the government has fewer fiscal tools when dealing with the crisis compared with the Asian crisis countries.

Figure S.6. Sri Lanka carried high public debt and large fiscal deficits pre-crisis, while fiscal positions were relatively strong in the Asian countries pre-crisis



Source: Haver Analytics.
Note: For Indonesia, Korea, Malaysia, Philippines, and Thailand: before the crisis is the annual average of 1992-1996; during the crisis is the annual average of 1997-1998; after the crisis is the annual average of 1999-2003. For Sri Lanka, before the crisis is the annual average of 2015-2019; during the crisis is the annual average of 2020-latest available quarter (2022Q1).

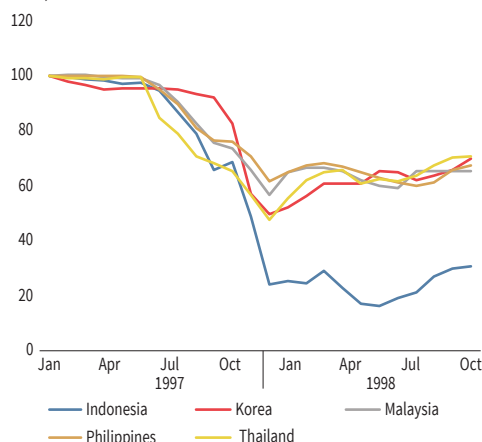
S.2 What triggered the crisis and what happened next?

The Asian financial crisis started on July 2, 1997, with the devaluation of the Thai baht, and quickly spread to other East and Southeast Asian countries. Before the crisis, the countries experienced slowdowns in export growth and the US dollar appreciated. The deterioration in the current account led the foreign exchange market to expect the government to devalue in the future. To defend currency pegs, countries sold foreign exchange, which reduced reserve

Figure S.7. Exchange rate depreciation during the crisis**A. Asian crisis countries: Exchange rate**

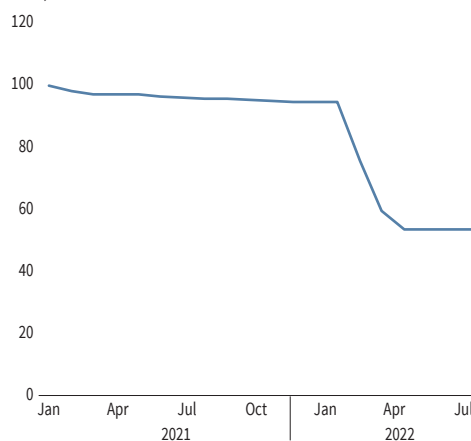
Exchange Rate (US/LCU)

Index, Jan 1997=100

**B. Sri Lanka: Exchange rate**

Exchange Rate (US/LCU)

Index, Jan 2021=100



Source: Haver Analytics.

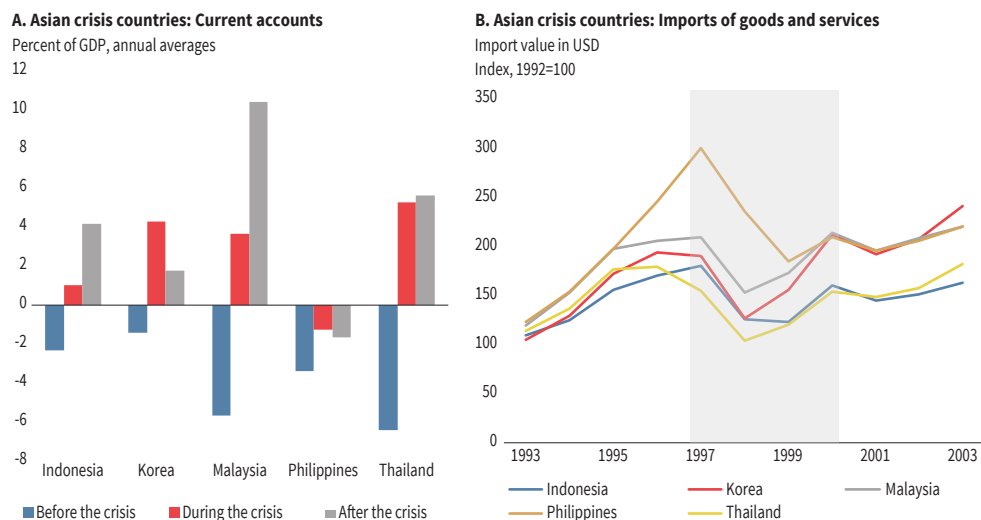
holdings and made currencies vulnerable to speculative attacks.⁴ As speculation built up for a currency devaluation, the central bank of Thailand was forced to devalue. Foreign and domestic investors rushed for the exits, and a vicious circle was created: currencies depreciated, massive bank defaults, further undermining creditors' expectations for repayment, and increasing capital outflows.

When capital exited Thailand rapidly, investors also withdrew money from other Asian countries with an open capital market, and even some Latin American countries. The affected five currencies in the region depreciated by 30-50 percent against the US dollar between June and December 1997, and the Indonesian rupiah dropped by a further 49 percent between December 1997 and January 1998 (Figure S.7.A). Imports dropped significantly as domestic demand collapsed (Figure S.8.B), while exports remained relatively stable. As a result, countries' current accounts turned from large deficits to surpluses (Figure S.8.A).

Through the crisis, the economies went through structural changes. Before the crisis, economic growth in the crisis countries was driven by physical capital accumulation fueled by hot money

⁴ The current account deterioration prompted a speculation of future currency devaluation by the government. When fears of devaluation arise because the central bank's reserves are low to begin with, capital flight is often occurring, which forces the central bank to devalue sooner and by a larger amount than planned. In addition, fears about the currency depreciation that spark liquidity attacks can be self-fulfilling, that is, an economy can be vulnerable to currency speculation even without being in such bad shape that a collapse of its fixed exchange rate regime is inevitable. If other creditors are pulling their money out, each individual creditor has an incentive to do the same thing. In such a setting, even a moderate deterioration in macroeconomic conditions could have a disproportionate effect.

Figure S.8. Current accounts turned from deficit to surplus driven by a fall in imports as economies contracted during the Asian financial crisis



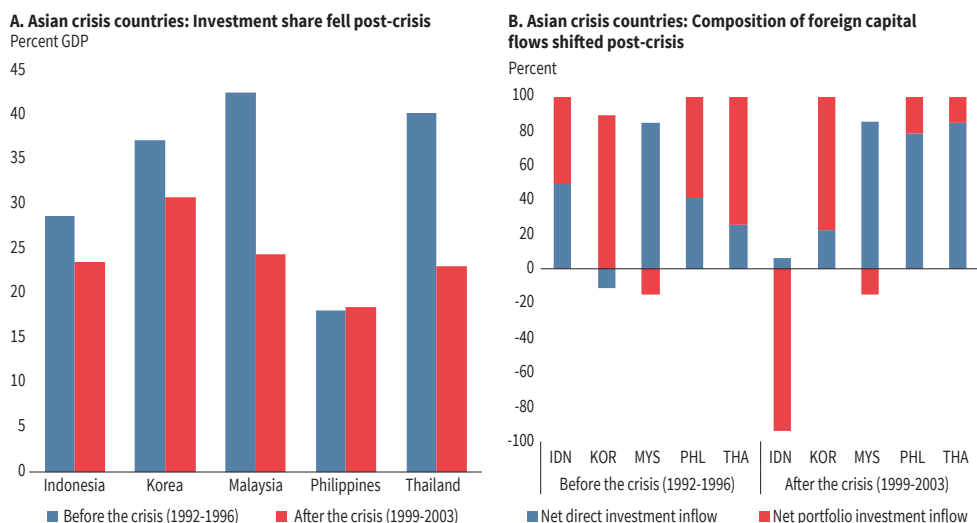
Source: Haver Analytics.

Note: A. Before the crisis is the annual average of 1992-1996; during the crisis is the annual average of 1997-1998; after the crisis is the annual average of 1999-2003. B. Shading indicates the fall in imports.

from abroad. After the crisis, investment as a share of GDP fell all except for the Philippines (Figure S.9.A) as countries shifted toward a more sustainable development paradigm. The capital inflow composition also changed from net portfolio investment to net direct investment, which is relatively less volatile, in most troubled countries after the crisis (Figure S.9.B).

Sri Lanka's crisis started as a combination of a balance of payments crisis and a sovereign debt crisis. A series of ambitious tax cuts in 2019 led to rating downgrades and loss of market access. The country's loss of tourism earnings during the COVID lockdowns and larger import bills due to elevated import commodity prices since late 2021 also contributed to rising current account deficits. Foreign exchange reserves fell, exacerbated as the country sold foreign currencies in early 2022 to defend a currency peg. The currency peg also led to parallel exchange rate markets and a drop in remittance inflows that contributed to current account deficits (Figure S.10.A). The country's currency depreciated by over 70 percent between January and May 2022, with a drastic drop after the country relaxed the currency peg in early March (Figure S.7.B). By early April, its foreign exchange reserves were enough to cover only 1.4 months of imports (World Bank 2022). Depleted of foreign currency, the government defaulted on external debt payments in April 2022. As most of the external debt is borrowed by the government, the private sector is less exposed than in the Asian crisis countries. But Sri Lankan banks have large holdings of foreign currency-denominated government debt and have been facing severe liquidity issues since the default.

Figure S.9. Investment fell and capital inflows shifted from portfolio investment to direct investment following the crisis in most Asian crisis countries



Source: Haver Analytics.

Note: Positive sign for net direct investment inflow and net portfolio investment inflow, and negative sign for outflow. IND=Indonesia, KOR=Korea, MYS=Malaysia, PHL=the Philippines, THA=Thailand.

Sri Lanka's imports already started declining in January 2022 due to a shortage of foreign currency and import controls; following the default in April 2022, the country's imports fell more rapidly (Figure S.10.B), parallel to the Asian crisis countries during the crisis. The exchange rate has stabilized as the country moved to a managed float exchange rate regime on May 12 that targets a variable spot rate (Central Bank of Sri Lanka 2022). Domestic inflation reached record highs due to currency depreciation, shortage of imported goods, and elevated global prices (Section 1.1, Figure 1.1).

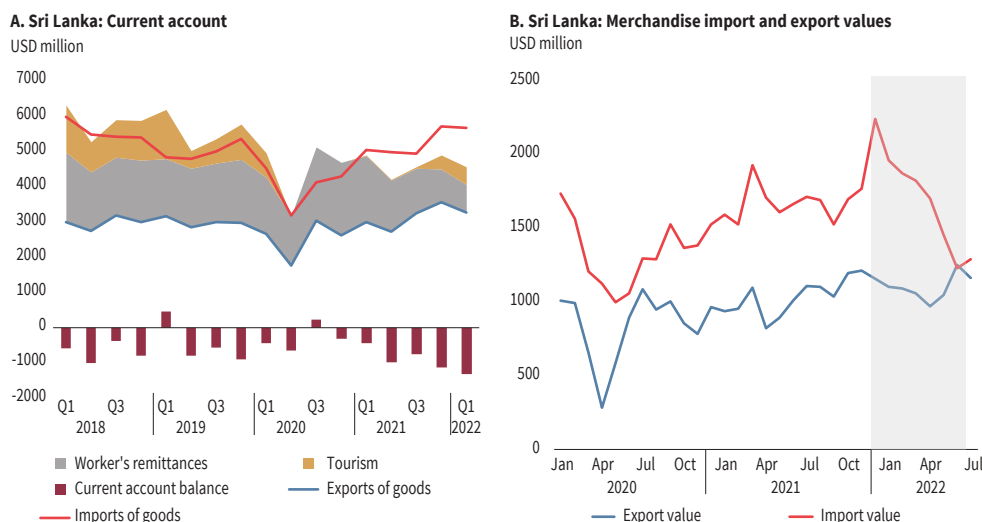
S.3 Policy responses to the Asian financial crisis

The policy responses to the Asian financial crisis helped countries recover quickly and had three main elements:

1. Large financing packages and involvement of private creditors

Large financing packages were provided by multilateral and bilateral sources to help restore confidence and limit capital outflows (Table S.2). More direct actions were also undertaken to involve private creditors to close the financing gap. The Thai authorities received

Figure S.10. Sri Lanka's current account deficits rose during the crisis, while imports declined since 2022 due to a shortage of reserves



Source: Haver Analytics.

Note: B. Shading indicates the decline of imports in 2022.

assurances from creditors at the start of the program. In Korea, the government aggressively controlled the financial institutions to roll over credit lines, followed by an agreement with foreign banks to reschedule short-term debt. In Indonesia, an agreement on restructuring corporate debt with private bank creditors was reached in June 1998, but the implementation of the agreement was complicated by the fact that nearly half of the total external debt was held by private corporations.

2. Macroeconomic policies to stabilize the economy

At the outset, massive market pressures forced most of the crisis countries to float their currencies, supported by the IMF. Thai baht was floated in July 1997; the Indonesia rupiah was floated in August 1997; and a free-floating exchange rate system was adopted in Korea in December 1997.⁵ Accordingly, the use of credit and interest rate policies was more emphasized, rather than direct foreign exchange intervention, to maintain currency stability. In Malaysia, however, unconventional policies combining capital controls and fixing the exchange rate were adopted in September 1998.

⁵ While some argued that readjusting the peg to a new rate might avoid the devastating side effects of depreciation, repegging these currencies in the midst of the crisis would have been difficult. The reserves needed to maintain the exchange rate were depleted. Additionally, it would have required considerable financing and strong commitment of the authorities to use monetary policy to defend the currencies. Pegging the currencies could also face the risk of losing credibility if a new peg must be abandoned under market pressure—as had happened with the Mexican currency crisis in 1994.

Table S.2. Official financing for the Asian financial crisis

	In billions of SDRs	In billions of US dollars	In percent of annual GDP	In percent of IMF Quota ¹
Indonesia²				
IMF	7.338	10.1	5	490
Asian Development Bank and World Bank		8.0	4	
Other		18.0	9	
Total package		36.1	17	
Korea				
IMF	15,500	21.1	5	1,938
Asian Development Bank and World Bank		14.2	3	
Other		23.1	5	
Total package		58.4	13	
Thailand				
IMF	2,900	4.0	3	505
Asian Development Bank and World Bank		2.7	2	
Other		10.5	7	
Total package		17.2	12	

Source: Table taken from Lane et al. 1999.

Note: SDR=Special Drawing Right. 1. Duration of original arrangements was 36 months for Indonesia and Korea and 34 months for Thailand. 2. Original financing package, not including augmentations since July 1998.

Monetary policy was tightened to prevent large currency depreciations from initiating depreciation-inflation spirals. In Korea and Thailand, tightened monetary policies successfully stabilized money growth and currency by mid-1998. In Indonesia, monetary control was lost amid banking collapse and political turmoil and was only restored in end-October 1998.

Fiscal policy adapted to the changing economic situations. The original IMF programs contained fiscal adjustments to limit fiscal deficits, based on the assumption of a moderate economic slowdown. By early 1998, as economic situations worsened, fiscal policy was eased significantly to support economic activities. As a result, the net effect of fiscal policy was expansionary in Korea and Thailand, while in Indonesia the fiscal deficit target was eased significantly.

3. An unprecedented set of structural reforms

A comprehensive package of structural reforms was implemented in the crisis countries to address the root causes of the crisis. This consisted of restructuring of the financial sector and corporate debt which was the origin of the crisis, efforts to rebuild international reserves⁶, reforms to improve governance and promote competition, and efforts to strengthen and broaden social safety nets to support the poor and vulnerable groups (IMF 2000; Koo and Kiser 2001; Lane et al. 1999). Importantly, the pressing need to improve financial supervision and regulation was recognized in the early phase of the programs, which helped prevent recurring financial fragilities.

S.4 Does the Asian financial crisis offer relevant lessons for Sri Lanka?

The East and Southeast Asian countries were able to recover quickly through sound policies. Does the experience offer useful lessons for Sri Lanka and other developing countries? A few key differences are worth bearing in mind.

The global economic environment is different. In the late 1990s, the world economy was growing and becoming more internationally integrated. In contrast, the current high inflation, global economic slowdown, and signs of a retreat from globalization are not as conducive to an export-driven growth model compared to the 1990s. This is especially relevant for Sri Lanka, whose economy relied heavily on tourism, remittances, and specialized exports (as well as non-tradable sectors). Aside from the external condition, several internal differences exist between the Asian crisis countries in 1997 and Sri Lanka now. These include the pre-crisis borrower and lender compositions of external debt, the origin of the crisis, and the nature of the external shock (see Table S.1 for a summary and Sections S.1-2 for details).

Despite the differences, some key lessons emerge from the experiences of the Asian financial crisis, both for Sri Lanka now and for other developing countries.

1. Promoting sustainable growth. This lesson is relevant both before and during a crisis. The catastrophe that overtook the Asian miracle economies underlines the importance of improving economic efficiency to achieve sustainable economic growth, instead of relying on hot money. The relatively quick recovery of the Asian countries shows that countries in crisis should not only focus on short-term debt resolution but also on policies that promote productivity growth and resilience. For Sri Lanka, further efforts to

⁶ There is a growing debate about whether the reserves build-up by Asian financial crisis countries are excessive (Park and Estrada 2009). The lesson is that the optimal amount of reserves should be judged against the cost of carrying them and the benefits accrue only when countries optimally control the saving of reserves and external borrowing.

enhance productivity growth may include lowering youth unemployment, increasing female labor force participation, addressing informality in the labor market, liberalizing the trade regime to facilitate export diversification, and improving the investment climate to strengthen non-debt foreign exchange inflows.

2. Structural change during a crisis. The structural changes that took place in the Asian crisis countries, including lower reliance on investment fueled by hot money, demonstrate that economies can come out of a crisis with a very different economic structure. As Sri Lanka moves toward a resolution of the current crisis, structural changes may be inevitable.
3. Choosing the right exchange rate regime. The pegged exchange rate encouraged the private sector of the Asian crisis countries to borrow in foreign currencies during the 1990s. When devaluation started nonetheless, much of the financial sector and corporations found themselves insolvent due to large foreign currency-denominated debt. But countries with a floating exchange rate are not immune to pressure in the external sector, as demonstrated in the global financial crisis. Better-informed choices for the exchange rate regimes should take the trade-offs and country-specific circumstances into account. For Sri Lanka, it may be a good time to consider the gradual shift to a market-determined exchange rate to facilitate external adjustment.
4. Stronger financial sector supervision and regulation. What made the Asian financial crisis particularly serious was the twin crisis—a case when the currency crisis and banking crisis occurred almost simultaneously. The collapse of the banking sector could disrupt the economy by cutting off credits to even profitable companies. In the future, governments should continue strengthening financial supervision, regulation, and legal frameworks to help build resilience to future crises.
5. The sequence of capital account liberalization matters. The Asian financial crisis also highlights the importance of the appropriate pace and sequence of capital account liberalization. It is risky to open up the capital account before a sound domestic financial system is in place. Liberalizing short-term capital flows while leaving restrictions on long-term flows also encourages reckless lending and leads to banking insolvency when foreign capital exits. Thus, developing countries should use caution when liberalizing capital accounts until the domestic financial system is strong enough.
6. No one size fits all. The diverse experiences of the Asian financial crisis countries, including Malaysia's strong rebound after following unconventional policies, demonstrate that there is no one size fits all policy response to a crisis. Policy responses such

as monetary policy and fiscal policy should be adapted to the nature of the crisis and changing economic situations.

Finally, similar experiences of the Asian crisis countries and Sri Lanka highlight the importance of sufficient foreign reserves in helping countries through periods of low foreign income or large capital outflows, as attested by the difficulties facing many South Asian countries due to dwindling foreign reserves over the past year (Section 1.4).

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CHAPTER II

Managing the aftershocks

Introduction

The ongoing war in Ukraine, the floods in Pakistan, and the tightening of global financial markets constitute crude interruptions to the recovery from COVID-19 that was underway in South Asia. High commodity prices and rising international interest rates are exacerbating balance of payments pressures, particularly in Sri Lanka and Pakistan. As a result, 2023 will be a difficult year for the region just as they emerged from the pandemic. The fragility of several countries and the impact of the multiple shocks that reached the region in rapid succession over the past two years will continue to test their resilience.

The outlook for the region marks a sharp inflection point around mid-2022, with GDP growth slowing, led by decelerating private consumption and import growth. Growth is expected to slow down in the second half of 2022. Among South Asian countries, there are divergent paths. The more service-led economies (India, Nepal, and Maldives) are expected to maintain a reasonable recovery trend despite headwinds, while the remaining countries are in more precarious shape, as global energy prices are expected to remain very high and global demand for goods will weaken. The countries responding to high import prices by setting price caps or quantity barriers—which distort price signals—will see a deeper decline in activity compared to others.

Various structural changes are occurring in the background, which create opportunities for the region's long-term resilience. A realization that the limited fiscal space is impacting debt sustainability has led many countries to undertake revenue measures such as increasing indirect taxes, broadening the tax base, and reducing fuel subsidies, which if fully implemented could improve long-term fiscal viability. Financial innovations and the changes in the labor market will provide people with tools to withstand future shocks and increase the region's resilience. On the downside, extreme weather events will become much more common with climate change, which calls for the urgent need to improve climate resilience through upgrading adaptation mechanisms and maintaining sufficient financial reserves.

The chapter is organized as follows. Section 2.1 discusses the outlook for the region's growth, including forecasts on demand components, inflation, and poverty. Section 2.2 considers some scenarios to illustrate changes in the external environment. Section 2.3 discusses medium to long-term challenges and opportunities.

