South Asia Economic Focus Spring 2021

SOUTH ASIA VACCINATES

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South Asia as used in this report includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. The cutoff date for this report was March 25, 2021.

South Asia Chief Economist Office
Macroeconomics, Trade, and Investment Global Practice

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Executive Summary

Chapter 1. An incomplete recovery.

South Asia has been recovering from the COVID-19 crisis. The daily COVID-19 caseload has come down, while the region has started vaccination programs and has transitioned from widespread lockdowns to more targeted interventions. Accommodating monetary policy and fiscal stimulus, in the form of targeted cash transfers and other employment compensation schemes, have supported the recovery. The rebound in economic activity is illustrated by data on mobility and electricity use. Exports of goods are recovering. An unexpected silver lining was the strong growth in remittances in 2020 unlike in other regions of the world, although it could be partly just a reflection of formalization of remittances flows as informal channels have been restricted by the pandemic.

However, the recovery is in fragile territory. The pandemic is not yet fully under control and vaccination has only just started. A third wave and the spread of new variants of the virus remain a threat. Economic activity this year will still be around 12 percent below the level where it would have been according to the pre-pandemic growth path. Many businesses, workers in the services sectors and tourism suffered such sharp setbacks in 2020 that it will take a long time before the damage will be undone. Fiscal deficits have widened on average by 4.8 percentage points of GDP compared to the previous fiscal year. All countries have extended moratoriums on business and bank loans, so it is not clear yet how bad the state of the financial sector is: a further rise in non-performing loans and bankruptcies might be around the corner. Remittances may well have peaked, as returning migrants brought home accumulated savings, but the number of workers abroad has declined.

Inequalities and vulnerabilities, exposed and exacerbated by the crisis, pose another challenge. Inequalities have become more pronounced, not just income inequality but also across human capital acquisition and gender. Night-time lights data also show geographic disparities in the economic impact across the region. Bottlenecks in food supply chains and transportation, as well as import and export restrictions of key staples within South Asia, contributed to higher food prices in the second and third quarter of 2020, although fortunately the effect was subsequently offset by strong agricultural production and lower fuel prices. Many micro firms in the informal sectors were not covered by relief measures. For a full recovery, these inequalities and vulnerabilities

must be addressed. Social insurance systems must become more universal and a better integration of informal workers into the economy is needed.

Chapter 2. A Precarious Outlook.

The region is expected to grow by 7.2 percent in 2021 and 4.4 percent in 2022, driven by the firm bounce-back from a very low base in mid-2020 (from a revised GDP decline of 5.4 percent in 2020). Government consumption is expected to rise by 16.7 percent 2021, largely reflecting strong fiscal stimulus in India. Other demand categories are also revised up, as the vaccination drive is expected to improve business activity and spur incomes in contact-intensive sectors. With this revised forecast, per-capita income in the region will revert to its pre-COVID levels before 2022, though the region will have still lost over two years of development as GDP will be around 11 percentage lower than if the epidemic had not occurred. All countries should see gradual declines in poverty over the forecast horizon. At $3.20 a day, the poverty rate in the region is forecasted to fall to a range of between 37 percent and 42 percent by 2022, down from a 42-47 percent range in 2020.

Real GDP growth in South Asia to resume in 2021

	Fiscal year basis				
		2019	**2020(e)**	**2021(f)**	**2022(f)**
South Asia		4.3	-5.4	7.2	4.4
Calendar year basis					
Afghanistan	December to December	3.9	-1.9	1.0	2.6
Maldives	January to December	7.0	-28.0	17.1	11.5
Sri Lanka	January to December	2.3	-3.6	3.4	2.0
Fiscal year basis		**FY2020/21**	**FY2021/22**	**FY2022/23**	**FY2023/24**
India *	April to March	-8.5	10.1	5.8	6.5
		FY2019/20	**FY2020/21**	**FY2021/22**	**FY2022/23**
Bangladesh	July to June	2.4	3.6	5.1	6.2
Bhutan	July to June	-0.8	-1.8	2.9	4.5
Nepal	mid-July to mid-July	-1.9	2.7	3.9	5.1
Pakistan	July to June	-1.5	1.3	2.0	3.4

* 2020(e) column shows April 2021-March 2022

Note: To estimate regional aggregates in 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, for which quarterly GDP data are not available. (e)=estimate,

All countries have seen a decline in fiscal space—of almost 5 percent for the region--although the magnitude of the problem differs by country. Debt sustainability is at risk as some countries have become more vulnerable to external shocks, particularly Afghanistan, Maldives, and Sri Lanka. However, this challenge is not unique to South Asia. The current distress is the result of pro-

cyclical fiscal policy in the past, which means the countries in the region were less prepared with fiscal buffers for this crisis.

As countries are facing a health crisis, climate-change threats, and an unfolding education crisis, expenditure needs to be prioritized; the composition and quality of total expenditure will matter even more than in the past. Research shows that investing in education and skills has strong lifetime and intergenerational benefits. Improved technologies could help to improve revenue mobilization if embedded in tax reforms. The crisis does present an opportunity for countries to shift their policy priorities and make their institutions more resilient to steer South Asia into a new, better normal.

Chapter 3. South Asia Vaccinates.

Vaccination against COVID-19 saves lives and livelihoods. While a lockdown also saves lives, it does so at the cost of livelihoods. With vaccines, there is no tradeoff. If vaccines could have prevented the pandemic, then at least 178 thousand lives would have been saved in South Asia and a cumulated loss of 23.8 percent of GDP would have been prevented in 2020 and 2021. This chapter estimates, with a considerable uncertainty margin, that the current vaccination campaign in South Asia will prevent a cumulated 10 percent GDP loss in the years 2022 and beyond. The cost of the vaccination campaign in South Asia would be up to 0.55% of GDP in the region. So, apart from the positive health impacts, the economic benefits of vaccination are a large multiple of the economic cost.

Despite this positive cost-benefit calculation, a desirable level of vaccination is not easily achieved. Governments might have insufficient resources and charging for the vaccine is difficult because individuals might prefer to free ride on the vaccination of others rather than pay. Moreover, strong international coordination is required because eradication of COVID-19 is a global public good. The recent competition among countries might have been useful because advanced market commitments and other incentives have accelerated the development and production of multiple vaccines. But ultimately a strong global facility is needed to centrally buy vaccines and provide these for free to countries with insufficient resources, which means a further strengthening of the COVAX facility. The international community should also give high priority to developing vaccines with general application to all coronaviruses or perfecting vaccines against known diseases with potential for becoming pandemics, as suggested by Koff and Berkley (2021). It also is important to build excess capacity of vaccine production.

But even with international funding of the vaccines, putting the vaccine in the arms of all people is a momentous task for the countries in South Asia. The countries have done an admirable job thus far, but their resources are limited. Public expenditure on health care in South Asia is a mere 2 percent of GDP, lower than the percentage in all other regions in the world, including sub-Saharan Africa. Moreover, the tax base is very low in South Asia, making it difficult to recoup additional expenditure. It is critical to strengthen delivery systems, with cold chains being an important part of these, required to reach the entirety of a country's population. The pandemic has also underscored the importance of preventive and primary care to reduce comorbidities.

A shift toward more preventive care can make the health care system more equitable. The current pandemic has revealed the vulnerability of the poor. The poor have less opportunity to socially distance themselves, have less access to sanitation and health care and have more comorbidities that are uncontrolled. Therefore, the poor have most to gain from a broad expansion of preventive and primary care. During a pandemic, prioritizing groups in a vaccination campaign will always be difficult. But simple rules work best, and the general principle is that priority should be given to the most vulnerable, both from a health and economic perspective. In the current crisis the elderly are most vulnerable from a health perspective, and (essential) workers whose job makes it impossible to adhere to social distancing are most vulnerable from an economic perspective.

Chapter 1

An incomplete recovery

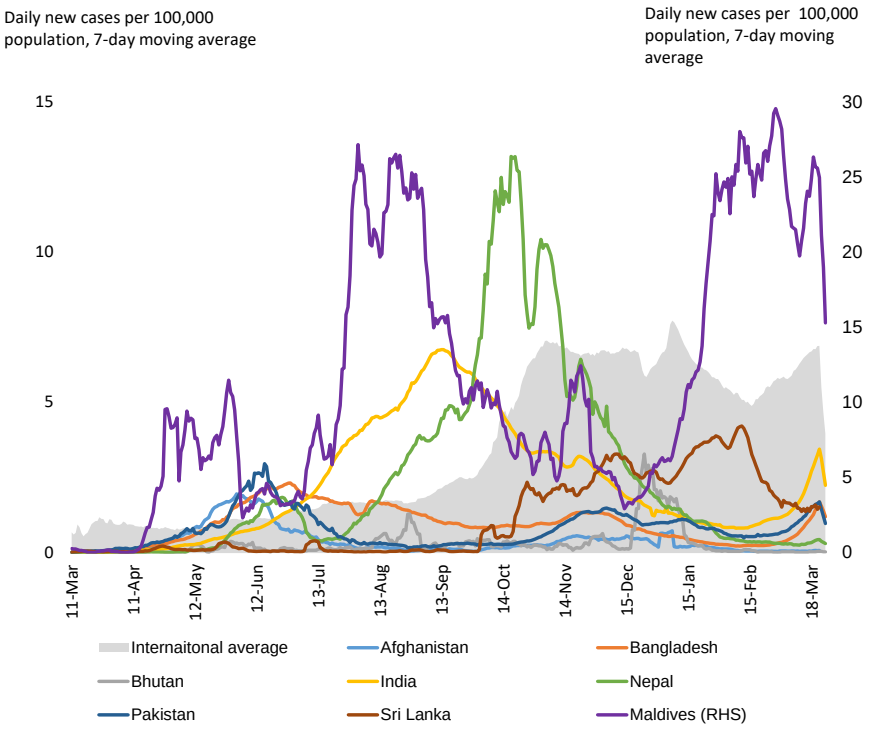
South Asia has been recovering from the COVID-19 crisis. The daily COVID-19 caseload has come down as the region has started vaccination programs and transitioned from widespread lockdowns to more targeted interventions. High-frequency economic activity indicators suggest a recovery, but it is in fragile territory. Economic activity is still far below pre-pandemic growth path levels. The crisis has exacerbated inequalities and vulnerabilities. Food inflation is high due to supply bottlenecks and restrictions.

The chapter is organized as follows. Section 1.1 looks back at the battle with the health crisis and how South Asian nations fared compared to other countries. Section 1.2 assesses what we know about the recovery using a diversity of indicators and official statistics. Section 1.3 discusses remittance inflows, which are crucial for many households, and whether they increased. Section 1.4 looks at headline inflation and the combination of monetary and fiscal policies: while activity indicators point to a clear recovery, other underlying trends are harder to pin down at this stage. Section 1.5 discusses disparities that became evident during the crisis.

1.1 Signs of a recovery

South Asia's battle with COVID-19 has come with starts and stops, but very recent data show the number of reported cases is slowing. As of March 25, over 13.52 million total COVID-19 infections have been reported, which is equivalent to an average of 7,285 cases per million people, below the global average caseload of 16,908 per million people. Reported new cases in South Asia in the 15 days ending March 23 averaged seven per million population, comfortably below the global average of 46.5 per million and the threshold of 10 per million population—considered a low-risk level of contagion for a given locality (Johns Hopkins University et al. 2021)—and significantly below peak levels (Figure 1.1). Though Maldives has a higher reading than its neighbors, it conducts the highest number of tests per capita in South Asia. Thus, reported cases are likely closer to the true infection rate than in other countries. The volatility across time also reflects the small size of the country of about half a million people.

Figure 1.1. Except for Maldives, all countries below international average



Note: Seven day moving averages. Last observation is March 25, 2021.

Source: Our World in Data

The public health authorities of most South Asian countries have taken a targeted and informed approach across localities. Most have heeded best international practices (for example, requiring masks, continuing targeted public information campaigns, enforcing quarantines, expanding testing, and using technology for contact tracing). However, re-openings took place despite ongoing transmission, given the impact on livelihoods, particularly in Bangladesh, Pakistan, and India. Now the work of rebuilding amid the start-up of vaccination programs presents new challenges for governments and private sector leaders alike (Chapter 3). With India taking the regional lead in vaccine distribution and the region securing some vaccines, there is some optimism that the worst of the health crisis might be behind them, and the recovery phase has begun. Maldives, with the hardest hit economy, struggled to quell multiple surges of COVID-19 in the past year. Its vaccination program began February 1, and as of March 25, at least half of the population had received the first vaccine shot. The country is on schedule to fully vaccinate its population by August 2021. Other countries have secured vaccines from China, India, and the COVAX facility. Still, it will likely take until end-2022 at the current pace to have more than 70 percent of the South Asian population over age 15 vaccinated—the amount that epidemiologists suggest would be sufficient to break the chain of transmission to reach herd immunity.

Table 1.1: COVID-19 pace of vaccination and procurement in South Asia varies widely

Country	Persons vaccinated as of March 23		Date at which expected to reach 70 percent of population	Secured number of vaccinations as of mid-March
	Number	Percent of population		
Afghanistan	34	0.1	Unknown	On February 8, Afghanistan received 500,000 doses from India and 468,000 doses under COVAX.
Bangladesh	4,580	2.6	Unknown	Serum Institute allocated 30 million doses and received 7 million doses. The government of India received and allocated 2 million doses, and COVAX allocated 10.9 million doses
Bhutan	0	0	Projected by end-2021	Received 550,000 doses as of March 22 and is expecting to receive 40,000 from COVAX at end-March. Enough supply has been allocated to vaccinate 75 percent of the population.
India	39,340	2.7	Unknown	Targeting 100 percent coverage of population and has secured vaccines from COVAX, Novavax, AstraZeneca and Gamaleya in coordination with Serum Institute
Maldives	223	52	Projected by August 2021	Approximately half a million doses secured: 200,000 COVISHIELD doses donated by Government of India; 200,000 Sinopharm committed; 5,000 Sinopharm private donation; 108,000 COVISHIELD and 5,850 Pfizer vaccine COVAX facility. 300,000 doses of COVISHIELD and 700,000 of AstraZeneca will be purchased.
Nepal	1,634	5.4	Unknown	Planning to target vaccination of over 70 percent of population.
Pakistan	304	0.1	Unknown	Began allowing private import and sale of vaccines, received its first shipment of 50,000 Sputnik vaccines end-March imported privately.
Sri Lanka	784	3.6	Unknown	Ordered 1.5 million Oxford/AstraZeneca doses from Serum Institute of India and 8.5 million are in discussion.
South Asia	46,899	2.4		

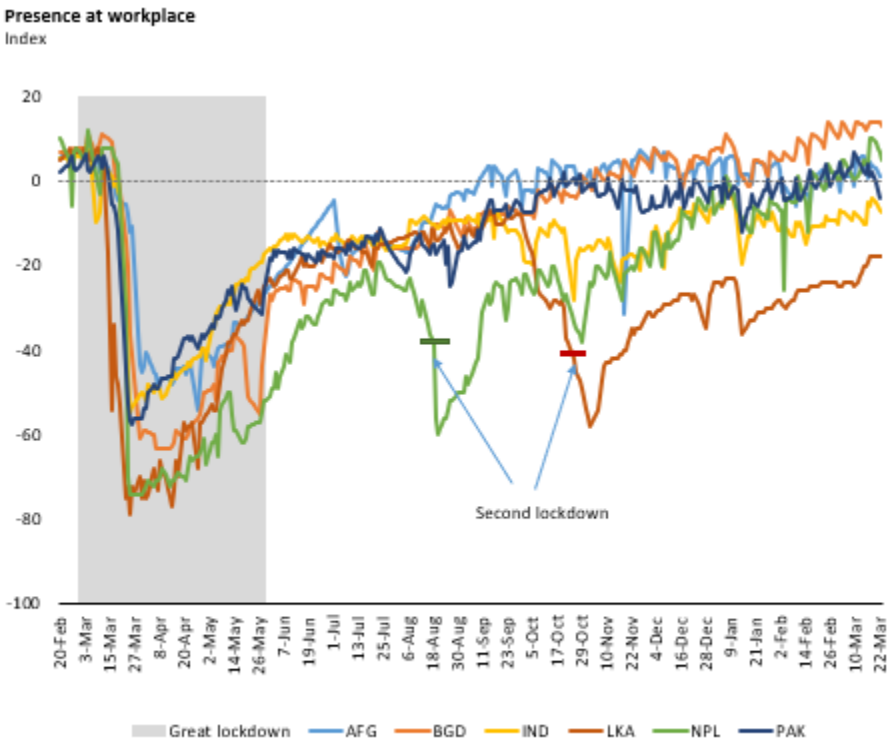
Note: The situation is evolving rapidly as new vaccines get approved and contracts solidified. Number refers to at least one dosage administered (all vaccines procured so far in South Asia require two doses).

Source: Authors based on country public health authorities, Our World in Data.

Amid declining average daily reported COVID caseloads, the economic recovery that started in the third quarter of 2020 has continued steadily, albeit at a slightly slower pace as base effects erode. The region is almost at its pre-COVID levels according to some activity indicators (section 1.2). India, Pakistan, and Bangladesh broke the link between virus proliferation and mobility much earlier and more successfully than many countries in the world. Rising mobility and normalizing economic activity in India, rather than sparking another wave of infections, coincided with COVID cases and deaths falling by 80 percent since their September peak. However, since mid-March, all three countries are experiencing surges in cases, which may require new restrictions. As a result, the Indian government is calling for an acceleration of the vaccination program. Other than selected curfews imposed to quell second infection waves in key affected localities in Nepal (starting in August) and Sri Lanka (starting in October), most countries

have seen the mobility indicator "presence in the workplace"—an indicator of the resumption of economic activity—revert to pre-COVID levels (Figure 1.2).[1]

Figure 1.2. South Asians mostly heeded lockdown restrictions, and activity mostly recovered by end-2020.



Note: The decline refers to the change of visits and length of stay, compared to a baseline period. The baseline period is defined as the median value for the corresponding day of the week, during the 5-week period from January 3 to February 6. Holidays and weekends are linearly interpolated. For Afghanistan, data from May 19 to July 2 is missing.
Source: Google COVID-19 Community Mobility Reports

As in other regions of the world, South Asians have mostly heeded restrictions. Globally, there is a strong negative association between mobility in the workplace two weeks after the imposition of restrictions and the stringency index (World Bank, 2020a).[2] Moreover, in a global sample, mobility remained low for some time after restrictions were relaxed, suggesting that social interaction would not quickly revert when restrictions loosened if people were still fearful of contagion (World Bank, 2021a). But the Google mobility indicator, showing "presence in the

[1] Mobility in the workplace indicates the change in visits to places defined as workplaces by mobile phone users (as compiled by Google). Data compares to pre-pandemic levels of January-February 2020.
[2] The stringency index is based on a tracker compiled by Oxford University's Blavatnik School of Government, which provides a systematic way to track the stringency of government responses to COVID-19 across countries and time.

workplace," improved significantly in mid-2020 in South Asia (Figure 1.2), as the majority of South Asians cannot work remotely from home (Barnett-Howell et al. 2020). Mobility took a dip in Nepal, Sri Lanka, and in India, to some extent, precisely when curfews and mobility restrictions were imposed.

Nonetheless, the level of stringency was significantly higher in South Asia on average than globally. The average stringency score in South Asia (with a maximum of 100) was 71 between March 2020 and March 2021, compared to a global average of 66 (Hale et al., 2020). India imposed perhaps the strictest two-month lockdown in the world in March-April 2020, and other countries in the region followed suit. In the third quarter of 2020, the approaches began to differ. States opened up at different rates.[3] Provinces and regions in Pakistan took a diversity of approaches, including on whether children could return to school. Nepal and Sri Lanka imposed curfews and quarantines only in localities with case surges (around Kathmandu valley, Pokhara, and other areas in Nepal and in places around Colombo and Gampaha in Sri Lanka). Even for countries where cases have been low for a while, restrictions remain in place. Bhutan imposed strict lockdowns, with its first locally transmitted wave of COVID-19 through strict lockdowns in August-September (when one locally transmitted case was identified) and December 2020-January 2021. The latter lockdown has since lifted, as cases mostly disappeared.[4] Afghanistan meaningfully reduced stringency levels throughout 2020 (although COVID testing is low). This has led commentators to suggest that restrictions were unnecessarily harsh in South Asia, as discussed below (Vij, 2020, Agarwal, 2020).

However, assessing in hindsight whether the lockdowns were too severe is extremely difficult, and the uncertainty was even higher at the time. At the onset of the pandemic, time was needed to prepare the health care response. The global scientific community did not understand exactly how SARS-COVID-19 spread: it was believed that contagion was mainly transmitted through contact with surfaces where the virus could linger for one to two days. Later research established that it was mostly spread through respiratory droplets (WHO 2020, CDC 2020, New York Times, 2020[5]). This meant public health officials initially lacked the information to respond optimally. A lack of broad random testing for COVID-19 infection and antibodies meant scientists knew little about the prevalence of asymptomatic cases, and even immunity levels among specific populations in South Asia. Moreover, uncertainty about whether the virus could be more deadly, or conversely, that it could be defeated in a manner of weeks, meant that erring on the risk-averse side in March 2020 was prudent. The region also has an inadequate health

[3] The Indian state of Kerala, for example, has a very low caseload and was able to open for business faster from the great lockdown. However, Kerala then received returning migrants from oil-producing countries in June 2020, which worsened its caseload significantly.

[4] Restrictions on travel across regions within Bhutan remain: the seven-day mandatory quarantine for those travelling from high-risk to low-risk areas, implemented after the first nationwide lockdown in August, was kept in place.

[5] The CDC suggests that that surface touch is not a major form of COVID transmission, also reported in the New York Times. https://www.cdc.gov/media/releases/2020/s0522-cdc-updates-covid-transmission.html, https://www.nytimes.com/2020/07/08/health/coronavirus-risk-factors.html, https://www.nytimes.com/2020/05/28/well/live/whats-the-risk-of-catching-coronavirus-from-a-surface.html

infrastructure (with the number of hospital beds in 2017 around 0.6 per thousand people compared to 2.9 in the United States), so the governments were concerned that they could not handle mass hospitalizations, had they materialized.

Not all COVID-19 restrictions are created equal

It appears in hindsight that some restrictions were more effective than others, although this is difficult to assess without comparing what would have happened had South Asia not imposed an immediate and strict two-month-long lockdown. Recent studies on the effects of public policies seem to suggest that countries that locked down early—preferably before COVID-19 spread locally—and were more cautious in opening up were ultimately more successful in containing the virus, independent of the level of income (Deb et. al., 2020; Demirgüç-Kunt et al., 2020). They also suggest that some restrictions imposed by governments were more effective than others. For example, masking requirements, prohibiting large gatherings of people indoors, and strict quarantining of international visitors did help reduce cases because they addressed "vectors of contagion." By contrast, policies prohibiting people from going outside, or the closing of inland transport, were not as effective in reducing the contagion.[6] On the contrary, having people in close quarters may have contributed to inter-household COVID transmission in densely populated South Asia, as suggested by a Mumbai study comparing slums with non-slums (Malani et al., 2020). And many informal workers relied on working outdoors and on public transportation for livelihoods, while physical distancing was hard to strictly enforce in markets and urban hubs in South Asia.

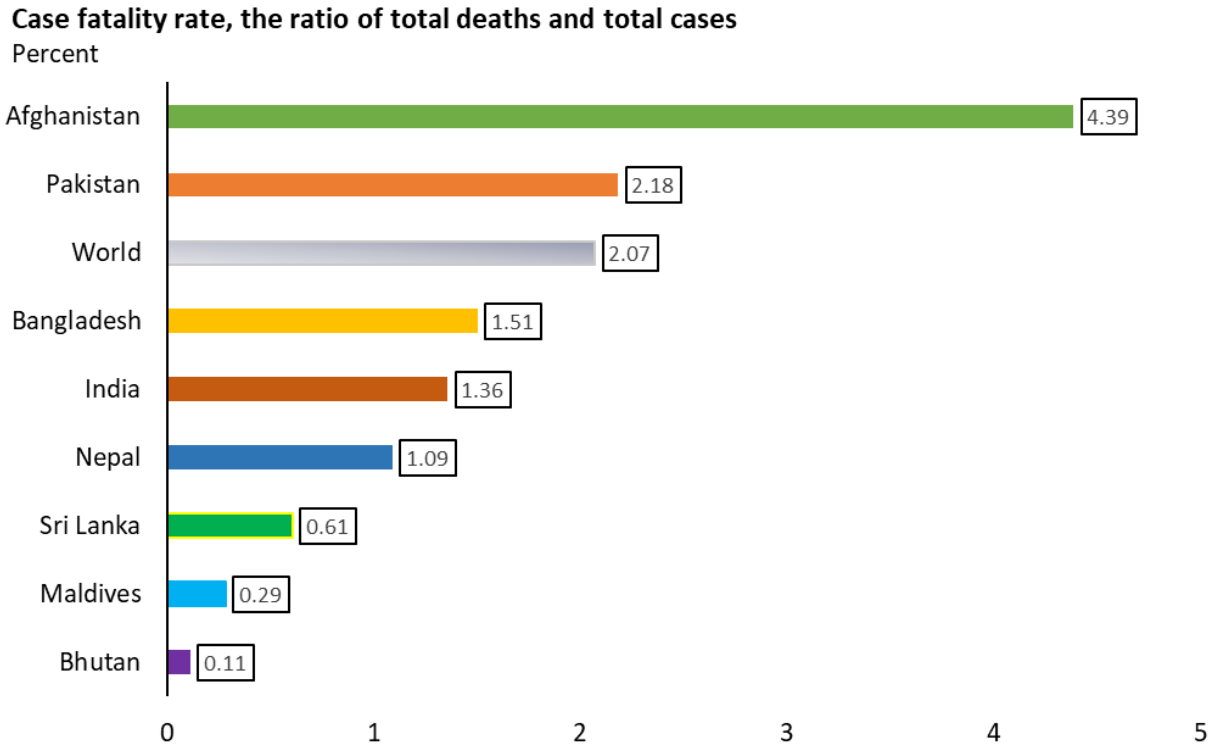
A year into the declaration of the pandemic, death rates are lower in South Asia than in other regions. The fatality/case ratios across regional countries are significantly below the world average—except for Afghanistan, which is at the global average, and Pakistan, with a recent surge (Figure 1.3). As in other regions, it is highly likely that actual COVID-19 cases are higher than reported cases, but the overall fatality/case ratio was lower than in other regions. Had death rates been grossly unreported, there would have been overburdening hospitalization rates and overwhelmed mortuaries, but such a situation has not been reported on a massive scale (Chan SOPH, 2020). Indeed, as testing for COVID has become more available and health experts have learned more, reported cases are now likely closer to actual cases, as compared to March 2020. Moreover, If the seroprevalence rate in the region is close to 50 percent, as some localized studies in India suggest (Chan SOPH, 2020), then the *actual* fatality/case ratio may be even lower than reported.[7] This is also consistent with new evidence that countries with higher shares of adults

[6] The closing of transport in South Asia (which affected all transport, including freight) had direct negative effects. Many of the bottlenecks in the food supply chain and the ensuing food inflation were attributed to delays in transport and the local responses, namely, food export restrictions.

[7] The lower fatality rates in South Asia during the lockdown may be partially explained by the reduction in morbidity rates from other causes when lockdown restrictions came through, such as traffic accidents, pollution, etc. India lost over 150,000 to road crashes (including pedestrians) in 2019 (Gadepalli, 2021). This is slightly less than the almost 161,000 lives lost from COVID-19 in 2020 in India. Pollution also contributes to more respiratory diseases. Zivin et. al. (2021) finds that a 10 percent improvement in the air quality index in the United States led to a 15 percent drop in hospitalization from influenza. Though there is

over 65 or high shares of obesity have significantly higher death rates from COVID-19, all else being equal. South Asia has neither.

Figure 1.3. Except for Afghanistan and Pakistan, South Asian countries have significantly lower than average fatality-to-case ratios.