2.1 External strains push back the full recovery

Growth in the region is expected to average 5.8 percent in 2022 and 2023, a drop of 2 percentage points from 2021 when most countries saw economic activity begin to recover from the pandemic (Table 2.1). This represents a sharp 1 percentage point downward revision to the forecast from last June as new developments will dampen growth. The new forecast implies a downward revision to India's forecast for the fiscal year ending March 2023 after an upward adjustment for the fiscal year ending March 2022.¹ The difficult economic situation in Sri Lanka and Afghanistan is not expected to improve in the second half of 2022, and there is substantial uncertainty in the outer years because their outlook will depend on negotiations with creditors and potential donors, respectively. The flooding in Pakistan is expected to subtract 2 percentage points of its GDP, also leading to a downward revision to the June 2022 forecast. Bangladesh and Bhutan will also see a downward revision to growth; for Bangladesh, tight fiscal and monetary policy and lower growth of trading partners outside the region will weigh on income and spending. On the external front, the revision to the forecasts reflects the effects of the continuing war in Ukraine and tighter monetary stance in high-income countries (HICs). Most central banks, including in South Asia, do not want to repeat the mistakes of the 1970s of waiting too long to address inflationary pressures and risk de-anchoring inflation expectations. The cost of such tightening will weigh on economic growth mostly in 2023.

Though all countries face a worsening external economic environment, there are important differences in the severity of the domestic challenges. Only two countries in the region are currently reporting GDP figures on a calendar year basis: Maldives and Sri Lanka.

- The halting of data collection in **Afghanistan** precludes the possibility of a more precise forecast estimate. The economy is now re-adjusting after the discontinuation of large aid flows and the emergence of new domestic political realities. Under a scenario where the country receives minimal international support for humanitarian activities and basic core services, World Bank estimates that real GDP could contract between 16 to 19 percent in 2022, and then follow a low growth path for the next two years—with no improvement in GDP per capita owing to high population growth. At

¹ India's share of the region's GDP in 2021 was about 75 percent.

Table 2.1. Growth in the region downgraded amid persistent pressures

Country fiscal year		Real GDP growth at constant market prices (percent)				Revision to forecast from June 2022 (percentage point)		Revision to forecast from April 2022 (percentage point)
		Calendar year basis	2021	2022(f)	2023(f)	2024(f)	2022(f)	2023(f)
South Asia region (excluding Afghanistan)		7.8	5.8	5.8	5.8	-1.0	0.0	-0.8
Maldives	January to December	37.0	12.4	8.2	8.1	4.8	-2.0	4.8
Sri Lanka	January to December	3.3	-9.2	-4.2	1.0	-1.4	-0.5	-11.6
Fiscal year basis		FY21/22	FY22/23(e)	FY23/24(f)	FY24/25(f)	FY22/23(f)	FY23/24(f)	FY22/23(f)
India	April to March	8.7	6.5	7.0	6.1	-1.0	-0.1	-1.5
		FY20/21	FY21/22(e)	FY22/23(f)	FY23/24(f)	FY21/22	FY22/23(f)	FY21/22
Bangladesh	July to June	6.9	7.2	6.1	6.2	0.8	-0.6	0.8
Bhutan	July to June	-3.3	4.6	4.1	3.7	0.2	-0.6	0.2
Nepal	mid-July to mid-July	4.2	5.8	5.1	4.9	2.1	1.0	2.1
Pakistan	July to June	5.7	6.0	2.0	3.2	1.7	-2.0	1.7

Source: World Bank Macro Poverty Outlook and staff calculations.

Note: (e)=estimate, (f)=forecast. GDP measured in 2015 prices and market exchange rates. To estimate regional aggregates in the calendar year, fiscal year data is converted to calendar year data by taking the average of two consecutive fiscal years for Bangladesh, Bhutan, Nepal, and Pakistan at 2015 constant US dollar, for which quarterly GDP data are not available. Pakistan is reported at factor cost. Afghanistan is not producing national accounts statistics since August 2021, so its data are excluded from the table.

the same time, restrictive policies on women's education and employment will lower Afghanistan's medium to long-term growth prospects. This outlook is subject to significant downside risks, such as the potential reduction in aid from the current levels, a stoppage of USD cash shipments which could undermine exchange rate stability, and banking sector instability.

- Real GDP in **Maldives** is projected to grow, in real terms, by 12.4 and 8.2 percent in 2022 and 2023, respectively, driven by a robust recovery of the tourism sector. Greater capacity in the tourism sector will support this expansion. In particular, the planned expansion of Velana International Airport and opening of new resorts; the expected return of Chinese tourists; and continued investment spending on infrastructure,

housing, and renewable energy projects. High external debt, plus large fiscal and current-account deficits create downside risks to these forecasts.

- **Sri Lanka's** unsustainable debt and severe balance of payments crisis will continue to have an impact on growth over the forecast period. Real GDP is expected to fall by 9.2 percent in 2022 and a further 4.2 percent in 2023. The fluid political situation and heightened fiscal, external, and financial sector imbalances pose significant risks to the baseline forecast, which is subject to high uncertainty and will depend on the progress in debt restructuring and the pace at which growth-enhancing reforms are implemented. Key downside risks include a slow debt restructuring process, persistently low external financing support, and a prolonged recovery from the scarring effects of the crisis. The precarious situation of the financial sector should be managed carefully given its high exposure to the public sector.

Bangladesh, Bhutan, and Pakistan report GDP in fiscal years that run from July 1 to June 30, while Nepal reports from mid-July to mid-July of the following year. This means that the FY2022/23 year has just begun.

- In **Bangladesh**, GDP growth is projected to decelerate slightly to 6.1 percent in FY2022/23, as higher inflation and rolling electricity blackouts dampen the post-COVID recovery in consumption and investment. The lack of reliable high-frequency indicators creates difficulties for policy makers to track economic developments.² Higher inflation is expected to dampen private consumption growth, following substantial energy price increases. Export growth is expected to slow, as economic conditions in key export markets deteriorate, while rolling blackouts, gas rationing, and rising input costs weigh on manufacturing output.
- In **Bhutan**, the recovery is supported by the easing of mobility restrictions—amid one of the highest vaccination rates in the world. However, slower domestic demand recovery due to high inflation and lower hydro investments are expected to decelerate growth to 4.1 percent in FY22/23. A gradual recovery in tourism as the borders reopen and in the services sector will contribute positively. However, the completion of a large hydropower project following labor shortages during the pandemic will take longer than earlier expected. Therefore, growth in 2023/24 will fall slightly to 3.7 percent.
- In **Nepal**, the forecast projects growth moderating to 5.1 percent in FY2022/23 and 4.9 percent in FY2023/24, reflecting monetary policy normalization, and the end of pandemic-era support measures. A rebound in tourism is projected to support the services sector, although higher interest rates are likely to weigh on demand in other sectors.

² Concerns regarding the GDP estimates is not new, despite recent revisions to national accounts. See World Bank (2022a) Box 2.2.

- In **Pakistan**, growth in FY2022/23 has been downgraded as a result of the floods from 4.0 percent in June to 2.0 percent, as coping with the aftermath of the flooding will complicate and delay overdue macroeconomic adjustment. On the supply side, agricultural output will be significantly impacted, with over 9.4 million acres of crops affected, resulting in significant losses to the wheat, date, and rice crops; as well as the cotton crop, an important input for textiles. The forecast assumes the IMF program remains on track but with adjustments to accommodate the required fiscal response to the flood damage. It also assumes that the Government continues with planned energy prices and other structural reforms despite political pressures arising from flood impacts; and the central bank can continue to maintain a tight monetary stance and a flexible market-determined exchange rate. Growth is forecasted to recover moderately in FY2023/24, supported by a recovery in agricultural production and reconstruction, dissipating global inflationary pressures, and improved confidence from the continued implementation of macroeconomic stabilization measures.

Finally, India's current (FY2022/23) fiscal year runs from April 1, 2022 to March 31, 2023. That means that most of the recovery from the major COVID waves is already reflected in the last fiscal year's growth numbers.

- Economic growth in **India** will slow down in the fiscal year ending March 2023, as the country is coming off a strong recovery in FY2022 (April 2021-March 2022). The spillovers from the Russia-Ukraine war and global monetary policy tightening will continue to weigh on India's economic outlook: elevated inflation on the back of higher prices of key commodities and rising borrowing costs will affect domestic demand, particularly private consumption in FY2023/24, while slowing global growth will inhibit growth in demand for India's exports. Private investment growth is likely to be dampened by heightened uncertainty and higher financing costs. The ongoing simplification of various business regulations will help ease the transition by creating new jobs and facilitating business transactions.

Private consumption for both domestic goods and imports will be the most affected by the expected erosion of purchasing power from high inflation (Table 2.2). The erosion in consumer purchasing power mainly results from a terms of trade loss, as high commodity prices push import prices higher than the prices of domestic production. Inflation continues to be perceived as the top risk to recovery according to experts surveyed in the region (Figure 1.23). Moreover, the recent import quantity restrictions, scarce foreign exchange for all but India and Nepal amid balance of payments pressures, as well as currency depreciation against the dollar will quickly take a toll on import demand: growth in imports is estimated to halve from 29.8 percent in 2021 to a projected 14.2 percent expected in 2022 and then stabilize to around 9 percent in the outer years. Exports are also expected to decelerate

during the same period, so that net exports will contribute negatively to overall GDP growth over the forecast horizon.

Table 2.2. Private consumption impacted as inflation erodes purchasing power

Calendar Year Basis	South Asia real GDP and demand components' growth (percent)				Revision to forecast from April 2022 SAEF (percentage point)	
	2021	2022(f)	2023(f)	2024(f)	2022(f)	2023(f)
GDP (excluding Afghanistan)	7.8	5.8	5.8	5.8	-0.8	-0.5
Private consumption	9.1	6.8	5.1	6.0	0.3	-1.0
Government consumption	6.8	4.4	6.4	5.1	-5.2	1.9
Investment	15.5	7.1	6.7	7.6	-0.1	-0.6
Exports	19.7	10.8	9.8	7.7	3.4	0.8
Imports	29.8	14.2	9.0	9.4	4.2	0.3
Net exports' contribution to GDP growth (percentage points)	1.1	-3.0	-1.6	-0.6	-1.9	-1.1

Source: World Bank Macro Poverty Outlook and staff calculations.

Note: (e)=estimate, (f)=forecast. South Asia GDP and its components are calculated using country-level fiscal year numbers converted to calendar year. Net exports' contribution to GDP growth is calculated as the change in net exports divided by lagged GDP. Afghanistan is not included in the regional aggregates.

Growth in government consumption and investment is expected to broadly stabilize as governments reduce dependence on pandemic-related current spending. In the case of Pakistan, tight fiscal space amid large debt servicing dues will necessarily lead to limited government expenditure. Sri Lanka has suspended debt service as it negotiates the restructuring of its debt and will necessarily need to consolidate expenditures. On the positive side, increased import values over the last year may have helped shore up tax revenues in India and Bangladesh; while many of the governments are seriously committing to reducing distorting fuel subsidies and other non-targeted programs and some will be increasing taxes or broadening the tax base. For example, Bhutan is planning to introduce the Goods and Services Tax (GST) in the next few years (there have been some implementation delays). Nonetheless, with expected sluggish economic activity, government revenues as a share of GDP are not expected to improve in the same proportion, constraining expenditure budgets.

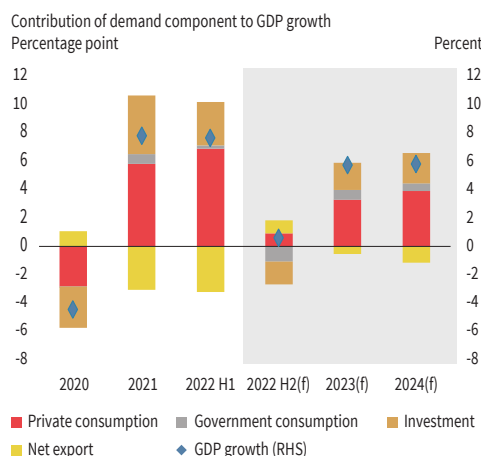
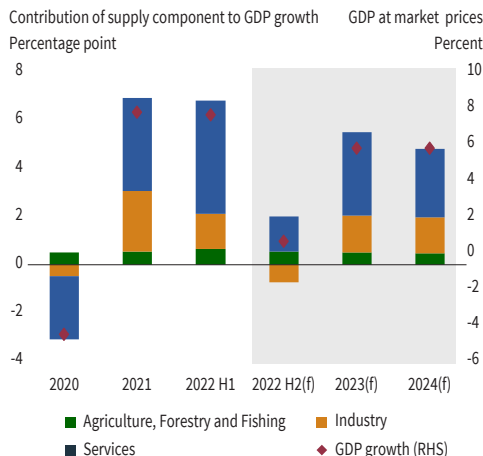
The current account balance will improve slightly during the second half of 2022 as imports fall faster than exports and remittances continue to recover. As noted earlier, quantity restrictions on imports and scarce foreign exchange will continue to reduce import demand. Slowing

external demand from major trading partners will continue to weigh on export growth. With the major global value chain hubs wading through the after-effects of COVID lockdowns, high commodity prices and tighter monetary policy, global trade, is expected to decelerate again after some early recovery. China's GDP growth is expected to decelerate from 8.1 percent in 2021 to 2.8 in 2022. GDP growth in the United States is expected to drop from 5.7 percent in 2021 to 2.7 percent in 2022, to 0.8 percent in 2023, while GDP in the euro area will decline slightly in 2023. In the short-term, slowing external demand growth will be reflected in slower growth of manufacturing exports, particularly textiles and garments exports for Bangladesh, Pakistan, and Sri Lanka. Trade in services and tourism should recover and will be much more resilient to specific chokepoints in global trade routes. This will partially offset the decline in the goods trade balance since it is trade in services and worker remittances that are major drivers of the external current account of most countries in the region. External remittances are also expected to continue a steady recovery and should strengthen in Pakistan in response to the floods.

The inflection point in the region's growth around mid-year 2022 reflects the turnaround in growth following the recovery from the Pandemic. This reflects the compression of demand that will likely take place as private consumption—which led the recovery up to mid-2022—is forecasted to decelerate at end-2022 and 2023 (Figure 2.1.A). This follows the recovery in the first half of 2022 from a low base in the first half of 2021, when the Delta variant and pandemic restrictions weighed heavily on economic activity. On the supply side, this will manifest as declining activity in the manufacturing sector in 2022H2 (Figure 2.1.B), though the services sector will see a steady recovery in 2022 and 2023. The simultaneous effect of lower expected domestic credit growth amid tight monetary policy and lower expected growth outside the region in the second half of 2022 will lead to a sharp deceleration in economic activity.

On the supply side, agricultural sector value-added growth has been downgraded the most, and through input costs, the effect could spill over into other sectors. Activity in the agricultural sector, which was the least affected by the pandemic, is subject to some uncertainty as output is likely to become much more volatile. All countries had their agricultural crops affected by extreme weather events (excessive rains/floods or drought) in the past year, and the ravages of the ongoing floods in Pakistan will continue to affect agricultural output. In Nepal, agricultural growth slowed due to unseasonal rains. These events are frequent enough to significantly affect agricultural productivity going forward. Such natural disasters can also spill over into other sectors through input-output links. For example, in Pakistan, the flooding is expected to dampen manufacturing exports (especially textiles), while increasing demand for imported food and cotton as domestic production was damaged. Compounding the grim outlook is the record-high price of fertilizer, which is expected to stay high in 2023: if farmers cope by using less fertilizer, that can affect crop productivity in the following year.³

³ India and other countries are still subsidizing fertilizer to ameliorate the pain, but this is itself coming at a high fiscal cost.

Figure 2.1. Inflection point in the region's growth around mid-2022**A. Private consumption and import demand will take a heavy toll in 2022H2...****B. ...which will reduce inputs for industry, contributing to its slowdown starting in mid-2022**

Source: World Bank Macro Poverty Outlook and staff calculations.

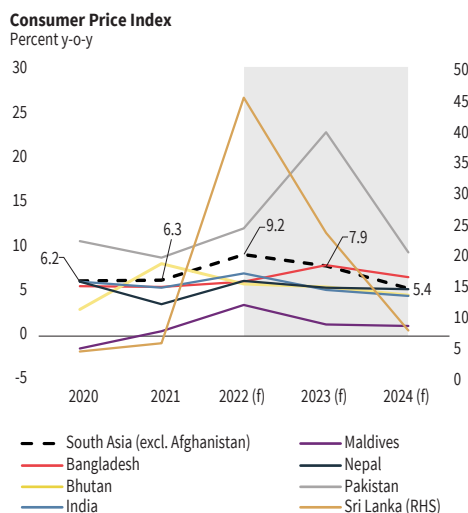
Note: 2022H1 shows change in the first half of the 2022 calendar year against the first half of 2021. Ditto for H22022. Most countries do not report quarterly national accounts, so the H1 and H2 figures represent an estimate. The components in Figure 2.1.B are measured at factor costs. Their sum does not add up to the GDP at market prices.

Inflation in South Asia is expected to rise in 2022 and decline thereafter, as many of the sources of inflationary pressure gradually subside (Figure 2.2). Annual average inflation will reach 9.2 percent in 2022 as Sri Lanka's inflation soars to over 45 percent and Pakistan's price pressures worsen amid scarcity compounded by the floods. This is the highest level since 2009—when inflation reached 11.2 percent, largely because of currency depreciations during the global financial crisis—and the second-highest level this century. By 2023 and 2024, inflation is expected to moderate almost everywhere as commodity prices stabilize and hawkish monetary policy is fully implemented. The exceptions are: (i) Afghanistan, where inflation is expected to remain high due to continued supply constraints;⁴ and (ii) Pakistan where inflation will linger at around 23 percent in FY2022/23 but moderate over the forecast horizon with the resolution of flood-related supply constraints and declining international energy prices. In countries where governments have stepped up import restrictions in response to dwindling foreign exchange (especially Sri Lanka and Pakistan), the added scarcity will itself fuel inflationary pressures, in large part because the restrictions interfere with the price signal that would otherwise encourage supply to respond faster. Though inflation in Bangladesh is forecasted to remain at single-digits, it is at the cost of stifling a market response. Much of the price suppression comes from a plethora of quantity restrictions, including fuel subsidies and artificial inhibition of the domestic credit market through interest rate controls (see Section 1.4).

⁴ Lack of official data on inflation the recent past precludes a point forecast for inflation in Afghanistan.

Per-capita GDP in the region is expected to grow about one percentage point slower than earlier expected by 2023. While the pandemic interrupted progress by setting the region back two years in terms of its development, the war in Ukraine has further eroded the rate of growth (though its impact was mostly indirect, unlike for Europe and North Africa which are large importers from Russia and Ukraine) (Figure 2.3.A). The road to development has bifurcated into divergent paths, with three of the region's countries expected to see lackluster or no recovery in per-capita GDP (Afghanistan, Sri Lanka, and Pakistan at significantly lower levels); and the other half experiencing a rough and still incomplete but steady recovery (Bhutan, India, Maldives, and Nepal, Figure 2.3.B). Though Bangladesh's per-capita GDP is set to continue growing, it has lost momentum as institutional challenges impact growth-promoting policies. The forecast reflects still high export growth but insufficient diversification of earnings.

Figure 2.2. Inflation in the region to peak in 2022

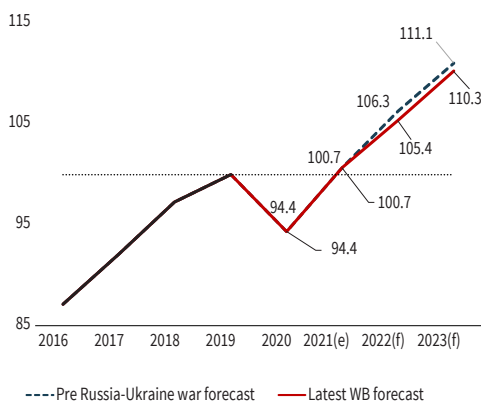


Source: World Bank Macro Poverty Outlook and staff calculations. Individual-country inflation shown in corresponding fiscal years.

Figure 2.3. The war in Ukraine and its effects have delayed the region's per-capita GDP recovery. Some countries in the region are continuing their recovery and others are diverging amid major setbacks in their development paths

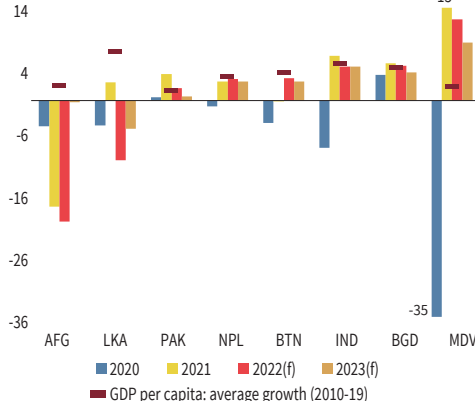
South Asia real GDP per capita forecast

Index, 2019=100



Change in GDP per capita

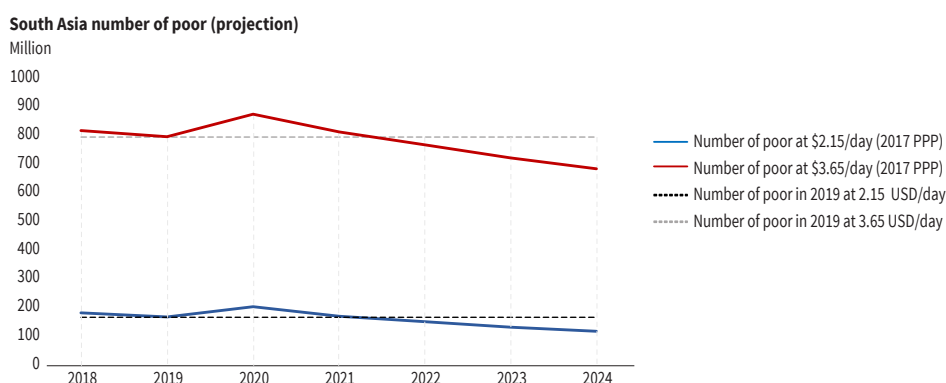
Percent



Source: World Bank Macro Poverty Outlook and staff calculations.

Poverty in the region will not fall as quickly as earlier expected, as inflation, recent weather-related agricultural losses and rationing of fuel and other products are expected to hit South Asian poor the hardest (Figure 2.4). In all countries, especially Afghanistan, Sri Lanka and Pakistan, poorer households who dedicate a larger share of their budget to food will continue to be negatively impacted by soaring food inflation throughout 2022 and part of 2023 (see also Section 1.3). In Sri Lanka, the ban on chemical fertilizers in 2021 and the negative impact on crop yields will continue to affect domestic food supplies in 2022 and 2023. This means poverty is likely to get worse: the forecast suggests that poverty at \$3.65 per day in Sri Lanka will double between 2021 and 2022 due to the increase in the cost of basic needs and the effect of the severe economic contraction on livelihoods. The poverty rate in Pakistan will remain flat in 2023 as the major floods primarily affected rural areas in Sindh and Balochistan where poverty rates are already high and rising (World Bank, 2022b). For Afghanistan, while no information on poverty is collected for the country, estimates for 2021Q4 showed that close to 70 percent of the country's population had difficulties covering their most basic expenses (World Bank Group 2022), and the earnings of the poorest are expected to decline further in 2022. In contrast, Bangladesh, Bhutan, India, Maldives, and Nepal are projected to see lower poverty rates in 2022 and 2023, but the improvement is slower than earlier expected. In sum, though poverty and vulnerability for the region should recede to below 2019 (pre-pandemic) levels by end-2022, it will be at a slower speed than earlier forecasted.

Figure 2.4. Poverty at the low-income threshold of \$2.15 expected to improve but at a much slower rate than earlier expected



Source: World Bank Macro Poverty Outlook and staff calculations.

Note: Nowcast until 2021. Forecast from 2022 onward. Based on elasticity calculations as described in each Macro Poverty Outlook and based on the latest household surveys. For India: official data dates from 2011, so estimations for later years for India are based on the 2019 Sinha Roy and Van der Weide (2022) imputed consumption from the Consumer Pyramid Household Surveys implemented by the Centre for Monitoring Indian Economy using neutral distribution based on GDP with pass-through = 0.7 for 2020–2024. As Afghanistan did not participate in the International Comparison Program exercise (World Bank 2020a), the number of poor is adjusted with the rest of the region's poverty rate and Afghanistan's population projection.

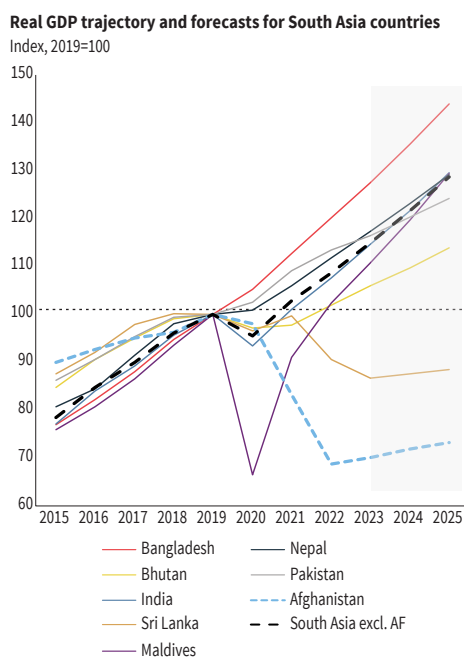
2.2 Sensitivity of the outlook to changes in the global environment

The baseline growth path diverges across countries, though external pressures are at their peak across the region. Whether the risks to the forecast are on the downside or upside depends, in part, on their stage of recovery from the Pandemic. Though the region's GDP growth has recovered mostly to pre-pandemic levels except for Sri Lanka and Afghanistan (Figure 2.5), the pressures on the current account balances coming from abroad will take some time to abate.

There are not only downside risk but there is also a possibility that growth for the region could surprise on the upside. The assumptions underpinning the baseline forecast are a continuation of record-high commodity prices, so they could come down earlier than expected (see counterfactual scenario below). Other aspects of the current situation could lead to an improved environment compared to the baseline forecast. Most activities within the region—including contact-intensive sectors such as tourism—are returning to pre-pandemic levels amid the removal of restrictions around the globe, so demand for the region's services' exports could be even higher. Manufacturing import costs have also eased as supply-chain bottlenecks subside. Moreover, four countries have IMF-supported programs which could help raise the confidence of investors.

The goal is to thus construct alternative scenarios that trace the impact of changes in exogenous drivers on the growth outlook. To understand how external effects impact the forecast ("baseline"), we consider one counterfactual scenario and three possible scenarios as deviations from the forecasts just presented. The simulations are carried out using the World Bank's Macro-Fiscal Model (MFMMod), which incorporates the global impact of 155 countries on the macroeconomy of South Asian countries. The baseline for 2025 is extrapolated by the model as it targets a medium-term steady state. Table 2.3 describes the scenarios and assumptions behind them.

Figure 2.5. All the economies except Sri Lanka and Afghanistan have recovered beyond 2019 GDP levels



Source: Macro Poverty Outlook and staff estimates.

Note: Afghanistan's forecast is a ballpark estimate and it begins at 2021. Afghanistan is not included in the simulations.

Table 2.3. Assumptions behind scenarios

Scenario	Description	Assumption behind scenario relative to baseline forecasts
(i) Counterfactual: abstracting from impact of the war in Ukraine	Illustrates what would have happened in South Asia had there not been a Russia-Ukraine War.	Assume January 2022 World Bank external assumptions on: (i) commodity price forecast; (ii) China forecast; and (iii) advanced economies' real GDP forecasts had all materialized.
(ii) Commodity prices revert to historic levels	Energy supply increases and demand for fossil fuel falls amid fast innovation. Energy price pressures thus subside. Impacts of the war on Ukraine less severe than baseline.	Brent oil price quickly reverts to \$75/barrel by end-2022, then average \$60/barrel in 2023 and \$53/barrel in 2024 (Table 2.4). Other energy prices go down by a similar percentage and grow at the same rate as in the baseline scenario in 2024 and 2025. Wheat prices are also slightly lower than baseline. Relief for South Asian countries leads to cheaper imports for a given exchange rate, and lower inflation.
(iii) Lower growth in high-income countries (hard landing)	Productive capacity does not come back online quickly enough, and central bank tightening in high-income countries (HICs) has a stronger effect on output and growth than assumed in the baseline.	For the remainder of 2022, HICs outside the European Union (EU) see zero quarterly growth in the last two quarters of 2022; whereas the EU countries' GDP is assumed to be 1 percentage point lower than the previous quarter in Q3 2022, as well as in Q4 2022. For 2023 and 2024, all HICs see growth 1 percentage point lower than baseline. For 2025, no deviation from baseline growth is assumed.
(iv) Adverse fiscal/sudden stop of external financing	External creditors become highly risk-averse. No new deficit financing by external creditors available over the forecast horizon (though official creditors assumed to cover most of the amortization payments, except for amortization due on commercial terms).	Additional cuts to expenditures resulting from the loss in available domestic financing are decomposed with the weights of 60 percent on capital expenditures and 40 percent on goods and services.

Source: Staff using MFMMod.

(i) Counterfactual: had there been no war in Ukraine

The first scenario—represented by the dotted blue line in Figure 2.6—compares current projections for commodity prices and export demand against the January 2022 World Bank projections, which did not envision the Russia-Ukraine war (World Bank 2022c). The results show that GDP growth in the region for 2022 would have been about 1 percentage point higher, reflecting continuing recovery from the pandemic that was interrupted by the war. The impact is through indirect channels, as direct trade with Russia and Ukraine is less than

2 percent of the total trade in the region. The indirect effect is through higher commodity prices, which leads to large terms of trade losses equal to about 1 percentage point of GDP (World Bank 2022d). Buoyed by higher real private consumption demand, real imports would have also been between 0.6 and 1 percentage point higher in the 2022-2025 period, particularly in India, Sri Lanka, Maldives, and Nepal, had the war not occurred.⁵ Export demand would have also been higher for the year reflecting more demand from Europe, particularly for Maldives' exports. As a result, the net exports as a share of GDP would have been about ½ percentage point larger in 2023 for the region, and the trade balance would have been even more favorable compared to baseline, as import prices would have been lower.

(ii) Lower commodity prices

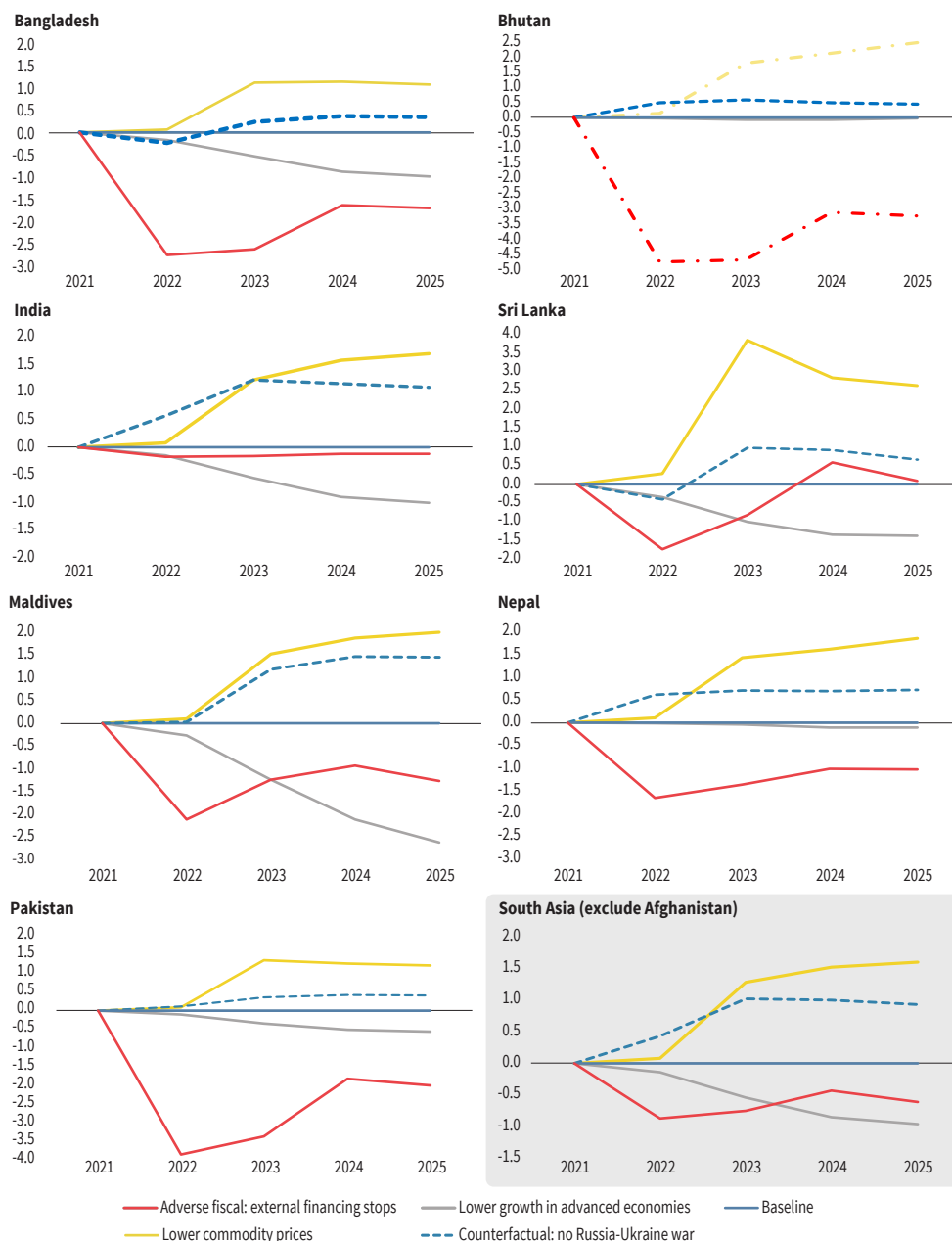
In the baseline forecast, all energy prices are expected to revert slightly in the outer years but remain at relatively high levels historically. Energy and grain prices are expected to stay high at least through 2022 in the baseline (Table 2.4). Brent crude oil price is forecasted to reach \$98/barrel in 2022, the highest level in almost a decade. Natural gas prices in Europe are also assumed to reach \$40/mmbtu in 2022, which would be a record high since 1960 if realized. Continued high energy prices constitute a major problem for South Asia as the region is a net commodity importer and it means the balance of payments pressures are unlikely to abate soon. As the winter in Europe looms and energy insecurity amid geopolitical tensions continues, the baseline assumes that South Asia will reduce imports accordingly.

This more positive scenario assumes that energy prices begin to fall at end-2022 and reach historical levels by 2023. The probability of such an event becomes more likely if global commodity markets respond to record-high prices. The assumption is that at least one of the following occurs: (i) interruptions of natural gas supplies cease; (ii) natural gas producers outside of Europe step up supplies; (iii) global agreements to reduce fossil fuel consumption in response to climate change begin to be implemented; and (iv) technological innovations in response to the high prices help to reduce global demand for fossil fuels. Then energy and grain prices would quickly revert to historical levels, with Brent crude averaging \$60/barrel in 2023 under this scenario.

Under this alternative scenario, GDP growth would be considerably higher starting in 2023 and the gap relative to baseline would continue rising, to be 1.5 percentage points of baseline GDP by 2024 (Figure 2.6, yellow line). All countries would see a significant improvement in real GDP growth of over 1 percentage point, and the gap with the baseline GDP for most countries would widen over time. South Asia's GDP growth in 2023 and 2024

⁵ In the World Bank's January 2022 forecast, inflation in the region was expected to stabilize to pre-COVID levels, which would have provided higher purchasing power and thus higher private consumption demand.

Figure 2.6. External developments could change the growth trajectory compared with the baseline (percent change in GDP versus baseline)



Source: Staff calculations based on MFM simulation output.

Note: The baseline and scenario results for 2025 are derived from the model. The plausibility of these scenarios in Bhutan is quite remote given their special agreement with India on payments for hydroelectric power exports directly to the state enterprise. This is denoted in the Figure as a broken line for two of the four scenarios.

Table 2.4. Energy and key commodity price assumptions used in scenarios

Scenario	2021	2022	2023	2024	2022	2023	2024	2022	2023	2024
	Actual	Baseline			No war in Ukraine			Energy and wheat prices return to historic levels by 2023		
Brent crude oil prices, \$/barrel	69	98	90	80	73	64	65	96	60	53
Natural gas price Europe, (\$/mmbtu)	16	40	35	30	13	10	9	39	23	20
Agricultural commodity price index (2010=100)	109	124	119	119	105	104	105	124	117	117
of which: Wheat, \$/metric ton	315	415	390	387	334	321	322	407	260	258

Source: World Bank Commodity Markets Outlook October 2021, April 2022, and staff assumptions.

would be 7.1 and 7.3 percent, respectively. Maldives, Nepal, and Sri Lanka, which import all their energy needs, would benefit the most. Pakistan and Bangladesh produce natural gas so the net impact is positive but not as large.⁶ The main channel through which this effect would be manifested is energy import prices, but other expenditure items such as transportation and food would also see lower price pressures: real imports for the region would be 1.5 percentage points higher in 2024, but real exports would grow by more. With the terms of trade improving as well, the current account balance would be higher than the baseline. It would also ease foreign exchange scarcity and cap expenditures on energy subsidies, providing more room for monetary and fiscal policies to act.

This scenario illustrates how the high dependence of the region on energy imports and the destabilizing effects of global oil price volatility can reduce growth prospects. South Asian countries should therefore become more proactive about establishing mitigation policies that could help reduce the effects of climate change and reduce demand for fossil fuel imports. These policies will help reduce import price volatility over the long-term which creates havoc on the countries' balance of payments, as well as help improve health benefits and increase fiscal revenues (World Bank 2022d).

⁶ The scenario assumes that domestic and external energy supplier prices would decline by the same percentage. This also implies that the actual improvement in GDP growth for Bhutan under this scenario would likely be smaller because they are already importing LPG from India at subsidized prices.

(iii) Lower growth in high-income countries

A third scenario pertains to the discussion of monetary policy effects in high-income countries. As central banks in the US, EU, and other high-income countries (HICs) grapple with record-high inflation, they must ride a fine line between raising policy rates early enough to quell inflationary expectations on the one hand and engineer a ‘soft landing’ on the other. A soft landing would occur if increasing policy rates succeeds in bringing down inflation, but not so aggressively that it stops GDP growth in its tracks. The baseline scenario assumes HICs grow by 2.4 percent in 2022, 1.7 percent in 2023 and 2 percent in 2024.⁷ We model a ‘hard landing’ scenario in which quarterly GDP growth for HICs outside of the European Union (EU) is assumed to not grow in the third and fourth quarters of 2022, and drop by 1 percent in all other high-income countries during the same period. After that, GDP growth is assumed to be 1 percentage point lower than the baseline in 2023 and 2024 for all high-income countries.⁸ The assumption is that commodity prices remain at baseline levels.

Under this scenario, growth in the region would be progressively lower than baseline, by ½ percentage point in 2023 and by almost 1 percentage point of GDP in 2024 (Figure 2.6, grey line). The main impact will come through lower export demand in India⁹ and Sri Lanka and Maldives see somewhat larger effects, particularly through lower demand for tourism and services exports. Moreover, India and Sri Lanka also see an important fall in capital investment relative to the baseline of half a percentage point, including foreign investment. In contrast, the effects on Nepal and Bhutan are negligible, as the two countries have more direct trade connections to India than to high-income countries outside the region. Major manufacturing exporters Pakistan and Bangladesh see a negative but relatively smaller effect than their large neighbors do, in part because their main exports to high-income countries, textiles and garments, tend to be less sensitive to high-income GDP growth. Indeed, Bangladesh’s basic garment exports soared during the 2007-08 financial crisis as US and EU consumers switched to lower-cost clothing.

(iv) Sudden stop: drying up of external financing

If this scenario materializes, it could have devastating effects, not so much because of the size of the effect, but because of the timing. The simulation assumes a sudden stop scenario in which South Asian governments are only able to finance external debt amortization—either from multilateral sources or rollovers of other debt—but no new external

⁷ In the baseline, EU is assumed to reach a mild recession as GDP declines by 0.1 percent in 2023, but this is more than offset by other HICs as the United States, the UK and high-income East Asian countries are expected to maintain positive growth rates.

⁸ In the baseline scenario the 34 high-income countries as a group grow by 2.3 percent, 0.7 percent and 1 percent in 2022, 2023, and 2024, respectively.

⁹ The scenario results may overestimate the possible effect on export demand, as the by far largest export items in India (IT and business services) tend to be less sensitive to recessions in high-income countries.

financing is available. Simultaneously, foreign investors would become more risk averse amid a protracted recession in their own countries and amid falling equity prices. As a result, spending is limited to what can be financed from fiscal revenues and the domestic financial system. The scenario further assumes that, from the total reduction in expenditure required, 60 percent is taken from the capital expenditure budget and 40 percent from the goods and services budget.

Under the sudden stop scenario, growth in the region would be 0.9 percentage points lower than baseline in 2022, with differing effects across countries in the region (Figure 2.6, red line). Moreover, the effect compared to baseline would be smaller over time. The largest adverse effect in 2022 would be for Pakistan, as this would force the country to tighten fiscal expenditures so drastically that growth would be 4 percentage points smaller than in the baseline.¹⁰ The country will clearly need the support of external financing in the coming year or two. Maldives is also vulnerable as almost two-thirds of its deficit is financed externally and debt service due is expected to grow (Figure 2.7), though the impact on growth is smaller than for Pakistan because its main growth driver is tourism exports.¹¹ Bhutan would also be strongly affected, though its unique debt arrangement with India means that such a scenario is highly implausible.¹² In contrast, India would see a very mild effect reflecting the fact that its budget deficit is almost entirely financed domestically.¹³ Though if private investors are assumed to price in risk, some indirect negative impacts could occur through the financial sector and domestic credit markets. Nepal and Bangladesh have less than 40 percent of their deficit financed externally, though this share could rise in Bangladesh over the forecast period as the country takes advantage of concessional terms while they last. Both countries' debt service is on concessional terms with long maturities.

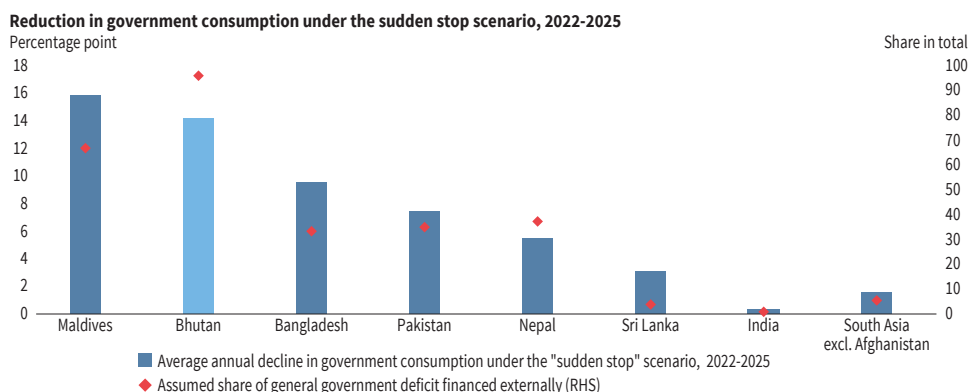
¹⁰ Up until 2021, Pakistan also benefitted from the Debt Service Suspension Initiative (DSSI) which provided relief in debt service of around 1 percentage points of GDP.

¹¹ Exports are equal to between 70 and 80 percent of GDP in Maldives, whereas government consumption is about 15 percent of GDP, so the magnitude as a share of GDP is small. In contrast, government expenditure in Pakistan is about 11 percent of GDP—about the same as exports—and domestic absorption is more important for GDP growth. With a larger multiplier, a cut in government spending has a larger direct effect.

¹² The scenario materializing would imply India not buying hydroelectric power or not paying for it, which is highly unlikely since it is the contractual arrangement. However, it does reflect Bhutan's high dependence on India.

¹³ India's deficit is financed by both banks and the non-bank financial sector. The latter is not as well-regulated as the banking sector.

Figure 2.7. Government current expenditure would need to be reduced more for some countries if net external financing stopped



Source: MFMod and staff estimates.

Note: Bhutan's external financing under a special arrangement reduces the risk of this scenario materializing.