Note: Data as of March 25, 2021

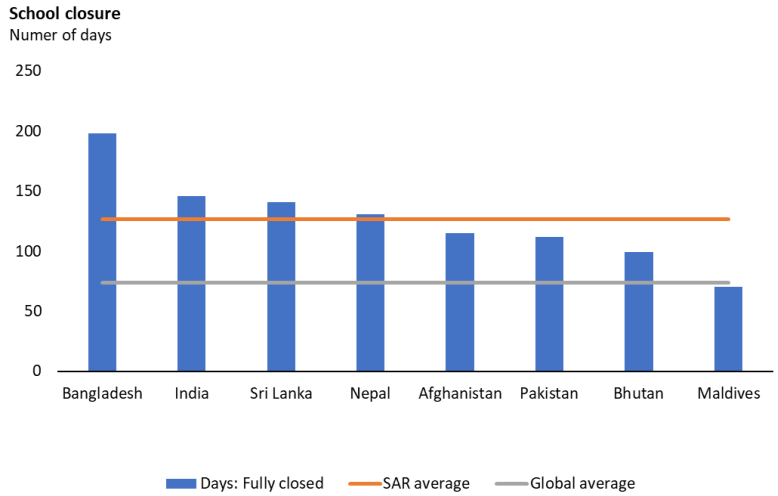
Source: Our World In Data

School closures are one restriction with a negative effect on human capital that will not be evident for years to come. School closures kept 391 million students out of school in South Asia. An estimated 5.5 million students are likely to drop out altogether due to COVID-related income losses, which is over half of all the estimated dropouts globally (Acevedo et al., 2020). Many probably left school to help families with lost income. School closures, on average, have been maintained for longer compared to the global average (Figure 1.4), despite findings that children, in general, have low caseloads and insignificant death rates from the virus. Among the differences across countries: schools in Maldives and Pakistan were kept mostly open, while Pakistan's approach to school closures varied across provinces and changed during the year. Schools in India received national guidelines for states to decide, but a national directive for the opening of

no comparable study for South Asia, air quality in urban areas is typically worse than in the United States, on average.

schools and colleges for non-virtual learning only came in January 2021. The consequent loss of skills will reduce the productive capacity of the economies in the region for years to come.

Figure 1.4. South Asia's policies on school closures were significantly stricter than the global average following the pandemic.



Note: Schools are considered fully closed when the closures affect most or all of the schoolchildren enrolled at pre-primary, primary, and lower and upper secondary levels. The numbers are calculated based on the period between March 11, 2020 and February 2, 2021.

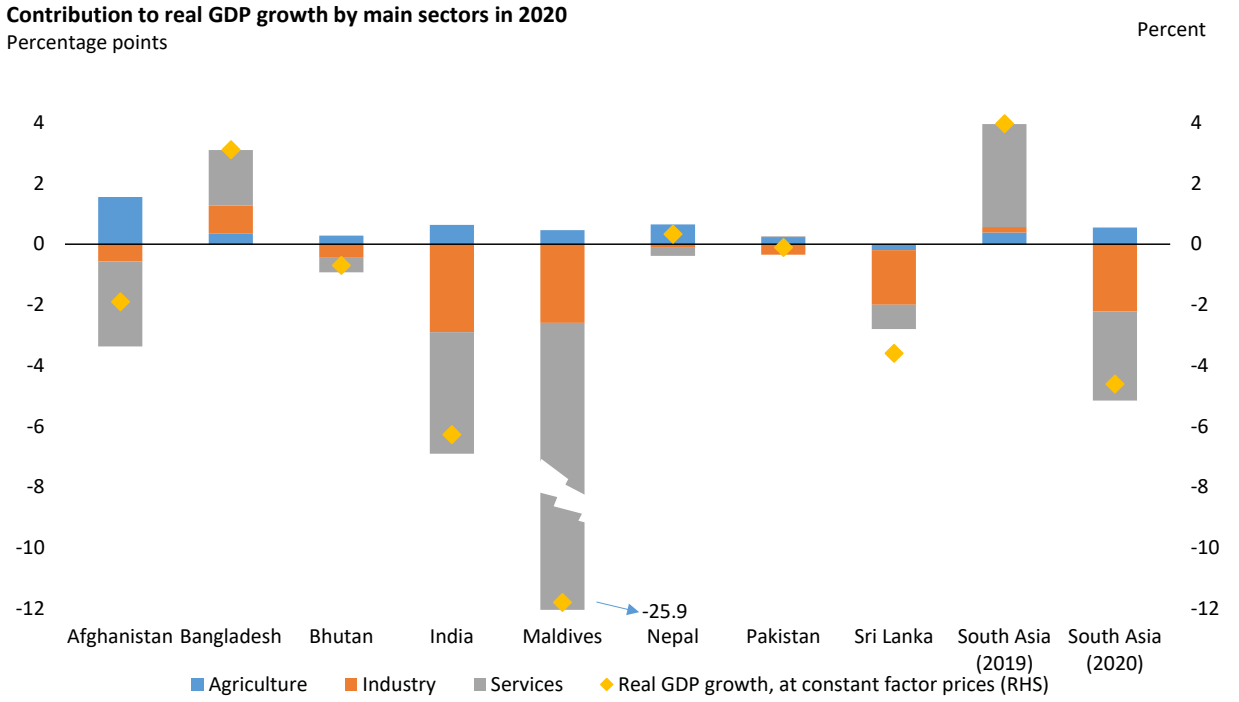
Source: UNESCO. 2020. Global monitoring of school closures caused by COVID-19.

1.2 GDP estimates and high-frequency economic indicators suggest economic recovery

GDP estimates based on preliminary data for 2020 for most countries confirm the unprecedented impact of the crisis on GDP growth. In 2019, GDP in the region grew by 4.3 percent, and fell by 5.4 percent in 2020. Though all sectors grew on the supply side, the services sector contributed to the bulk of growth. In 2020, only agricultural production grew, while industry and services contributed -2.2 percent and -2.9 percent, respectively, to the historic 4.6 percent GDP decline (Figure 1.5). On the demand side, both consumption and investment contributed to the decline roughly equally. However, the steep drop in the contribution of consumption—mirroring the deep effect on livelihoods—makes this recession unique. Net exports in 2020 contributed positively to GDP growth, as import demand fell faster than export demand from abroad. This GDP growth estimate for 2020 reflects a 1.3 percentage point upward revision from the January 2021 estimate of -6.7 percent, as recovery was faster than expected at the end of the year.

The decline was steepest in services, so GDP fell sharply in India's services sector and in tourist-dependent Maldives. Figure 1.5 shows the growth rates and contribution estimates converted to calendar year for comparison purposes. Services typically make the largest contribution to GDP growth given their large share, but in 2020 contributed negatively in all countries except for Bangladesh. The halting of manufacturing activity in Q2 2020 is reflected in the sharp fall of industrial production, though it also recovered the fastest (see below). Agricultural production grew in all countries except Sri Lanka; the 5.6 percent growth in Afghanistan despite trading bottlenecks cushioned the almost 5 percent decline in services. Bangladesh saw growth in all sectors, though manufacturing exports did see a decline in the second quarter of 2020. In contrast, Maldives suffered an estimated 25.9 percent decline in GDP measured at factor cost, as tourism was shut down for three months and construction projects were interrupted.

Figure 1.5. Both industry and service sector declines contributed to the GDP decline on the supply side

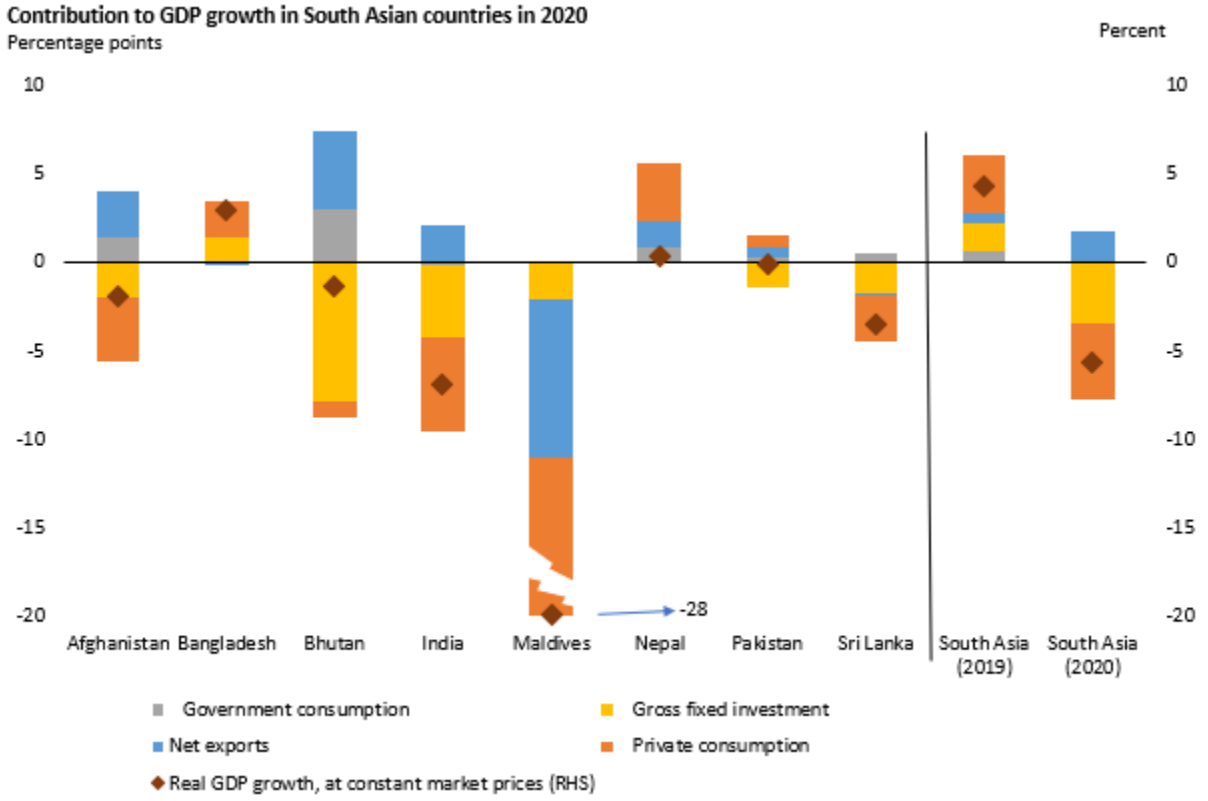


Note: - Except India, for which real GDP growth refers to global value-added at basic price, data represent real GDP growth at factor price for South Asian countries. Data are converted to calendar year at a country level and regional level.
Source: World Bank and staff calculations

On the demand side, both consumption and investment contributed negatively to growth (Figure 1.6). India, Sri Lanka, Afghanistan, and Maldives saw a decline in private consumption. In Maldives, consumption by tourists was partly reported as domestic consumption. In India, the depth of the lockdown led to households reducing consumption levels. Though the government responded through various cash transfers and loans aimed at saving livelihoods, in the end, government consumption also fell by 1.3 percent in CY2020. Government consumption for the region was flat, largely reflecting the fall in India, though it contributed positively to growth in

Afghanistan, Bhutan, and Nepal. Net exports contributed positively, though not significantly, to growth in all countries but Maldives, where the collapse in tourism exports more than compensated for import declines. However, except for Bhutan (where the improvement in net exports reflected new hydropower production capacity brought online at end-2019), it reflected import demand for both consumption and intermediate goods falling faster than exports.

Figure: 1.6. With some exceptions, both consumption and investment contributed negatively to GDP growth in 2020.



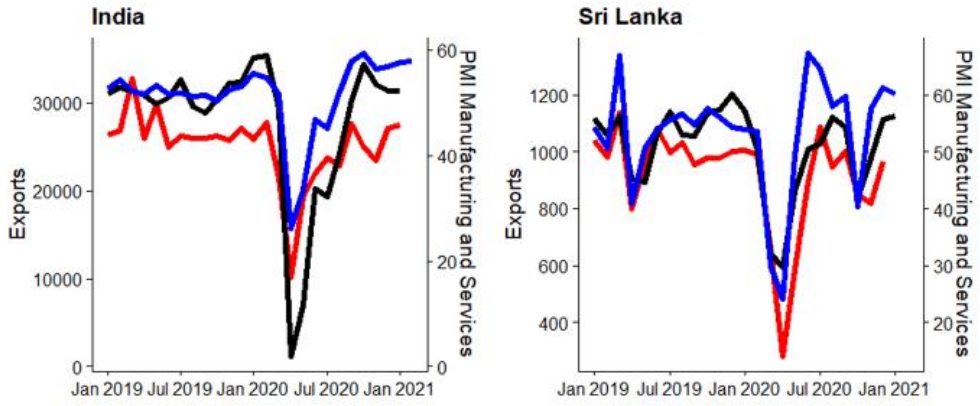
Note: South Asia aggregates and country-level estimates are converted to calendar year. The value of stacked bars does not exactly sum to GDP growth due to inventory changes and statistical discrepancies.
Source: World Bank and staff calculations

The 2020 GDP estimates only provide a partial picture of the turning points of the crisis. GDP numbers are still partial estimates in four of the eight South Asian countries where annual national accounts figures become available in mid-2021 (when their fiscal year ends). Unlike national accounts, evidence from short-term indicators is available sooner—at a higher frequency—which allows for a fuller picture of the economic impact of the pandemic. High-frequency data and non-traditional economic indicators show India, Sri Lanka, Nepal, and Maldives gaining growth momentum since end-2020, creating a fuller picture of the extent and breadth of the recovery.

With economic activity bouncing back, manufacturing is leading the recovery. The Purchasing Manager's Indices (PMI) available for India and Sri Lanka provide a good idea of this situation for sales in the leading sectors of the economies (Figure 1.7).[8] In both cases, the sharp falls were historic: India's services suffered a much larger impact than manufacturing did, but manufacturing recovered faster toward the end of the year. Both sectors have been in an expansion phase for at least six months in India. For Sri Lanka, the initial fall was similar for services and manufacturing, but manufacturing expanded faster (except for the impact of the strict October lockdown with curfews, which temporarily affected all activities). Merchandise exports in both countries mirror closely the manufacturing PMI, with possibly a one-month lag. These dynamics are most likely due to manufacturing activity being linked to the strong recovery in China and the global recovery in goods trade, which show a very similar pattern (World Bank, 2021).

Figure 1.7. Services suffered more in 2020, manufacturing leads in the recovery

Total export and Purchasing Manager's Index (PMI)



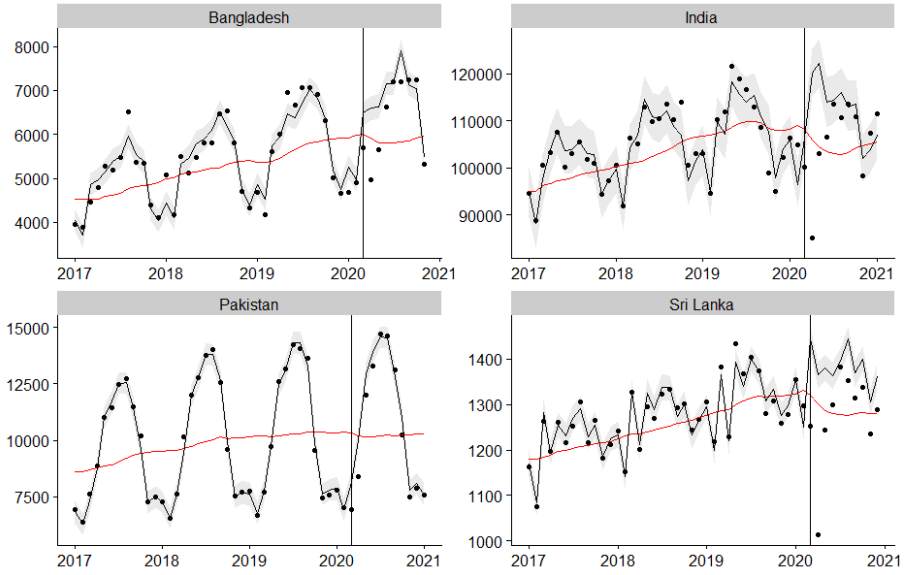
Note: The PMI indices vary between 0 and 100, with 50.0 representing no change on the previous month. Readings above 50.0 signal an improvement or increase on the previous month, while readings below 50.0 signal a deterioration or decrease on the previous month. The greater the divergence from 50.0 the greater the rate of change signaled. Purchasing managers form a near-ideal survey sample base, having access to information often denied to many other managers. Due to the nature of their job function, purchasing managers are among the first to know when trading conditions, and therefore company performance, change for the better or worse.
Source: CEIC

Electricity consumption, another indicator strongly related to overall economic activity, can also provide some clues about the recovery's strength. Electricity is used as input into activities throughout the economy, from industrial production to commercial and residential activity (though consumption for residential use likely changed much less during the lockdown compared to other uses). Its strong relationship with other high-frequency indicators and short lag time makes it an ideal real-time indicator of economic activity. Figure 1.8 keeps track of the electricity dynamics and compares the actual level (dots) with the predicted level (black line). Electricity consumption fell in the four countries in March and April 2020 following the national lockdowns. The red line shows the trend (12-month moving average) of the series given the strong seasonality throughout the year in electricity consumption. Electricity consumption in India (available on a

[8] The services component of PMI includes several subsectors that tend to have more formal workers than subsectors not included. The declines for the subsectors, were -9.5 percent (finance), -9.6 percent (public administration, and -47.3 (trade, hotels, transport, and others).

daily basis) started to slow down slightly at the end-2019 before the pandemic hit. Moreover, while the series follows seasonal cyclical patterns, it has become more volatile in 2021. This suggests that while the economy is recovering it is still adjusting, and the situation is precarious. Demand decline relative to the pre-COVID trend is, for the most part, evenly spread between the three sectors of industry, services, and residential, although the services sector is more impacted than the industry sector (Spencer, 2020).

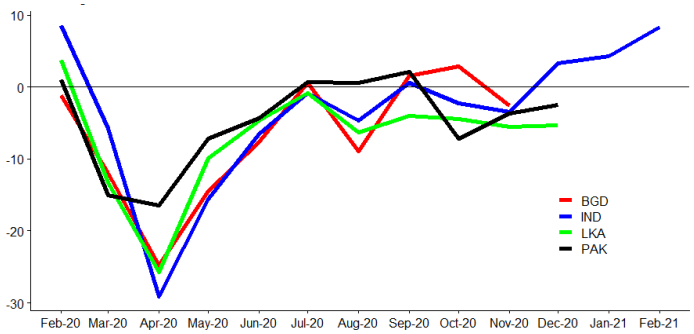
Figure 1.8. Electricity dynamics in major South Asian markets suggest the recovery is almost consolidated.



Source: Franco-Bedoya (2021)
Note: Dots denote actual values and the black line shows the model predictions (See Appendix 1.1 for details on the modeling strategy). The shaded area represents the confidence intervals. The red solid line is the 12-month moving average, capturing the trend. The model is trained with data until December 2019. We use monthly frequency data. The vertical line denotes the start of the great lockdown.

Figure 1.9. Deviations in electricity in South Asia

Percentage deviations from the model



Source: Franco-Bedoya (2021)
Note: Figure shows the percent difference between the predicted and actual levels in Figure 1.8. The predictions are based on data before January 2020. The deviations are estimated from a model that uses monthly data and the Prophet algorithm, as done in Franco-Bedoya (2021). The deviations are the difference between the monthly forecast for 2020 and the actual data. See Appendix 1.1 for details.

Estimated deviations from pre-COVID forecasts of electricity demand suggest that economic activity for the four largest South Asian economies is close to pre-COVID levels (Figure 1.9). The deviation of actual electricity consumption from predicted levels (i.e., modeled predictions using the methodology described in Appendix 1.1 and Franco-Bedoya, 2021) is a good proxy for measuring the economic drag due to the COVID-19 pandemic, and the extent of recovery. As the figure shows, in March, electricity demand in four South Asian countries was already between 5 and 10 percent below expected levels. In April, the shortfall was between 15 and 30 percent. Electricity consumption then fell between 25 and 30 percent below expected levels in Bangladesh, India, and Sri Lanka in April 2020 when travel restrictions took effect and countries enacted domestic containment measures, though much less in Pakistan (where approaches to containment measures varied across provincial governments). The decline reached a trough around mid-2020. The speed of the recovery has notably slowed since, especially for Sri Lanka, consistent with the slight PMI reversal in Q4 2020 seen in Figure 1.7, and Bangladesh with its large textile and garments factory capacity.[9] Pakistan had a second short-lived flare-up of COVID-19 cases at end-October which led to temporary restrictions. For India, electricity consumption data is available until February 2021, and the deviation measure suggests economic activity reached the pre-COVID level at the end of 2020 and has continued to expand. This is partly due to the relatively low level of electricity consumption in India at the end of 2019.

Given the lag in publication of GDP numbers, nowcasting quarterly economic indicators for countries with quarterly national accounts also provides more up-to-date information. The co-movements with GDP growth have not yet been established for all high-frequency variables. This relationship cannot always be properly estimated statistically when the time period for some high-frequency indicators is too short. For this reason, we built a quarterly activity indicator by combining information from different high-frequency variables for four countries with quarterly GDP data: India, Sri Lanka, Maldives, and Nepal. We use a LASSO model to select the most relevant economic activity variables (covering a reasonably long time-period) in each country as in World Bank (2020a). The method produces a lead indicator of GDP for the immediate period before it is officially published.

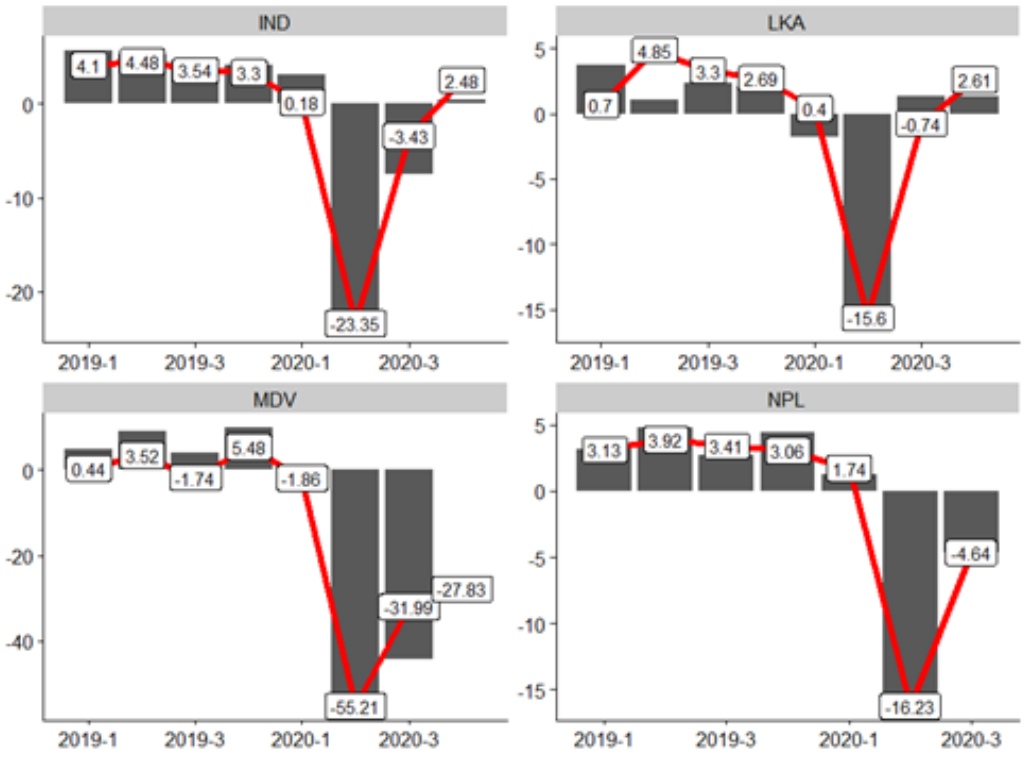
The results suggest countries are at different stages of the recovery. Figure 1.10 shows how the LASSO indicator keeps track of the steep drop in output and year-on-year contraction in the second quarter of 2020 in all countries. The bars show actual growth estimates consistent with the annual data presented above. The decline was the largest in Maldives where tourism came to an abrupt standstill10. In India, the contraction of the LASSO Indicator was 23.4 percent, nearly identical to the fall in officially reported GDP, though it over-predicts growth in the last quarters of CY2020. In Sri Lanka, the LASSO Quarterly Economic Indicator fell by 15.6 percent in Q2, then recovered to reach 2.6 percent year-on-year growth in the fourth quarter. This suggests that manufacturing and agricultural growth offset a sluggish recovery in services and other effects

[9] Bangladesh textile and garments exports to advanced economies experienced a rebound in the third quarter of last year, but the recovery stalled following a resurgence of COVID-19 infections in major destination markets such as the United States and European Union. About 80 percent of Bangladesh exports are in textiles and garments.

from COVID-related curfew restrictions in the fourth quarter. In Nepal, with data available for Q3 2020, the LASSO procedure confirms that the economy was still in negative territory in the third quarter of CY2020. Air transport in Nepal was already restricted or canceled by February 2020, and this may have already led to lower GDP growth in Nepal as early as Q1 2020. Overall, the procedure performs relatively well, which gives us confidence in the accuracy of the nowcast for the fourth quarter of 2020, with India growing, Sri Lanka consolidating the recovery and Maldives still in negative territory.

Figure 1.10. Quarterly Indicators suggest all countries started recovery around the third quarter of 2020

Nowcasting economic Indicators based on LASSO regressions, percent YoY growth (CY)



Note: Data in calendar years. The line denotes the model prediction and bars the actual values. The nowcasting index uses the set of variables that provide the most accurate in-sample forecast to nowcast the current quarter. Nepal data is from the Central Bureau of Statistics "Rebasing of National Accounts Statistics".
Source: CEIC, Nepal's Central Bureau of Statistics, Li, Mercer-Blackman, and Franco-Bedoya (Forthcoming)

For countries where it is not possible to use the LASSO procedure to nowcast GDP, we follow a different method to produce quarterly indicators of activity. We use principal component analysis (PCA) to develop a composite indicator that can trace the turning points and trends in activity indicators—though it is more difficult than with LASSO to make a precise estimate of how large or small the actual change will be. Neither Bangladesh nor Pakistan produce quarterly GDP series, so the selection of indicators in the methodology is based on past annual GDP series. The PCA method uses other high-frequency indicators listed in Table 1.2, such as exports, which may have been related to GDP in the past. Bangladesh and Pakistan show a clear

improvement in economic activity starting in the third quarter. By the beginning of the fourth-quarter, economic activity in both countries seems to have returned to pre-COVID levels. In contrast, Nepal and Sri Lanka were set back somewhat as a result of curfews at the local level in August and October, respectively. Part of this may be due to the importance in their economies of services, such as tourism, which takes a prominent weight in the PCA measure.

Figure 1.11. Economic activity indicators suggest Bangladesh and Pakistan also recovering to pre-COVID levels by Q4 2020

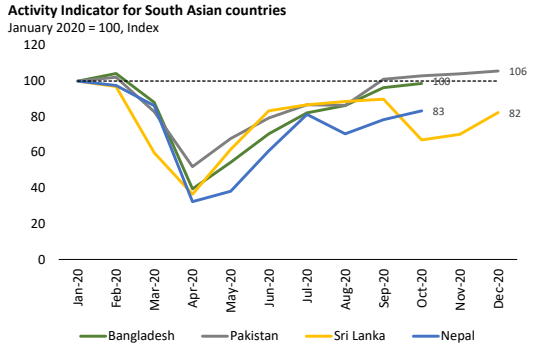


Table 1.2 Indicators selected by the principal component analysis for each country

Variables included in the Activity Economic Indicators			
Bangladesh	Nepal	Pakistan	Sri Lanka
• Google mobility: workplace; retail and recreation; grocery and pharmacy, index (January 2020=100) • Government tax revenue, USD mln • Ready-made garment exports, USD mn • Vehicles imports, LCU, mln	• Google mobility: workplace; retail and recreation; grocery and pharmacy, index (January 2020=100) • Visitor arrivals, person • Exports, USD mln	• Google mobility: workplace; retail and recreation; grocery and pharmacy, index (January 2020=100) • Crude steel production, tonne thousand • Industrial Production, constant 2010 USD, sa • Passenger vehicle sales, unit • Export, LCU, mln	• Industrial Production, constant 2010 USD, sa • Manufacturing PMI, index • Services PMI, index • Tourism receipts, USD mln

Note: Economic Activity Indicator was constructed by using Principle Component Analysis. Variables included in Economic Activity Indicator for South Asian countries was summarized in Table 1.2.
Source: CEIC, Li, Mercer-Blackman, and Franco-Bedoya (Forthcoming), Google mobility report, Oxford COVID-19 Government Response Tracker, United Nations, World Bank.

Despite the usefulness of high-frequency indicators, a more comprehensive view of the recovery is needed to assess its sustainability. In this regard, aggregate indicators and GDP mask the struggles of more vulnerable workers, particularly self-employed workers who produce a relatively small part of value added and exports. For example, most surveys suggest that informal workers are, on average, less productive than formal workers.[10] Still, they are the majority, and there is scant information about their activities and contribution to the economy. GDP growth does not measure a lot of the human and physical capital stocks that were ravaged by the pandemic and are still being affected. (Box 1.1).

[10] In India's manufacturing sector, 99 percent of firms are informal (if the 16 million own-account enterprises are included) and they account for 85 percent of total employment, but produce is 19 percent of total output and accounts for 32 percent of the wage bill. (Bussolo et al., 2020)

Box 1.1 The pandemic has exacerbated the difficulties in measuring GDP in South Asia

South Asian economies face serious challenges in measuring gross national product (the flow of value-added in goods and services produced in a particular time-period), which is the most used single indicator of economic activity and progress. And the pandemic has increased these difficulties.