The mild deviation for Sri Lanka may seem counterintuitive but reflects its current dire external financing situation. Such a scenario would only lower growth a further 1.5 percentage points in 2022. But Sri Lanka is already living through this scenario, in that it will not be able to access new financing if it continues in debt service suspension mode. The situation is highly fluid as it negotiates with its creditors. As a result, Sri Lanka is assumed to be financing most of its budget deficit domestically in the baseline—and that deficit will necessarily need to shrink substantially over the forecast period. An earlier exercise of this kind in April 2021 showed how Sri Lanka was in high debt distress, and how the same “sudden stop” scenario described here would lead to a crisis (World Bank 2021a). Unfortunately, that scenario materialized.

2.3 Challenges and new opportunities

South Asia faces various structural issues, some are exacerbated by the COVID pandemic and soaring commodity prices, while the shifting economic environments have brought new challenges. For example, higher debt servicing costs stemming from higher interest rates will make it harder for South Asian countries to repay debt accumulated during the pandemic. South Asia's vulnerability to climate change—once again showcased by the damages from floods in Pakistan—highlights the urgent need to improve climate resilience. At the same time, recent developments in the region promise new opportunities to integrate people into the economy and provide them with tools to deal with future shocks. The rise of Fintech in the region during the pandemic can promote financial inclusion; recovery of employment from COVID is shown to allow more women to enter the services sector where jobs are more

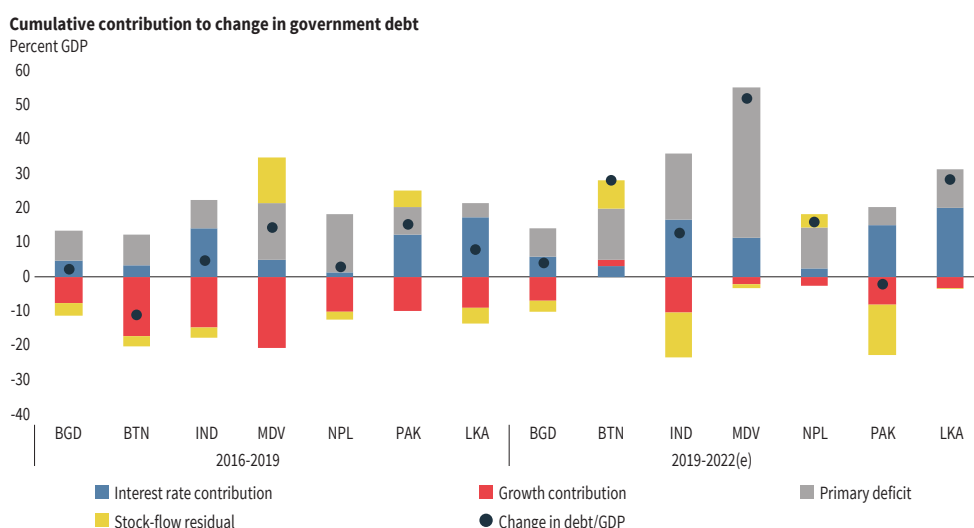
formal and stable; the transition to a green economy that is already under way in some regional countries can also improve access to clean energy for poorer households.

2.3.1 Macro-fiscal challenges

The COVID crisis and relief policies left South Asian countries with larger fiscal deficits (World Bank 2022d), which have contributed to rising government debt. During the three years since the pandemic started, large primary deficits have made sizable cumulative contributions to countries' debt-to-GDP ratio, especially in Maldives, India, and Nepal (Figure 2.8), especially compared to the three years before the pandemic (2016-2019). Lower revenue income due to COVID-related lockdowns, higher expenditure on COVID relief measures, and rising subsidy costs due to higher fuel costs all contributed to higher primary deficits. At the same time, because cumulative GDP growth has been substantially lower compared to the pre-pandemic period, the erosion of the debt ratio that stems from the GDP growth has been smaller since the pandemic.

Consolidation efforts are expected to reduce the fiscal pressures in some countries. Fiscal deficits are projected to fall gradually, supported by higher revenue growth and reduced spending. In India, it is projected to be 9.6 percent of GDP in FY22 and to decline to 8.4 and

Figure 2.8. Rising primary deficits and slowing cumulative growth have contributed to large government debt since the pandemic



Source: World Bank Macro Poverty Outlook and staff calculations based on Mauro and Zilinsky 2016.

Note: (e)=estimate. The stock-flow residual is the change in the debt ratio resulting from factors such as bailouts or changes in exchange rates. Growth contribution captures both the mechanical effect of higher GDP reducing debt-to-GDP ratio and the effect of higher GDP on the primary deficit. Primary deficit combines the primary deficit and policy measure terms in Mauro and Zilinsky (2016).

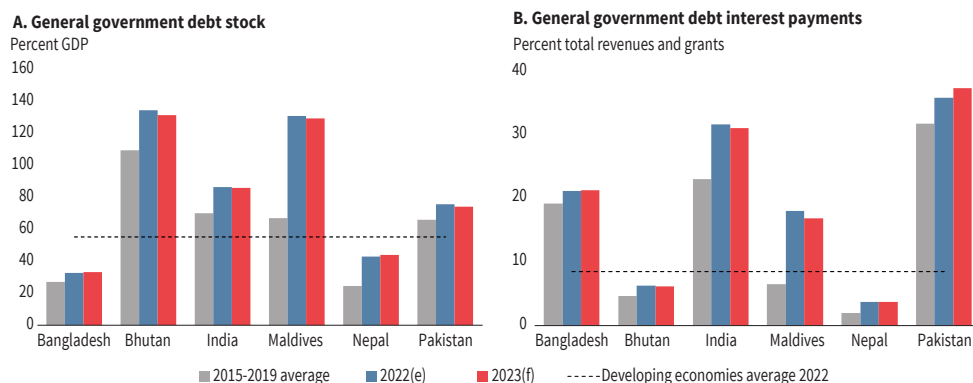
7.9 percent in FY23 and FY24, respectively. In Pakistan, the fiscal deficit (including grants) is expected to fall to 6.8 percent of GDP in FY23 from 7.8 percent in FY22. Effective revenue mobilization measures, including GST harmonization and personal income tax reform, and increasing grants are expected to countervail the fiscal pressures of the flooding. Supported by a solid recovery growth from the tourism sector, Maldives' fiscal deficit is expected to shrink to 9.6 percent of GDP in 2023 from double-digit levels every year since the start of the pandemic. In Bangladesh, in contrast, the pressures on the public finances are expected to continue. The decline in government investment will not be enough to offset increasing subsidy and incentive expenditure. The fiscal deficit is projected to increase slightly from 4.1 percent of GDP in FY22 to 4.9 percent in FY23.

Large debt stock and rising interest rates will lead to higher debt servicing costs, adding to countries' fiscal burden. South Asian countries came out of the pandemic with higher debt stock (Figure 2.9.A). Debt levels in the region are expected to remain high in 2022, especially in Maldives, Bhutan, Pakistan, and India.¹⁴ This is of particular concern given the substantial hidden public debt and contingent liabilities in the region (Melecky 2021). At the same time, monetary policy normalizations lead to higher interest rates (Section 1.6) and borrowing costs. Interest payments already account for more than one-quarter of government revenues in India, more than one-third in Pakistan, and almost three-quarters in Sri Lanka and are estimated to be higher in 2022 and 2023 compared to the average levels before COVID (Figure 2.9.B). High debt servicing costs further squeeze countries' shrinking fiscal space. As the world enters a period characterized by high interest rates, debt servicing costs will likely remain high for some time, creating renewed challenges for South Asia. The difference between interest rate and economic growth is an important determinant of the changes in the debt-to-GDP ratio. Box 2.1 discusses what a high-interest rate and low-growth rate environment means for developing economies.

Exchange rate movements and political factors can also contribute to rising debt-related costs. In countries that have large public debt in foreign currencies, such as Sri Lanka, Pakistan, and Maldives, exchange rate depreciation against the issuing currency can increase the debt servicing costs as percent of government revenues. This is less of a concern in Maldives, as long as it can keep the Maldivian rufiyaa pegged to the US dollar. The country has more than 60 percent of direct external debt in US dollars (Maldives Ministry of Finance 2021). Pakistan, in contrast, has market-determined exchange rate, which makes the country's servicing cost on external debt susceptible to steep exchange rate depreciations. Over 50 percent of the country's external debt is denominated in US dollars (Pakistan Ministry of Finance 2021), although external debt constitutes only 37.6 percent of total public debt.

¹⁴ For Bhutan, the risk to debt sustainability is expected to remain moderate as about 70 percent of the external debt is linked to hydro project loans from India with low refinancing and no exchange rate risk.

Figure 2.9. Government debt stock and debt servicing costs will remain significantly higher than before the pandemic



Source: World Bank Macro Poverty Outlook and staff calculations.

Note: (e)=estimate, (f)=forecast. Values are in fiscal years for Bangladesh, Bhutan, India, Nepal, and Pakistan.

In Bhutan, 68 percent of external public debt is denominated in the Indian rupee with no exchange rate risk as the local currency is pegged to the rupee. But an appreciation of the US dollar will increase the debt servicing cost of the external debt denominated in convertible currency (such as special drawing rights and US dollar), which comprises 28 percent of Bhutan's external debt (Royal Government of Bhutan Ministry of Finance 2022). Finally, fiscal balances in the region are often affected by political cycles (World Bank 2018), and with several general elections in the coming year, the impact on spending and fiscal balances can contribute to rising debt.

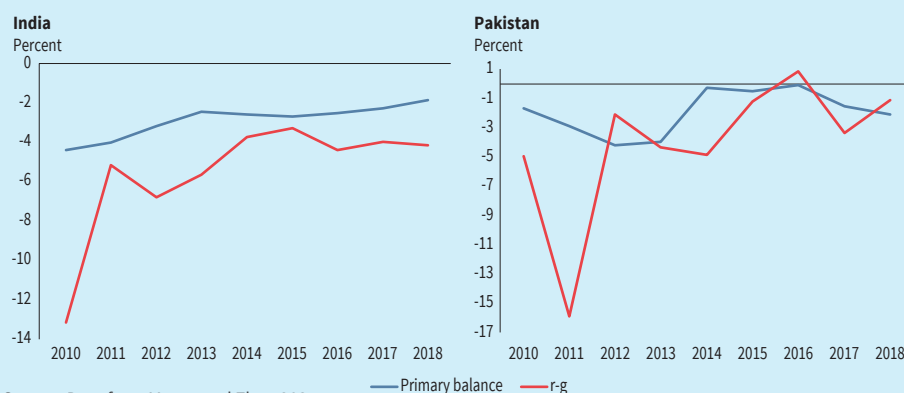
Against this background, placing debt on a sustainable path must become a priority. The primary fiscal balance tends to be tighter when interest-growth differentials are higher, with the magnitude of tightening increasing with the initial debt level (Mauro and Zhou 2021). Fiscal consolidation in some countries might be challenging as the rising cost of food and energy subsidies and slow post-pandemic recovery are adding to the strain on governments' budgets. Governments will, therefore, need to strengthen fiscal frameworks, enhance debt transparency, upgrade debt management functions, and improve revenue collection and spending efficiency (World Bank 2022d). Introducing a medium-term fiscal strategy and achieving pre-defined targets would improve credibility, which would result in lower risk premia, more favorable interest-growth differentials, and thereby a swifter reduction in debt.

Box 2.1. Rising interest-growth differentials and what it means for developing economies

In the years after the Global Financial Crisis (GFC), developing economies enjoyed relatively high average economic growth while the average interest rates were low and close to those in advanced economies. As a result, the interest-growth differential—the difference between a country’s effective interest rate¹⁵ and its nominal growth rate—was negative for many EMDEs, including India and Pakistan (Figure 2.10). But as nominal growth rates fell, the interest-growth differential started converging to zero, suggesting that the growth advantage was already declining pre-COVID.

Negative interest-growth differentials give countries more fiscal space. If economic growth exceeds the cost of borrowing, the government can run primary deficits without increasing debt stock relative to GDP. Past findings also suggest that as the differential becomes more negative, a country’s fiscal stance tends to be more expansionary (Mauro and Zhou 2021). The evolutions of the interest-growth differential and primary balance in India and Pakistan up to 2018 are consistent with that finding: when the differential was more negative indicating low interest rates relative to the country’s growth rates, the primary balance was also more negative (Figure 2.10). The correlation coefficients indeed suggest a positive and statistically significant relationship between the two variables in these two countries.

Figure 2.10. More negative interest-growth differentials associated with a more expansionary fiscal stance



¹⁵ The effective interest rate consists of two parts – the ratio of the interest bill to government debt and the depreciation adjustment (see Mauro and Zhou 2021 for details).

Interest-growth differentials, however, are not stable and are subject to reversals when either growth plunges or interest rates spike. These reversals (from negative to positive) are more likely when public debt is high (World Bank 2021b). In periods of financial stress, the volatility of the interest-growth differential is greater, particularly in EMDEs characterized by less credible policies and more vulnerable economies (Blanchard, Felman, and Subramanian 2021). Summary statistics by time periods indicate that EMDEs had lower average differentials than advanced economies, thanks to high growth rates. But the differentials are also much more volatile in EMDEs, with almost double the standard deviation compared to advanced economies (Table 2.5). The differentials in India and Pakistan have been more stable though. Also, most borrowing in India is in the form of domestic government bonds, making effective interest rates less sensitive to external factors.

Table 2.5. Larger variations in interest-growth differentials in emerging economies on average, although not in India and Pakistan

	AEs		EMDEs		India		Pakistan	
	Post-1980	Post-GFC	Post-1980	Post-GFC	Post-1980	Post-GFC	Post-1980	Post-GFC
Average	0.1	0.5	-5.5	-2.9	-5.1	-5.6	-6.2	-4.1
Standard deviation	6.2	3.8	12.3	7.4	3.4	3.1	4.7	4.8

Source: Staff calculations using data from Mauro and Zhou 2021.

Note: Data covers the period up to 2018.

The favorable interest-growth differentials in developing economies may not continue. Countries around the world are raising interest rates in response to the surging prices, while global growth rate projections have been revised downwards due to multiple shocks. With inflation projected to remain above target in most advanced economies and EMDEs well into 2023, interest rates might increase further (World Bank 2022e). Rapid tightening, particularly in the United States, has been associated with capital flow reversals from EMDEs, currency depreciations, and tighter external financial conditions (IMF 2021). In addition, growth could remain feeble for a prolonged period, as the pandemic has left deep scars in the form of lower investment, lower human capital, and a retreat from global supply chains, all of which are likely to dampen potential growth in the longer term (World Bank 2021c). Intensifying geopolitical tensions, growing stagflationary headwinds, continuing supply strains, and rising food and energy insecurity could worsen the prospects further. Looking ahead, therefore, numerous factors argue for caution in relying on interest-growth differentials to help preserve debt sustainability.

2.3.2 The rise of digital financial services: opportunities and risks

Three years into the COVID pandemic, countries in South Asia have seen a major uptake in digital financial services (Fintech). The region enjoyed a 56 percent growth in digital account access with average mobile account ownership only second to East Asia and the Pacific (Figure 2.11.A), which represents the first stage of the multi-stage development of Fintech (World Bank 2022f). But the region lags others in more advanced stages of Fintech development. It has yet to translate its advantage in basic digital account access into increased digital payments—the second stage of Fintech development (Figure 2.11.B). The third stage is marked by more sophisticated Fintech products, such as digital credits and digital insurance, as companies accumulate substantial user data through digital payments and use the data to enhance the monitoring of client credit worthiness. South Asia Fintech credit flows are only 0.05 percent of GDP, much lower than 0.6 percent in upper-middle-income countries. However, there is also cross-country variation within the region, with the proportion of the population that borrowed from Fintech higher in Bangladesh and India than in the average middle-income countries. South Asia has also gained strong momentum in Insurtech development, with funding almost doubling in the past two years in India (Shah et al. 2022).¹⁶

Fintech at its more advanced stage can help reduce financial sector risk and support banks' lending activity. The region faces macroeconomic challenges that can pose risks to the financial sector and discourage new lending (Section 1.5). Over time, as the region's Fintech matures in the more advanced stage, Fintech can help established and traditional banking sectors improve their understanding of borrower viability and mitigate risks through technology adoption, thereby sustaining credit flows. Box 2.2 analyzes a panel of banks across countries in different stages of Fintech development and finds that, while initially a rise of Fintech credit can compete with traditional banks, eventually the increased collaboration with Fintech firms can also improve technological adoption in traditional banks.

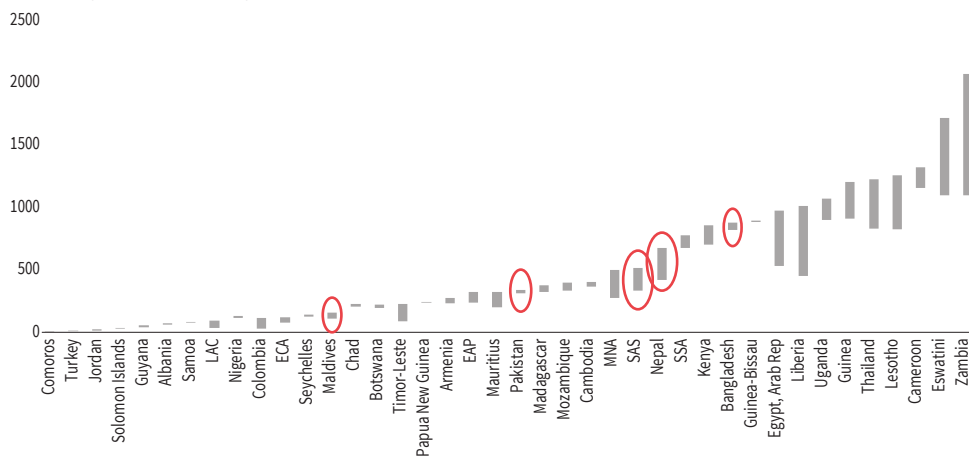
The novel features of Fintech also pose challenges for macroeconomic and financial sector stability. As South Asia moves towards more intensive use of Fintech services and credits, these challenges can surface in the region's economies.

- Domestic currency substitutions: The presence of digital money and digitally-transferred remittances can accelerate domestic currency substitution in countries with high inflation and a volatile exchange rate, undermining the government's capacity to manage inflation and exchange rates (IMF 2021).

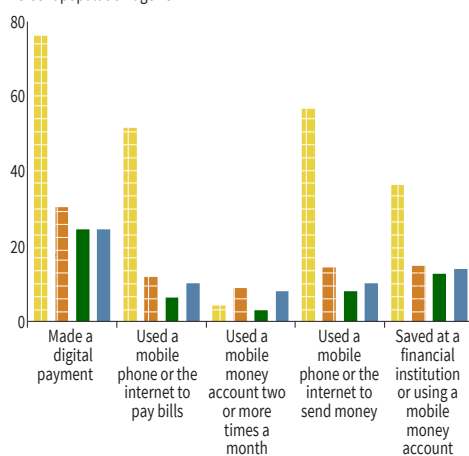
¹⁶ The fourth stage of Fintech development—widespread adoption and usage of Fintech services by individual and SMEs—is yet to come in South Asia (World Bank 2022g).

Figure 2.11. Fintech development stages in South Asia**Stage 1. Basic access to transactional accounts**

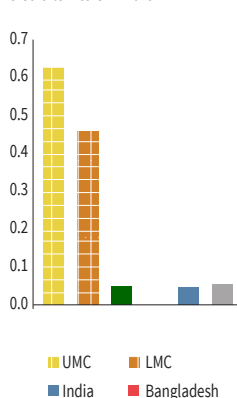
Number of registered mobile money agent per 100,000 adults 2019 - 2020

**Stage 2. More intensive usage of digital payments**

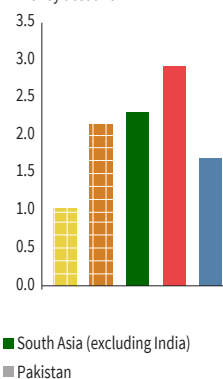
Percent population age 15+

**Stage 3. Moving to credits and insurance**

Percent Bigtech/Fintech credit flow to GDP 2019



Percent population age 15+ borrowed money using a mobile money account



Source: IMF Financial Access Survey, World Bank Global Findex Survey, and Cambridge Center for Alternative Finance.

Note: UMC= upper-middle-income country; LMC= lower-middle-income country.

- Interest rate management: Fintech lending rates in some countries are determined by the data network effects and alternative algorithms (Bertsch, Hull, and Zhang 2016; Faia and Paiella 2018; Tang 2019; Wong and Eng 2020). This can weaken traditional bank lending and the balance sheet channel of monetary policy once Fintech credits constitute a significant portion of credit flows.

Box 2.2. Fintech credits: From competition to collaboration

South Asian countries have witnessed a tremendous increase in the use of digital payments. As Fintech matures into later stages of development, increased Fintech credit flows can affect traditional banks' risk-taking and lending practices. For example, as traditional banks adopt Fintech or partner with Fintech firms, the technology allows banks to better manage and mitigate risks.¹⁷ This box measures the impact of Fintech on traditional banking's risk-taking behavior.

To shed light on the interaction between Fintech and traditional banks, we estimate the relationship between bank risk-taking and the presence of Fintech credit flows in the economy, controlling for bank-specific and economy-wide factors.¹⁸

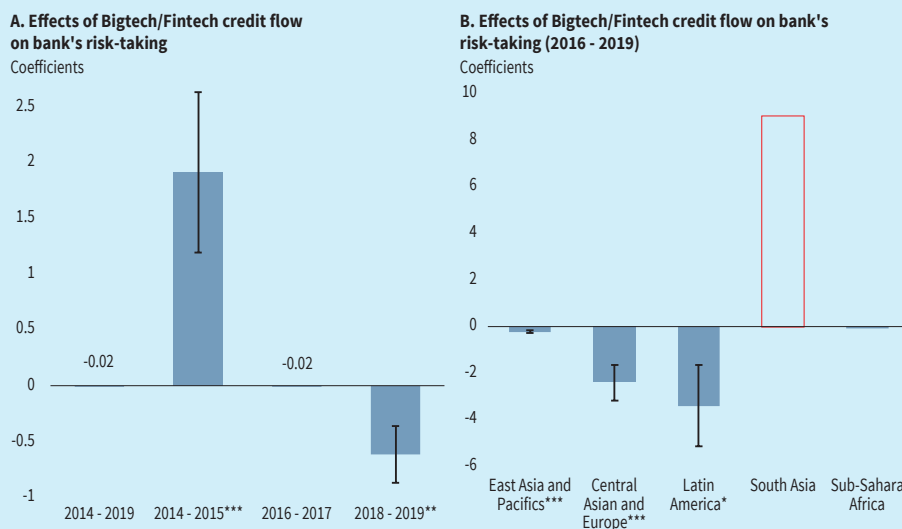
$$\text{Bank Risk-Taking}_{jt} = \alpha + \beta_1 \text{FinTech credit flows as share of GDP}_{it} + \beta_2 \text{BankFactor}_{jt} + \beta_3 \text{MacroFactor}_{it} + \lambda_j + \lambda_t + \varepsilon_{jt}$$

The relationship is estimated for a panel of 2041 banks (*j*) across 35 countries (*i*) and over five years (*t*) between 2014-2019. The estimation sample comes from the S&P Capital IQ database and includes 52 banks from South Asia (India and Pakistan). Appendix A.2.1 gives more details on the construction of the variables and the set of control variables included.