The pandemic likely resulted in a sharp fall in informal sector incomes for which data are in any event limited. The informal sector accounts for over 85 percent of South Asia's workers, though this estimate itself varies (World Bank 2020a), so a failure to accurately measure the incomes of informal firms and workers can greatly distort estimates of GDP. Informal firms and workers are less likely to maintain or report the data supporting tax administration and business registries, which are used to construct GDP indicators on the production and expenditure side. During the lockdowns, mostly small, informal services suffered the most, and there is no precedent for measuring the extent of the income and consumption losses for these workers (though selected phone surveys can provide some clues, see World Bank 2020b).

The difficulties in estimating the magnitude of transactions in the services sectors may have risen during the pandemic. Services account for more than half of South Asia's GDP and employ about two-thirds of workers but are particularly difficult to measure. In the region, services are typically produced by very small informal firms or by self-employed workers, many in rural areas, and for whom data on output is often lacking.[11] Services are also less likely to be exported or imported (it is easier to keep track of internationally traded goods or services because of customs controls). As a result, proper cross-checking from different sources for consistency when measuring GDP can be elusive. Moreover, the prices of services are difficult to keep track of in general, even more so for services; and in South Asia, prices can vary even within a metropolitan area. And the drastic fall of in-person services during the lockdown likely induced sharp changes in both their prices and volumes, greatly complicating GDP measurement.

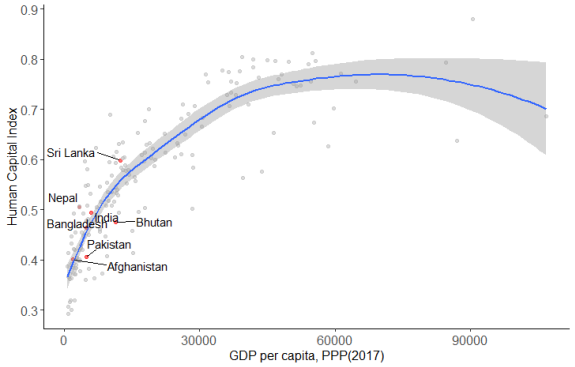
In particular, the greater reliance on digital services during the pandemic, and likely going forward, will impair the accuracy of GDP estimates. Measuring the value of some digital services is problematic. For example, many internet services (e.g., search engines or Facebook) are free, so they produce no value to end-users, according to national accounts rules, (Facebook appears as an advertising firm in the national accounts as that is where it derives most of its revenues).[12] To make matters more complicated, the profit income (valuation) of Facebook comes from the information it has on users, and it will be recorded in the country where its headquarters are located.[13] Hi-tech digital products' prices tend to go down over time, meaning prices are not properly deflated using quality-adjusted "hedonic" pricing. Accordingly, it will erroneously seem

[11] Typically, estimates are arrived at from employment surveys; India conducts an informal sector survey to arrive at a better estimate of GDP; this is a second-best approach.
[12] Since many small firms use the Facebook platform to sell goods in South Asia, it implies zero costs for the user.
[13] This is worsened globally by countries with attractive tax structures (tax havens) where many large business service multinational companies register their headquarters. Many of these firms source software employees from South Asia, particularly India.

that the change in real value added of these hi-tech sectors is barely growing over time. South Asia is increasingly involved in business processing, repair services, local logistics, digital services, etc. Still, there is little understanding of the value of these activities embodied in exported products, let alone full incorporation into the GDP measure. In short, the contribution of digital services to productivity and GDP is rising, but we lack the tools to measure how much.

Perhaps more speculatively, the pandemic resulted in an increase in unpaid work, which is not captured in GDP. The unpaid work involved in taking care of children, family members, or the household, the vast majority of which is performed by women, adds value to society, and contributes to the human capital formation of the children. However, because it is done for "free," and has no market price, it is left out of measurements of GDP. The pandemic likely increased such work, as children who stayed home from school had to be tended to, and fewer activities took place outside the home. These activities, though, will not show up as contributions to output. Moreover, school closures and extended unemployment spells likely led to a significant reduction in human capital, and while there are attempts to value the stock of human capital (see the Human Capital Index produced by the World Bank), these losses are not recorded in GDP estimates. Indeed, South Asia scores relatively low in this indicator despite rapid average GDP growth (Figure 1.12).

Figure 1.12. South Asian countries score low, according to the Human Capital Index, and this index could decline even if GDP growth bounces back.



Source: World Bank, accessed March 20, 2021

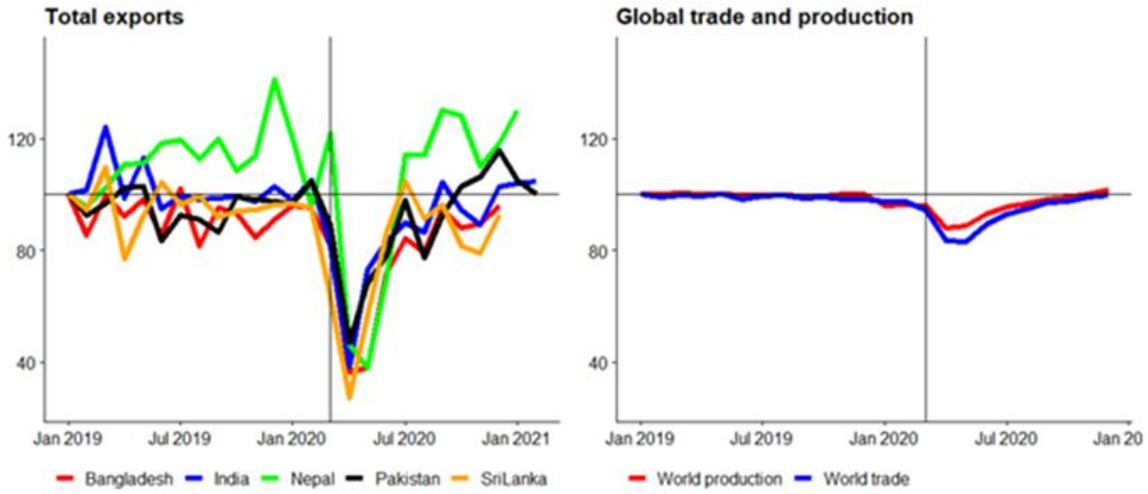
The external sector has already recovered

Trade and investment will be dependent on the global recovery. Exports have begun their recovery, and by October 2020, all countries except Bangladesh and Sri Lanka showed export growth in positive territory (Figure 1.13). In Bangladesh, the garment sector rebounded after the COVID-19 lockdown, as international buyers reinstated orders suspended during the initial crisis. However, exports in the fourth quarter of 2020 and early 2021 have been weak, reflecting below-trend retail sales of apparel in the United States and Europe (Figure 1.13). Pharmaceutical exports in India, Bhutan, and Bangladesh made an important contribution to trade growth, as did agriculture and allied products in India. Bhutan's decline reflects a base effect from 2019's coming onstream of the Mangdechhu hydropower exports. The export recovery mirrors the recovery in

world trade, though the drop was much more drastic in South Asia than globally. Goods' trade volume is close to pre-pandemic levels and seems to be accelerating in 2021. Imports, in contrast, have lagged far behind, improving the trade balance for all countries in the region. This led to a smaller merchandise trade deficit for the region in 2020.

Figure 1.13. South Asian export growth fell much more sharply than global trade but recovered in October in line with global trade and production

January 2019 = 100



Source: CEIC and CPB Economic Policy Analysis.

Unlike other regional countries, foreign direct investment into India accelerated in 2020. As the largest country in the region, India's increase was enough to make South Asia the only major region in the developing world to see an upturn in FDI in 2020 (Figure 1.14). India was the only country in the region to see an increase in FDI during 2020, though from a low base: FDI was equivalent to 1.5 percent of GDP. India is attracting record numbers of deals in IT consulting and digital sectors, including e-commerce platforms, data processing services, and digital payments (UNCTAD, 2021). Much of the increase thus came from mergers and acquisitions and not greenfield investment. Foreign investment in Pakistan was flat in CY2020, while Sri Lanka and Bangladesh saw FDI flows fall (in Bangladesh, this was due to the global demand contraction of manufactured products that it exports (Figure 1.15)).

Figure 1.14. Unlike most regions, FDI into South Asia rose, with the increase reflecting increases in India.

FDI flows, percent change 2019-20

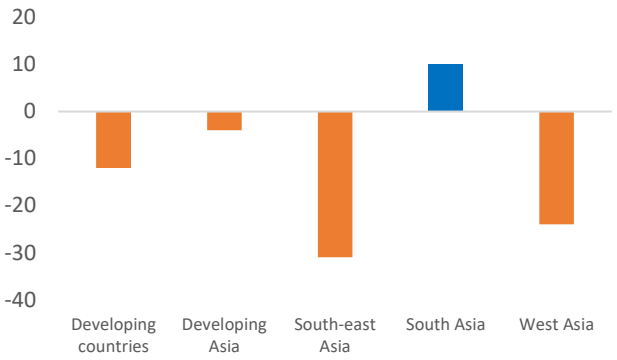
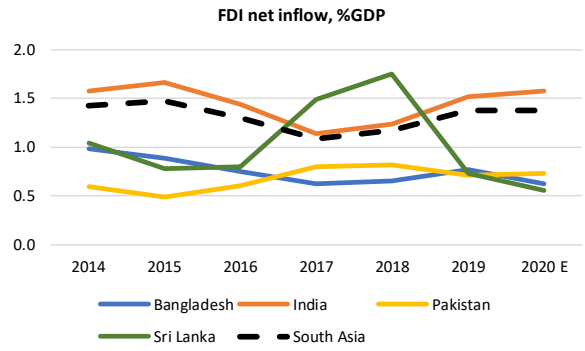


Figure 1.15. As a share of GDP, South Asia's net FDI goes mostly to India.



Note: South Asia excludes Nepal and Bhutan
Source: MPO, World Bank

Source: CEIC, CPB World trade monitor, Haver, World Bank.

As a result, the current account deficits narrowed in all countries except for Maldives, and Afghanistan's surplus rose slightly (Chapter 4). In India, a combination of FDI, capital inflows, and dampened import demand led to net international reserves almost doubling to 17.3 months of imports of goods and services (from an already comfortable 10.7 in 2019). Nepal, Bangladesh, and Bhutan also saw gross international reserves climb to 13.7, 10.6, and 14.9 months of imports, respectively, by December 2020. Pakistan (at 3.3) and Sri Lanka (at 3.6) were just above the three months of imports threshold marking a sufficient external buffer. Sri Lanka's international reserves have been falling, so in early 2021 it instituted foreign exchange restrictions that also contributed to import compression. As discussed below, the balance of payments in all countries benefitted from the strong recorded inflow of remittances.

1.3 Did remittances in South Asia really increase?

Remittance flows are very important for South Asia and seem to have been even more essential during the pandemic. In dollar terms, India received more remittances than any other country in 2019, and Nepal ranks third in the world in terms of remittance receipts as a share of GDP (almost 26.9 percent in 2019, Figure 1.16a). Income from remittances in South Asia grew by 8.8 percent annually over the decade to 2019. Just before the crisis, such income was higher in dollar terms than official development assistance (ODA), net financial flows, and net foreign direct investment combined (Figure 1.16b). Income from remittances is also much less volatile from year to year compared to private flows, which means that remittances are a reliable source of financing, not just for recipient households but also at the country level. Intra-regional remittances have also grown in importance and are very important for Bhutan and Maldives, so this would be a channel through which an incipient recovery in some countries in the region can spill over into neighboring countries (Figure 1.16c).

Figure 1.16. Remittances are a major source of funds for South Asia

Figure 1.16a: Estimated share of remittance as GDP in 2019

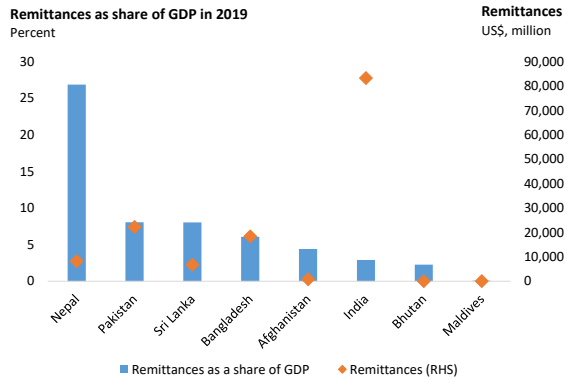


Figure 1.16c: South Asia remittance inflows by origins, 2019

Figure 1.16b: Remittances remain the largest and more stable financial flows in South Asia

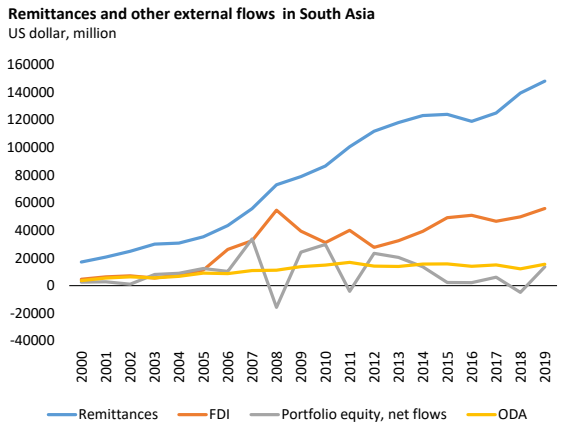
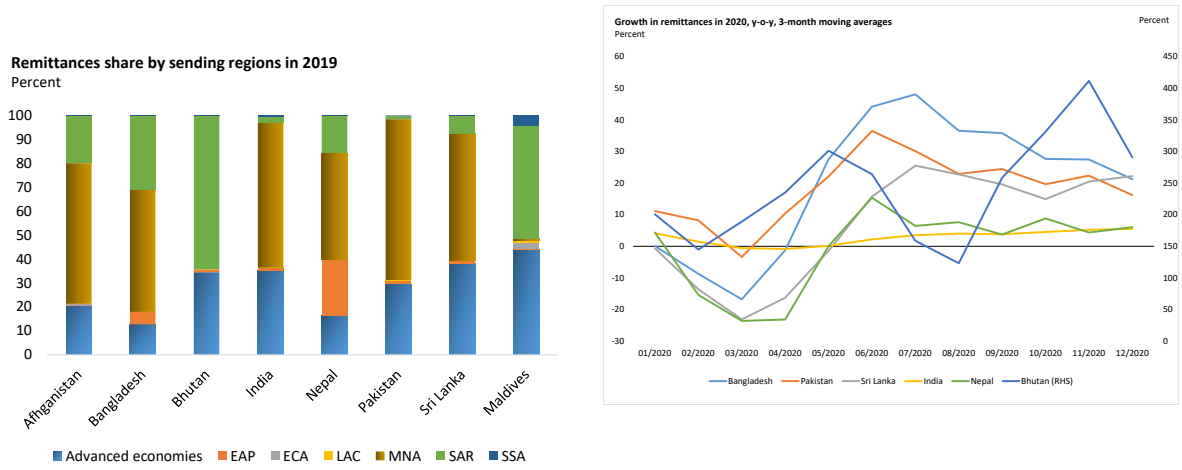


Figure 1.16d: Reported remittances in South Asia grew in 2020



Source: CEIC, World Bank, WEO, International Monetary Fund, UNCTAD, 2020", KKNOMAD-World Bank staff estimates, Bilateral Remittance Matrix 2020.
Note: Remittances in Figure 1.16a,b are estimated from IMF Balance of Payments Statistics database and data releases from central banks, national statistical agencies, and World Bank country desks by KNOMAD-World Bank staff.
a: Remittances are in fiscal year
b: Remittance inflows for South Asia are converted to calendar year

South Asia was somewhat unusual compared to other regions in the unexpected pickup in officially recorded remittances during 2020, particularly in the latter part of the year (Figure 1.16c). Of the 45 countries that published data, only about a fifth saw increasing remittances, and many were South Asian countries (Ratha et al., 2020).[14] Given the massive displacement of migrants as they faced unemployment in host countries in April and May, earlier forecasts expected a 22 percent drop in remittances in South Asia in 2020 (World Bank, 2020c). However, given the very large drop in GDP and consumption in South Asia—relative to sender countries' GDP declines due to the pandemic—regression estimates based on annual historical data predicted an increase in remittances in 2020. (Box 1.3) Indeed, despite a dip around the second quarter of 2020, all countries registered growth by end-2020 (Figure 1.16d). Bangladesh and Pakistan saw a growth in remittances of 18.6 and 17.4 percent year-on-year in 2020, respectively. Nepal saw 6.7 percent growth in the first half of FY2021, if measured year-on-year. Bhutan had a 200 percent year-on-year increase for the whole of 2020. Table 1.3 summarizes the individual country circumstances since data sources and circumstances vary.

[14] Early surveys of remittance receipts (which are not really comparable to the official data, typically from financial deposits), suggested that remittances were falling during the crisis: according to the World Bank COVID-19 surveys Dashboard (World Bank, 2021b), more than half of surveyed households experienced a decrease in remittances during the second quarter of 2020 in 48 countries. However, the survey did not include any South Asian countries. The share of households experiencing a decrease tended to be higher the lower the income per capita the receiving country, suggesting another channel through which the pandemic has widened income inequality across countries.

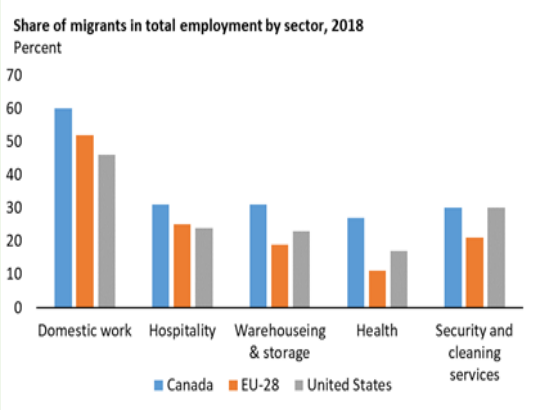
Table 1.3. A myriad of circumstances affected remittances in each South Asian country.

Country	What happened to remittances in 2020?
Afghanistan	Remittances have benefitted from formalization. The government data shows an increase in remittances, but other evidence points to a 10 percent drop.
Bangladesh	During the initial months of the COVID-19 pandemic (March to May 2020), official remittances declined as lockdown measures were implemented and many flights from Bangladesh were suspended. However, a surge in official inflows began in June 2020, likely reflecting a temporary switch from informal to formal remittance payment channels (given disruptions in international travel), additional transfers to support families following the floods in July, and transfers of accumulated savings by returning overseas workers. Official remittance inflows began to taper off in FY21, as the net outflow of migrant workers likely slowed substantially. By February 2021, remittances rose by 21.0 percent (y-o-y) on a 12-month rolling basis.
Bhutan	Remittances doubled as a share of GDP in 2020, with the growth rate only slightly softer right after the April 2020 and August 2020 lockdowns. It is possible that returning migrants brought home their savings.
India	India's remittances are estimated to have grown by 3 percent in 2020, lower than the 6 percent during the previous year, according to the Reserve bank of India's Non-resident inflow accounts.
Nepal	The growth of remittances recorded in official data was flat in Nepal in 2020. After falling in Q2 2020, remittances mostly recovered, and grew by 6.7 percent in the latter half of 2020 (first part of the FY2021) compared to the previous year. An estimate of unrecorded remittances, based on unaccounted for flows in the errors and omissions of the balance of payments, suggests that they may have grown more in 2020. The September 2019 policy changes made it easier for migrants to open bank accounts, which may have facilitated a shift from unrecorded to recorded remittances.
Pakistan	Remittances grew steadily in 2020, by 17.4 percent y-o-y ending December 2020. Growth from US, UK, and EU, which accounted for 48 percent of remittance flows from July 2020 to January 2021, was almost 50 percent, double the growth rate from Saudi Arabia and other GCC countries. Increased use of formal channels, encouraged by the State Bank of Pakistan's initiatives, is cited as one of the main reasons for the huge rise in recorded remittances during this period. The large increase seen in July was partially attributed to the "Haj effect"—Pakistani migrants remitting home the money saved for pilgrimage to Mecca due to a sharp reduction in the number of Haj visas to contain the pandemic. (In 2019, more than 1.8 million foreigners made the Haj, whereas in 2020 only local residents—formerly 1,000—were permitted).
Sri Lanka	Remittances through formal channels grew by 5.8 percent year-on-year, after having declined steadily in 2019, despite the return of some migrants.

Box 1.2. What does a model based on macro trends predict about remittance growth in 2020, and what does it miss?

Whether remittances would be expected to increase during the pandemic is uncertain. On the one hand, global studies indicate that remittances tend to be countercyclical, as they tend to increase when receiving households experience disasters or recessions (Chami et al., 2005). On the other hand, these estimations assume that migrants' labor situation is uncorrelated with consumption shortfalls at home, but this COVID shock was global. Indeed, evidence points to areas in which migrants were more severely affected than workers in the same job categories in host countries (Figure 1.17). There is also less job stability and great uncertainty as to when life will normalize, which may lead migrants to be more cautious about sending home all their savings.

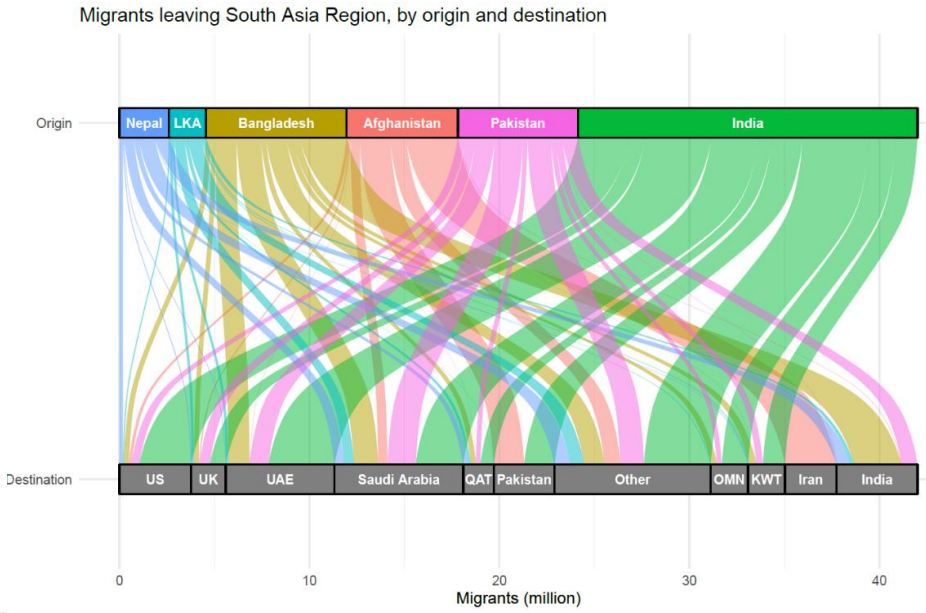
Figure 1.17. Migrants in selected advanced economies involved in contact-intensive services sectors that had the highest unemployment rates.



Source: OECD (2020), "International Migration Outlook"

Even if the average value of remittances per migrant increases, overall flows could drop if migrants return home. There is scant information on the flow of migrants since the pandemic started. However, migrants in South Asia are working in a variety of countries, including within the region (Figure 1.18). In the past, emigration was always positive, which meant that any shortfall of individual amounts remitted from existing migrants would be more than compensated by new migrants' income. However, as discussed in the main text, a large number of South Asian emigrants appear to have gone home during the crisis.

Figure 1.18. South Asian migrants work mostly in the Middle East and GCC countries, but India and Pakistan also host migrants from within the region.



Note: Migrants originated from Bhutan and Maldives are excluded from the figure as the number is too small to be shown. Nepal, India, and Australia are major host countries for migrants originated from Bhutan, and migrants originated from Maldives predominantly go to Sri Lanka, India, and Australia. US=United States, UK=United Kingdom, UAE: United Arab Emirates, QAT=Qatar, OMN=Oman, KWT=Kuwait

Source: United Nations Department of Economic and Social Affairs, Population Division (2020). International Migrant Stock 2020.

The model estimations based on these various determinants of remittances predict a significant rise in 2020. The estimation looks at total remittances, irrespective of changes in migrant flows. Following Lin (2011), we use a panel setting with a fixed-effect specification to control for unobserved time-invariant characteristics of remitting countries. We estimate the determinants of remittances using a Bartik shift-share instrumental variable approach to control for endogeneity in the lagged dependent variable in a dynamic panel data using the following specification:

$$d\ln(remittances]_{hf,t} = \alpha_i + \beta_1 d\ln(remittances)_{f,t-1} + \beta_2 appreciation_{f,t} + \beta_3(growth_{h,t-1} - growth_{f,t-1}) + \beta_4 unemployment_{f,t} + \beta_5(interest_{h,t-1} - interest_{f,t-1}) + u_f + \varepsilon_{ft} \quad (1)$$

We postulate that the change in remittances in receiving or home country h will depend on its past remittances growth, the growth rate in the receiving home country minus the growth rate in the sending (foreign) country f, after controlling for the unemployment rate in the sending country (to see whether it is in a recession or expansion, which would affect how much each migrant can send); and the real interest rate differential between the receiving country and the sending country

(to capture any opportunistic increase in remittances).[15] If GDP in the sending country is growing quickly and GDP in the receiving country—a proxy for income of receiving households—is growing less quickly, migrants would send more remittances all else equal and the coefficient β_3 should be negative if they are altruistic (remittances are countercyclical). The exchange rate is also included (an increase in the value denotes an appreciation of the home country's currency).

We ran the specification shown in equation 1 separately for each of the eight South Asian countries between 2010 and 2019. Sending-country fixed effects (denoted by the u_f error term) could capture disturbances, changes in oil prices (many South Asian migrants work in Middle Eastern countries, which are highly dependent on energy commodities), and other country-specific issues. We then perform an out-of-sample forecast for 2020 using actual growth rates to predict remittances to GDP in 2020. The first lagged term is instrumented.[16]

The results are summarized in Table 1.4. In general, the exchange rate is the most significant explanatory variable over time, but the impact varies from country to country. We estimated with and without the unemployment rate and found more robust results excluding this variable. According to the model, Sri Lanka should have seen a fall in remittances, yet they experienced an increase in 2020. The model correctly predicts that Bangladesh and Pakistan should have seen a substantial increase in remittances of around 15-20 percent (last column of Table 1.4). In the case of India, the predicted increase in remittances is driven in large part by the growth rate differential. An increase was also predicted for Nepal, yet remittances in 2020 were broadly flat, according to official reports.[17]

Table 1.4. The model predicts substantial increases in remittances, except for Sri Lanka.

Signs and significance of equation 1 regression estimations. Dependent variable: growth of bilateral remittances.					**Remittances growth, 2020**	
Receiving country	Growth rate differential	Short-term interest rate differential	Appreciation	Unemployment rate included?	Actual growth (Calendar year)	Predicted growth
Bangladesh	(-)	(+)**	(-)***	No	18.6	16.8
India	(-)*	(-)	(-)**	No	2.8	39.3
Nepal	(-)*	(+)	(-)	No	-0.8	21.5
Pakistan	(-)	(+)	(+)***	No	17.4	19.2
Sri Lanka	(+)	(+)	(+)	No	5.8	-30.6
*** p<0.01, ** p<0.05, * p<0.1						
Note: The predicted total remittances in 2020 for each receiving country was calculated by the sum of predicted remittances from each sending country divided by the share of remittances as total in 2019.						

[15] Of course, we don't know the exact motives of individual remittance sender, but past studies overwhelmingly find that this is not the main motive.
[16] Given serial autocorrelation between the dependent variable and its lag, we use an instrumental variable approach by constructing a Bartik shift-share instrument and apply 2-stage least squares. Given the relatively short time series this is more efficient than the GMM method used in Lin (2011).
[17] Large errors and omissions in the balance of payments for Nepal would suggest that remittances could have been higher than reported but were sent through informal channels.

The share (weights) for receiving countries Bangladesh, India, Nepal, Pakistan, and Sri Lanka are 0.73, 0.68, 0.64, 0.73, and 0.52. Individual Results for Afghanistan, Bhutan, and Maldives are not reported due to insufficient observations. The remittance growth for India in 2020 was estimated by the annual growth of non-resident deposits, as actual remittance flows reported by the central bank have not been available for the whole year.

Source: authors. See Appendix Table 1.1 for data sources.

What factors account for the large increase in remittances in some countries despite the deteriorated conditions in host countries?