The regression results reveal important variations across different stages of Fintech credit flows. In the initial stage, the interaction between Fintech and traditional banks is characterized by competition. The presence of Fintech credits in the market can incentivize traditional banks to lend to 'riskier' borrowers, as the competition from Fintech increases banks' risk-taking behavior (Guo and Shen 2016; IMF 2022; Wang, Liu, and Luo 2021). Results from the regression on a subsample between 2014 and 2015 (Figure 2.12.A) show that a one percent increase in Fintech credit flows (as a percent of GDP) was associated with a 1.9 point rise in banks' risk-taking. This period represents the early stage of Fintech lending, as Fintech credit flows are still relatively low. At this early stage, FinTech serves riskier borrowers. As the sector gradually develops

¹⁷ For example, if a traditional bank partners with a digital platform (e.g., Uber), the recourse tool offered by Uber automates the vehicle loan repayment from the driver. From bank perspective, the loan repayment is guaranteed by Uber through driver's future transactions. If the same loans were issued by the bank to the same driver without the digital platform as intermediaries, then the driver might not pay back the loan. By providing recourse tools, Uber helps mitigate risk of the banks' lending and allows the bank to expand into new lending areas.

¹⁸ Banna, Hassan, and Rashid (2021), Liao (2018), and Wang, Liu, and Luo (2021) use similar estimation strategies but different explanatory variables, data set or sample.

Figure 2.12. Effects on Fintech credit flows on banks' risk-taking

Source: A. S&P Capital IQ, Cambridge Center for Alternative Finance, IMF, WDI, and staff calculation. B. S&P Capital IQ, Cambridge Center for Alternative Finance, IMF, WDI, and staff calculation.

Note: Control for macro and bank fixed effects included. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. B. High-income economies included.

better data networks, economies of scale, and better client services, it attracts less risky borrowers who constitute the markets for traditional banks. Traditional banks may react by lowering the threshold for loans to maintain and attract customers, which increases risk-taking.

Over time, collaboration dominates Fintech and bank interaction. As Fintech further increases its presence and reach, traditional banks adopt similar technology used by Fintech to stay competitive, either by the acquisition of or by partnering with Fintech firms, or by developing their own technology (Banna, Hassan, and Rashid 2021; Deng et al. 2021; IMF 2022; Wang, Liu, and Luo 2021). The technology adoption improves banks' ability to monitor and mitigate risks (IMF 2022), and as such has the potential to increase banks' willingness to lend to otherwise risky borrowers (Sheng 2021). Regression results summarized in Figure 2.12.A show that the effect of Fintech credits on banks' risk-taking turns insignificant between 2016–17, before turning negative and statistically significant between 2018–19. During the latter period, a one percent increase in Fintech credit (as a share of GDP) is associated with a 0.6-point reduction in banks' risk-taking, indicating a technological adoption trend. There are also important cross-region variations. Figure 2.12.B shows that after 2016, increases in Fintech

credit are associated with less bank risk-taking in the East Asia and Pacific and Europe and Central Asia regions. These are also the places where Fintech development is more mature. In contrast, the effects are statistically insignificant in South Asia, where Fintech lending services have been less developed.¹⁹

Collaboration between Fintech firms and traditional banks is also on the rise in South Asia. In Bangladesh, a partnership between banks and Fintech firms allowed banks to better understand credit risk and issue affordable small business loans in rural communities (DreamStart Labs 2022). In India, many partnerships between banks and Fintech firms have been focused on digitizing credits for MSMEs (Soni 2021) to enhance banks' knowledge of potential borrowers. The integration of third-party lenders with digital platforms (a form of embedded finance), such as the partnership of the State Bank of India with Uber India (Bhakta 2016), has allowed traditional banks to mitigate lending risks through automated repayment. Better borrower visibility, risk mitigation, and recourse tools through the partnerships allow traditional banks to extend more credits, especially to MSMEs in the informal sector and women-owned businesses, without increasing the overall riskiness of the banks' balance sheets. The technological advancement also has the potential to help banks sustain lending during a credit crunch.

- Concentrated default risks spread through new macro-financial linkages: Because the Fintech models are not tested in crisis scenarios, any potential algorithmic or model defects can be exposed and pose risks during downturns. As Fintech firms consolidate and assume systemic importance, a defect in the Fintech system can trigger a concentrated default through Fintech-bank linkages (World Bank Group 2019; World Economic Forum 2021).
- Digital interdependencies and network instability: As a few big-tech and Fintech firms emerge as leading providers of critical capacities in a heavily interconnected network, unforeseen events can cause ecosystem disruption with cascading implications (World Bank Group 2019; World Economic Forum 2021).
- New driver for financial exclusion: As access to digital infrastructure remains uneven, the rise of Fintech can worsen financial exclusion. Also, discriminatory bias in the automated decision-making process of Fintech remains. Inadequate assessment and automated operation of Fintech firms can drive up unaffordable loans, leading to high default rates and business insolvency (World Economic Forum 2021).

¹⁹ Fintech credit flows to GDP (percent) are 0.67 in East Asia and Pacific, 0.2 in Europe and Central Asia, but 0.05 in South Asia and 0.08 in Latin America.

2.3.3 Dealing with COVID scarring on employment

With its large and young population, the workforce is an important resource for South Asia's future, but the COVID crisis has had profound adverse impacts on South Asia's labor markets. One aspect of the impact is reflected in the long-term human capital loss. School closures, which were prevalent in the region, substantially reduced years of schooling for school-aged children (Azevedo et al. 2020) with long-lasting impacts on the region's human capital stock (World Bank 2021a; 2021d). Lockdowns also led to massive loss of employment in cities and reverse migration back to rural areas. The impact of the reverse migration is still being felt now as the recovery in employment and wages remains sluggish. Policies that reduce the risks and uncertainties for return migrants and lower barriers to labor mobility can encourage return migrants and improve the resilience of the labor force to future shocks (see also Chapter 3), while training programs that provide reskilling and upskilling opportunities can improve the quality and productivity of the workforce.

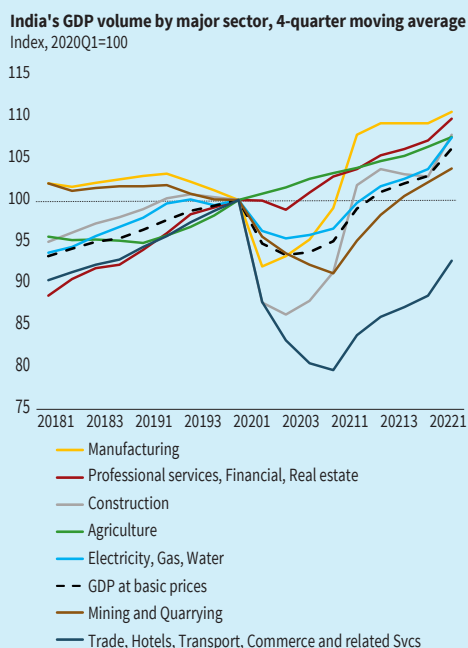
At the same time, the COVID shock hit contact-intensive sectors harder, and so the recovery of employment is also characterized by sector-level differences. Box 2.3 considers the still incomplete recovery of employment in South Asia. Economic activities took longer to recover from the pandemic in certain contact-intensive services sectors where average earnings are lower amid higher informality levels; and where women are overrepresented. However, the fastest-growing sectors are also amenable to the types of workers that have been traditionally disadvantaged, such as women and youth.

Box 2.3. How is the labor market recovering from the pandemic?

The structural shift and ensuing reallocation of resources across sectors of economic activity resulting from the pandemic can have major consequences for employment in the region. This box uses data on worker characteristics from sector-level employment pre-COVID, as well as surveys in 2021 to make some inferences about how the labor market is likely to develop in the region in a post-COVID world.

Available data on economic activity by sectors up to mid-2022 paints a clear picture of the trends in value added by sector. Different recovery rates reflected the severity of lockdowns in each country, whether the sector was contact-intensive or amenable to remote work, as well as the duration and persistence of COVID waves. Figure 2.13 shows the recovery by sector for India, which with some notable exceptions reflects the trend in other countries as well.²⁰ Agriculture and wholesale trade sectors were not affected for long, and manufacturing began to recover after lockdowns were loosened in the second half of 2020. Productivity in the services sector diverged: business services and public services' growth soared, but the growth of contact-intensive services, such as those that comprise the tourism industry (accommodations, restaurants, recreation and entertainment, and personal services) fell sharply and took much longer to recover.

Figure 2.13. Agriculture and professional services—which can be done through remote work—saw growth trajectory barely affected by COVID. Contact-intensive services are struggling to recover

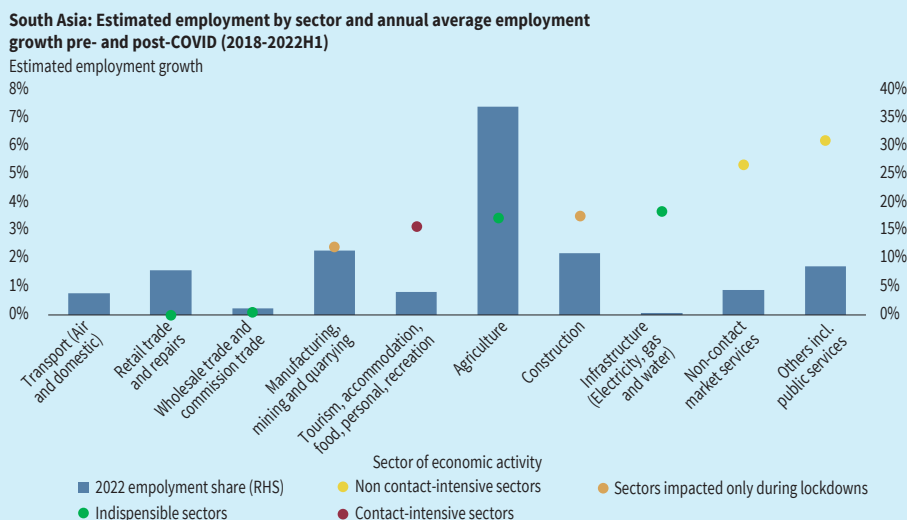


Source: Staff calculations based on data from the India National Statistics Office.

²⁰ In Maldives the tourism sector recovered faster than in other South Asian countries (see Box 2.3 of World Bank 2021d).

Before considering differential effects on the recovery of employment, a starting point is to extrapolate employment by sector. We use the productivity per worker ratios from around 2018 when most countries conducted labor force surveys and extrapolate to mid-2022 to nowcast employment by sector.²¹ This provides a broad sense of whether employment at the sector level has recovered to pre-COVID levels (Figure 2.14). Not surprisingly, sectors less affected by COVID saw employment grow faster. Moreover, the three most prosperous sectors also happen to be sectors with low labor intensity and where workers have the highest levels of education on average, suggesting widening disparities in earnings.

Figure 2.14. The fastest growing sectors in terms of employment pre- to post-COVID in South Asia tend to be less labor-intensive



Source: Staff calculations. The plot shows the repartition of employed people across sectors in 2018 (pre-COVID) and 2022 (post-COVID). The 2022 repartition is based on a nowcasting estimation. Excludes Afghanistan. See Appendix table A.2.1 for sector classification according to COVID sensitivity.

Note: Public services include the health sector (assumed indispensable) and education (which suffered under COVID).

However, the above exercise cannot account for the fact that workers with certain characteristics did not return to the labor market at the same rate as others due to scarring.²² In other words, even if a sector has the same number of workers post-

²¹ Implicitly we are assuming no change in technology and "Leontief" fixed capital-labor ratios.

²² Scarring here is defined as the inability or unwillingness of a worker to return to work and be as productive as before. This could happen either because they are rusty and need extra training, because the technologies have changed, because they have new care responsibilities of other family members or other burdens, health reasons; or because they had to let go of some productive assets during COVID—particularly the self-employed.

COVID, worker productivity may have changed. There is not sufficient data yet to study the level of scarring in the labor market in South Asia. Therefore, we use two sources of data to try to understand how the return to the labor market is evolving for certain workers in different sectors, particularly for women and youth who have traditionally had relatively lower labor force participation rates.

We first look at the **characteristics of workers by sectors of economic activity**, where we group the sectors according to the sensitivity of the sector's activity level to COVID and study employment characteristics (see grouping in appendix A.2.1 table). A few observations emerge (Table 2.6). First, the level of worker productivity of sectors affected by COVID varies: some core sectors that comprise the tourism industry have high worker productivity. Among sectors that are least COVID-sensitive, agriculture has the lowest worker productivity. While the business and professional services sector, where workers can more easily work from home, has one of the highest productivity levels. Second, youth employment in contact-intensive sectors is about average (youth employment tends to be over-represented in the manufacturing sector such as the leather sector). In contrast, women are over-represented in the COVID-sensitive sectors: female workers account for almost a third of the total employment in these sectors—particularly in the education sector and personal services—but only 26 percent of all workers in South Asia.

We also look at **trends in the labor market according to recent surveys**, though they were conducted at the end of 2021 when the labor market was still adjusting to Pandemic waves. In India, surveys show that women and youth had not returned to the workforce at the same rate as men and their elder peers as of end-2021 (He et al. 2022).²³ Some of this may be because women typically have the greatest childcare responsibilities. As schools gradually open, starting in mid-2022, female employment may bounce back to pre-COVID levels as has been observed in other countries (Alon et al. 2022).²⁴ In contrast, early evidence from surveys in mid-2021 for Bhutan, Nepal, Pakistan, and Sri Lanka shows clear improvements in labor force participation rates compared to a year earlier (World Bank COVID phone surveys 2022). A higher share of new jobs post-COVID were for the more

²³ Using Center for Monitoring of the Indian Economy Survey to compare changes in employment status and their characteristics by sectors.

²⁴ Alon et al. (2021) and US Bureau of Labor Statistics August 2021 found that women in the United States lagged men in the rate of return to the labor force since the Pandemic began. However, this changed once vaccination was widely available and schools opened in August 2022, during which time their return rate overtook that of men, and female labor force participation rose above pre-COVID levels. Moreover, women workers are overrepresented in the education sector in South Asia.

Table 2.6. With some exceptions, sectors that bounced back quickly from the pandemic tend to hire more educated workers but fewer female and younger workers

Sector groups and sectors	Share of South Asia's employment	Share of South Asia's GDP	Labor productivity (value added per worker, 2018, thousands USD)	Share of female workers	Share of youth workers (age less than 25 years)	Average years of education
All sectors in South Asia	100	100	6.5	23	17	7
1. Contact-intensive service sectors directly affected by COVID-19 lockdowns	8.8	7.5	6.6	32	17	11
Education	4.1	2.5	6.3	46	14	14
Accommodation, restaurants, entertainment, and other personal services	4.3	3.9	6.3	22	19	8
Tourism, travel agencies and other supporting and auxiliary transport activities	0.4	1.1	13.1	7	16	10
2. Only initially affected by lockdown	40.6	55.7	6.1	14	21	8
of which: manufacturing	13.2	33.5	8.0	26	25	8
3. Low contact-intensive sectors	7.4	17.9	23.2	24	13	11
4. Indispensable activities	43.1	18.9	3.9	30	14	6

Source: Sri Lanka Labor Force Survey 2019. Bangladesh Labor Force Survey 2015-16. India Periodic Labor Force Survey 2018-19. Pakistan Labor Force Survey 2017-18. Bhutan Labor Force Survey (LFS) 2017-18. Nepal Labor Force Survey (LFS) 2017-18 and Maldives Labor Force Survey (LFS) 2019. Value added from ADB MRIO, and staff estimates.

Note: Employment characteristics of productive sectors grouped by the sensitivity of economic activity to COVID-19 in South Asia (see Appendix A.2.2 for the definition and grouping). The aggregation is computed on all the South Asian countries (excluding Afghanistan, and Maldives for some indicators) taking the weighted averages using employment by sector.

formal wage work (as opposed to self-employment) and in the services sector (especially in Nepal). Moreover, the phone surveys for those four countries show that two demographic groups traditionally disadvantaged in the labor market—women and youth—had been gaining more formal jobs, especially in the services

sector. Women, especially young women, had been gaining jobs in services at a faster rate than men, and except for Pakistan, those jobs were more likely to be wage work (less informal). Wage work is generally associated with more stability, so this is a good development for women workers if the trend continues.

Though the jobs recovery is still incomplete, these positive trends bode well for the long term. First, women are more likely to be willing and able to work from home as they also tend to be the primary caregivers. The creation of jobs that can be done from home provides important opportunities in the fast-growing market-oriented services sectors such as e-commerce. Second, data shows that youth in South Asia were already working in larger proportions in manufacturing and non-contact-intensive services sectors before the pandemic, and these sectors are some of the fastest-growing sectors. Finally, digital technologies have allowed even formal firms to provide more flexible timetables and places of work, as well as greater opportunities for small firms or the self-employed to be competitive (World Bank 2021d). Reputation and skills can be acquired much more easily on the job (Carlin et al. 2022).

Policymakers can help to reduce the long-term effects of the scarring. This can be done by ensuring that sectors and firms that have less viability post-COVID are not protected or 'propped up' artificially, through extended loan forbearance or subsidies. Instead, more resources need to go into job-matching infrastructure, training, and making the cost of switching jobs and transitioning to new sectors more seamless.

2.3.4 Green and resilient development

In the near term, disruptions in energy supplies and higher energy prices could delay the green transition. Higher energy prices and shortages may have reduced global consumption of non-renewable energy and put a dent in global GHG emissions (Borenstein et al. 2022). But the elevated prices have also pushed some countries to slow down sustainable development progress. Because most countries cannot survive just on renewable energy, the demand for non-renewable energy sources is still high. With disruptions in natural gas supplies in Europe due to the war and elevated energy prices in general, the Europe Union voted to classify natural gas in some uses as a sustainable source of energy to allow more investment in gas plant and expand production (Ainger 2022). Higher energy prices can also impact the cost of renewables if more investment goes into fossil fuels, raising the input prices for wind, solar, and other renewable energy sources, as was the case during the commodity price surges of 2003-4 (Ramboll Group 2022).

With elevated global energy prices, net energy importers of South Asia face the trade-off between short-term strategy and long-term energy goals. In the short term, countries want to limit energy costs and secure energy access, by increasing the production of non-renewable energy and reducing the burden on households through fuel subsidies. In the longer-term, transition to a greener economy is important for energy security and climate co-benefits. Both are important objectives, but as the short-term goals are often more pressing, they tend to be more politically popular choices. It is thus important to emphasize at this junction the potential benefits of a green transition in South Asia. Box 2.4 complements that discussion and studies the benefits and distributional impacts of the transition for households.

Box 2.4. The green transition: How will it affect households in South Asia?

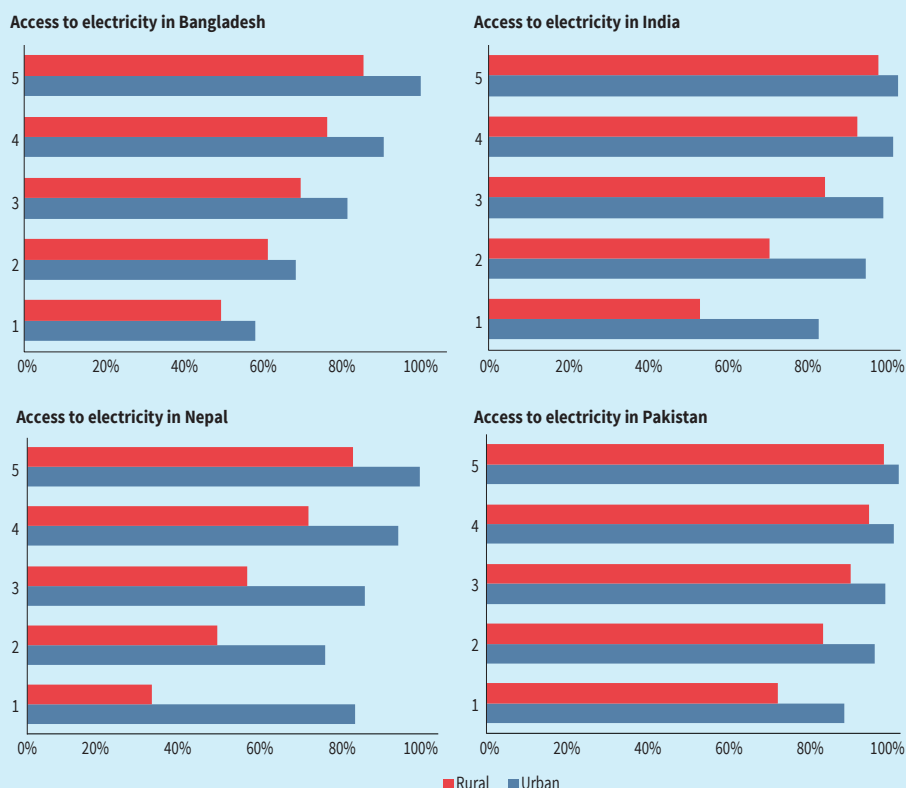
Green transition away from fossil fuels and other polluting sources is complex as producers and consumers adjust their behavior. As part of the green transition, it is important to analyze the distributional impact of the transition on households and the accompanying policy reforms that may be necessary to ensure an inclusive transition. To do so, the current distribution of access to energy and energy expenditure can serve as a baseline.