- **A portion of the recorded rise in remittances could represent repatriated savings of emigrants returning home**.[18] Many migrants lost their employment in foreign countries during lockdowns. With very little certainty about prospects in the second and third quarters of 2020, many came home and repatriated their savings. This was certainly true for many Nepalese and Bangladeshi migrants, most of whom work in GCC countries. There is also some indirect evidence from remittances sending countries of a decline in foreign workers. Saudi Arabia granted less than 10,000 work visas per quarter in Q2 and Q3 2020, compared to an average approval rate of over 40,000 in Q1 2020, and Oman also reported a drop in Bangladeshi employment (while official data showed rising remittances from Oman). In addition, many home governments arranged repatriation flights, providing further evidence of large migrant returns.
- **Remittances could have shifted from informal (unrecorded) to formal (recorded) channels.** In the past, a significant share of remittances may have arrived through trips home by migrants or their trusted friends with cash in hand, in-kind transfers, etc. This was no longer an option during the pandemic due to restricted travel, so migrants had no choice but to use other transfer mechanisms.
- **Financial innovation likely encouraged greater formalization and perhaps higher total remittances.** The shift to more formal channels was facilitated by the development, even before COVID-19, of Fintech and digital transfer apps such as PayPal and Alipay, which have made the digital transfer of funds more accessible and cheaper. It is also possible that this technology encouraged a greater volume of total remittances, in addition to more formalization, due to declines in transaction costs.
- **Tax policy changes may have encouraged greater remittances, or at least greater formal remittances.** Pakistan and Bangladesh, which (along with Mexico) saw the highest surge in remittances in a sample of 45 developing countries, had just introduced new remittance tax incentives, in 2020 by Pakistan's government and in 2019 by Bangladesh's government.
- **Some migrants were able to access cash transfers offered by host country governments**. Workers who did not experience a large fall in income during the pandemic might have been willing to share the receipt of cash transfers (e.g., stimulus payments in the United States) with their home country families.

[18] In principle, these should not be recorded as remittances (since they are a stock of savings rather than a current income flow), but it can be difficult to make this distinction in practice.

- **Dire economic conditions in South Asia could have encouraged greater remittances.** South Asians rank high compared to other middle-income countries on a measure of altruism, and emigrants could have drawn down their savings to increase remittances to family or friends in need.[19]

There is not enough data or current evidence to disentangle which factors were most important in explaining the surge of remittances in South Asia, let alone whether they will be temporary or permanent. While 2020 saw mostly a net migrant outflow as many workers had to repatriate, some have noted plans to return, though opportunities may dry up if the pandemic continues to affect employment permanently in services sectors in host countries. The one-off nature of these factors—such as availing opportunities to formalize the sending of transfers and the transfer of savings by migrants—increases the risk of remittances falling in 2021. This could be problematic for Pakistan, Sri Lanka, and Bangladesh, which rely on remittances for a sizeable share of current-account credits (39 percent, 25 percent and 29 percent, respectively, in 2019).

The demand for migrant workers in Gulf Cooperation Countries (GCC) countries is also unlikely to grow as much going forward. The large expansion of oil production capacity and infrastructure that marked over a decade since 2009 in GCC has been gradually winding down. Many of these economies are shifting out of oil production to priority service sectors and instituting employment policies favoring domestic over foreign workers. The decline of migrant demand due to COVID may have accelerated that process. Nonetheless, a better understanding of the crucial role of remittances for development and the encouraging role that both sending and receiving governments can have may bode well for out-migration in South Asia. The United States, which has a large stock of skilled South Asian migrants, has also shifted toward a more open policy on migration since January 2021.

1.4 Inflation, cautiously proactive monetary policy, and subdued fiscal policy.

Throughout 2020, the South Asia region experienced more inflationary pressure and volatile price changes than other emerging markets and developing economies (EMDEs, Figure 1.19a). Food price inflation has escalated faster than any other component of the general CPI in the region since the start of the pandemic (Figure 1.19b). In 2020, food price inflation became the main driver of overall price inflation for the large South Asian countries, particularly in Pakistan and Sri Lanka (Figure 1.19c). Pakistan's inflation in FY21 is still high. at 9.0 percent, amid continued high food inflation due to continued supply-side disruptions—some related to

[19] In the latest (2014 and 2017) FINDEX survey, when those surveyed were asked whether they can come up with emergency funds, 75 percent, 64 percent, 70 percent, and 56 percent of respondents from Nepal, Bangladesh, Bhutan, and Afghanistan, respectively, responded in the affirmative. Between 50 and 60 percent of those funds came from family and friends. This is significantly higher than in most low- to-middle-income countries. It may also reflect the fact that less than 25 percent of South Asians can count on any type of social protection or worker coverage—the lowest compared to other regions globally (World Bank, 2021b).

containment measures—but also because of monsoon rains in July and August 2020 and locust attacks. As a result, headline inflation in India, Bangladesh, and Pakistan overshot the central banks' inflation targets in 2020 (Figure 1.19d).

Figure 1.19. Food price inflation was a major driver of overall inflation in South Asia in 2020

Figure 1.19a. South Asia's inflation higher than average

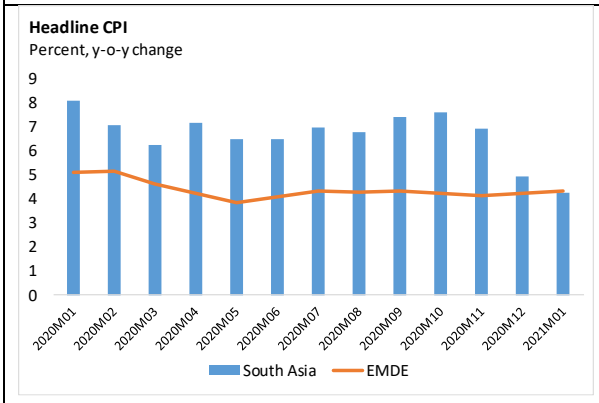


Figure 1.19b. …driven by food inflation

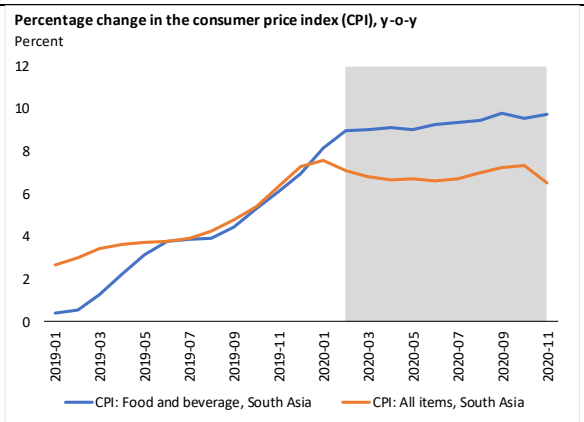


Figure 1.19c. In 2020, food inflation became the largest contributor to headline inflation.

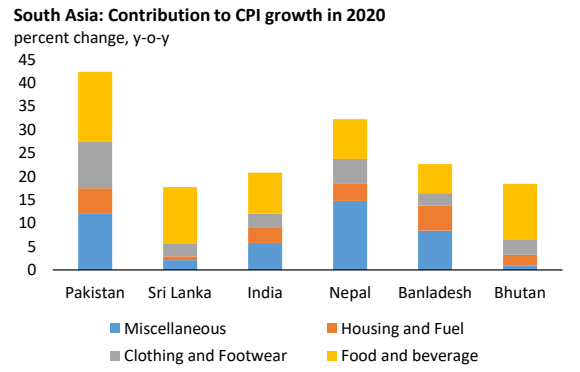
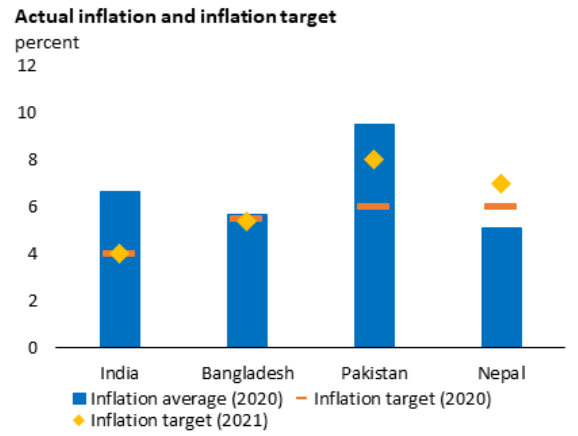


Figure 1.19d. Central Banks hame maintained or loosened target inflation rate in CY2021.



Note: Nominal CPI, seasonally adjusted. South Asia regional aggregate are three-months moving average of average percentage change in the CPI over eight countries. CPI is scaled to 100 in April 2015.
Source: World Bank, Haver Analytics, CEIC, Afghanistan Central Statistical Organization, and Bhutan National Statistics Bureau

Headline inflation in South Asia continues to experience wide fluctuations, reflecting the extent of the economic crisis and will continue to be shaped by food inflation (Figure 1.20a). There is also substantial variation, with Maldives experiencing deflation amid an unprecedented recession. Moreover, as the economies move to the opening phase in 2021, changes in consumer preference may limit the rebound of demand in certain sectors. For example, personal services will see a rebound affecting services inflation. But there is also the

risk that cost-push inflation, as demand for services recovers, could create temporary inflationary pressures.

Figure 1.20. Headline inflation in South Asia has moderated, while monetary policy has been accommodative since the start of the crisis.

Figure 1.20a. Headline inflation.

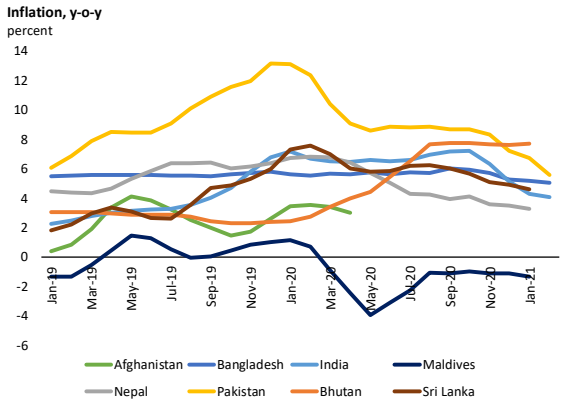
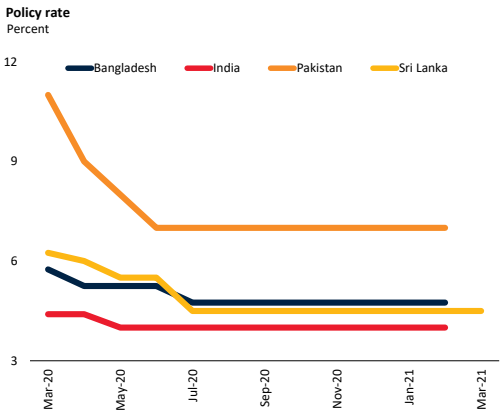


Figure 1.20b. Main policy interest rates.



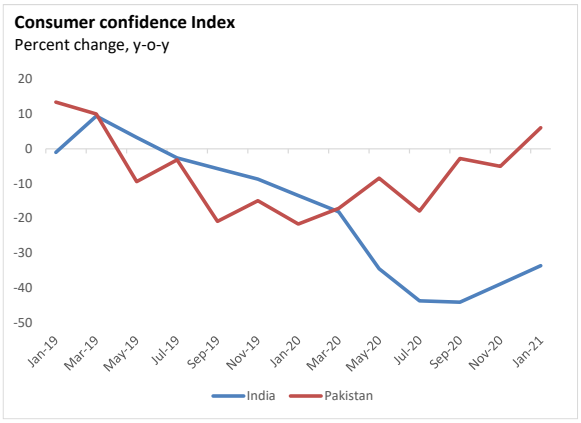
Note: a. Three-month moving average.
Source: CEIC, World Bank, Haver Analytics, National Statistics Bureau of Bhutan, Department of Census and Statistics of Sri Lanka

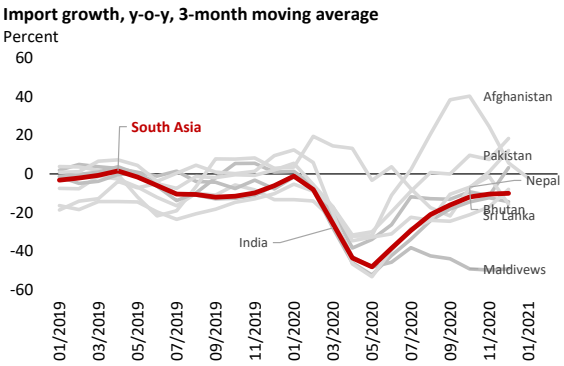
The key going forward will be credible monetary policies, and most central banks in the region have taken a cautionary approach to not stimulate too much in the six months ending mid-March. Policy rates were kept stable after June/July, as central banks tried to decipher how much inflation was supply bottlenecks and how much stemmed from pent-up demand (Figure 1.20b). As food inflation finally fell starting around September, central banks became less concerned about inflation and more about engineering a steady recovery, considering broad-based cost-push pressures that could spill over into output prices as demand recovered. The Reserve Bank of India, for example, is projecting inflation at 5.2 percent for the first quarter of 2021 as demand recovers, 5 percent in the following two quarters, and then 4.3 percent by the end of the year—slightly above its unchanged inflation target of 4 percent (Figure 1.19d).

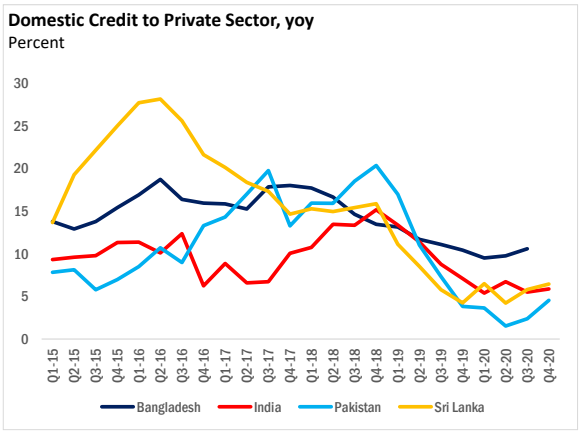
The difficulty was gauging how much of the drop in consumption was forced savings and how much was the result of more permanent income losses. Consumer confidence indicators in India and Pakistan were also in negative territory by mid-2019, suggesting some pessimism about the economy (Figure 1.21a). In India, this indicator continued falling throughout 2020, reflecting increasingly pessimistic consumer sentiment (In Pakistan, the majority of people surveyed in 2020 were pessimistic but not as drastically as in India). Imports in the region were already falling before the crisis, though barely, when the crisis led to an almost 50 percent drop. By the end of 2020, import growth was still in negative territory (Figure 1.21b). With repressed imports, relatively stable exchange rates, FDI inflows (in the case of India), and a sufficient

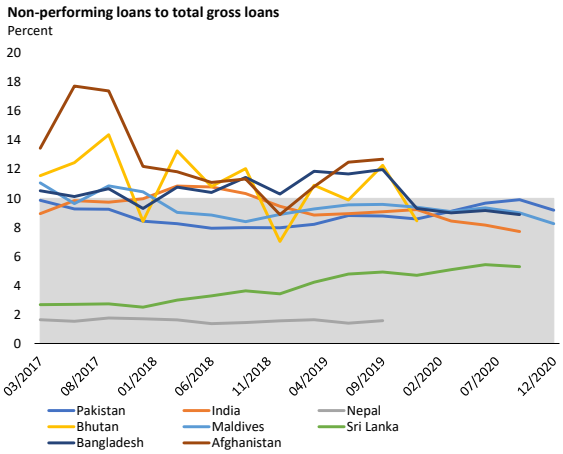
international reserves buffer in most countries,[20] concerns of short-term capital outflows diminished. Exchange rates against the dollar also retreated to pre-COVID levels, with end-year rates showing only a slight, nominal depreciation against the dollar. As a result, major central banks have maintained policy rates steady since mid-2020. Moreover, stock prices in major South Asian equity markets continued to grow since the trough in April 2020, in line with other emerging markets.

Figure 1.21. Weak domestic import demand and private sector credit showed some reversion in Q3 2020, though this weak demand growth preceded the crisis. Until consumers become more optimistic and the financial sector can get back to full force, the recovery will take time.









Source: CEIC, Haver Analytics

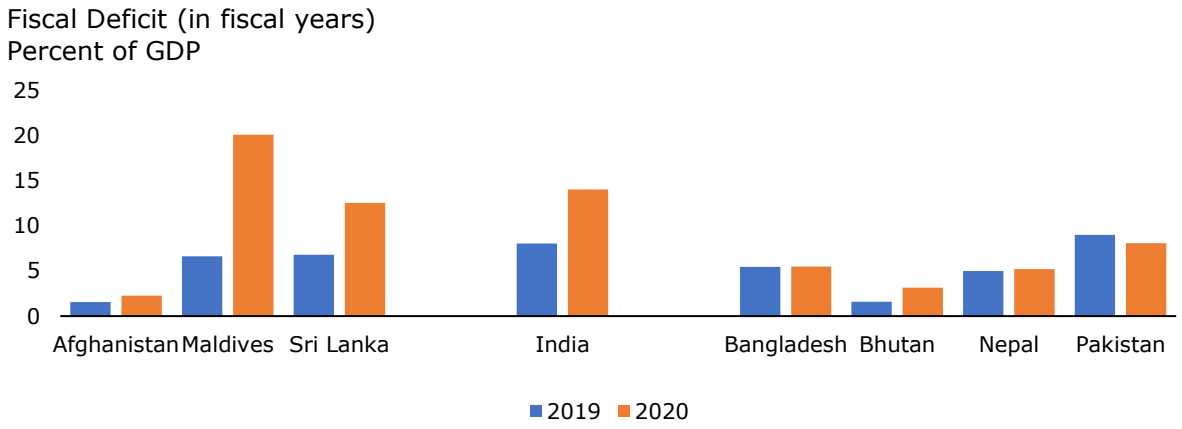
[20] The exceptions are Maldives and Sri Lanka which in gross international reserves as of end-February 2021 were down just below 2 months of imports.

With depressed household demand and subdued expectations, an additional concern will be the extent of the damage to the financial sector. There are concerns that financial vulnerabilities could resurface as moratoriums are gradually phased out. There has been a steady drop in domestic private sector credit growth in major economies, which was already evident in 2019 (Figure 1.21c). In most countries, the decline has been steady in 2020 due to sluggish demand, which may reflect the lack of opportunities to spend or invest during the pandemic. In contrast, in Pakistan, domestic private sector credit growth reached a trough in the second quarter of 2020 and then picked up slightly. All Central Banks instituted policies to provide debtor forbearance, bridge loans, and liquidity to banks, but these policies were aimed at ensuring that minimum levels of activity could be sustained. This standstill is reflected in the absence of movement in the non-performing loans ratio in all countries (Figure 1.21d). The Reserve Bank of India's Financial Stability Report of December 2020 stated that banks' gross non-performing assets (GNPAs) mighty rise sharply, to 13.5 percent of the total loans by September 2021 and escalate to 14.8 percent under the severe stress scenario. Some Central Banks have lent to governments. Financial sector weaknesses have worsened, and lending to the government has increased in Bangladesh, where 70 percent of the COVID-19 stimulus was provided as subsidized credit supplied by the financial sector. In Pakistan, the end of the moratorium on government borrowing from commercial banks poses a risk to the financial sector. Sri Lanka's government has also relied heavily on lending from commercial banks.

Fiscal deficits rose during the pandemic.

Policy makers in South Asia have proactively used fiscal measures to address the current economic challenges. All countries saw a reduction in fiscal space (Figure 1.22). Almost all countries authorized considerable stimulus packages, with important components targeting the most vulnerable in society. Given fiscal limitations, available resources in Afghanistan, Bangladesh, Nepal, and Pakistan have been reprioritized toward health and social relief spending, to the detriment of capital expenditures. In Bhutan, an increase in salaries and wages drove expenditure growth in FY19/20—in line with a decision taken prior to the COVID-19 outbreak—and an increase in capital expenditures. To respond to the crisis, the FY20/21 budget aimed to scale up public investment spending, but execution lagged during the first half of the fiscal year. Government expenditure in India, the net of subsidies and interest, has picked up steam after a slow start in the first half of the FY2020/21. In Maldives, budgetary savings through cuts in some recurrent expenditures provided the space for the government to temporarily discount utility bills, lower the prices of petrol and diesel, and announce a debt moratorium on student, housing, and business loans until December 31, 2020. As a result, recurrent expenditures fell, but capital spending continued to grow robustly since most Public Sector Investment Program (PSIP) projects proceeded as planned. COVID-19 has magnified the underspending problem in Nepal, despite several public financial management reforms announced in the budget. Total expenditure decreased relative to the pre-pandemic period, and public investment is insufficient to crowd in the private sector and ensure strong service delivery.

Figure 1.22. Fiscal deficits rose across the board in 2020 fiscal years.



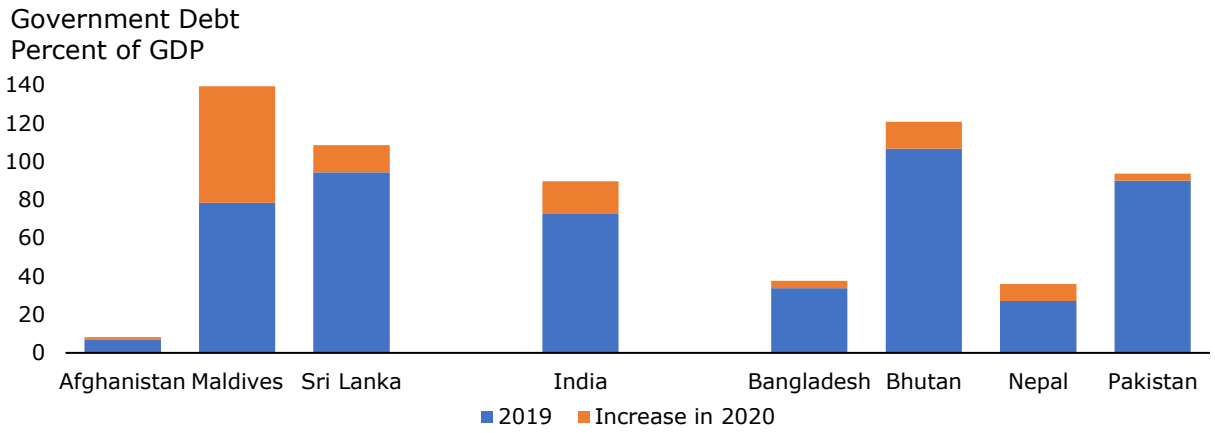
Note: Countries are grouped according to their fiscal years: Afghanistan (December to December), Maldives and Sri Lanka (January to December); India (April to March); Bangladesh, Bhutan, Pakistan (July to June), and Nepal (mid-July to mid-July).
Source: Macro Poverty Outlook, World Bank.

Tax revenues collapsed in all regional economies due to the pandemic-induced crisis. The VAT law remains ineffective in raising additional revenue in Bangladesh due to its complex structure involving multiple rates. Together with the tax base deterioration, it resulted in the first decline of the National Board of Revenue (NBR) taxes in at least two decades in FY19/20, and that trend has continued so far in FY20/21. In Maldives, tourism-related revenues, which account for about half of all state revenues, plummeted to nearly zero when the country closed its borders between March 27 and July 15. This is already reversing in 2021, as the tourism sector has rebounded since the end of 2020. Total revenues, however, increased in Bhutan and Pakistan in FY19/20. In the former, hydropower-related revenues, which have accounted for around 24 percent of total domestic revenues in the past five years, increased, while in the latter, higher non-tax revenues came from higher profits from the central bank which holds a significant portion of government debt. In line with the recovering of economic activity, total revenues in Pakistan also grew over the first six months of FY20/21.

The rise in expenditure and shortfall in revenue have resulted in a sizeable increase in fiscal deficits across the region. The fiscal deficit in Bangladesh was 5.5 percent of GDP in FY19/20, similar to FY18/19. In India, the FY20/21 general government fiscal deficit is estimated at 14 percent of GDP, largely because of increased transparency on food subsidies. On-budget food subsidies rose in FY20/21 partly because of higher subsidies this year (free grain and pulses disbursed during the pandemic) but also because the budget pre-paid some of the loans taken by the Food Corporation of India (FCI). In FY21/22, the deficit is projected to shrink to 10.4 percent of GDP, mostly due to the planned decline in subsidies. The rest of the consolidation is predicated upon a large increase in asset sales—disinvestment proceeds are pegged at 0.8 percent of GDP, with LIC, BPCL, CONCOR, and Air India expected to be on the market. In Maldives, the fiscal deficit in 2020 widened drastically to 20 percent of GDP, while general government total debt is projected to surge to 139 percent of GDP this year. These values are expected to improve with the economic recovery, but the high risk of overall and external debt distress will remain. The

situation is problematic in Sri Lanka, with a fiscal deficit of 12.6 percent of GDP in 2020 (after including arrears payments). Sri Lanka's fiscal sustainability was challenging even before the pandemic and has been leading to significant foreign exchange shortages amid high debt service due. Public and publicly guaranteed debt is expected to reach 109.7 percent of GDP, exacerbating debt sustainability concerns (Figure 1.23).

Figure 1.23. Government debt levels in the region have additionally increased.



Note: Countries are grouped according to their fiscal years: Afghanistan (December to December), Maldives and Sri Lanka (January to December); India (April to March); Bangladesh, Bhutan, Pakistan (July to June); and Nepal (mid-July to mid-July).
Source: Macro Poverty Outlook, World Bank.

1.5 The crisis has brought to light the disparate effects of the pandemic for different segments of the population

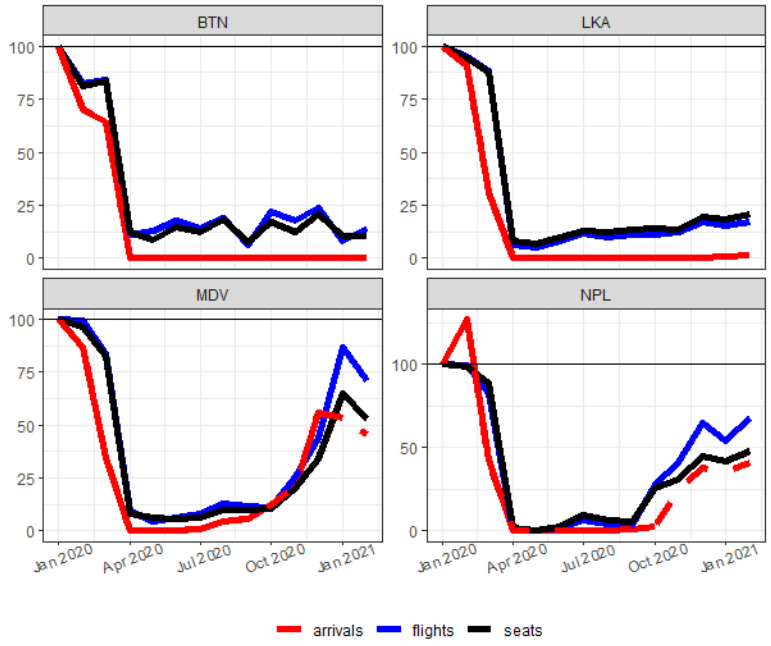
International experience shows that the impact of the crisis was not uniform across different economic activities and segments of society. Survey results from 48 countries outside the region in 2020 (see World Bank, 2021; Sanchez-Paramo and Narayan, 2020) showed differences in work stoppage rates due to COVID-19. According to the survey, women had 25 percent higher rates of work stoppages than men, the young have 10 percent more than the old; the uneducated 13 percent more than the educated; and urban residents, 10 percent more than rural residents. The pandemic itself can worsen inequalities through the coping strategies the vulnerable use (such as dis-saving through the sale of productive assets or reducing food consumption), which itself can perpetuate poverty for future generations (Hill and Narayan, 2021).

This section examines the dramatic variations in the pandemic's effects. We analyze the differential impact by (a) sector (tourism), (b) employment status and sector, (c) gender, (d) income, (e) urban area, (f) geography (i.e., across subregions in South Asia), and (f) consumption status due to price hikes.

Tourism is having a hard time recovering

Countries dependent on tourism were very heavily affected by the crisis and will take significantly longer to go back to normal. Four countries in the region depend the most on tourism, as well as air travel for visitor arrivals: Bhutan, Sri Lanka, Maldives, and Nepal. Nepal and Sri Lanka's visitor arrivals plummeted in March-April 2020 and have not recovered (Figure 1.24). In Bhutan, borders have remained closed since March 2020. In contrast, Maldives' "bubble tourism" strategy and new initiatives seem to be having some initial success. With the tourism industry representing 85 percent of exports and almost 60 percent of GDP, the need to find innovative solutions to bring back tourists is a matter of survival. The decision to shut down borders on March 27 was the factor behind GDP declining by 52 percent in the second quarter of 2020, compared to the same period the previous year. However, before many other major destinations, Maldives reopened on July 15 with a clear strategy to reintroduce some tourism. The bulk of tourists now originate from India, Russia, and Eastern Europe. Since December 2020, tourism has picked up more strongly thanks to the absence of quarantine requirements and a strict COVID-19 testing strategy for tourists, enabled by the unique 'one island one resort' concept. Still, visitor arrivals by February 2021 were 42 percent lower than the same period in 2020.

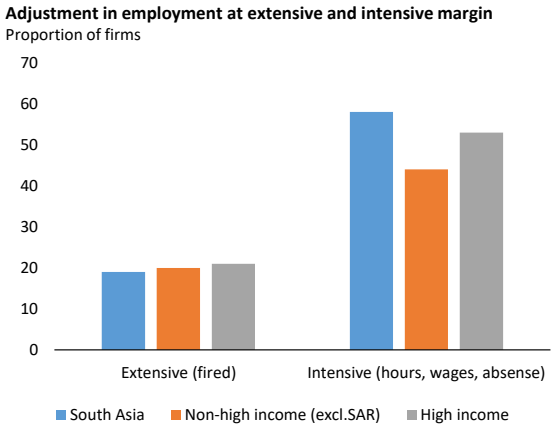
Figure 1.24. Tourism in Nepal and Maldives shows signs of recovery but has yet to ramp up again in Bhutan and Sri Lanka.
Tourist arrivals, flights, and seats
Jan 2020 = 100



Source: Maldives Ministry of Tourism and CEIC.
Note: The dashed line used for Maldives and Nepal is the prediction of arrivals based on the number of seats filled in inward passenger flights.

Indirect impacts on business and employment will leave scars not evident in economic activity indicators. Evidence of the effects of the pandemic on businesses and labor markets is beginning to emerge. Investment dropped precipitously in Q2 2020, mirroring a disruption in productive capacity. According to recent pulse surveys of firms conducted in June and July 2020, after the lifting of restrictions, a third of businesses closed, two-thirds experienced lost sales due to COVID (more than any other region in the world), and firms had a significantly lower probability of opening compared to other regions (Apedo-Amah et al., 2020). This means firms had a significantly higher probability of falling into arrears. Micro and small firms in South Asia have a 61 percent probability of remaining open during COVID-19 (higher than in any other region), compared to 76 percent in larger firms. Were it not for significant liquidity and moratoriums extended to debtors by central banks—which favored mostly formal sector firms—the loss of productive capacity could have manifested itself as a second negative shock. Moreover, firms in South Asia preferred, more than firms in other regions, to reduce wages rather than fire workers, which reduced the quality of jobs for those affected workers (Figure 1.25). This also suggests that the increased unemployment and shift to self-employment underestimates the loss of incomes due to the crisis (World Bank, 2020a).

Figure 1.25. Firms in South Asia had to adjust by cutting wages and reducing workers



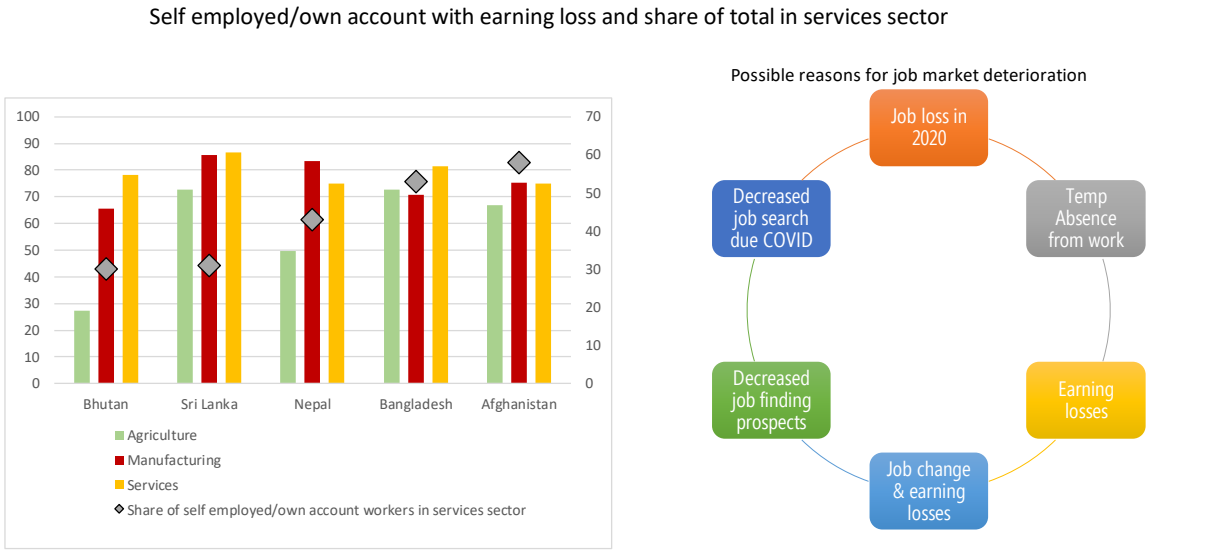
Note: Data includes Afghanistan, Bangladesh, Sri Lanka, Nepal, and Pakistan. Surveys conducted in June-July 2020.
Source: Apedo-Amah et al. (2020) using International Finance Corporation Business Pulse Surveys.

Self-employed workers, especially in the services sectors, were significantly more affected than others. Services account for almost two-thirds of private sector employment in South Asia, with self-employment in agriculture and wage work in manufacturing accounting for another third.[21] At the time of the lockdown, surveys showed that roughly half of South Asia's working-age population was either not participating in the labor force, unemployed, or temporarily absent from

[21] This is different in Bhutan and Nepal where agriculture is an important source of self-employment, and manufacturing is an important source of wage work (primarily in trades such as carpentry, tailoring, butchery, factory work).

work. The share of workers who rely on self-employment or household enterprises is more than 40 percent on average. These enterprises are very small—92 percent have under 10 workers, and almost 70 percent have three or fewer workers. Almost all of these are likely to be informal. Not surprisingly, almost three-fourths of self-employed workers and household enterprises experienced a negative shock from COVID-19, and more than half reported earnings losses, with higher rates of earning losses in the services sector (World Bank pulse surveys, 2020). Households firms with fewer than ten employees were particularly affected (Figure 1.26).[22]

Figure 1.26. Over 50 percent of self-employed/owned account workers are in the services sector. Over 75 percent of those reported some form of job market deterioration due to COVID.



Source: World Bank househlod phone surveys, [Decenber 2020]

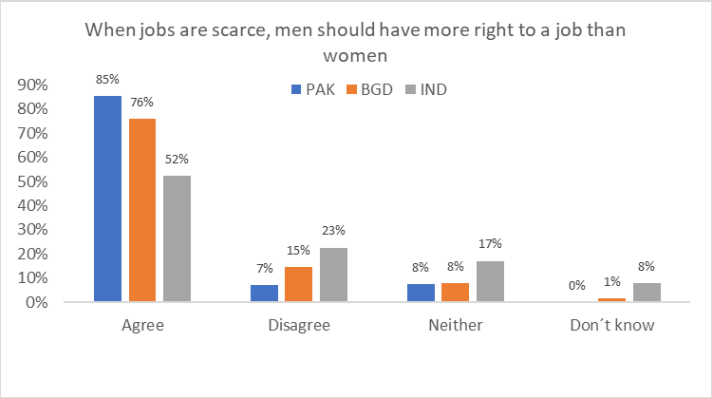
Gender disparities are also becoming evident. Based on survey results in Bangladesh, the employment of men has recovered closer to pre-COVID rates than it has for women. The share of adult males working increased by 18 percentage points between June 2020 and February 2021 to reach 92 percent—very close to the pre-COVID rate (93 percent). The share of women working also rose by 12 percentage points compared to June 2020, reaching 33 percent of adult females by February 2021. However, women are still significantly below the pre-COVID rate (38 percent). Box 2.1 describes some of the gender differences that manifested during the pandemic.

[22] In contrast, most agricultural self-employed workers are still able to perform usual farming or livestock raising work, but almost half became unable to sell their produce via usual channels during the lockdown period.

Box 1.3: How have South Asian women fared during the crisis?

The impacts of COVID-19 are not gender-neutral and play out in South Asia along different channels. In terms of health impacts, similar to the global trend of higher fatalities for men, women in South Asia have been underrepresented in COVID-19 fatalities.[23] This could be due to differences in the incidence of comorbidities, access to preventive measures, or possibly incomplete reporting of sex-disaggregated deaths and testing. Due to the novelty of the virus and consequent uncertainty, timely and reliable data are key for policymakers to respond effectively. The preliminary evidence available suggests adverse economic and human capital impacts for women (World Bank, 2020c). Women are considered more vulnerable to job and earning losses due to the nature of their work—largely informal, service-sector jobs, especially in the care economy, which require in-person contact. Further, prolonged lockdowns to suppress the virus in South Asia have implied higher risks for domestic violence and reduced access to education for girls.

Figure 1.27. Attitudes about women at work in South Asia.



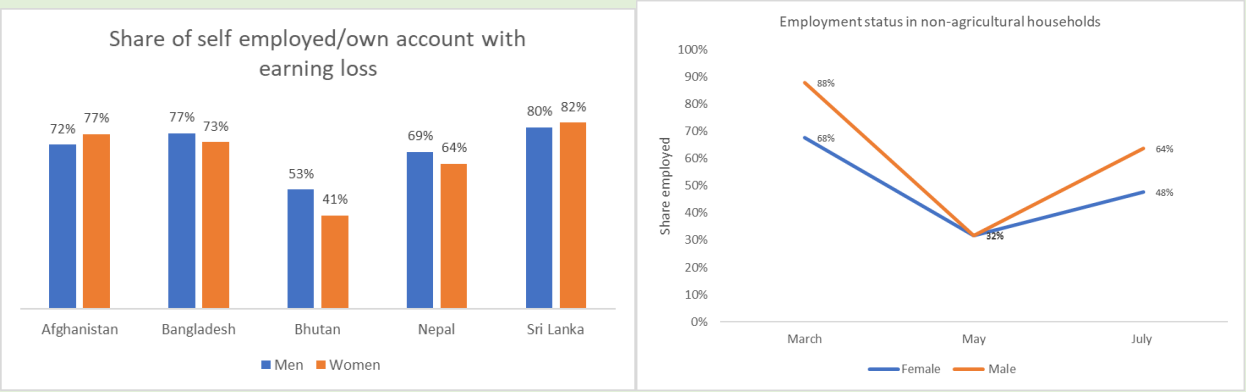
Source: World Development Indicators (left); World Values Survey - Bangladesh 2018, Pakistan 2018, India 2012 (right)

Employment shocks have hit men and women alike during this pandemic, but the impact on women will likely last longer. Initial pilot survey data from the region indicate that men and women have been hit hard by job losses (Figure 1.28, left panel). According to the World Bank COVID-19 Related Shocks Survey in Rural India (2020), the share of employed men and women from non-agricultural households dropped by 56 and 36 percentage points, respectively, in the immediate aftermath of the crisis (Figure 1.28, left panel). Initial evidence suggests that men returned to work earlier, which could be linked to norms that prioritize men (Figure 1.27).

[23] COVID-19 Sex-Disaggregated Data Tracker produced by Global Health 50/50, the African Population and Health Research Center and the International Center for Research on Women. https://globalhealth5050.org/the-sex-gender-and-covid-19-project/the-data-tracker/?explore=variable Accessed March 4, 2021.

The reduction in earnings among women respondents who continued working (64 percent) is almost double that for men (36 percent). Complementary evidence also suggests that the large part of labor market adjustment in the region has been through earning losses and reduction in workhours, rather than through job losses (World Bank 2020b). However, there are differences within the region: women in informal employment in Bangladesh and Maldives are more likely than men to see their working hours reduced, but the opposite is true in Pakistan (UN Women Rapid Assessment Survey, 2020).

Figure 1.28. Women saw slightly greater job distress than men during COVID.



Source: World Bank SAR phone surveys (2021, left); The World Bank Covid-19 Related Shocks in Rural India - Round 1 and 2 conducted in six states in India: Jharkhand, Rajasthan, Uttar Pradesh, Andhra Pradesh, Bihar, and Madhya Pradesh (2021, right).

Some gendered impacts on firms were likely because women are overrepresented in affected sectors. The Business Pulse Survey of 500 micro-, small- and medium-sized enterprises in Bangladesh finds that firms in the fashion and clothing sector faced the highest rate of closures and declines in sales (IFC 2020). Firms in this sector reported layoffs of 24 percent of their workers, the majority of whom are likely to be women. In the whole sample, however, the share of firms resorting to wage-cuts is twice that of those reporting staff layoffs. Comprehensive data on the gender-disaggregated impacts of these measures is needed to understand how an equitable recovery can be planned.

The crisis has affected intra-household relations. Adolescents surveyed in Bangladesh report increased time spent on household chores and less time on education: this finding is not significantly different for boys and girls (Baird et al., 2020). However, because of prolonged shutdowns, more women than men reported increased domestic and care work in Bangladesh, Pakistan, and Maldives (UN Women Rapid Assessment Survey, 2020). In Indian districts with higher intensity lockdowns, domestic violence complaints rose relative to other crimes against women, such as rape and assault, consistent with the overall reduction in mobility (Ravindran and Shah, 2020). Increased tensions within the household and economic stress are likely to impact mental health. A more encouraging finding is that more than half the women surveyed by the UN Women Rapid Assessment Survey (2020) report getting increased help from their partners in

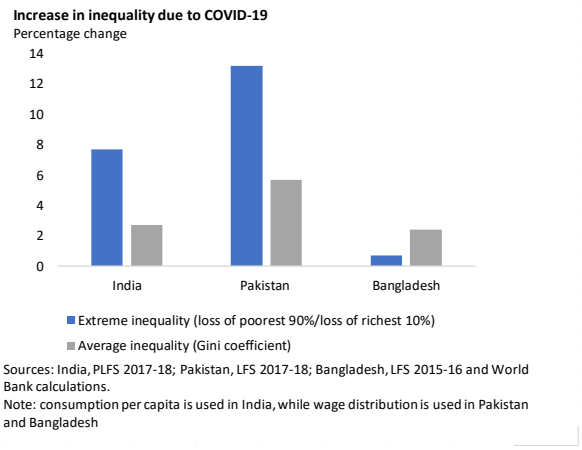
household chores. This suggests that the pandemic may somewhat improve the gender division of work within households.

While the evidence is still emerging, timely data have been very useful to understand the gender impacts of the pandemic. More comprehensive follow-ups are vital to understand gaps and respond, such that women and girls are key to the recovery.

At the same time, the greater flexibility of informal workers may also contribute to a faster recovery of employment. Informal wage workers in India were significantly more vulnerable to the loss of employment than formal workers during the early phase of COVID-19 surveyed in April 2020. They also experienced a larger decline in income than formal workers did. But informal workers recovered faster than formal workers, and by July 2020, the decline in employment and income was not significantly different across informal and formal workers. This comparison holds even after accounting for industry, occupation, or location-specific heterogeneity in the COVID-19 shock, suggesting that informal employment is intrinsically more flexible (Bussolo et al., forthcoming 2021). Nonetheless, informal workers make a greater effort to search for jobs or be more willing to accept lower-paying jobs because of fewer outside income buffers, making them more vulnerable and more likely to experience income loss, as suggested in Figure 1.26.

Income distribution clearly worsened as a result of the pandemic, and welfare losses were concentrated at the poorer end of the income distribution (Figure 1.29). An estimate of COVID-19's impact on the distribution of household wage income can be made by comparing a simulated COVID-19 shock with a scenario without the pandemic.[24] The poorer income groups in India, Bangladesh, and Pakistan suffer a greater fall in per capita consumption than the richer income groups. Moreover, the income gap between the poorest 90 percent of the population and the richest 10 percent widened even further in India and Pakistan because of COVID-19 (by 13.2 percentage points in India and 7.7 percentage points in Pakistan).

Figure 1.29. Inequality worsened during the pandemic regardless of how it was measured



Sources: India, PLFS 2017-18; Pakistan, LFS 2017-18; Bangladesh, LFS 2015-16 and World Bank calculations.
Note: consumption per capita is used in India, while wage distribution is used in Pakistan and Bangladesh

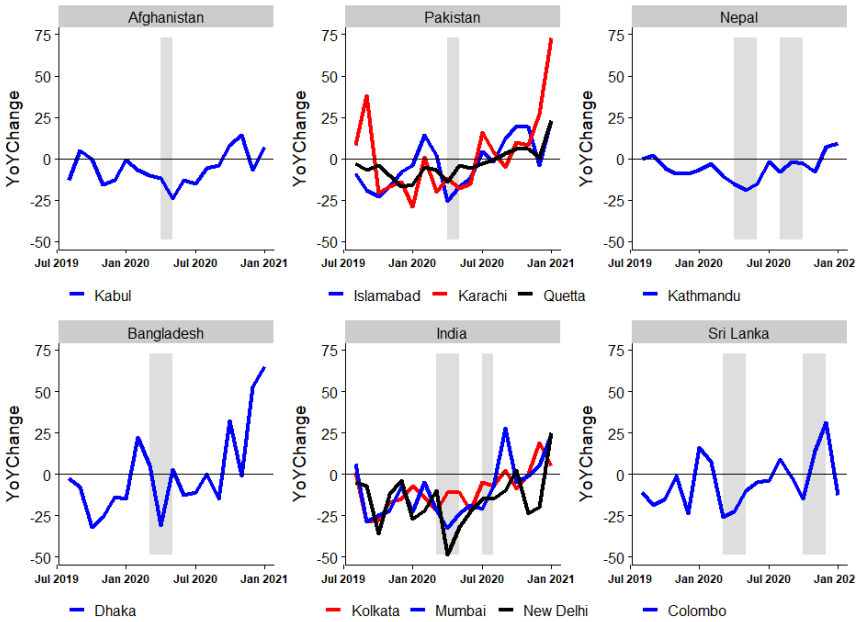
[24] The shock was constructed to simulate the size of the lost income at different levels of the income distribution (see Bussolo et al. forthcoming 2021).

Different regional and spatial impacts of the crisis

Spatial inequalities in economic activity can also be tracked with satellite data. While high-frequency data allows us to keep track of economic activity at the aggregate level, doing the same at the subnational level provides a view of the disparate recovery across regions and localities. For this purpose, we use data that is available at the high spatial granularity to examine the effects of COVID-19 at the subnational level.

Differences in activity in urban sectors are one such indicator. NO_2 is one of a group of gases produced as a byproduct of anthropogenic sources, primarily combustion, which is indicative of economic activity. NO_2 is an indicator of the amount of traffic and other industrial emissions, so a decrease in NO_2 may be a proxy for how the economic slowdown is translating into a reduction in urban economic activity (Masaki et al. 2020). Figure 1.30 illustrates the drop in NO_2 emissions that occurred since August 2019 in 10 metropolitan areas, where the shaded area shows COVID-related shutdowns of strict curfews. More recent months show that NO_2 concentrations were much higher for most cities in Oct-Dec 2020 than they were in the same period in 2019. It is important to keep in mind that while reductions were generally larger in more developed areas and barely noticeable in some poorer areas, a reduction may provide a general indication of falling economic activity. According to the NO_2 levels, every city except Colombo has reached pre-COVID levels of activity, with Dhaka and Karachi's emissions by January 2021 already over 70 percent above pre-pandemic levels. Colombo's curfews in October are evident, though activity has resumed.

Figure 1.30. Nitrogen dioxide emissions as compared to the previous year in ten South Asian cities



Note: This plot shows nitrogen dioxide data from ten cities in South Asia. For each city, a circle with a radius of 20 km was drawn from the city center, and the mean NO2 concentration was derived within that circle on a monthly basis. Shaded areas refer to strict COVID-related lockdowns in the metropolitan area.

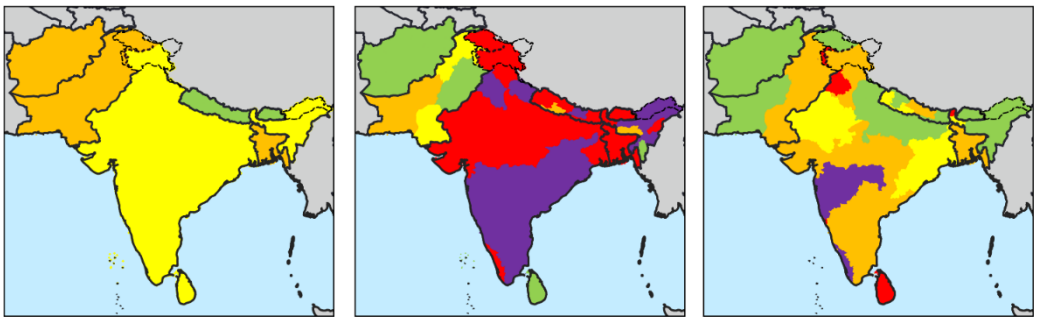
Incidence of COVID-19 across states, nighttime light intensity, and Google mobility indices also show a spatial distribution of economic activity, just like electricity data does across time. Figure 1.31 shows how the different subregions in South Asia have evolved since the beginning of the pandemic until February 2021. Nighttime lights are detected by satellites, and changes are strongly correlated with economic activity in South Asia (Beyer et al., 2020). Other indicators of the situation at the subnational levels include the mobility index by Google and the number of cases per capita in each state, province, or subregion. We juxtaposed this information with the reported caseloads of COVID-19 per 100,000 subregionally. Three conclusions are evident:

- **South Asia is a diverse region, so the virus may have impacted certain subregions more or less at different times.** During the great lockdown in April, most of the region was at medium risk based on the reported cases per day averaging 10 per million people, which was still quite low. At its peak on September 1, Southern and Eastern India were showing the largest caseloads per million persons (extremely high risk). By February, Sri Lanka and Punjab were considered very high risk, and Maharashtra, Karnataka, and Kerala still showed extremely high case levels. The question is whether behavior as measured by mobility indicators and economic activity moved in tandem.
- **Changes in workplace mobility differed from mobility in retail and recreation activities**[25] **(Figure 1.31.b)**. By September, mobility in the workplace had mostly returned to pre-COVID levels everywhere, despite a high COVID-19 caseload (or perhaps related to it). But retail and recreation activity were still around 30 to 40 percent lower than pre-COVID levels, according to the Google mobility index (though it improved from the period of the strong lockdown in all countries). By January 2021, the southcentral states of India, areas around northeastern India, and Sri Lanka, still had 20-30 percent less mobility. But public workplace mobility was almost back to pre-COVID levels everywhere in the region.
- **Nighttime light (NTL) changes during that period also suggest that economic activity rose and fell at different times.** Figure 1.31c shows the average change in NTL intensity compared to the same period the previous year during three key subperiods: the lockdown (April-May 2020), the period with the highest number of COVID cases per capita in the region (September-October 2020), and early recovery (January-February 2021). Central and Southern India saw the largest declines in activity, as well as selected areas in Pakistan and west Sri Lanka, consistent with the stringency of the lockdowns. During the peak of the virus, in September-October, Pakistan, Tamil Nadu, and other areas did not see activity declines. However, Madya Pradesh had improved and activity in Kerala, Karnataka and Maharashtra saw double-digit declines in activity compared to the same period in 2019. There were also declines in the west, especially in Bangladesh and Northern Nepal. Fast forward to January-February 2021, and the picture is nearly the opposite of what was seen almost a year before: few places to the west saw declines, except for Pakistan, but Eastern India and Bangladesh still suffered double-digit declines in some districts.

[25] See definitions in note to Figure 1.31b

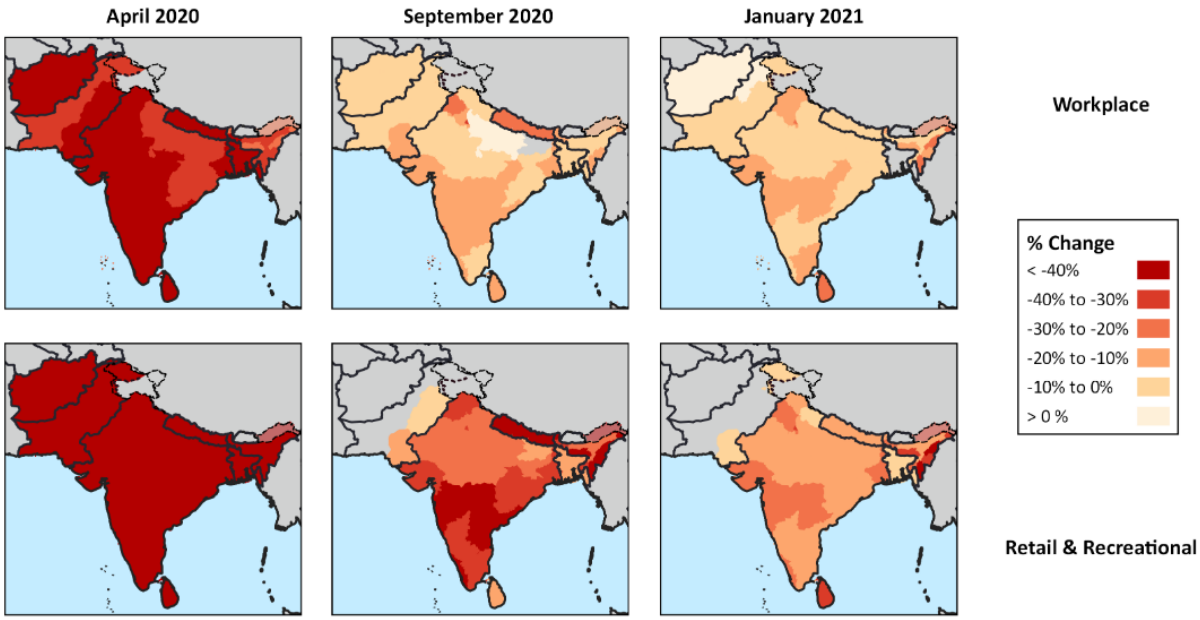
All in all, the impact of the virus has differed across the region, as seen in its timing; implications for mobility and urban activities; and effect on economic growth activity, as proxied by the nightlights. The contrasts in India also suggest that policies and restrictions started to become more varied around June, and states located in South Central India were disproportionately more affected than other subregions.

Figure 1.31a. COVID-19 incidence has fallen from its August 31 peak, though rates vary across South Asia regions



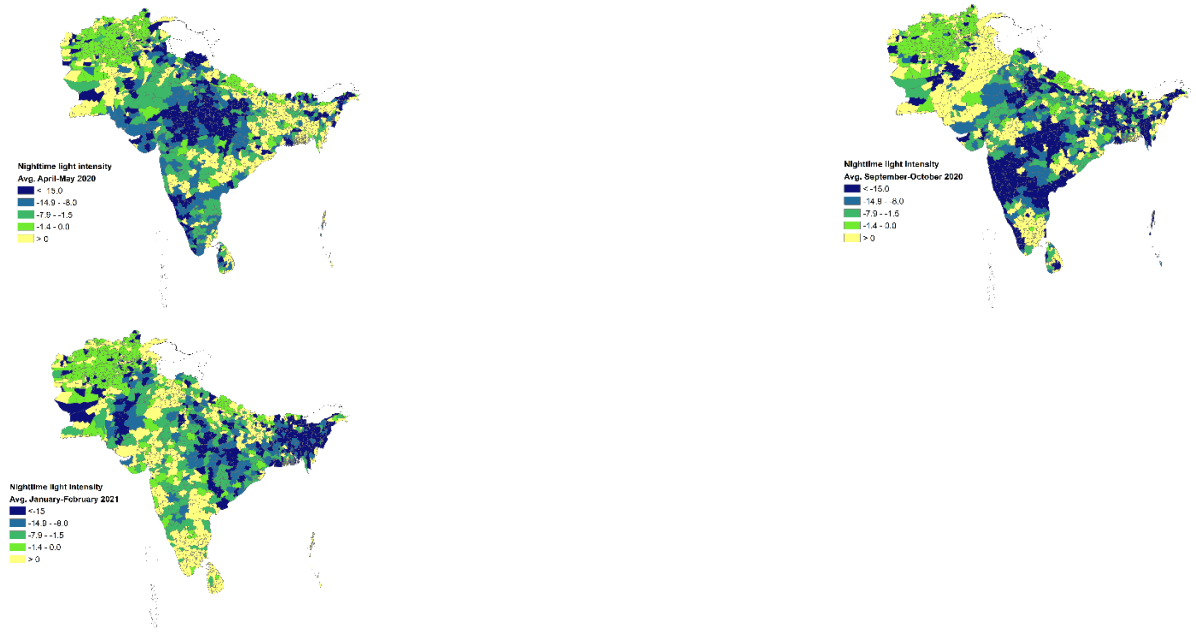
Note: see Appendix 1.1 for the definition of incidence rate.

Figure 1.31b. Mobility levels have increased dramatically, and by January, workplace mobility was less than 10 percent lower than pre-pandemic levels and between 10 and 40 percent for retail and recreation.



Note: Dispersion based on Google Mobility indicators. The number refers to the change in visits and length of stay at a given date compared to the baseline level during a five-week period in January 2020 before the pandemic. Retail and recreation include cafes, shopping centers, theme parks, museums, libraries, and movie theatres.
Source: Authors using Google https://www.google.com/covid19/mobility/

Figure 1.31c. Nighttime light intensity: average change relative to the same period the previous year.