One measure of access to energy and one of the Sustainable Development Goals (SDGs) is access to electricity, which is high for the region at 95 percent,²⁵ but inequality remains both across and within countries. Access to electricity is below 50 percent in Afghanistan, while it is 100 percent in Bhutan, Maldives, and Sri Lanka. Within countries, household surveys (Household Income and Expenditure Survey, HIES; Living Standard Survey, LSS; National Sample Survey, NSS) show that households residing in rural areas are less likely to have access to electricity, and households in the lowest quintile of total per capita expenditure are less likely to have access to electricity in both urban and rural areas (Figure 2.15). Blackouts are frequent in the region, averaging 25.5 times per month,²⁶ which leads to unequal access since poor households likely cannot afford backup generators. The inequality shows that access to electricity remains an important SDG goal for some South Asian countries as access to electricity is associated with increased productivity (Dinkelman 2011; Khandker et al. 2012). With the region's vast renewable energy potential, increasing the region's reliance on

²⁵ World Development Indicator, World Bank Global Electrification Database. Last accessed September 26, 2022. <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=8S>.

²⁶ World Development Indicator, Enterprise Survey 2020. Last accessed October 1, 2022. <https://data.worldbank.org/indicator/IC.ELC.OUTG>

Figure 2.15. Access to electricity by household per capita expenditure quintile in South Asia



Source: Staff calculations using Household Income and Expenditure Survey Bangladesh 2016, Pakistan 2018, Sri Lanka, 2016, Living Standard Survey Nepal 2010, National Sample Survey India 2011.

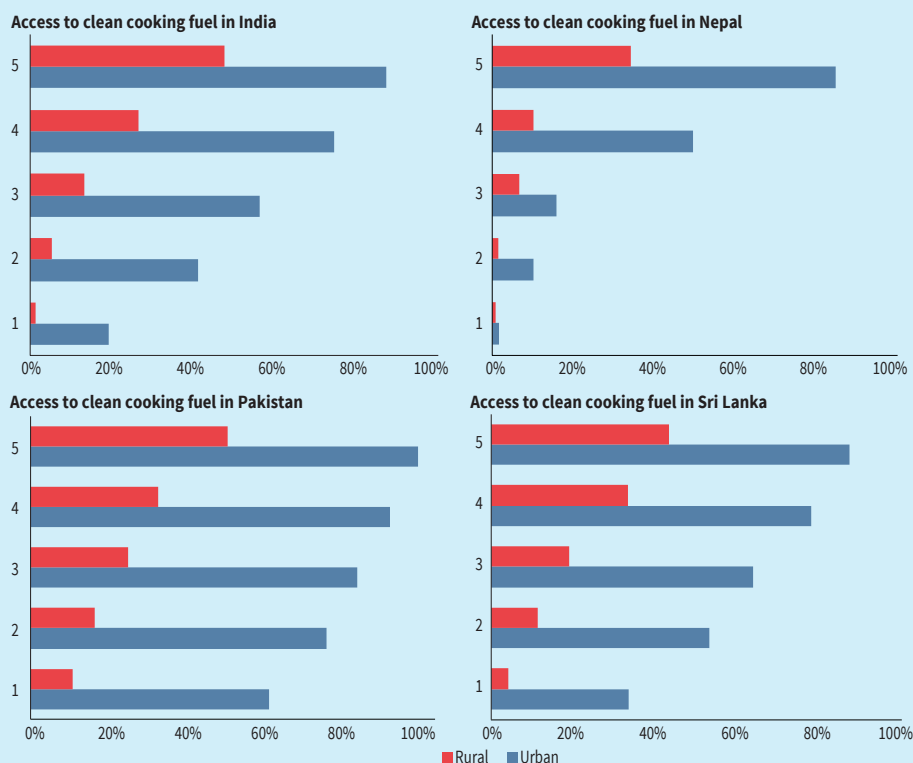
Note: Sri Lanka is excluded because of virtually universal access to electricity during the sample period. Access to electricity has increased since the time of the survey, but the latest estimate is not broken down by income quintiles.

renewables to improve access to electricity for poor, rural households could lower inequality and contribute to green and inclusive growth.

Another important aspect of energy access for the region is access to clean cooking fuels. Only 60 percent of households in the region have access to this technology,²⁷ with Nepal lagging behind. Inequality in access to clean cooking fuels within countries shares the same pattern as electricity access: poor, rural households are less likely to have access

²⁷ World Development Indicator, World Health Organization Global Health Observatory. Last accessed September 26, 2022. <https://data.worldbank.org/indicator/EG.CFT.ACCS.ZS?locations=8S>.

Figure 2.16. Access to clean cooking fuel by household expenditure quintile in South Asia



Source: Staff calculations using Household Income and Expenditure Survey Bangladesh 2016, Pakistan 2018, Sri Lanka, 2016, Living Standard Survey Nepal 2010, National Sample Survey India 2011.

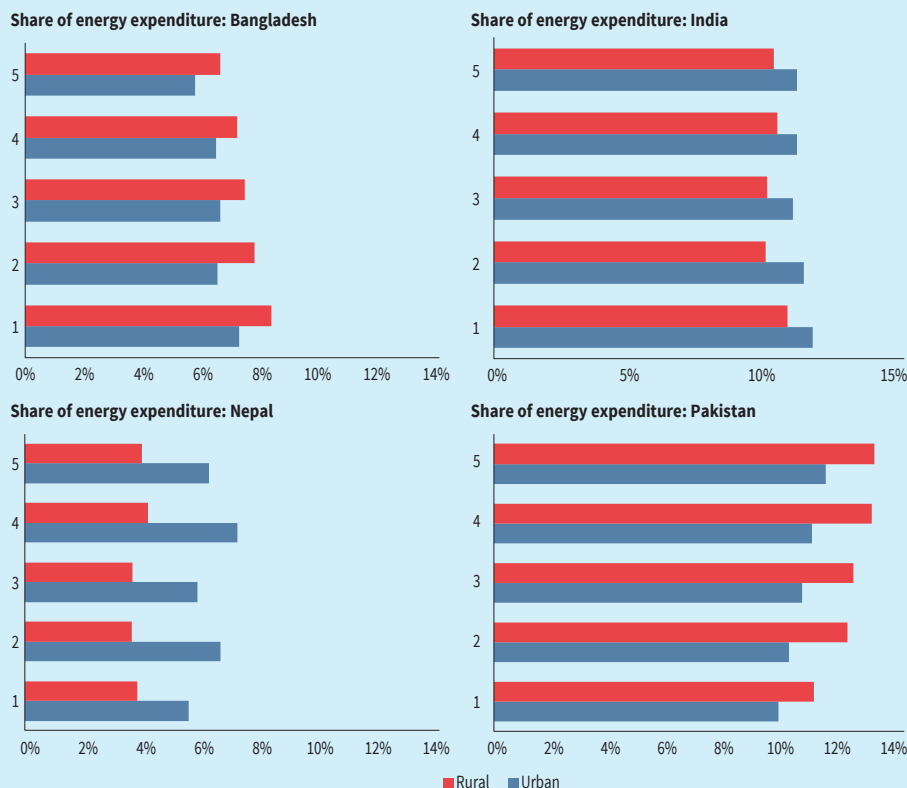
Note: No data for Bangladesh. Access to clean cooking fuel has increased since the time of the survey, but the latest estimate is not broken down by income quintiles.

to clean cooking fuels (Figure 2.16). This is a policy concern as the use of biomass fuel for cooking is associated with poor health outcomes, especially for women and children (Kyu, Georgiades, and Boyle 2010; Mishra and Retherford 2007). Biomass fuel use also contributes to greenhouse gas (GHG) emissions (Pachauri et al. 2021), thus increasing access to clean cooking fuels can improve both health and environmental outcomes.

Beyond access to energy, the share of household expenditure on energy is another measure that can capture how the green transition might affect households.²⁸ The share of household expenditure on energy is relatively high in

²⁸ Household energy expenditure includes expenditure on the following: electricity, natural gas, gasoline, diesel, coal, oil, LPG, kerosene, charcoal, firewood, and ethanol.

Figure 2.17. Share of household energy expenditure in South Asia



Source: Staff calculations using Household Income and Expenditure Survey Bangladesh 2016, Pakistan 2018, Living Standard Survey Nepal 2010, National Sample Survey India 2011.

Note: Sri Lanka is excluded due to recent changes that are not reflected in the survey. Household energy expenditure includes expenditure on the following: electricity, natural gas, gasoline, diesel, coal, oil, LPG, kerosene, charcoal, firewood, and ethanol.

India and Pakistan, averaging more than 10 percent of total household expenditure (HIES), which is higher than the 6 percent average energy expenditure in Indonesia.²⁹ Households in the lowest quintile are more likely to have a higher share of energy expenditure relative to households in the top quintile in Bangladesh and India, while this is not the case in Pakistan and Nepal,

²⁹ Data on Indonesia from Statista. Last accessed September 20, 2022. <https://www.statista.com/statistics/1065696/indonesia-household-expenditure-breakdown/>.

suggesting some heterogeneity in the region (Figure 2.17).³⁰ The share of energy expenditure is higher for rural households in Bangladesh and Pakistan, which is concerning since rural households are less likely to have access to electricity and clean cooking fuel, yet their share of energy expenditure is higher than urban households. Should the green transition lead to higher energy prices, ensuring that poor rural households can afford their energy needs would be important for lowering inequality.

The green transition will produce winners and losers and addressing the distributional impact will be important for growth and inequality. One potential policy is to repurpose fossil fuel subsidies, which is one of the 2021 United Nations Climate Change Conference (COP26) commitments. There is variation in fuel subsidies across the region, with Pakistan spending more than 2 percent of GDP on fuel subsidies, while Nepal has no explicit subsidies. (World Bank 2022d) The budget allocated to fuel subsidies can be repurposed for social protection and other programs to ensure energy access for poor and vulnerable households (Dartanto 2013). The green transition presents both opportunities and challenges, which can be addressed with policy reforms that mitigate climate change and promote inclusive growth.

Besides green transition, countries also need to improve resilience amid increasing occurrences of natural disasters. Climate-related disasters (droughts, floods) are becoming much more common, and investment in disaster preparedness could minimize the losses. South Asia is by far the most vulnerable region in the world to climate-related natural disasters in terms of GDP at risk (Jones 2022). The recent flooding in Pakistan submerged one-third of the country. Flooding risk is expected to increase in intensity and unpredictability due to climate change. Rebuilding disaster-hit infrastructure can be expensive. Instead, investment in disaster preparedness could reduce the losses from these natural disasters and allow the region to grow without having to spend on continual rebuilding.

³⁰ The pattern for Pakistan, with the highest quintile spending a larger share of expenditure on energy, is likely driven by electricity and gasoline expenditure. Total expenditure among the highest quintile in Pakistan in rural areas is about double the lowest, but expenditure on electricity and gasoline among the top quintile is about 3 times the expenditure among the lowest quintile. A similar pattern is observed among urban households in Pakistan. The pattern for urban Nepal is driven by the top quintile's higher spending on electricity, diesel, and liquid petroleum gas relative to those in the bottom quintile.

South Asian countries have invested in natural disaster management, but disparities remain in the region's early warning systems. Pakistan and Bangladesh are good examples:

- **Pakistan's early warning system was not as effective in some regions.** The country developed a 10-year national disaster management plan in 2012, including early warning systems. In 2013, a dedicated funding source was created (the National Disaster Risk Management Fund) to provide grants to fund up to 70 percent of projects that build resilience to extreme weather and geophysical hazards (ADB 2018). In 2018, the country initiated a US\$2 million countrywide risk assessment project that covered 15 districts (World Bank 2020b). Despite the progress in disaster risk reduction and funding, a study found a large regional disparity in flood warning systems in 2015 (Rana, Bhatti, and Jamshed 2021), and as of 2017, the country still had a limited flood forecasting system outside of Islamabad-Rawalpindi (Mahsud 2018).
- **Bangladesh is another country in the region that faces high flooding risk.** The country has focused on improving forecast lead time and early warning systems, with an ability to provide 3-day deterministic flood forecasts and 10-day medium-range probabilistic forecasts. A mobile app was launched by the Bangladesh Water Development Board in 2018. A 2021 survey in 14 flood-prone districts of Rangpur, Rajshahi, Dhaka, and Sylhet divisions found that 60 percent of respondents had 4 days to prepare before the flood hit their residence (World Bank 2022h). However, 67 percent of respondents said that their community lacked a flood management plan, suggesting the need for additional investment in flood preparedness.

Appendices

Appendix A.2.1 Details on regression setup for Fintech development

The following linear equation is estimated to explore the relationship between Fintech credit and risk-taking behavior by traditional banks (Box 2.1).

$$\text{Bank Risk} - \text{Taking}_{jt} = \alpha + \beta_1 \text{FinTech credit flows as share of GDP}_{it} + \beta_2 \text{BankFactor}_{jt} + \beta_3 \text{MacroFactor}_{it} + \lambda_j + \lambda_t + \varepsilon_{jt}$$

where t indexes year, j indexes bank, and i indexes country. *Bank Risk – Taking* refers to the portfolio risk, calculated as $-1 * \log(\text{Return on Asset}/\text{sd.}(\text{Return on Asset}))$. A three-year rolling window is used to calculate the standard deviation of return on assets to give variation. *FinTech credit flows as share of GDP* is the explanatory variable, sourced from Cambridge Center for Alternative Finance.³¹ The variable *BankFactor* controls for bank characteristics, including the logarithm of the bank's total assets, annual growth of gross loans, and deposit share over total assets; *MacroFactor* includes GDP growth, the share of domestic credits to the private sector in GDP, CPI, and regulatory quality. β_1 measures the effects of FinTech credit flow on banks' risk-taking. λ_j and λ_t are a set of bank- and year-dummies to control for bank and year-specific factors; ε_{jt} is the error term.

The estimation sample comes from the S&P Capital IQ database, a panel dataset that covers 2041 banks from 35 countries between 2014 and 2019, including 52 banks from India and Pakistan.

³¹ The variable from the dataset includes credit flows from both FinTech and BigTech. FinTech credits measure the credits from decentralized individual platforms; BigTech credits measure lending from big tech companies where lending is not the core business, but they use the existing user base data to inform lending decisions.

Appendix A.2.2 Sectoral employment analysis for South Asia

The employment analysis groups sectors according to their level of sensitivity to the pandemic and the lockdowns. Sectors are at the 35-sector level according to SITC Rev. 3 classification of the ADB's Multi-Regional Input-Output table). Manufacturing, which has 16 sub-sectors, is grouped here as sensitivity indicator 3. There is no discernible association between the COVID sensitivity of the sector and the average earnings, nor whether the worker is a head of household (Table A.2.1). However, the majority of self-employed in South Asia work in sectors least affected by the Pandemic, in large part because most of those engaged in agriculture in the region are self-employed,

Table A.2.1. Indispensable sectors (less affected by the pandemic) are the largest employers in the region, with mostly low average earnings and a high share of self-employment

Sensitivity indicator	COVID impact on activity level	Affected sectors	Employed people circa 2018 (thousands)	Share of employed people that are household heads	Average monthly earnings in 2018 USD	Share of self-employed
1	Indispensable or activities not affected except at the initial stages of the Pandemic.	Agriculture, Hunting, Forestry and Fishing.	208,608	53.8	60.7	70.0
		Electricity, Gas and Water Supply.				
		Human health and social work activities.				
		Wholesale trade and commission trade, except of motor vehicles and motorcycles.				
2	Ability of most workers to do activities from home.	Administrative and support service activities.	36,013	52.4	230.5	14.2
		Financial and insurance activities.				
		IT, Information and communication.				
		Private households with employed persons.				
		Public administration and defense; compulsory social security.				
		Real estate activities.				

Sensitivity indicator	COVID impact on activity level	Affected sectors	Employed people circa 2018 (thousands)	Share of employed people that are household heads	Average monthly earnings in 2018 USD	Share of self-employed
3	Only initially affected by lockdown, but otherwise not generally contact-intensive.	Manufacturing.	196,707	56.7	90.4	39.4
		Construction.				
		Inland Transport.				
		Mining and Quarrying.				
		Sale, Maintenance and Repair of Motor Vehicles and Motorcycles; Retail Sale of Fuel.				
		Transportation and storage.				
		Wholesale and retail trade; repair of motor vehicles and motorcycles.				
4	Contact-intensive sectors more likely to be affected by lockdowns or Pandemic-related restrictions.	Accommodation and food service activities.	42,766	48.7	155.4	30.7
		Air Transport.				
		Arts, entertainment, and recreation.				
		Education.				
		Other service activities.				

Source: COVID sensitivity level is based on IMF staff compilation (IMF 2021); Sri Lanka Labor Force Survey 2019. Bangladesh Labor Force Survey 2015-16. India Periodic Labor Force Survey 2018-19. Pakistan Labor Force Survey 2017-18. Bhutan Labor Force Survey (LFS) 2017-18. Nepal Labor Force Survey (LFS) 2017-18 and Maldives Labor Force Survey (LFS) 2019. Value added from ADB MRIO, and staff calculations (see <https://mr.io.adbx.online/>)

Note: 1/ Includes only Bangladesh, Bhutan, India, Nepal, Pakistan and Sri Lanka

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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.

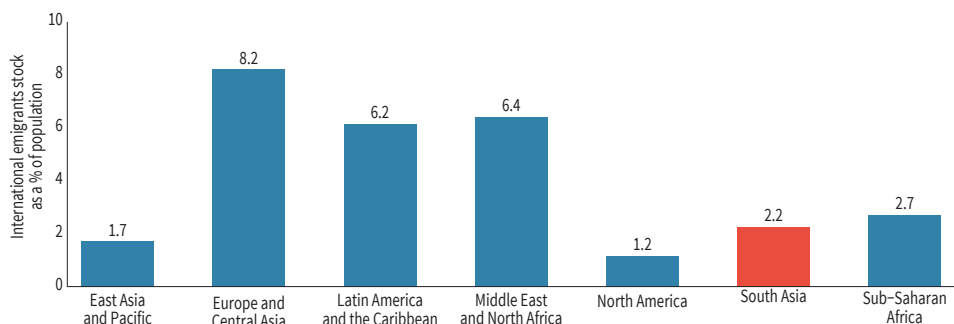
The analysis in this chapter underlines two policy priorities. First, addressing unnecessarily high costs and frictions in migration, particularly those that might have worsened during the COVID crisis, is vital for South Asia's recovery from the pandemic and its long-run development. The second main 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).

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



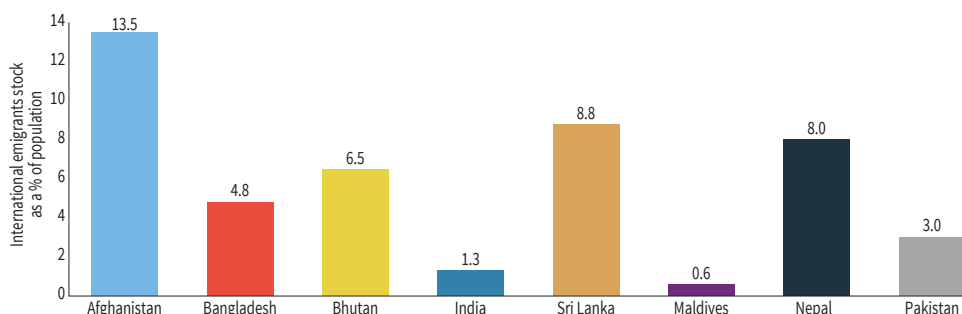
Source: Staff calculations based on UNDESA 2019.

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).

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, typically estimated using census data of destination countries. South Asia has the largest number of emigrants globally. In 2019, 41.2 million people from the region lived outside their country of origin, although this number is not particularly large in terms of population shares (UNDESA 2019). The stock of international emigrants from South Asia in 2019 was 2.2 percent of its population; only two regions of the world (East Asia and the Pacific, North America) had lower shares (Figure 3.1). There is considerable variation within South Asia, with India, where international migrants abroad are only 1.3 percent of the population of the country, mainly driving the regional average. It is relatively high in Afghanistan, Nepal, and Sri Lanka, at about 10 percent of the population, and also sizeable in Bhutan (6 percent) and Bangladesh (5 percent) (Figure 3.2). In most countries in the region, people emigrate mainly for economic reasons, except for Afghanistan, where conflict and insecurity have displaced a large share of the population (Ahmed and Bossavie 2022).

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



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).

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

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.

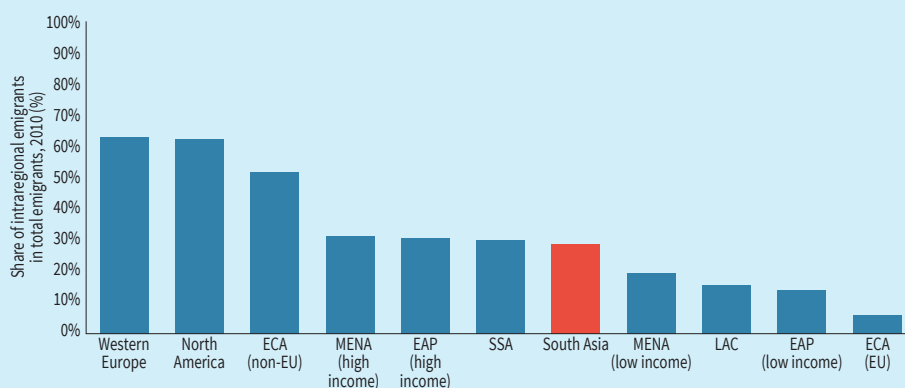
Migration can be international or domestic. Census data typically provide reliable statistics on the stock of long-term international migrants, but a major drawback of census data is the low frequency with which they are collected, which often results in outdated statistics. Representative household 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



Source: Staff calculations based on World Bank Global Bilateral Migration Database (1960-2000) and the United Nations Global Migration Database (2010-2015).

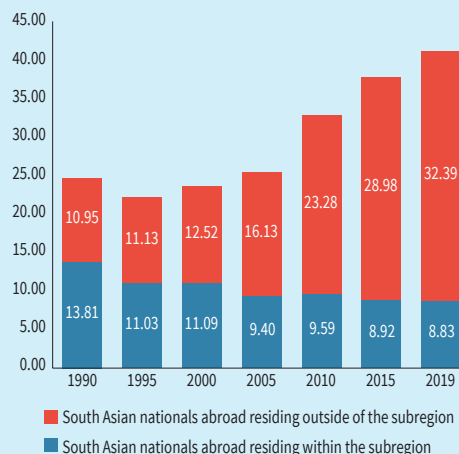
Note: EAP = East Asia and Pacific; ECA = Eastern Europe and Central Asia; EU = European Union; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SSA = Sub-Saharan Africa.

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)



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).

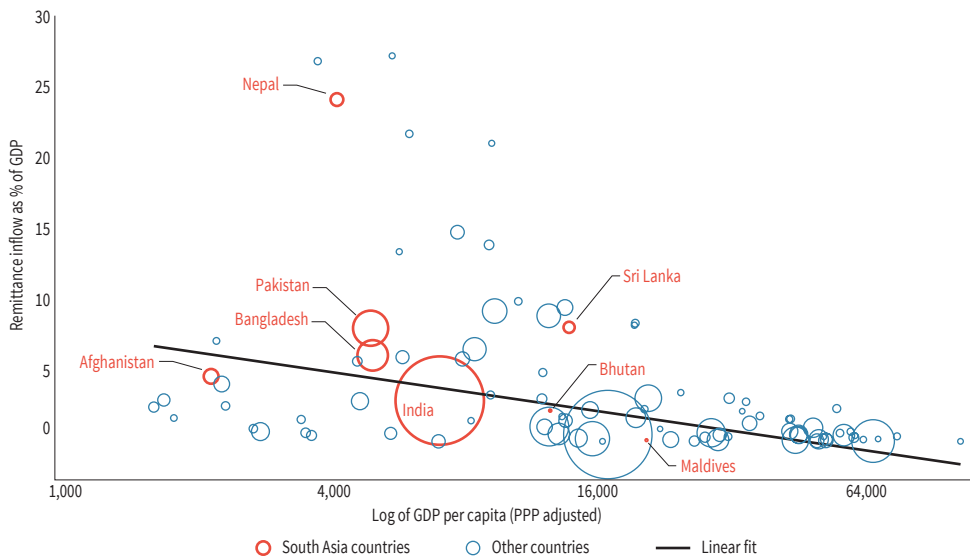
There is a role for research and regional cooperation to measure intraregional migration more accurately and devise policies to better harness the benefits of this type of migration. The determinants, costs, and even economic benefits of intraregional migration in South Asia are not well understood but 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).² 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

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.

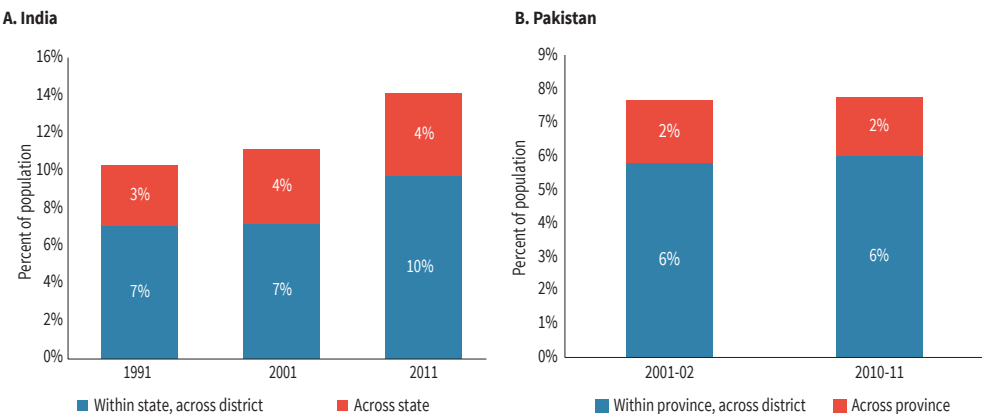
Figure 3.5. Some South Asian countries receive comparatively large foreign remittance inflows



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

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

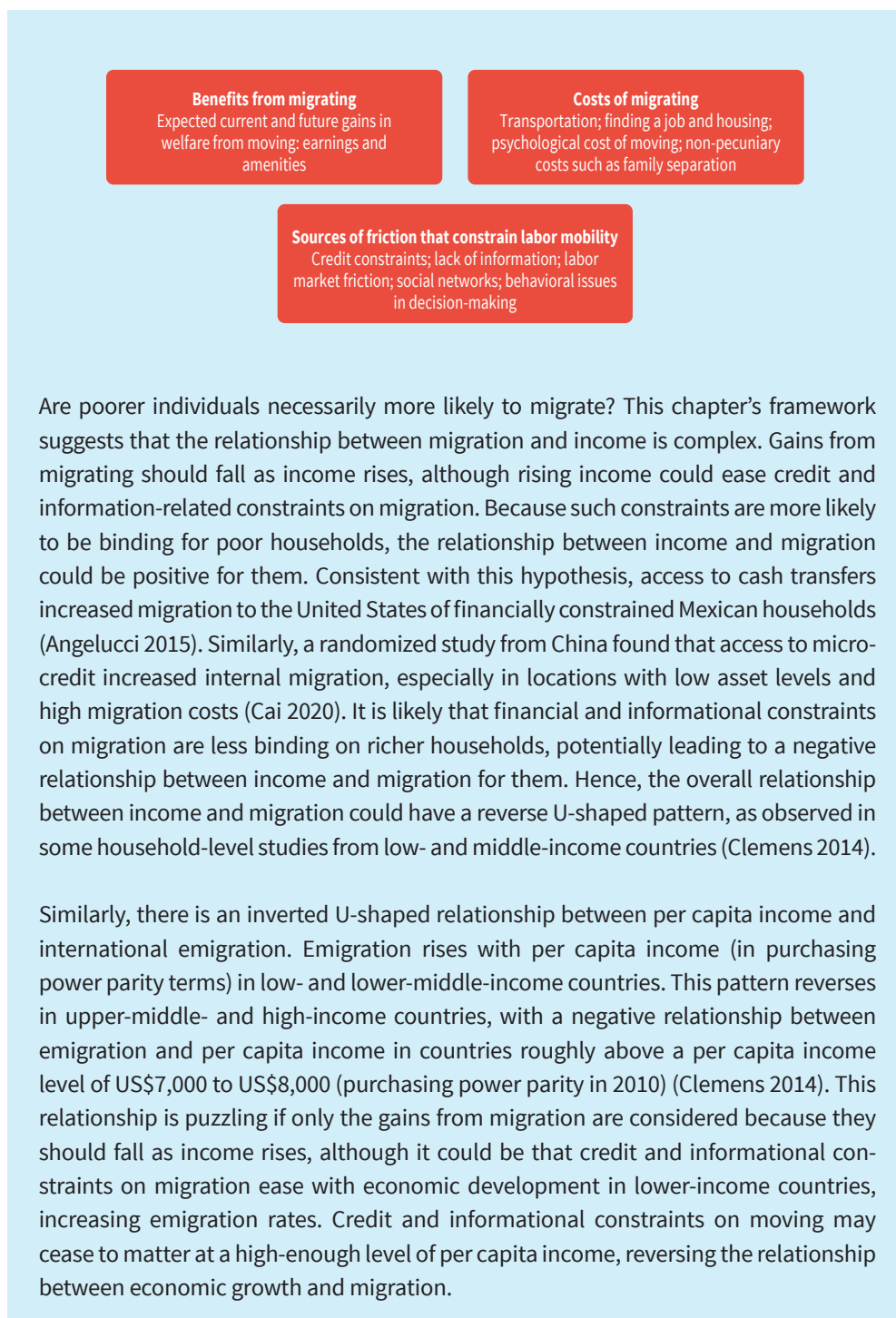
This chapter follows standard economic models of migration in conjecturing that individuals compare the expected benefits and costs of migrating when deciding whether to migrate.⁷ Gains from migrating consist of the difference in earnings and locational amenities between the place of migration and the 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.⁸ 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.

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).



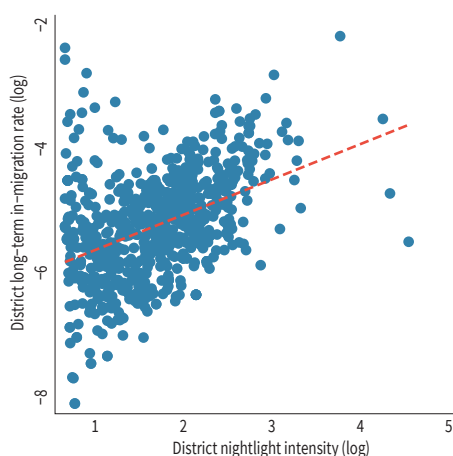
Credit constraints and other friction can prevent gains from migration from being fully realized. Even if the net benefits from moving are positive, credit constraints may make it difficult to finance the upfront costs of moving. Misinformation about costs and benefits of moving and labor market friction 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 night-light 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

Figure 3.7. Domestic migrants move to areas with greater nightlight intensity in India



Source: Staff calculations based on Indian Population Census 2011 and U.S. National Oceanic and Atmospheric Administration.

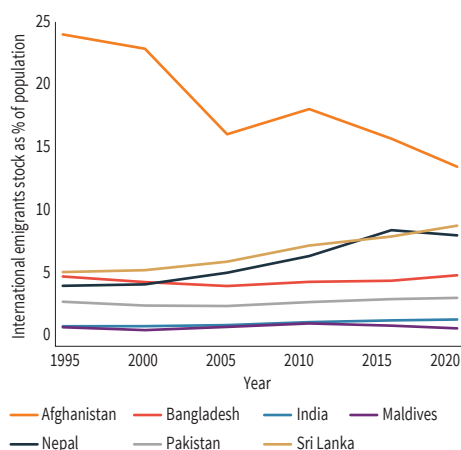
Note: The vertical axis measures the log district-level long-term in-migration rate as a percentage of the district population, as measured by the Indian Population Census 2011. An individual is considered a migrant if the place in which they were enumerated during the 2011 Census was other than their place of immediate last residence. The horizontal axis measures the log nightlight intensity, measured as the average pixel luminosity at the district level. Nightlight intensity is widely used as a proxy for economic activity. Nightlight data from the U.S. National Oceanic and Atmospheric Administration are matched to Census district-level data using identifiers that the Development Data Lab provides (Asher et al. 2021). The coefficient of correlation between the log district-level long-term in-migration rate and log nightlight intensity is 0.57.

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.

Figure 3.8. Most countries in South Asia have experienced stagnant trends in population shares of international migrant stock in the last two decades



Source: Staff calculations based on UNDESA 2019.

Note: The vertical axis measures the international migrant stock divided by the total population (reported in percentages). International migrant stock is as defined in Figure 3.1.

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).⁹ 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

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 disproportionately¹⁰ (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).¹¹ 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).

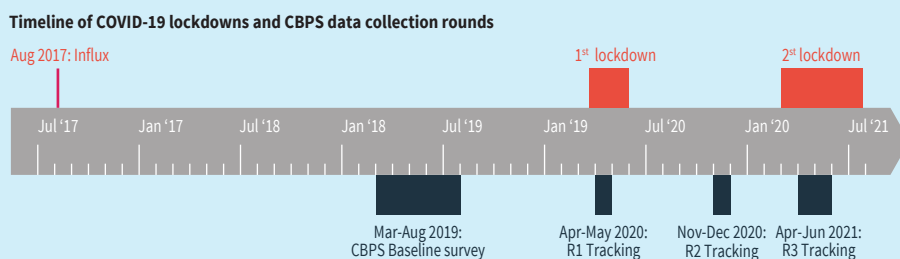
Box 3.4. Labor market impacts of COVID-19 on the displaced Rohingya population in Cox's Bazar, Bangladesh

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



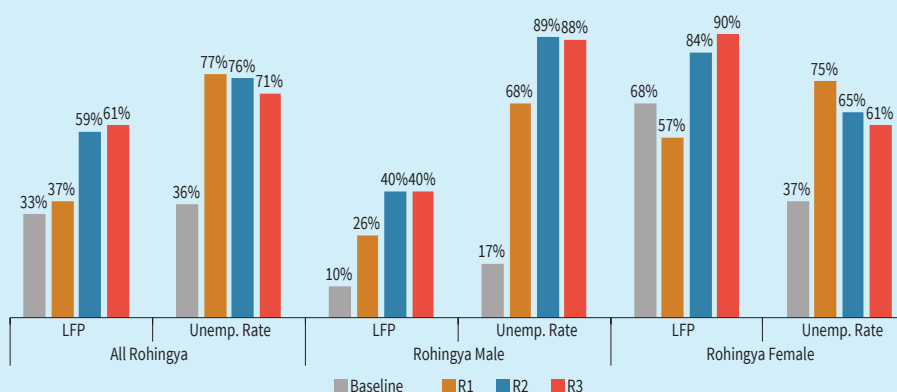
Source: World Bank 2021b.

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



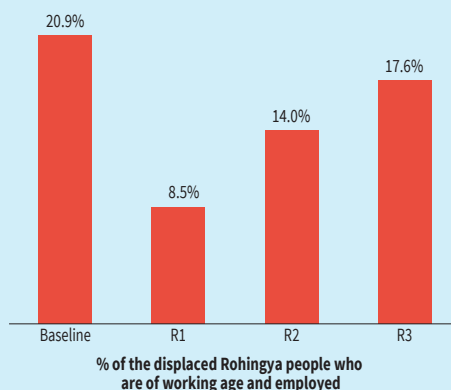
Source: World Bank 2021b.

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).

Figure 3.11. After the initial shock, the employment rate among displaced Rohingya people in the camps has been steadily increasing



Source: World Bank 2021b.

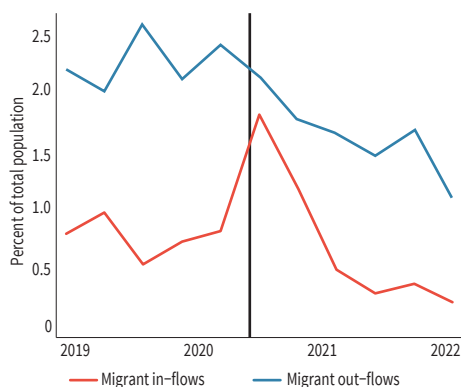
Note: R1 refers to Round 1, R2 refers to Round 2, and R3 refers to Round 3 of the Cox's Bazar Panel Survey, as shown in Figure 3.9.

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.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).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).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

Figure 3.12. In India, the COVID shock led to a drop in migrant out-flows and an increase in migrants returning to their home districts



Source: Staff calculations based on the Indian Consumer Pyramid Household Survey (CPHS) using survey waves 16 to 25.

Note: The vertical axis shows migration out-flows and in-flows as a share of the population between January 2019 and January 2022. In CPHS, outmigration is measured three times per year as total number of household members who had emigrated at the time of the survey but had still been part of the household in the previous survey round. In-migration is also measured three times per year as total household members who had joined the household at the time of the survey but had not been part of the household in the previous survey round. In-migration includes returning household members who had previously out-migrated and new household members.

¹² Out-migration of women who join the households of their in-laws after marriage drive a large share of internal migration. Given the temporary nature of much of domestic economic migration, a large share of male household members who out-migrate for economic reasons are included in the measured outflow in the CPHS but are unlikely to join households in the destination district. This might lead to an underestimation of male migrant inflows in the CPHS and explain the discrepancy between monthly in-and-out-migration flows.

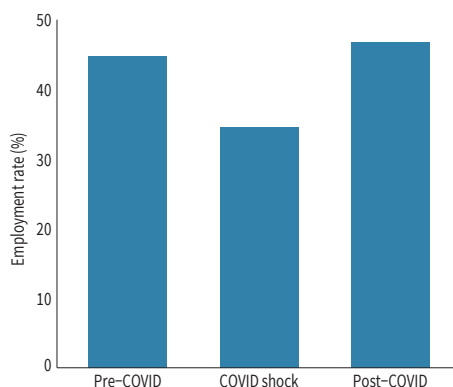
¹³ Although possible, it is unlikely that other forms of in-migration measured in the CPHS, such as women joining the household of their in-laws, is driving this large jump in in-migration.

¹⁴ Although systematic data on return migration during the pandemic are not available at the district level, prior emigration is argued to be a good proxy for rates of return migration.

pandemics, according to a combination of data from prior influenza epidemics and epidemiological models (Clemens and Ginn 2020).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.

Figure 3.13. In India, migrants who returned to their home district were less likely to be employed in the direct aftermath of the first COVID shock compared to previous cohorts of return migrants

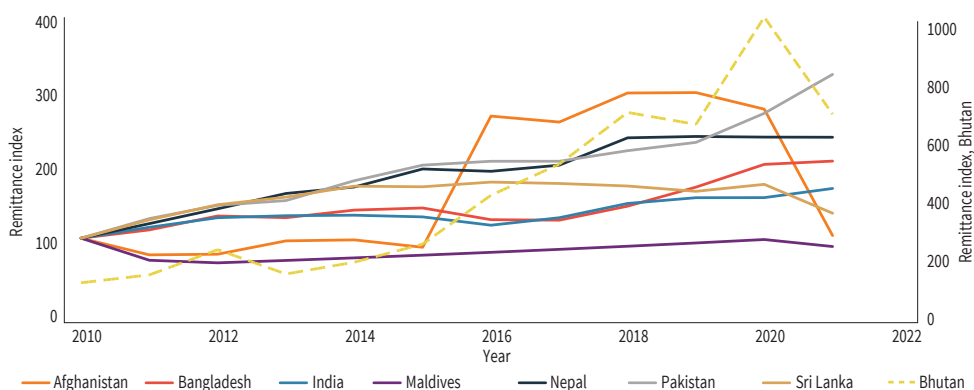


Source: Staff calculations based on the Indian Consumer Pyramid Household Survey (CPHS) using survey waves 15-25. **Note:** The vertical axis shows the employment rate (including self-employment) for working-age men (15-64) who migrated into households surveyed by the CPHS, including return migrants. The pre-COVID period shows the average employment rate for surveyed cohorts between May 2019 and April 2020, the COVID shock period shows the average employment rate for cohorts surveyed between May 2020 and April 2021, and the post-COVID period shows the average employment rate for cohorts surveyed between May 2021 and January 2022.

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

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.

Figure 3.14. Formal international remittance inflows did not exhibit the expected decline in 2020 but in 2021, many countries in South Asia experienced a flattening or decline in remittances



Source: Staff calculations based on KNOMAD 2021.

Note: The vertical axis measures the remittances index using 2010 as the base year with an index of 100. Remittances are measured as the sum of two items in the International Monetary Fund 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.

remittance inflows. Afghanistan experienced the largest decline (62 percent),¹⁶ 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).¹⁷ 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

¹⁶ 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.

¹⁷ The data source is KNOMAD. The numbers may differ slightly from individual countries' official data.

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

	Households that received remittances, %		Average monthly remittances received, Pakistani rupees	
	Before COVID	During COVID	Before COVID	During COVID
Domestic	4.3	4.5	29,402	23,266
Foreign	4.2	3.6	52,721	34,267

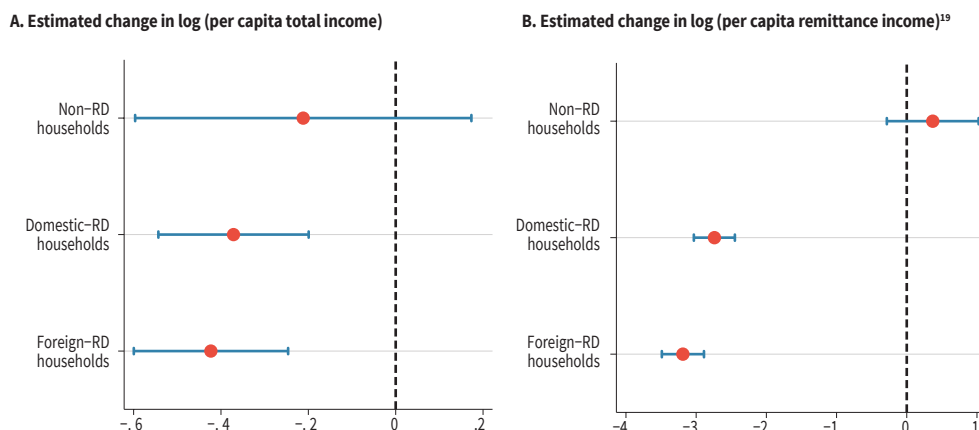
Source: Staff calculations based on the Pakistan COVID Special Survey 2020.

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)¹⁸ 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 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 $1 - \exp(\text{“During COVID” coefficient})$, which is 19 percent, and percentage change in remittances for the RD groups is calculated as $1 - \exp(\text{“During COVID” coefficient} + \text{“During COVID x Domestic (respectively, Foreign)-RD” coefficient})$, 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



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

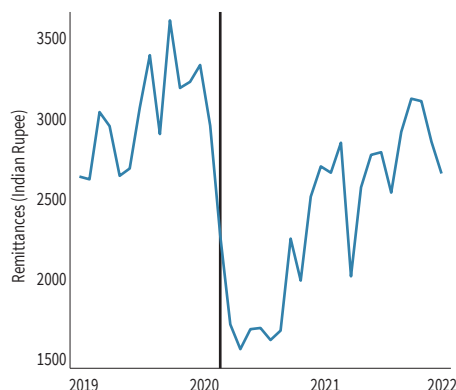
¹⁹ Because “Non-RD households” are defined as households that did not receive remittances before COVID, the positive (but statistically insignificant) coefficient on “Non-RD households” indicates that some of the households that were not receiving remittances before COVID received positive remittance inflows during COVID.

during COVID-19 (Barker et al. 2020).²⁰ In Bangladesh, in the visa lottery sample of emigrant-dependent households, declines in remittances accounted for 83 percent to 100 percent of lost overall household income. In Nepal, declines in remittances accounted for 65 percent to 74 percent of lost income.