Note: nighttime light intensity is defined as the sum of lights standardized by area. The raw data is cleaned to minimize temporary lights and background noise following Beyer, Franco-Bedoya, and Galdo (2020).
Source: VIIRS-DNB Cloud Free Monthly Composites (version 1) made available by the Earth Observation Group at the National Geophysical Data Center of the National Oceanic and Atmospheric Administration (NOAA) and staff calculations.

Food prices hikes harm the poor and vulnerable the most

The pandemic has not only triggered unprecedented economic and health crises but also led to surges in food prices in South Asia, increasing vulnerability. Higher food prices, accompanied by lost income, have reduced the welfare of households, which spend close to half their total expenditure on food consumption, much more than the 38 percent average in emerging Asia (Figure 1.32a). A sudden jump in the price of perishable and nutrient-rich food, like pulses and nuts, vegetables, and fruits, not only reduces the poor's purchasing power, but also lowers the nutritional intake in the daily meal. The poor are also more vulnerable to high and volatile food prices (Figure 1.32b) because of unstable income. Thus, rising food prices increase the poverty headcount and reverse progress toward sustainable development goals (World Bank 2010, ADB 2012, ILOSTAT 2020). In South Asia, a 10 percent hike in food prices triggers a 2.1 percent increase in the poverty rate and pushes an additional 37.6 million people into poverty (World Bank, 2021a). Some suffer more than others: households in Bangladesh, Pakistan, and India would be affected the most, while households in Sri Lanka would be the least affected given the smaller share of food in the consumption basket.

Figure 1.32. Food comprises a large share of South Asia's consumption basket, and main staples experienced volatile prices in 2020, affecting the poor.

Table 1.32a: Share of food in total expenditure

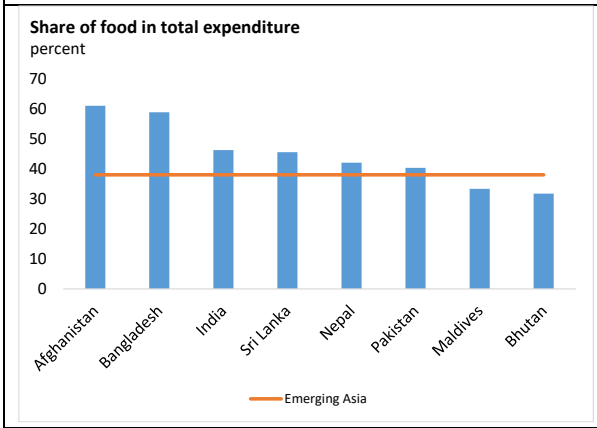
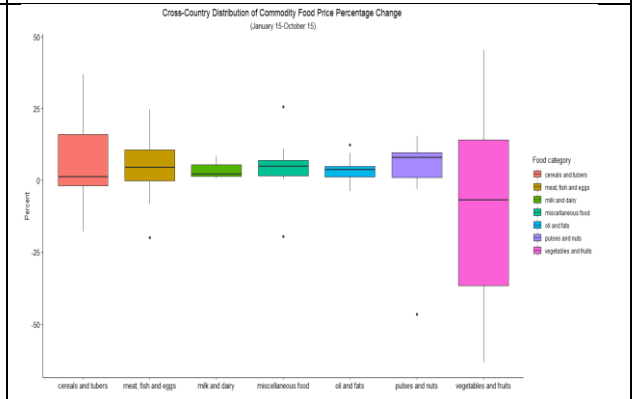


Figure 1.32b: Prices of basic food prices are highly volatile



Note: Emerging Asia refers to China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

Each food commodity category consists of items such as apples, bananas, eggs, onions, potatoes, rice, sugar, and tomatoes for South Asian countries. Monthly food price for each food commodity is the median price across all markets. The horizontal line inside each box corresponds to the median food price change within each category across eight countries, while the bottom and top borders of each box reflect the 25th and 75th percentile food price change, respectively. The dots represent instances when the food prices change went out of range. Food price is scaled to be comparable across the region.

Source: The World Bank (2010), "Food price increases in South Asia," World Food Programme, IMF, National statistics sources, and Asian Development Outlook reports

The pandemic shaped the behavior of food inflation in South Asia. Food inflation, even if short-lived, can have a devastating effect on the poor, who lack buffer stocks and may postpone eating. Unlike the previous food crisis (2007-2008), driven by higher energy costs and the increasing use of food crops to produce biofuels (World Bank 2012), the spike in food prices during the pandemic was mainly driven by a reduction in food supplies as a result of mobility restrictions. Indeed, had energy prices not collapsed in the first half of 2020, inflationary effects could have been much more damaging, given the importance of energy prices in transport costs and fertilizer prices. There were three phases:

The lockdown phase during the second quarter of 2020 was characterized by food price volatility.

i. Bottlenecks to transporting food created by initial restrictions, panic-buying, and hoarding amid the uncertainty led to price spikes. Supply disruptions during the food production process followed, due to a lack of migrant workers (labor shortage). Moreover, the extent of reliance on imported food for some smaller countries may have exposed countries to inflation from abroad or to exchange rate pass-through (Bhutan, Sri Lanka, Nepal, Pakistan). All four countries, except Bhutan, experienced currency depreciation during COVID-19, some of which may have been the result of disruptions in food foreign trade in the first month of the lockdown. Already some surveys suggest that many households experienced severe food insecurity during the lockdown periods (Egger et al., 2021).

ii. As lockdown measures were eased in the third quarter of 2020, non-food inflation remained below pre-pandemic levels in most South Asian countries, and the worry was over deflation amid collapsed demand. But food prices soared, while the price of meats, dairy, and canned/frozen fruits and vegetables remained stubbornly elevated.

iii. By the fourth quarter of 2020, as the economies opened up, food inflation eased. Pent-up demand, festival-led demand bolstered by higher-than-usual household financial saving, and a revival in consumer goods production (in India) helped ease food export restrictions and other bottlenecks.

Now the work of rebuilding amid the start-up of vaccination programs presents new challenges, particularly for policymakers overwhelmed with the precedents created by the unique crisis. A survey of experts in the region suggests no major concerns about the way governments are handling the economic recovery and the vaccines, though inequitable distribution globally is a concern (Box 1.4).

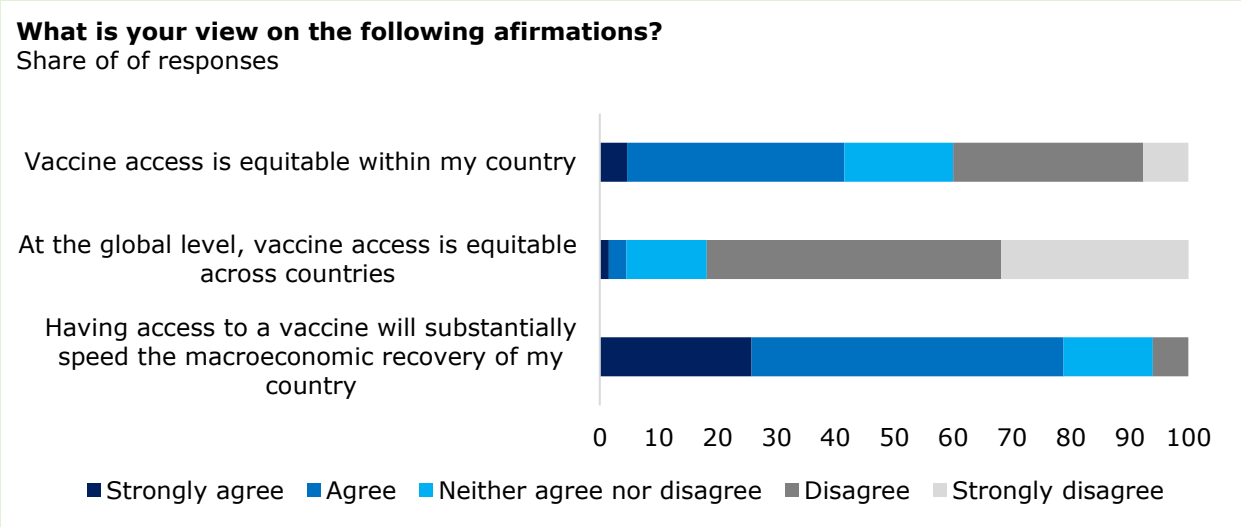
Box 1.4: Survey of South Asia experts

The South Asia Economic Policy Network is a World Bank effort to engage more deeply with thinkers and doers across South Asia. It allows us to nurture the exchange of ideas and foster learning from colleagues and counterparts in the region. Consisting of nearly 500 members, the Network includes researchers and experts from seven South Asian countries, selected based on peer recognition, recent conference presentations, and research outputs. Many are academics at renowned universities, others are researchers in central banks and think tanks, and some are affiliated with policy-making units.

As we did for the last five editions of this report, a short opinion survey of Network members was conducted. The objective was to take the pulse of informed and dedicated experts about economic developments in their countries. We also used the most recent survey to gather their views on the economic situation and their assessment of assessment of COVID-19 and vaccinations in their countries. We received 67 completed questionnaires from six countries. Almost all respondents identified themselves as academics, 88 percent as macroeconomists, 69 percent as policy advisors, and 21 percent as policymakers.

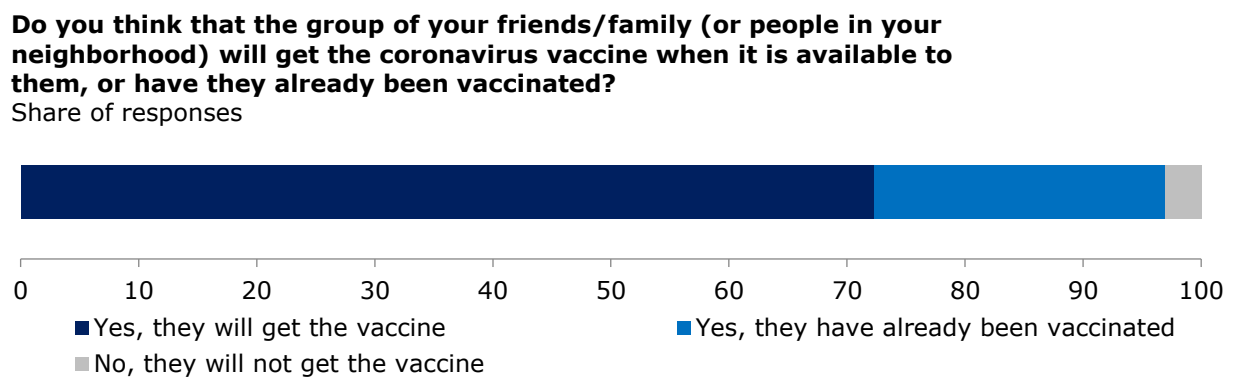
Perceptions about the benefits of vaccines are overwhelmingly positive, though most believed their distribution is not equitable globally. Over 79 percent of the respondents say that having access to a vaccine will substantially speed the macroeconomic recovery in their country, while only 6 percent disagreed (Figure 1.32). With the vaccine playing an important role in the recovery, it is compelling that more than 82 percent of the experts surveyed believed that global access to vaccines is not playing out equitably. The perception of whether there is equitable access within their own countries is more favorable, with 40 percent of respondents saying it is.

Figure 1.32. Vaccination will speed recovery; global allocation is key



A major concern among public health experts worldwide is vaccine hesitancy, but it did not show up in the responses. Large surveys tend to suggest that this is less of an issue in South Asia in general (Box 3.1). The overwhelming majority of respondents to this survey said they believe their family and community members will get the vaccine. The caveat: survey respondents are generally well-informed about the risks of vaccination, so their responses may not represent the South Asian population.

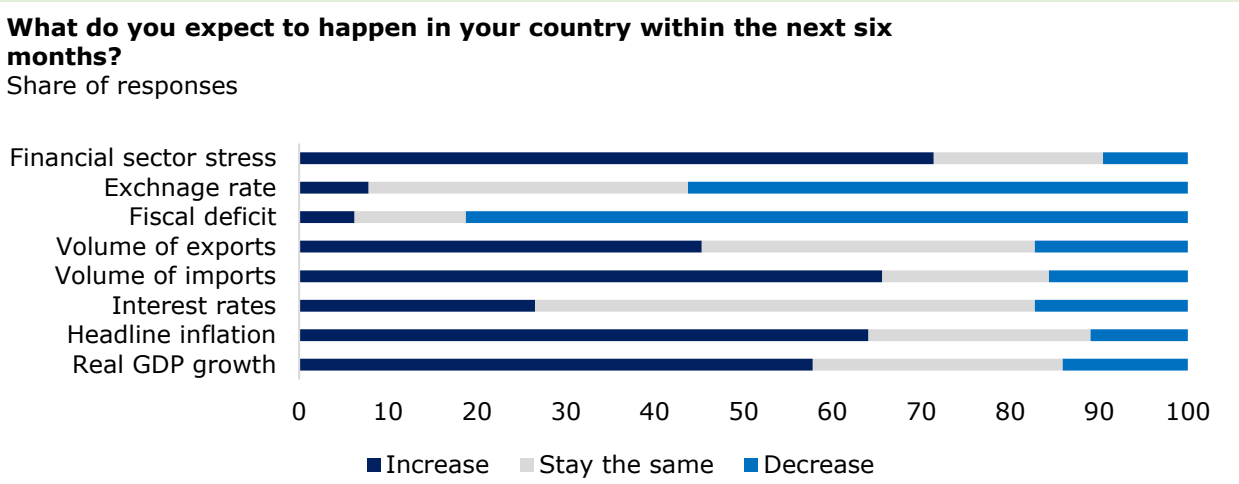
Figure 1.33. Everybody wants to be vaccinated



Survey respondents voiced concern about financial sector vulnerabilities over the next six months, though they expect the economy to improve (Figure 1.35). Over the next six months, most experts see rising financial sector stress as somewhat of a concern. However, 65 percent expect imports to rise, suggesting a demand revival. Across all countries, respondents strongly anticipate a continuation of the monetary policy easing with stable interest rates but higher inflation. They also expect stable exports. Network members strongly agree that fiscal deficits will decrease over the

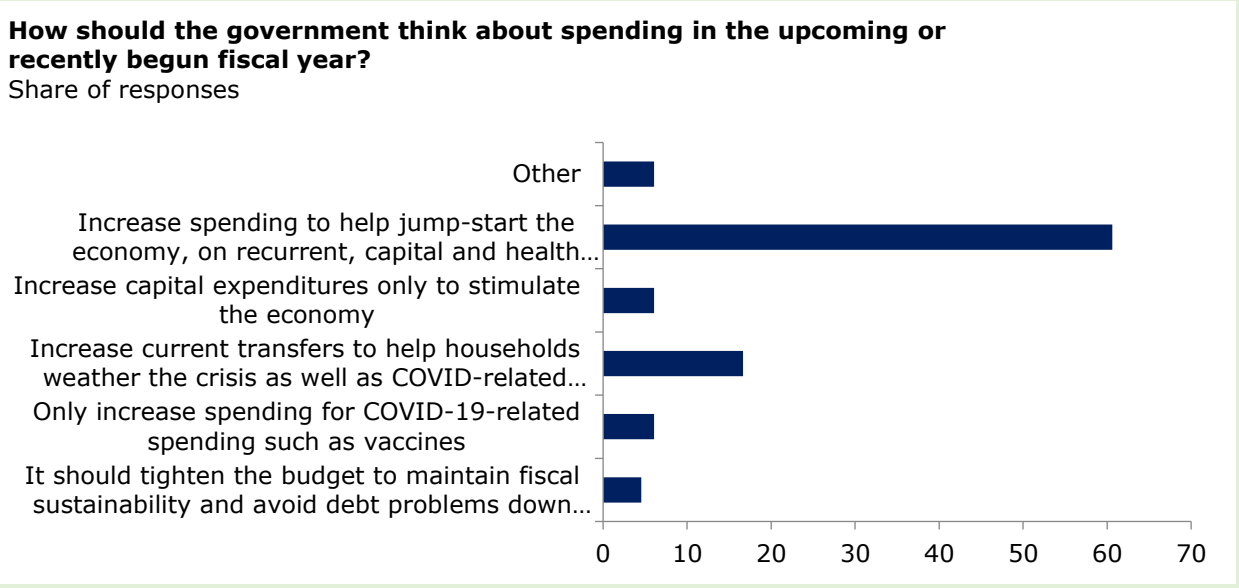
next six months. Overall responses suggest optimism about the economic outlook. In particular, more than 58 percent see real GDP growth increasing over the next six months.

Figure 1.35. Financial stress is seen as heading up



Experts believed that expansionary fiscal policies to weather this unique crisis are appropriate, with spending to help both lives and livelihoods. Although survey respondents expect the fiscal deficit to decrease in the next six months, the majority think that the government should plan to increase spending on recurrent, capital, and health-related expenses to stimulate the economy (Figure 1.36). Seventeen percent of respondents see increasing transfers to households and health spending—needed to help populations weather the crisis—as the priority. Only 5 percent think that the government should tighten the budget to maintain fiscal sustainability and avoid debt problems down the road.

Figure 1.36. Governments should increase investments



In the next chapter we discuss the outlook for the region and the main risks, which will most likely be related to effective spending while not losing sight of the opportunity that the crisis has afforded to build back better.

Appendix 1

Derivation of electricity model

To model electricity dynamics we use the Prophet algorithm. Prophet is based on a decomposable time series model (Harvey and Peters, 1990) with three main components: trend, seasonality, and holidays. These three components are combined in the following equation and sub-equations: $y(t) = g(t) + s(t) + h(t) + \varepsilon_t$ where $g(t)$ is the trend function modeling the non-periodic changes in the value of the time series. It is modeled as a parsimonious piece-wise constant rate of growth that is able to detect change points in the trend. $s(t)$ represents periodic changes (seasonality). $s(t)$ relies on a standard Fourier series to provide a flexible model of periodic effects (Harvey and Shephard 1993). Arbitrary smooth seasonal effects are then approximated by the equation above. $h(t)$ represents the effects of holidays that occur on potentially irregular schedules. The error term ε_t represents any idiosyncratic changes that are not accommodated by the model, under the parametric assumption that ε_t is normally distributed. This specification is similar to a generalized additive model (GAM) (Hastie and Tibshirani 1987), a class of regression models with potentially nonlinear smoothers applied to the regressors. Here we use only time as a regressor, but possibly several linear and nonlinear functions of time as components. Modeling seasonality as an additive component is the same approach taken by exponential smoothing (Gardner 1985). In our case, we use a multiplicative seasonality, where the seasonal effect is a factor that multiplies $g(t)$, accomplished through a log transformation.

Appendix Table 1.1. Definition and source of the variable for remittances regression

Variables	Time period	Description	Sources:	Note
Bilateral remittances	2010-2017, 2019	Bilateral remittances inflow from sending country to home country, in million US$	KNOMAD-World Bank staff estimate, Bilateral Remittance Matrix	Bilateral remittances in 2018 was linearly interpolated
Appreciation	2011-2020	One-period change in the exchange rate between sending country and home country	Exchange rate, national currency per US dollar. Sources: International Financial Statistics, IMF extended by national sources	
GDP growth	2011-2020	Growth of gross domestic product in local currency, constant prices	World Economic Outlook, IMF, World Bank	GDP growth converted to calendar year for Bangladesh, India, Nepal, Pakistan

Unemployment rate	2010-2020	Percent of total labor force	World Economic Outlook, IMF extended by the World Bank and national sources	
Short-term interest rate	2010-2020	Three-month treasury bills for India, Nepal, Maldives, Sri Lanka, Malaysia, Canada, United States; three-month interbank offer rate for Pakistan Turkey, Saudi Arabia, United Arab Emirates, Kuwait, United Kingdom, Qatar; three-month bank accepted bills for Australia; Lending rate for Iran. Islamic Rep	Haver analytics, CEIC/national sources	

Appendix Table 1.2. Risk designation for severity of COVID-19 caseload

Color code	Risk designation for a locality	Reported daily cases over the previous 14 days per million people and positivity rate (number of positive COVID-19 tests over total COVID-19 tests administered over the previous 15 days)
	Extremely high risk level	450/million or positivity > 10 percent
	Very high risk level	100/million or positivity >10 percent
	High risk level	30/million or positivity >10 percent, not enough testing or undercounting.
	Medium risk level	About 10/million
	Low risk level	< 10/million
	No risk level assigned	No recent data or data inconsistencies.

The risk incidence is a classification based on project that Johns Hopkins/NYTimes/Resolve to Stay lives have developed risk levels of localities

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Chapter 2:
Precarious outlook

Amid vaccine rollouts, the focus in South Asia is shifting to the still-incomplete recovery as major risks remain: a surge of COVID-19 cases as of end-March in India, Bangladesh, and Pakistan may require continued restrictions. We take a close look at the fiscal options of governments and how best the public sector can respond given very limited fiscal space. While public investment is crucial to reigniting long-term economic growth, tighter financial constraints force South Asia to deliver more with less. A critical challenge is how to support economic recovery while taking care of large COVID-related health expenditures by enhancing the efficiency of available resources. This is a tall order. Moreover, South Asia must contend with the long-term challenges of mitigating climate change and raising the level of human capital. The crisis does present an opportunity for countries to shift their policy priorities and make their institutions more resilient as they learn from the crisis.

This chapter presents the forecast and focuses on fiscal options given the difficult tradeoffs. Section 2.1 presents the forecasts for the region to 2023, the uncertainty around the baseline forecast, and the main risks to the outlook. Section 2.2 looks at how this crisis may differ from the previous global financial crisis in terms of aggregate variables. It also considers the different fiscal policy stances of the countries in 2021 and 2022 and what they imply for the sustainability of public debt (including the risk of a sudden stop). Section 2.3 estimates the fiscal multiplier for South Asia and how relevant this indicator is as the countries contend with this unique crisis. Section 2.4 considers two key long-term challenges that require making fiscal spending more effective: resilience to climate change and raising the level of education.

2.1 The outlook for the region has improved.

The global recovery is strengthening, providing tailwinds to South Asia's growth outlook. The global composite Purchasing Managers Index (PMI)—which indicates manufacturing and services activity—rose 0.9 points to 53.2 in February 2021, the highest reading for two-and-a-half years. The global SENTIX index rose 20.5 points in March, with the expectations component soaring to the highest level in the sentiment survey's 18-year history.[1] Some of this early positive sentiment is also reflected in the higher bond yields of major markets. These indicators point to optimism about the increasing pace of the vaccine rollouts in advanced economies but also the unprecedented U.S. fiscal stimulus packages that became law in December 2020 and March 2021, which together were equivalent to 27 percent of GDP. This will have a large spillover effect globally and compares favorably to the 6 percent of GDP stimulus plan the U.S. enacted after the

[1] The higher the PMI reading above 50, the greater the expected expansion in economic activity. The SENTIX Sentiment Indices represent investors' market expectations over the next month. They reflect investors' emotions, which fluctuate between fear and greed.

Global Financial Crisis (GFC). However, the effect on South Asia through financial and confidence channels will be more indirect. Commodity prices also rose in Q1 2021, and growth in merchandise trade has turned positive, although it has moderated recently.

The outlook for the region has brightened relative to the last forecast in January 2021. The improvement has come in part because South Asia is moving swiftly with its vaccine rollout and in part because the external trade outlook is improving faster than expected. The next few months will be marked by the speed and success of the vaccine rollout, and the optimism it may bring to consumer spending and business investments.

The region is expected to grow by 7.2 percent in 2021 and 4.4 percent in 2022, driven by the firm bounce-back from a very low base in mid-2020 (Table 1.2). India, which comprises almost 80 percent of the region's GDP, had a substantial revision to growth of 4.7 percentage points since January 2021, due to a strong rebound in private consumption and investment growth in the second and third quarters (July-December, 2020) of FY20/21. The outlook for Bangladesh, Nepal, and Pakistan for the fiscal year ending in mid-July 2021 also was revised up, consistent with positive indicators so far in the fiscal year (though Nepal's previous year estimate was revised down, generating a much larger base effect). Nevertheless, the FY2020/21 forecast for these countries reflects the third quarter of 2020, which was still devastating for the region. In other words, the effect of COVID was spread out over FY2020 and FY2021, explaining the very subdued growth rates spanning those two years. Chapter 4 discusses each country in detail.

Table 2.1. Real GDP growth in South Asia to resume in 2021

Table 2.1 Real GDP growth in South Asia to resume in 2021

	Fiscal year basis					Revision to forecast from January 2021		Revision to forecast from October 2020
		2019	2020(e)	2021(f)	2022(f)	2021(f)	2022(f)	2021(f)
South Asia		4.3	-5.4	7.2	4.4	3.9	0.6	2.7
Calendar year basis								
Afghanistan	December to December	3.9	-1.9	1.0	2.6	-1.5	-0.7	-1.5
Maldives	January to December	7.0	-28.0	17.1	11.5	7.6	0	7.6
Sri Lanka	January to December	2.3	-3.6	3.4	2.0	0.1	0	0.1
Fiscal year basis		**FY2020/21**	**Y2021/22**	**FY2022/23**	**FY2023/24**	**FY2020/21**	**FY2021/22**	**FY2021/22**
India *	April to March	-8.5	10.1	5.8	6.5	1.1	4.7	4.7
		FY2019/20	**Y2020/21**	**FY2021/22**	**FY2022/23**	**FY2020/21**	**FY2021/22**	**FY2021/22**
Bangladesh	July to June	2.4	3.6	5.1	6.2	2.0	1.7	1.7
Bhutan	July to June	-0.8	-1.8	2.9	4.5	-1.1	0.6	0.9
Nepal	mid-July to mid-July	-1.9	2.7	3.9	5.1	2.1	1.4	1.4
Pakistan	July to June	-1.5	1.3	2.0	3.4	0.8	0.0	0

* 2020(e) column shows April 2021-March 2022

Note: To estimate regional aggregates in 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, for which quarterly GDP data are not available. (e)=estimate, (f)=forecast.

Given the different definitions of fiscal years, the forecast for some countries is more accurate than for others. Most countries only saw a minor revision to the January 2021 forecast, except for Maldives and India, which are expected to grow faster in the coming year. (World Bank 2021a).

- In **Afghanistan,** the forecast assumes 1 percent growth in 2021. Industry and services are expected to recover gradually from the COVID-19 crisis, but the onset of drought conditions is expected to diminish agricultural output—which grew strongly by 5.2 percent in 2020. There are large risks to this forecast due to the expected continuation of current security and political conditions (slow progress in the peace talks and continued widespread violence) and a gradual decline in grant support. For 2022 and 2023, growth is expected to firm up gradually as COVID-19 disruptions dissipate.
- In **Maldives**, real GDP is projected to grow by 17.1 percent in 2021. After the country experienced the most devastating economic effects of COVID-19 in the region, as GDP fell by 28 percent in 2020, the rebound in growth largely reflects base effects. It also assumes a continuation of the improvement in tourism inflows, which began in late 2020. Although medium-term prospects for tourism are strong, real GDP is not expected to return to pre-pandemic levels until 2023.
- In **Sri Lanka,** the pandemic came amid an already precarious outlook in early 2020. The economy is expected to grow by 3.4 percent in 2021. Continued import restrictions and the high debt burden will adversely affect growth improvements and poverty reduction over the medium-term.

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 economic downturn still in force after June 2020 will continue to be reflected in the forecasts for the fiscal year ending in 2021.

- In **Bangladesh**, GDP is expected to increase by 3.6 percent in FY21. However, significant uncertainty surrounds both epidemiological and policy developments. Thus, growth in FY21 could range from 2.6 to 5.6 percent, depending on how the ongoing vaccination campaign proceeds, whether new mobility restrictions are required, and how quickly the world economy recovers. Over the medium term, growth is projected to stabilize within a 5 to 7 percent range as exports and consumption continue to recover.
- In **Bhutan**, GDP will fall further (by 1.8 percent) in FY20/21 before gradually recovering to pre-COVID levels. The services sector is projected to contract by 3.7 percent in FY20/21, though, reflecting a complete restriction on tourism. The country is expected to reopen by mid-2021 at the latest. The slowdown in India and trade disruptions are expected to weigh on the non-hydro exporting industries. The construction sector faces a protracted slowdown in the medium term as containment measures and labor shortages contributed to disruptions in public sector infrastructure projects. Economic growth is expected to pick up in FY22/23, reflecting an increase in tourism activity and the commissioning of the hydropower project Punatsangchhu (Puna) II.
- In **Nepal**, GDP is projected to grow by 2.7 in the current fiscal year and recover gradually, to 5.1 percent by FY23. The baseline projections assume a successful domestic and global vaccination rollout and a gradual resumption of international tourism (which is expected to fully recover by FY23). Industrial activities are likely to remain below pre-pandemic levels until early FY22/23. Agriculture will remain a strong growth driver, thanks to favorable monsoons and continued government investments in irrigation and

commercialization. There is a risk that political uncertainty, if prolonged, may undermine investment sentiment.

- In **Pakistan**, growth is expected to reach 1.3 percent in the fiscal year ending June 2021, slightly better than the January forecast. However, the recovery remains fragile, as the forecast is predicated on the absence of significant COVID-19. Private consumption will continue to strengthen, aided by record official remittance inflows. Investment is likely to continue recovering, as machinery imports and cement sales recorded double-digit growth rates mid-year and business confidence indexes exceeded pre-COVID levels by December 2020. Informal workers should gradually return to work, so output growth is expected to recover only slowly, to an average 2.2 percent over FY21-23.

Finally, India's current (FY21) fiscal year runs from April 1, 2020 to March 31, 2021. That means that the most severe effects of the pandemic will be felt in this fiscal year, exaggerating the base effects.

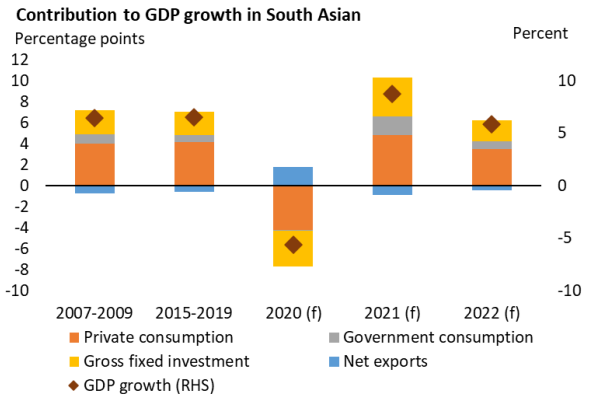
India is expected to grow over 10 percent in the fiscal year starting April 1, 2021—slightly over one year since the great lockdown went into force—as the vaccination drive is expected to spur activity in contact-intensive sectors. The infrastructure focus of the Union Budget 2021-22 is expected to aid the growth momentum and revive domestic demand. Nevertheless, there is significant uncertainty at this stage about both epidemiological and policy developments, so real GDP growth may range from 7.5 to 12.5 percent. Over the medium-term, growth is projected to stabilize within a 6-7 percent range. Though public consumption will contribute positively, pent-up private demand is expected to fade by the end of 2021, as investment will pick up very gradually spurred by a large government capital expenditure push. Negative spillovers from financial sector distress, especially as forbearance measures expire, remain a risk to the growth outlook. Nonetheless, the Reserve Bank of India's liquidity stance is also expected to remain accommodative during the fiscal year ending in March 2022.

Consumption will make the largest contribution to domestic demand in 2021. The rebound was faster than expected in large part because private consumption growth was revised up 5.4 percent (Table 2.2). The private consumption drop was even sharper than the GDP decline in 2020, at 6.9 percent versus 5.6 percent. This contrasts with South Asia's recent past: private consumption has always been the most stable demand component, even during the period of the GFC in 2007-09 (Figure 2.1). This faster-than-expected recovery reflects the sharp rebound from a very low base, but also the resolution of uncertainty amid vaccine rollouts and tailwinds from higher remittance inflows at end-2020.

Moreover, public consumption growth is more than doubling. For 2021, government consumption is expected to rise by 16.7 percent (reflecting India's strong stimulus, which would translate to an almost 20 percent increase in calendar year 2021). But government consumption will grow in all countries, with increases reaching Bhutan in its FY2020/21 fiscal year and Bangladesh and Nepal in the second half of 2021. With this revised forecast, per capita income in the region will revert to its pre-COVID levels by the end of 2021. However, it will have still lost

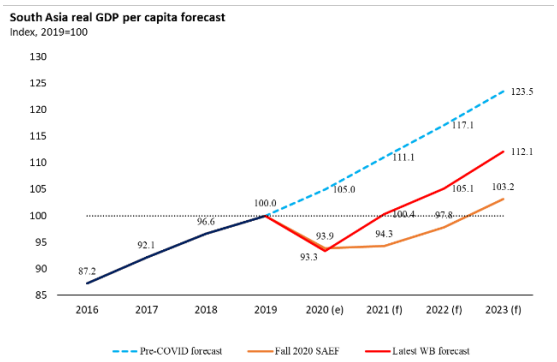
over two years of development as GDP will be around 11 percentage lower than if the epidemic had not occurred (Figure 2.2).

Figure 2.1: Consumption to contribute the most to the pickup in GDP growth in 2021, with 2020's fall an outlier.



Note: (f)=forecast. South Asia aggregates are converted to calendar year. The value of stacked bars for historical figures does not exactly sum to GDP growth due to inventory changes and statistical discrepancies.
Source: World Bank

Figure 2.2. Per-capita income now expected to recover to pre-COVID levels by mid-2021.



Note: South Asia aggregates are converted to calendar year. Real GDP was extended in calendar year 2023 by assuming the same growth rate as previous year.
Source: World Bank

Investment and net exports will pick up at different rates. Investment will grow by 12.7 percent in the region, reflecting a strong push from India of 14.3 percent in CY2021. Nepal is also expected to resume its investment programs while Maldives had few interruptions in its tourism and transport-related investment programs in 2020. Investor sentiment has increased as the uncertainty from the health crisis has significantly died down, but there are risks to the pace and strength of the recovery. As demand for capital and intermediate imports resumes in line with other domestic demand components, the forecasted 9 percent growth in imports will outpace the 5.6 percent export growth in 2021—exports had already been recovering at the end of 2020. Therefore, net exports will contribute negatively to growth.

Table 2.2. All demand aggregates are expected to improve in 2021, with a large upward revision to government consumption growth

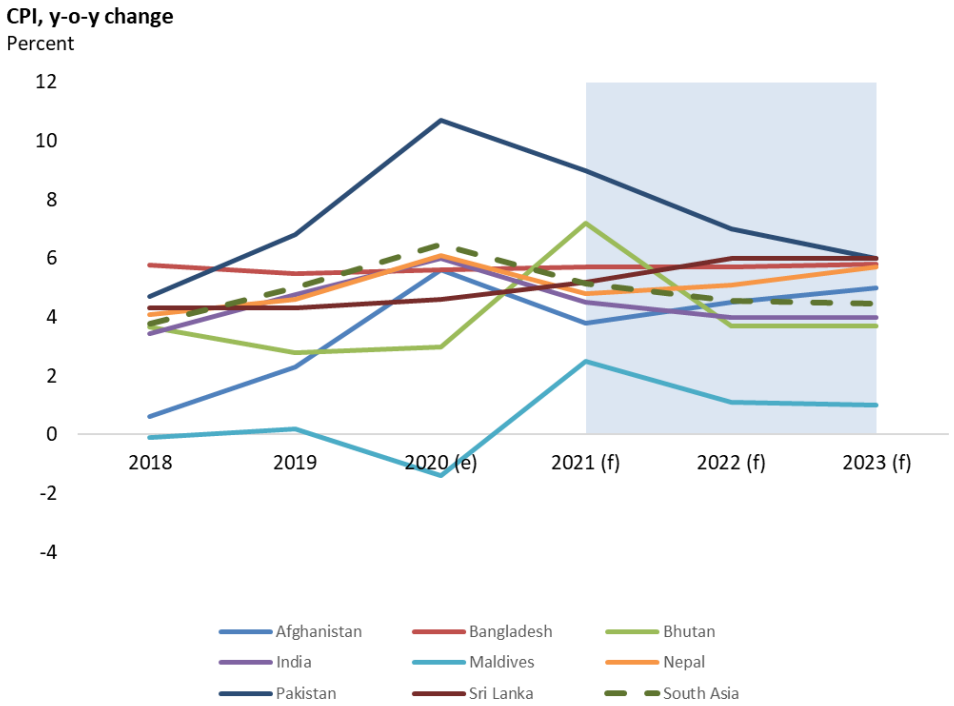
South Asia growth of GDP and demand components (%)					Change from January 2021	
Calendar year	2019	2020e	2021f	2022f	2020e	2021f
GDP	4.3	-5.6	8.7	5.9	1.1	5.4
Private consumption	5.6	-6.9	8.0	5.8	2.0	5.4
Government consumption	6.6	-0.5	16.7	6.3	-4.0	10.4
Investment	4.9	-11.1	12.7	6.6	3.5	7.8
Exports	1.7	-9.4	5.6	8.9	-1.8	1.5
Imports	-1.0	-15.0	9.0	9.5	1.2	3.6
Net exports, contribution to GDP growth	0.6	1.7	-0.9	-0.4	-1.0	-0.5
Memo item: current account balance (percent of GDP)	*-1.4*	*0.8*	*-1.1*	*-1.4*		

Source: World Bank and Staff calculations
Note: South Asia GDP and its components are converted to calendar year

The current account will remain in deficit as external trade is expected to accelerate over the next two years in line with the improved global outlook. By 2022, exports are set to rise to almost 9 percent amid an expected global recovery as trade in intermediate goods resumes. Tourism will start to grow faster starting in mid-2021 and should take off in Bhutan and Maldives by 2022, where the plan is to have most of the adult population fully vaccinated for COVID-19 by the second half of 2021. South Asia's current account balance as a share of GDP showed a 0.8 percent surplus in 2020; this is expected to move to a deficit of 1.1 percent of GDP in 2021 and 1.4 percent in 2022. Most countries will continue with moderate deficits of the current account as a share of GDP amid improving but still deficient demand, except for two small countries where the pace of pre-COVID tourism construction projects (in Maldives) and continued hydropower investments (in Bhutan) will resume.

Inflation is expected to decline slightly in 2021 with improvement in goods' transport bottlenecks that had been disrupted following the lockdowns in various countries. This is particularly so for Pakistan and Bhutan. Oil prices have recovered their pre-COVID levels, and Brent crude oil prices are expected to remain at around $60/barrel over the forecast period. However, several segments of the economy may experience temporary cost-push pressures from a rise in industrial raw material and fuel prices as the economy opens. Average inflation is expected to reach almost 5.1 percent in 2021 but revert to less than 4.5 percent in 2022 (Figure 2.3).

Figure 2.3. Inflation expected to decline slightly to 2023



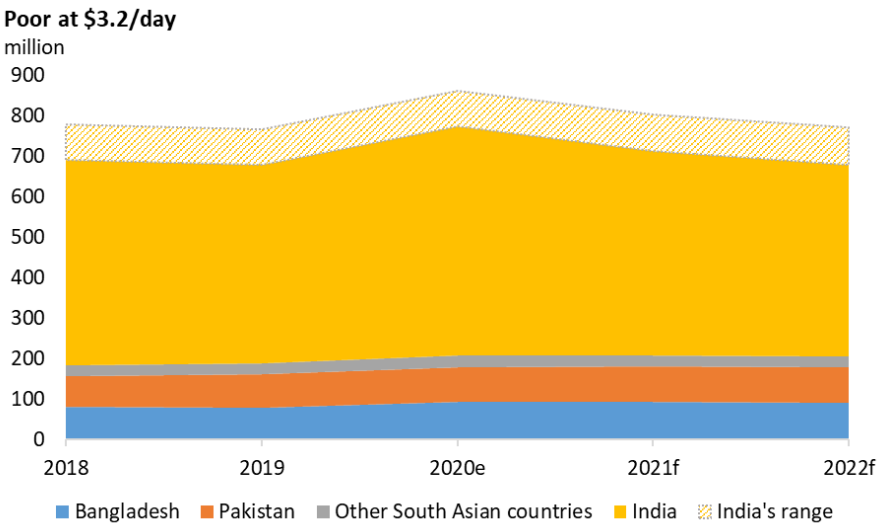
Note: South Asia aggregates are calculated by using the share of private consumption in 2019 as weights

Source: World Bank

Poverty levels are estimated to have risen in 2020 but are expected to improve in 2021 as employment and incomes start to recover. Between 19-24 percent of the global poor (measured at the lower middle-income poverty rate of $3.20/day) lived in the region in 2020, higher than the range of 12-17 percent estimated under the pre-crisis counterfactual. Over two-thirds of the new global extreme poor—those who became poor or could not escape poverty due to COVID-19—live in South Asia.[2] At $3.20 a day, the poverty rate in the region is forecast to range from 37 percent to 42 percent in 2022, down from 42-47 percent in 2020. All countries are projected to see gradual declines in poverty as income-per-capita growth recovers (Figure 2.4 and Chapter 4).

[2] This estimate was based on previous forecasts of GDP growth, which showed a larger GDP decline. Nonetheless, the conclusion holds regardless of the poverty line used: most of the new poor due to COVID-19 reside in South Asia. In general, the range of estimates for South Asia is influenced by the uncertainty surrounding the poverty estimates for India. For 2020, the poverty rate at $3.20 a day is estimated between 40 percent to 47 percent in India.

Figure 2.4. Poverty rates at the lower middle-income level fall to the range of 37-43 percent for the region in 2023.



Source: Own calculations based on MPO SM2021. Nowcast 2017-2020. Forecast 2021.

External conditions unlikely to thwart recovery, though the outlook for remittances is uncertain.

Despite the recovery, downside risks should not be ignored (Figure 2.5). Uncertainty around the forecasts pertains to whether the ongoing vaccination campaigns proceed as planned, whether new mobility restrictions are required amid possible new waves of COVID-19, and how quickly the world economy rebounds. Two additional scenarios were constructed around the central forecast, focusing on the impact of the international environment. One assumes that the vaccine rollout in advanced economies is much more successful than anticipated, and full vaccination is achieved before the end of 2021. A pessimistic scenario assumes that successive waves of the pandemic and the spread of new variants essentially delay global recovery for an additional year relative to the baseline forecast (Table 2.3). Over the forecast period (extending to 2023), the confidence band is widest in 2021, with a greater difference from the base case in the pessimistic scenario (Figure 2.5c).

Table 2.3. Assumptions behind changes in international environment and sudden stop scenario

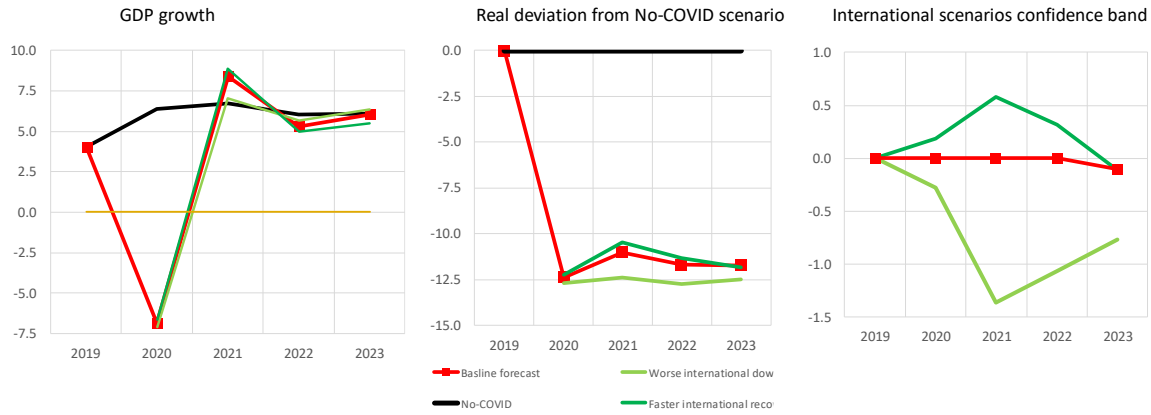
Scenario	Assumption behind scenario
No-COVID counterfactual	Uses World Bank Global Economic Prospects January 2020 forecast extended to 2023.
Baseline forecast	Central forecast, which assumes health-related effects gradually die down amid vaccinations and economies are fully open by 2022. Extended to calendar year 2023.
Risks: alternative scenarios around the external environment	
Worse international downturn	A protracted external recovery: trading partner growth stalls amid new variants of the COVID-19 virus abroad and delays in vaccine rollouts to 2022. Assumes postponed recovery in the rest of the world (0 percent in 2021). Oil price falls to $50/barrel. Remittances slow in line with postponed employment prospects in host countries.
Faster international recovery	Trading partners able to fully control the pandemic by 2021 (fast availability of vaccine, quick testing, and improved COVID treatments). Oil prices rise to $70/barrel. Full return of world demand to no-COVID levels over three years starting 2021, as the gap with the no-COVID scenario quickly falls for export partners and migrant host countries, spurring inflow of remittances.
Simulated fiscal shock.	
Sudden stop of external financing	In addition to slow recovery in trading partner economies, vulnerabilities in the global financial system manifest, and external creditors become highly risk averse. No new deficit financing by external creditors available in 2021 and 2022 (though official creditors assumed to cover most of the amortization payments for low-income countries, except for amortization due on commercial terms). The ensuing cut in government expenditure allocated 40 percent to current expenditure and 60 percent to capital expenditure.

Assumptions about the recovery of trading partners barely affect the confidence band around the central forecast. Growth is still expected to recover sharply regardless of the assumption about the international environment (Figure 2.5, left panel). The growth rate in 2022 will be within 1.5 percentage point of GDP from the baseline in both the pessimistic and optimistic scenarios (though much larger for pessimistic scenario, right panel of Figure 2.5). Thus, the range of GDP forecasts across these scenarios is much smaller than the impact of the COVID-19 pandemic on regional GDP, which remains between 10 percent and 12 percent below a no-COVID counterfactual scenario in 2023 (Figure 2.5, middle panel). There are two reasons why the GDP growth forecast for South Asia does not change dramatically under different assumptions about the speed of the external recovery. The first is that South Asia is not very open to trade: the

region's trade openness is 39 percent of GDP compared to 57 percent in Southeast Asia.[3] Maldives, Sri Lanka, and to a smaller extent, Bangladesh are more susceptible to changes in trading partner conditions, as their confidence intervals are between 1.5 and 2.8 percentage points of GDP either way. The second is that commodity prices have a countercyclical effect because most of the regional countries are net commodity importers and major importers of gold. As the global economy recovers and higher demand for commodities raises their prices, net exports in South Asia tend to fall, dampening growth.

Figure 2.5. South Asia's GDP to recover strongly in 2021 and reach pre-COVID growth levels. Compared to no-COVID counterfactual, the region is unable to recoup the loss over the forecast period. The wider gap between baseline forecast and "worst international downturn" scenario reflects more downside uncertainty.

Simulations of growth rates and deviations from no-COVID for South Asia



Source: Authors using MFMod.

Note: See definition of scenarios in Table 2.3. Left panel refers to GDP growth; middle panel to cumulative deviations from 2019.

Other risks to the outlook are less likely but nonetheless palpable. While textile and garments exports have been recovering, they are vulnerable to new waves of COVID-19 in buyer countries, affecting Bangladesh the most but also Pakistan and India. New variants of the virus could thwart plans by Bhutan and Nepal to gradually open tourism or significantly expand it in Maldives and Sri Lanka if demand remains subdued. Finally, as moratoriums to debtor firms are lifted, past banking sector vulnerabilities may manifest. Contingent liabilities in the financial sector from non-performing loans combined with weak capital buffers could necessitate government-financed capitalizations, which would increase domestic public debt in India, Bangladesh, and Bhutan in particular (as per our simulations in World Bank 2020). On the positive side, investors in many advanced economies are flush with cash as opportunities for spending have been limited during the crisis. They may be more willing to invest in the services sectors and continue financing

[3] Source: World Bank. Trade openness is exports plus imports as percent of GDP. South Asia is increasingly more linked to global production through digital services, but these are not directly traded. Though business services in India comprise 25 percent of total exports.

governments. Bond spreads, with some exceptions, do not yet suggest any increase in risk aversion among global investors (Figure 2.11)

External demand may be higher amid an expected pickup in COVID vaccines and related pharmaceutical exports. The Serum Institute of India contracted with governments and the COVAX facility to produce and export most of the world's supply of COVID-19 vaccines in 2021. On the downside, the forecast assumes that many of the factors that raised remittance flows in 2020 are temporary (Section 1.3).

The outlook for remittances is highly uncertain, given the unknown fate of prospective migrants. In 2021, remittances may recover in line with growth in sender countries in 2021. But there is huge uncertainty about the expected change in the stock of migrants in the medium-term, as much will depend on migration policies in host countries. There is also the danger that some migrants who were repatriated when host country activities were shut down may not be able to get their original jobs back. In the case of Saudi Arabia and other GCC countries there was already a shift in policies to favor the employment of native-born workers (Section 1.2). Migrants may also turn to informal channels again to send remittances once travel restrictions are loosened, particularly through the hundi system.[4]

On the other hand, the pandemic has brought to light the benefits of Fintech for migrants and governments alike. South Asian governments can work with host countries to expand job-matching sites, establish registries, and sponsor Fintech platforms that will bring down the cost of digital payments. There have been Fintech innovations that accelerated during the pandemic. For example, single-corridor Fintech solutions are giving way to multiple-corridor platforms. These platforms enable local institutions to access both sender and receiver. Digital wallets, which securely store users' payment information, allow users to complete purchases easily and quickly and can work with major platforms (G-pay, Alipay). More competition among these platforms may bring the cost of transfers down, and governments can enable their use. A prominent example is the partnership between Singapore's Ministry of Manpower's Aptiv8 app and a Fintech platform (Chami and Fullenkamp, 2021).[5]

The forecast hinges on a sizable fiscal stimulus, significantly larger than those in the past. How quickly and efficiently such expenditure comes on board is still a crucial question for South Asia.

[4] Hundi is an informal system of remittance that is illegal, as the money exchange takes place outside banking channels. Such systems were prominent before the crisis, on the border between India and Nepal, for example (The Rising Nepal editorial, 2019).

[5] Aptiv8, a support app for migrant workers in Singapore, is collaborating with Nium (RaaS platform) to add remittances features to the Aptiv8 app. Nium leverages biometric data on workers collected by the Singapore government to comply with AML/CFT rules. Thus, migrant workers based in Singapore have access to multi-destination remittances capability designed for regulatory compliance.

A negative external shock: sudden stop scenario.

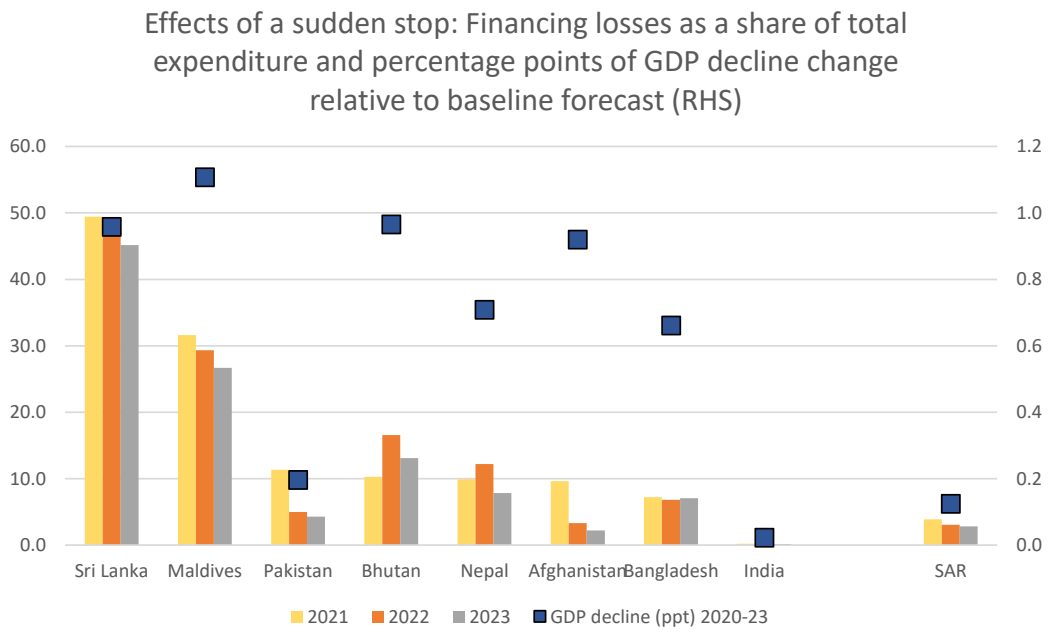
Even if South Asian countries follow effective fiscal policies, the pandemic's global nature means all countries are susceptible to changes in external sentiment, particularly from capital markets. The forecast assumes that funding for the public sector will be forthcoming, as in the past. There is, however, a non-negligible risk of a "sudden stop," in which South Asian governments have to abruptly cut spending because they cannot obtain new financing.[6] We model such a drastic scenario in which we assume that all new external financing from abroad comes to a standstill in 2022, meaning countries can only rely on domestic financing (see scenario description in Table 2.3). Unless there are large impending rollovers not yet financed, we assume that external amortization due is covered by official creditors. Under such circumstances, annual GDP growth in Maldives, Bhutan, and Afghanistan would be about one percentage point lower, on average, over the forecast horizon than the baseline forecast (Figure 2.6). However, for South Asia as a whole, the difference would be small compared to baseline because India and Bangladesh, which together account for 89 percent of the region's income, would not be greatly affected. The majority of India's public debt is domestically financed, while Bangladesh has a low level of external debt (14.4 percent of GDP in FY21). Nepal's external debt is also very low. Sri Lanka and Maldives would be the most affected given their high dependence on external debt, though Maldives would be able to cope if it is able to resume tourism. In Sri Lanka, credit to the government from the banking sector has been rising fast to take care of large deficit financing needs.[7] With more debt amortization due, Sri Lanka's situation is challenging.[8]

[6] For Afghanistan, the scenario assumes that continued impasse with foreign donors dries up foreign grants.

[7] On a year-on-year basis, credit offered to the government by banks in Sri Lanka increased by 63 percent in January 2021. Included is credit to the government from the Central Bank, which increased by 176 percent, y-o-y. The treasury bills stock held by the Central Bank, which partially reflects monetization of deficits, rose to a record high of LKR 810 billion by February 28.

[8] Short-term external vulnerabilities are rising for Sri Lanka. Various import restrictions have been implemented to preserve scarce foreign exchange to be used for external debt service due. In February, commercial banks were forced to sell 50 percent of export proceeds to the Central Bank, and in turn, exporters had to sell 25 percent of their export proceeds within six months of shipment to banks. This restriction was still in force as of late March. The combination of a stimulus package in 2019 (pre-pandemic) and low revenues in the aftermath of the COVID-19 shock resulted in a steep deterioration in fiscal balances

Figure 2.6. Small and indebted countries much more affected by sudden stop scenario



In the next section, we analyze the impact of the fiscal sector on the rest of the economy and what past relationships can tell us about the ability of governments to manage a sustainable recovery. Understanding these dynamics will help explain what policies may work better this time around.

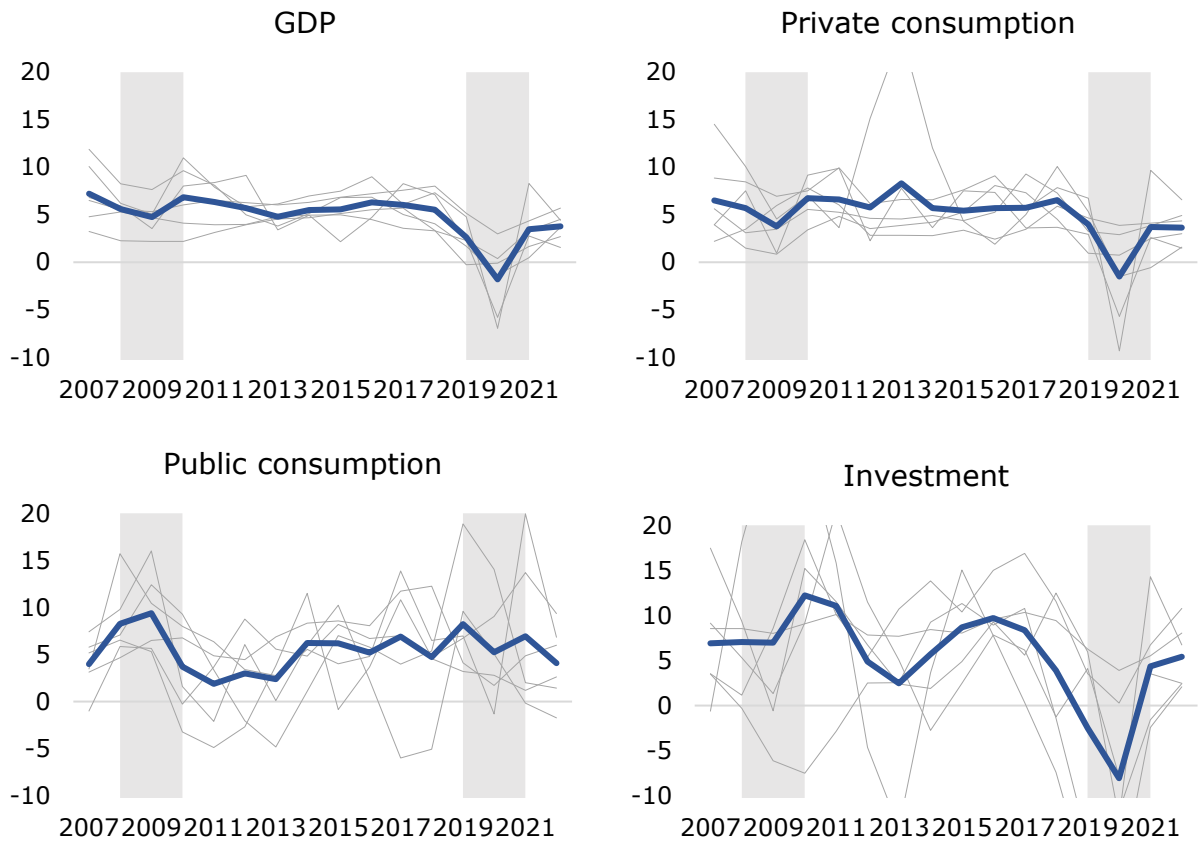
2.2: How is this crisis different than the Global Financial Crisis?