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

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

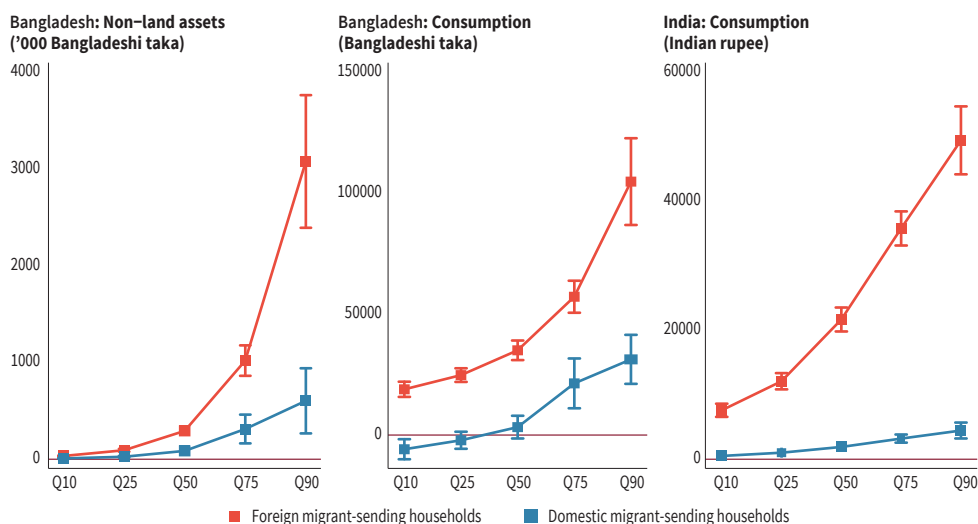


Source: Staff calculations based on the Indian Consumer Pyramid Household Survey (CPHS) using survey waves 16 to 25.

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.

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).

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.

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.

3.3 Post-pandemic migration and the recovery from the crisis

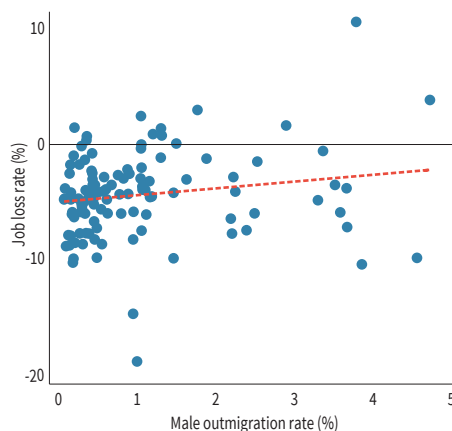
3.3.1 Migration is helping with the recovery process from the COVID shock in South Asia

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).²¹ 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

Figure 3.18. In India more men migrated out of districts that had experienced higher rates of job loss during the COVID shock



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.

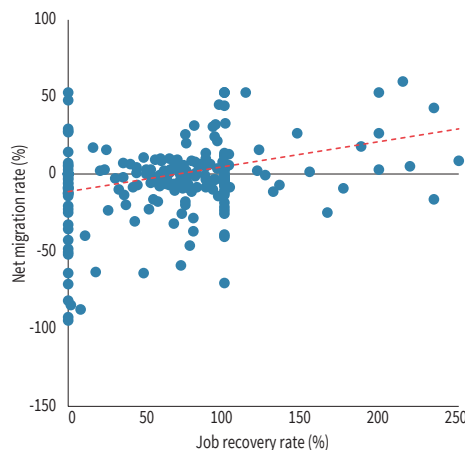
²¹ This could include previous migrants who returned to their home location after the start of COVID, because migration in the SAR-CPMS wave 1 is defined based on whether an individual resided in a different location (within the same country) at the time of the survey than before March 2020, although 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

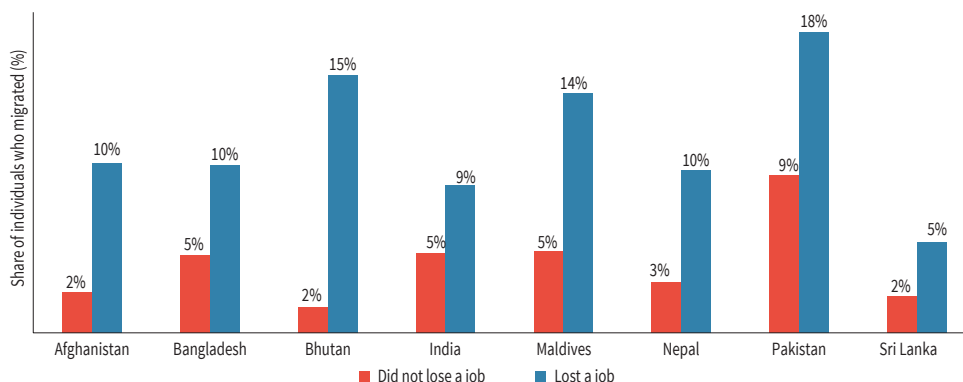
Figure 3.19. Twenty months into the pandemic, districts with higher inflows of migrants had higher job recovery rates, across Bhutan, Nepal, Pakistan, and Sri Lanka



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

Note: The graph shows the scatterplot of pooled districts for Bhutan, Nepal, Pakistan, and Sri Lanka. (See Figure A.3.1 for scatterplots of individual countries.) 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 had 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, four outlier observations, which are included in the statistical analysis, have been removed from the graph for visual representation purposes.

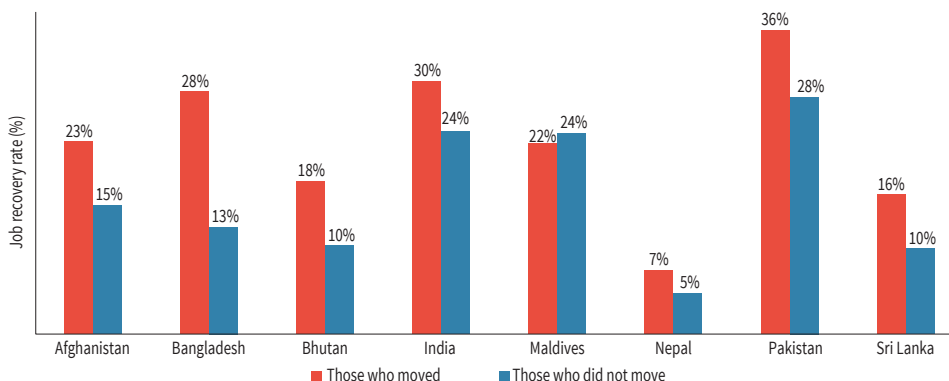
Figure 3.20. Six to twelve months after the pandemic began, those who had lost their pre-pandemic jobs were more likely to have migrated



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

Note: The sample includes individuals who were employed in January 2020. The job loss category includes individuals who lost or changed the job they had had in January 2020 between March 2020 and the time of the survey. Labor mobility 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.

Figure 3.21. Six to twelve months after the pandemic began, job recovery rates were higher for those who migrated



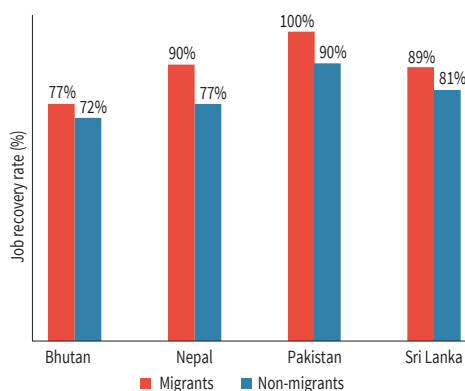
Source: Staff calculations based on SAR COVID-19 Phone Monitoring Survey, First Round.

Note: The sample includes individuals who lost or changed the job they had in January 2020. Job recovery rate is defined based on individuals who had lost a job after January 2020 and reported working in a different job in March 2020 or the week of the survey. Labor mobility 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.

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).

Figure 3.22. Twenty months after the pandemic began, job recovery rates remained higher for those who migrated



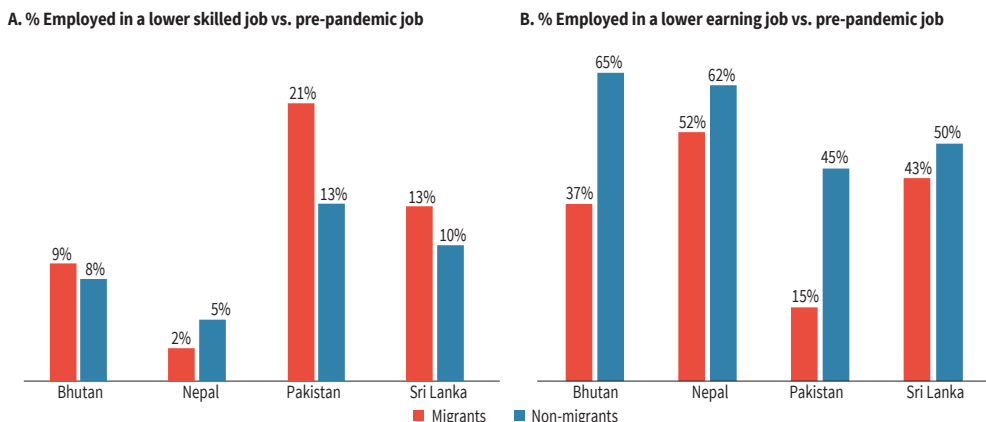
Source: Staff calculations based on SAR COVID-19 Phone Monitoring Survey, Second Round.

Note: The sample includes individuals who had lost or changed the job they had in January 2020. Job recovery is defined based on individuals who were employed in a different job after March 2020 (by the time of the second round of the survey) 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).

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.

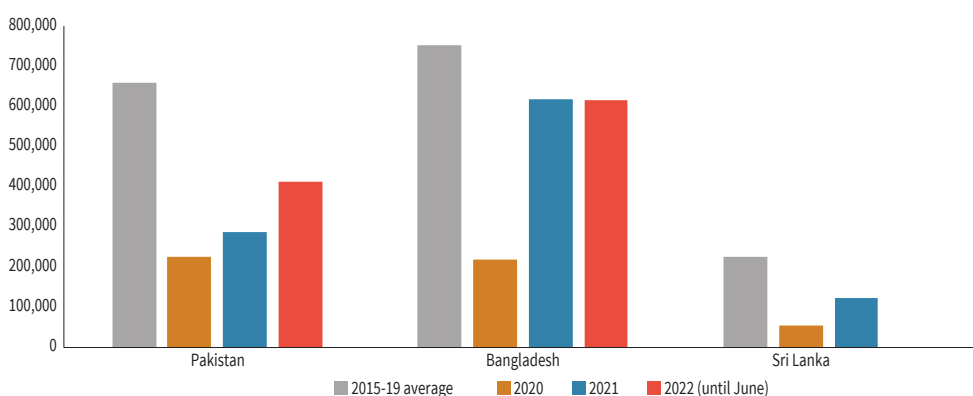
Figure 3.23. Twenty months after the pandemic began, those who migrated post-pandemic were less likely to be in a lower-earning job (compared to their pre-pandemic job)



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.

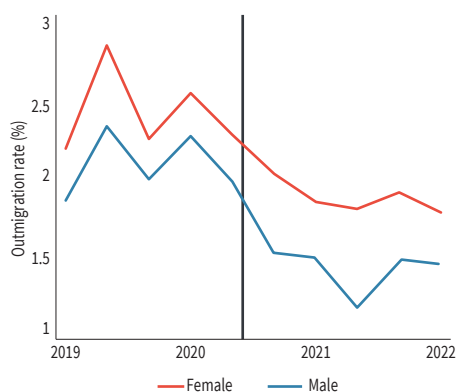
Note: The data measure the annual flow of registered overseas migration for employment and show the annual number of workers registered for employment outside the country for Pakistan, the annual number of workers registered for overseas employment for Bangladesh, and annual registered departures for 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.

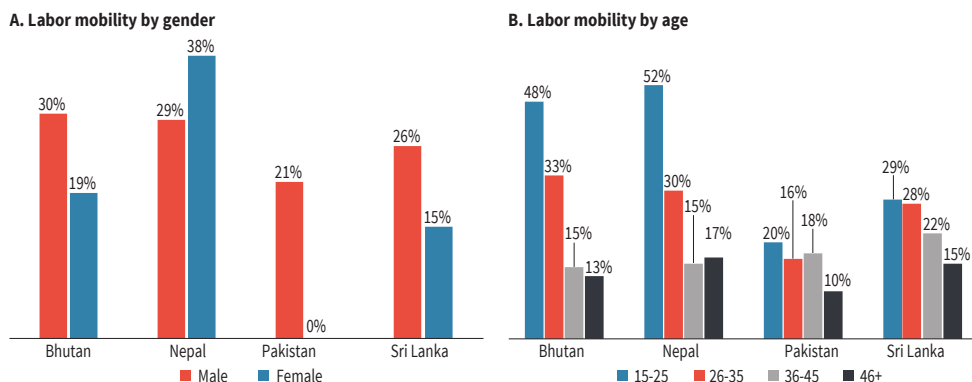
Figure 3.25. Migration rates show signs of recovery in India but remain below pre-COVID levels



Source: Staff calculations based on the Indian Consumer Pyramid Household Survey using waves 16 to 25.

Note: The vertical axis measures the rate of male and female migration out-flows as a percentage of the total population of men and women, respectively, between January 2019 and January 2022. Outmigration is measured as the total number of household members that had migrated at the time of the survey round that had been part of the household during the previous survey round. Each survey wave is treated as cross-sectional data.

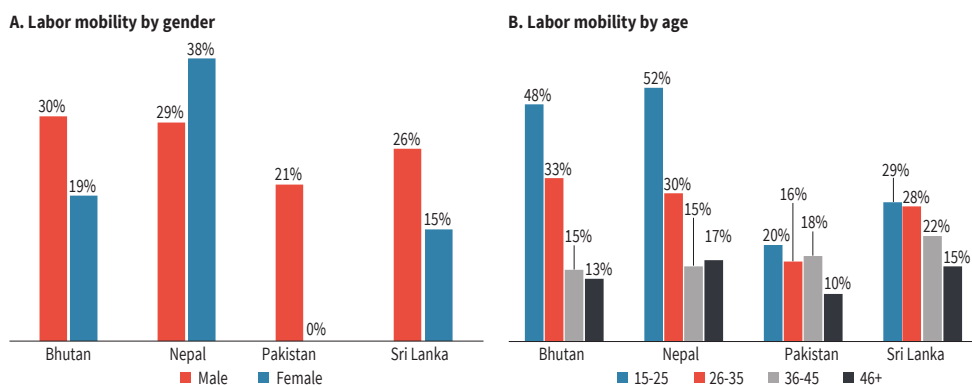
Figure 3.26. Six to twelve months after the pandemic began, among those who lost their pre-pandemic jobs, women and the elderly were less likely to migrate



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



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.

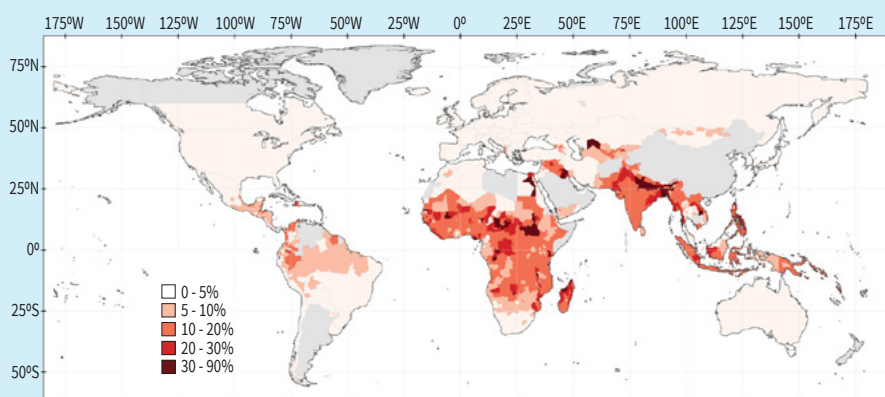
Box 3.5. Migration and climate change in South Asia

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



Source: Rentschler, Salhad, and Jafino 2022.

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.²³ 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

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 situations 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 enterprises enacted in response to the COVID-19 outbreak, including employment retention subsidies 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 workfare 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.²⁵ 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.²⁶ 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

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.

²⁷ <https://eshram.gov.in/home> and <https://nduwwsmedia.blob.core.windows.net/nduwwsmedia/sites/default/files/pdf/whats-new/Whats-New-eSHRAM-26%20Aug-v1.pdf>

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).

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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.

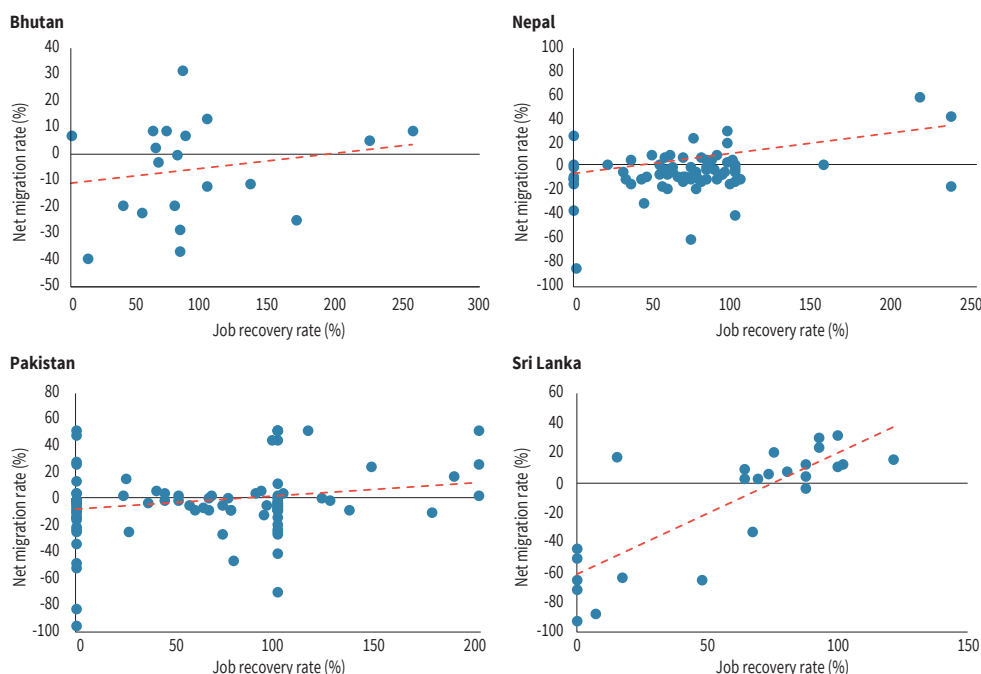
Appendix A.3.2 World Bank SAR COVID-19 Phone Monitoring Surveys

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 individuals²⁸ 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 2020.²⁹ 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)



Source: SAR COVID-19 Phone Monitoring Survey, Second Round.

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).

$$Y_{it} = \alpha_1 Dur_{it} + \alpha_2 Dur_{it} * D_{it} + \alpha_3 Dur_{it} * F_{it} + \alpha_4 D_{it} + \alpha_5 F_{it} + (\beta_1 X_{1,i} + \beta_2 X_{2,i} + \dots + \beta_{10} X_{10,i}) + (\gamma_1 Dur * X_{1,i} + \gamma_2 Dur * X_{2,i} + \gamma_3 Dur * X_{3,i} + \dots + \gamma_{10} Dur * X_{10,i}) \quad \text{Equation (1)}$$

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. $X_{1,i}$ to $X_{10,i}$ are the set of controls. The main coefficients of interest are α_2 and α_3 .

Table A.3.1. Regression of per capita labor income on remittance-dependence (RD) status during COVID in Pakistan

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

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

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

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

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

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

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

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

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

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

	Household size	# Working age members in household	# Male members in household	Household head age	Household head educated?	Rural?	Annualized consumption expenditure (Bangladeshi taka)	Value of non-land assets owned (Bangladeshi taka, '000)	Own house currently residing in?	Own agricultural land?	Area of agricultural land owned (acres)
Domestic migrant-sending households	-0.27*** [0.07]	-0.18*** [0.05]	-0.32*** [0.05]	-0.20*** [0.02]	6.02*** [0.54]	0.00 [0.02]	6,061 [5,498]	413.57*** [123.34]	0.05*** [0.01]	0.08*** [0.02]	-0.13 [0.08]
Foreign migrant-sending households	-0.25*** [0.06]	-0.38*** [0.04]	-0.63*** [0.05]	-0.44*** [0.01]	0.39 [0.42]	0.09*** [0.01]	52,498*** [4,652]	1,225.66*** [110.57]	0.12*** [0.01]	0.16*** [0.01]	0.02 [0.09]
Observations	45,411	45,411	45,411	45,411	45,410	45,411	45,481	45,481	45,481	45,391	45,391

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

	Household size	# Working age members in household	# Male members in household	Household head male?	Household head age	Household head educated?	Annualized consumption (Nepalese rupee)	Value of non-land assets owned (Nepalese rupee)	Own house?	Own agricultural land?	Area of agricultural land owned (sq. m.)
Domestic migrant-sending households	1.02*** [0.09]	0.16** [0.06]	-0.20*** [0.05]	-0.04* [0.02]	3.53*** [0.50]	0.07*** [0.02]	13,296* [5,777]	88,048*** [14,792]	0.01** [0.00]	0.03** [0.01]	2151.22*** [413.28]
Foreign migrant-sending households	0.88*** [0.06]	-0.14** [0.04]	-0.31*** [0.04]	-0.27*** [0.01]	1.13** [0.40]	-0.13*** [0.01]	4,075 [3,714]	29,312*** [7,645]	0 [0.00]	-0.01 [0.01]	125.89 [201.01]
Observations	5,654	5,654	5,654	5,654	5,654	5,654	5,654	5,654	5,654	5,654	5,654

Source: Staff calculations, Nepal Risk and Vulnerability Survey—Wave 1 (2016).

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

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

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. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.



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