A closer look at movements in macro aggregates during the most recent global recession could provide some clues about what policy makers should do. Specifically, growth dynamics and co-movements of real GDP and its components across the region provide additional insight into the differences between the current pandemic and the GFC. Potential spillovers could lead to a faster recovery in South Asia, given existing linkages through foreign direct investment, remittances, supply chains, tourism, and trade channels. For example, India's growth has a statistically significant impact on that of the other economies (South Asia Economic Focus, Spring 2020), and an economic rebound in India may support higher growth in the whole region. It is, therefore, important to analyze the common shock propagation across the countries and potential differences that may have arisen.

The fall in real GDP in South Asia has been swift and strong with the prevailing crisis, unlike the GFC. The downturn in the growth of private consumption and GDP was similar in both crises, with a striking plunge during the pandemic. On the other hand, public consumption growth was stable in both crises, with a slightly higher average increase in the GFC. Investment growth

has been showing the biggest difference - it fell during the pandemic and was stable followed by growth during the GFC (Figure 2.7).

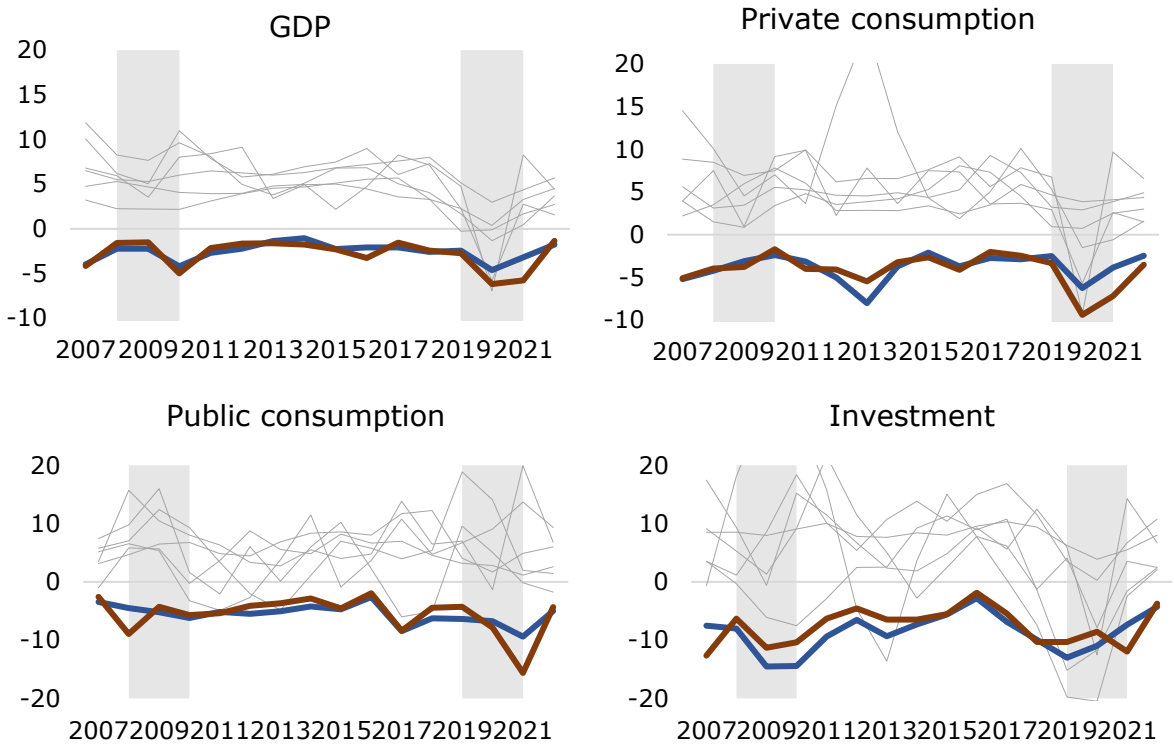
Figure 2.7. The plunge in private consumption and investment drove the recent GDP downturn



Note: Unweighted average real growth rates (blue) and individual growth dynamics (grey) for six South Asian economies (Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka).
Source: Macro Poverty Outlook and our calculations.

Whether co-movements between key macroeconomic variables across countries in the region have changed could be tracked with the synchronization indicator (Appendix 2). Figure 2.8 shows the average values per year of the synchronization indicator for all bilateral combinations and bilateral combinations with India only.

Figure 2.8. Differences in growth dynamics have been relatively stable across the countries



Note: The evolution of the average values of the synchronization indicator (S) for all bilateral combinations (blue), bilateral combinations with India only (red), and individual real growth dynamics (grey) for six South Asian economies; values closer to 0 indicate higher synchronization.
Source: Macro Poverty Outlook and our calculations.

The impact of the current crisis seems to be somewhat more heterogenous than in the GFC, according to the calculated synchronization indicator (Figure 2.7). Differences in economic growth come mostly from different private consumption dynamics, with particularly large decreases observed in India and Sri Lanka. Public consumption rates have also diverged slightly, indicating diverse capacities to buffer the shock. Investment growth has been least synchronized over the whole period due to large fluctuations in Bhutan investment patterns. It reflects some heterogeneity in the main sectors where investment takes place. For example, Bangladesh and Nepal have been undertaking infrastructure projects, while other countries have been working on tourism projects (Maldives) and energy projects (Pakistan and Bhutan).

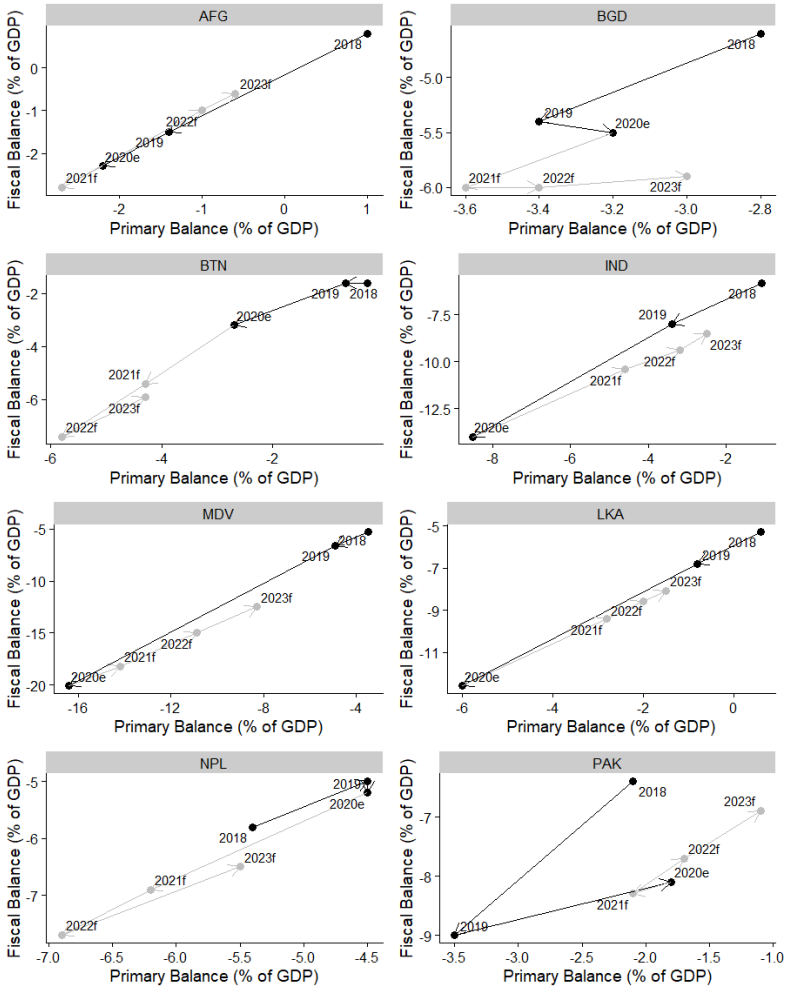
Average bilateral synchronization with India has decreased slightly during the pandemic, which was expected given the exceptional fall in GDP and private consumption in South Asia's largest economy. Considerable projected government expenditure increase in India will result in diverged public consumption growth relative to the others, but with potential positive

economic effects and spillovers to the rest of the region. A similar spillover effect is expected from the projected rebound in India's private consumption growth.

How can fiscal policy help steer the economic recovery if there is no financing?

All countries have seen a decline in fiscal space, although the magnitude of the problem differs by country. Government financing needs is one such difference. Thus, the fiscal policy response is expected to differ in magnitude and timing in each country. A common thread among each of the eight countries is that a history of procyclical policies has contributed to the lack of fiscal space as they entered the recession, meaning all start the 2021 recovery with significantly larger fiscal deficits than in 2019 and 2020 (Figure 2.9). As a region, the fiscal space (fiscal deficit as a share of GDP) widened by 4.8 percent in 2020, though it is expected to return closer to pre-COVID levels by 2023. For example, in Sri Lanka the combination of a stimulus package in 2019 (pre-pandemic) and low revenues in the aftermath of the COVID-19 shock resulted in a steep deterioration in fiscal balances. All countries must face formidable tradeoffs on how much to spend, summarized in Table 2.4.

Fig 2.9. Fiscal deficits and primary deficits 2019-2023



Source: World Bank MPOs.

Table 2.4. All countries are facing different fiscal challenges, and few have fiscal space.

Country	Fiscal options over 2021-23 forecast period
Afghanistan	No fiscal space as it has no ability to finance deficits domestically.
Bangladesh	The fiscal deficit has widened slightly, the implementation of tax reforms has been slow.
Bhutan	Fiscal deficits volatile due to one-off profit transfers (from commissioning of hydro projects which have pushed up current spending in the past, though fiscal sustainability expected to improve over the long run as revenues from the expanding hydroelectric capacity increase.
India	Fiscal stimulus amid relatively low external debt is feasible.

Maldives	A gradual decline in the large fiscal deficit in the next one to three years is contingent on tourism recovery and the pace of capital spending.
Nepal	Fiscal deficit reflects expenditures on imports but should improve with tourism revival and tax exemptions.
Pakistan	Fiscal consolidation efforts will resume in 2021, though the deficit will remain elevated at 8.3 percent of GDP, in part due to arrears settlements. Revenue mobilization should bring the deficit down in the medium term.
Sri Lanka	Fiscal deficit is expected to remain high in the forecast period despite tightly controlled expenditures as revenue collection will remain weak.

The fiscal space depends on preexisting conditions and the size of the shock that determine the optimal fiscal and composition of debt. India, Bangladesh, and Nepal are in the best positions to increase current spending to stimulate their economies, though Nepal's implementation speed in the past has lagged. The Reserve Bank of India was in a position in 2020 to extend a currency swap to governments in small neighboring countries such as Maldives and Sri Lanka, which are in a less favorable position relative to the size of the shock. The optimal choice for fiscal policy will also depend on the debt levels, how countries got to those debt levels, and how willing the international creditor community will be to finance new debt (Box 2.1).

Box 2.1 How can South Asia avoid getting caught in a third wave of debt?

South Asian countries are not all in the same position in terms of public external debt sustainability. As with most countries during the crisis, South Asia debt levels grew in 2020 and are expected to continue rising over the forecast horizon as a percent of government revenues and GDP. The eight countries can be broadly placed into three groups (as shown in Figure 2.10):

(i) *Countries with mostly comfortable debt ratios and relatively low external debt as a share of GDP* (India, Bangladesh, and Nepal). India's public debt is high and growing. However, it is mostly domestic and thus less susceptible to global market sentiments and exchange rate risk. Still, the government's main creditors are large domestic banks. Therefore, risks of indebtedness are tied to the vulnerabilities of the domestic financial system.

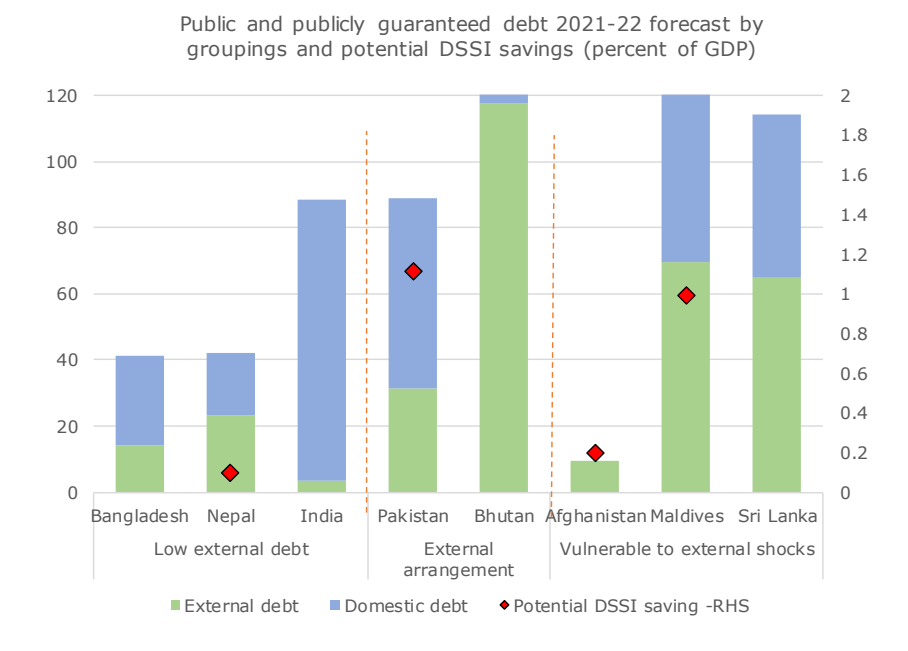
(ii) *Countries with high debt indicators but not in immediate danger of debt distress* (Pakistan and Bhutan). In Pakistan, the policies and reforms implemented under an IMF-supported program prior to the COVID-19 shock started to reduce economic imbalances and set the conditions for improving economic performance. The program was interrupted for almost a year to allow greater social and health spending to contend with the epidemic but is back on track. Bhutan's external debt is high as a share of GDP, but 75 percent is linked to hydropower exports to India which substantially reduces re-financing and exchange rate risks. Production capacity in hydropower is expected to continue to increase.

(iii) *Countries facing high risk of debt sustainability* (Sri Lanka, Afghanistan, Maldives). Within this group, the causes vary substantially. Afghanistan's debt to GDP is low, at less than 10 percent of GDP. Still, given its almost complete dependence on grants for government revenue (75 percent), any withdrawal of grant money would be devastating. Maldives' debt ratio is expected to double compared to its pre-COVID levels. Before the crisis, Maldives

had borrowed to expand infrastructure, with large projects in progress when the pandemic hit. Debt woes can thus be almost completely attributed to the suddenness and size of the pandemic's shock. The debt-to-GDP ratio will moderate downward as tourism-led growth picks up but is expected to remain high. Finally, Sri Lanka is experiencing a debt overhang, as its public and publicly guaranteed debt level is very high (forecasted at 115 percent in 2021). Sri Lanka's external liquidity was a major concern before the crisis, but sovereign downgrades continued throughout 2020. With high debt servicing obligations over the forecast period, its situation Is challenging. Unlike its neighbors, sovereign bond spreads that rose at the beginning of the crisis remained high (Figure 2.11)

Figure 2.10. Though levels of debt vary in the region,

some countries are more vulnerable to external debt shocks than others.



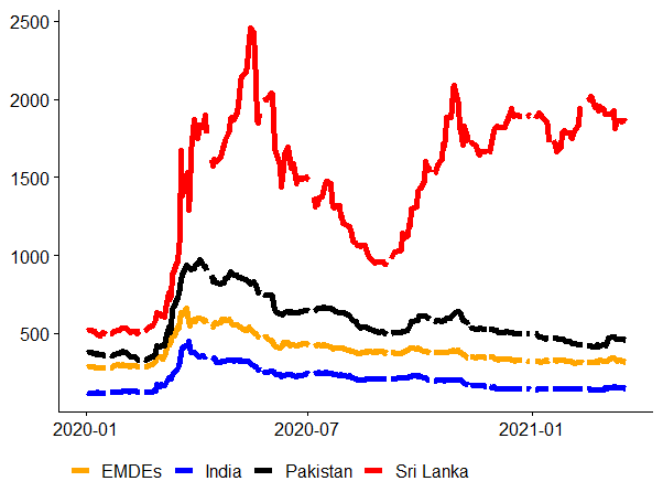
Source: World Bank

Note: India and Sri Lanka were not eligible for the DSSI due to their middle-income status. Bangladesh did not participate. Bhutan also did not participate, given that most of its external debt is with India, but it did receive comparable terms from them. Potential savings refers to the May 2020-June 2021 period.

Figure 2.11. Sovereign bond spreads remained stable in major South Asian countries in line with the average for emerging markets—except for Sri Lanka.

Sovereign spreads (EMBI index)

Basic points

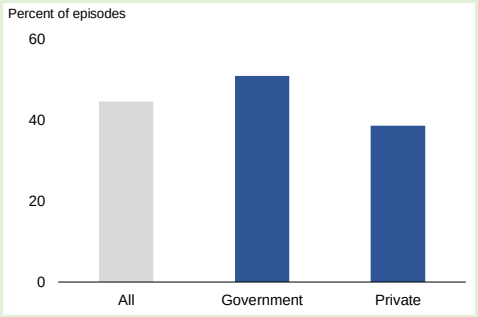


Note: "EMDEs" refers to J.P. Morgan's Emerging Market Bond Index (EMBI) global diversified spread.
Source: JP Morgan/Haver Analytics

This run-up of debt differed in some respects from the period before the Global Financial Crisis (GFC). The last global crisis was actually triggered by advanced economy bank debt, so the financial turmoil affected mostly investment demand in a handful of advanced economies. The immediate impact on South Asia was not large. Since the GFC, a low interest rate environment and the emergence of new financial instruments and financial market actors have also led to increased borrowing from commercial creditors and government bond issuances in many low-income countries (World Bank 2021a). This higher leverage for low-income countries does pose a risk in the run-up to the COVID crisis.

The nature of this crisis is very different from the GFC and poses more risks. It is global, much more severe, and marred by uncertainty due to its novel nature, so the possibility of worsening global financial conditions could still emerge if firms are unable to pay debts and banks cannot extend loans. Past episodes of rapid debt accumulation were often associated with financial crises (Figure 2.12). Moreover, the response by governments has been more forceful than in the GFC; support packages everywhere have encouraged continued credit extension to corporates (IMF 2020b). For South Asia, vigilance will be required during this recovery period, even for governments with low external debt levels with mostly sustainable debt, such as India, Bangladesh, and Nepal. But the tradeoffs are formidable.

Figure 2.12. Rapid debt accumulation preceded financial crises episodes



Source: World Bank (2021).
Note:"Episodes associated with crises" are episodes of rapid debt accumulation which experienced financial crises (banking, currency, and debt crises, as in Laeven and Valencia, (2020) during or within two years after the end of episodes. For definition of episodes and sample, see Kose, Nagle et al. (2020).

Source: World Bank (2021a), JP Morgan/Haver Analytics

The challenge is how to avoid a lost decade of growth as in past debt crises, particularly for countries already experiencing some external debt vulnerability (Sri Lanka, Afghanistan, and Maldives). Historically, prolonged periods of debt restructuring were very damaging for the economies affected: repeated debt rescheduling prolonged the debt crises without resolving them and resulted in additional debt buildup and long-term debt overhangs (Reinhart et al., 2009). However, preemptive debt reprofilings have generally been associated with better macroeconomic outcomes compared to restructurings that occur after a default has occurred. These post-default restructurings are associated with larger declines in GDP, investment, private sector credit, and capital inflows than preemptive restructurings. (Asonuma et al. 2020).

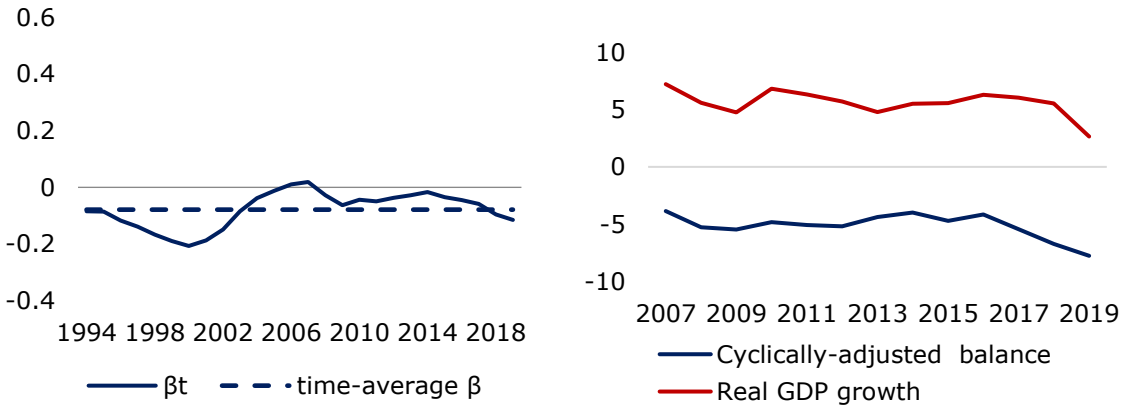
South Asian countries that are eligible should join initiatives such as the DSSI, which is better than a unilateral suspension of payments. While debt standstills such as the DSSI only defer payments of interest and principal—and do not reduce debt levels—adhering to the program sends a signal to the international community that governments are taking preemptive action and want to pay or reschedule debts in good faith. All South Asian countries are eligible for the DSSI except India and Sri Lanka. Countries should thus seize the opportunity of standstill arrangements to take stock of hidden debts and use the breathing room to work with their creditors. Pakistan is a commendable example of a government that kept its lines of communication open so it could engage with creditors throughout the crisis, which may enable the country to come out of the crisis quicker than it otherwise could. Nonetheless, Pakistan's debt is rising and remains a source of vulnerability.

The international community has to do its part. Private creditors and regulators in creditor countries must be willing to make exceptions, such as bond clauses for debt holdouts and taking account of the exogenous nature of the shock. New international solutions are being worked on that could provide more lasting relief than just debt service suspension. The G-20 sponsored "Common Framework for Debt Treatments beyond the DSSI" is a new instrument for dealing with sovereign debt vulnerabilities. The objective of the framework is to facilitate timely and orderly debt treatment for DSSI-eligible countries and explicitly requires debtor countries to seek comparable treatment by other external creditors, including the private sector.

How did the lack of fiscal space arise?

The lack of fiscal space finds its origin in a history of procyclical fiscal policies in South Asia. Estimations suggest that the fiscal balance response to economic growth (time-average β coefficient, Appendix 2, equation 2) was slightly below zero, implying that growth accelerations led to a decrease in the fiscal balance. In other words, government expenditure increased proportionally more than economic activity and total revenue. Although we observe a positive trend toward countercyclicality in the 2000s, procyclicality returned after the GFC (Figure 2.13, left panel). Beyer and Milivojevic (2021) also find that South Asian fiscal policies have been procyclical. Such procyclical behavior becomes evident in the trend of the cyclically-adjusted fiscal balance in the region. Despite the years of positive economic growth, fiscal stimulus across the region continued, resulting in permanent negative budget balances (Figure 2.13, right panel). Regression results (Appendix 2, equation 3) imply that the government consumption in South Asia was indeed strongly procyclical, according to the positive and statistically significant responsiveness coefficient associated with GDP growth ($\hat{\gamma}$=1.2**). As for the persistence of fiscal policy, an insignificant coefficient ($\hat{\lambda}$=-0.2) suggests a lack of inertia in the budgetary processes, meaning that government consumption does not depend on its previous values. Finally, the results also show an insignificant response of government consumption to changes in the debt level (-0.1). This highlights the absence of an important stabilizing effect—when government debt increases, government consumption should contract, bringing the debt to a sustainable path.

Figure 2.13. Fiscal policy in the region has been procyclical



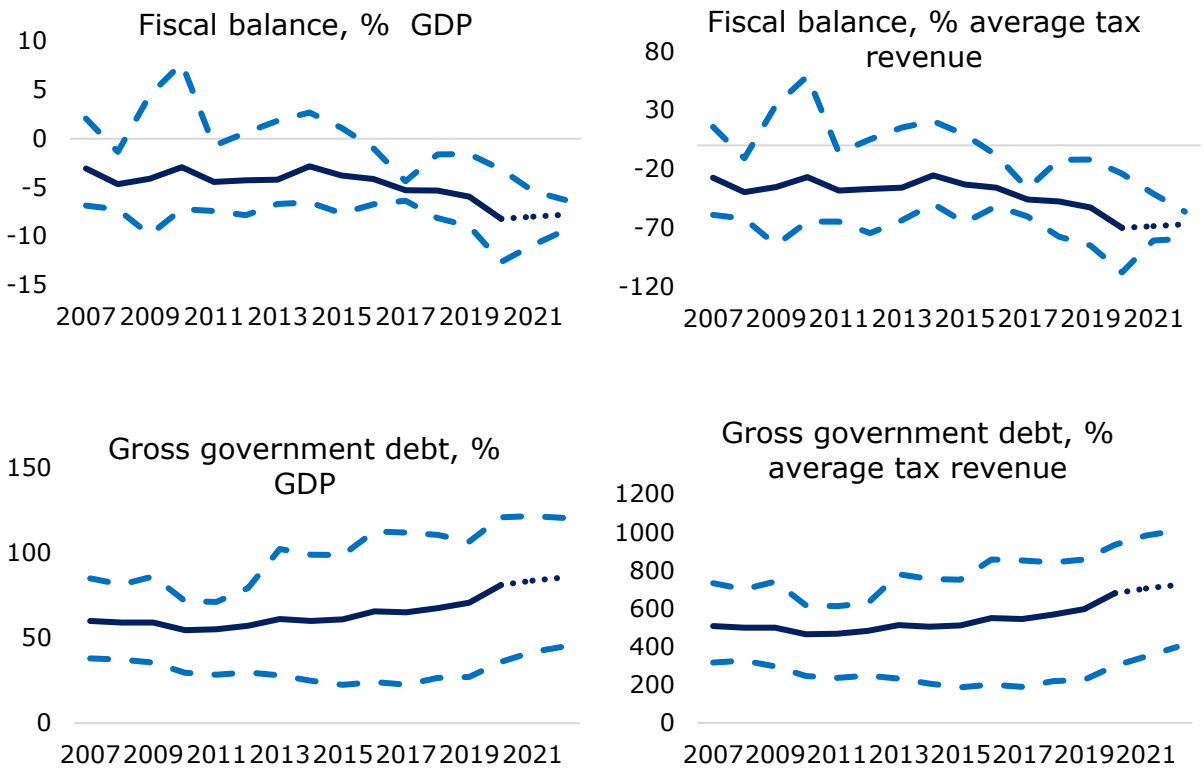
Note: Time-varying coefficient β measures the degree of fiscal countercyclicality, with positive and larger values implying higher countercyclicality (left panel); unweighted average cyclically-adjusted fiscal balance, and real GDP growth (right panel).
Source: World Bank Macro Poverty Outlook and our estimations (left panel); World Bank Fiscal Space Database and our calculation (right panel).

Procyclicality is not unique to South Asian countries. This is the conclusion of the empirical literature concerning developing economies (Alesina et al. (2008); Ilzetki and Vegh (2008)). The procyclical bias in fiscal policy is arguably a reflection of two fundamental challenges faced by developing countries: the inability to access external finance in a timely manner and weak institutions that cannot contain overspending when growth is high (Gavin and Perotti (1997); Tornell and Lane (1999)).

With weak tax revenues and expanded government spending in 2021-22, fiscal policy turned countercyclical during this crisis, especially in 2021. Despite fiscal limitations, all the countries authorized stimulus packages to mitigate its adverse effects and protect the most vulnerable (Section 1.3). It is anticipated that these efforts will continue so that both fiscal deficits and public debt will remain elevated.

As a result of previous policies, the fiscal space in the region will shrink further (Figure 2.14). In many EMDEs, including South Asia, institutional weaknesses in the tax collection systems constrain the government's ability to service debt. Therefore, realized tax collection may serve to indicate fiscal solvency (Aizenman and Jinjarak (2012); Kose et al. (2017)). Both fiscal deficits and debt level as a percent of average tax revenue have been increasing substantially in South Asia, questioning the longer-run sustainability of budgets.

Figure 2.14. Fiscal space in the region has been shrinking



Note: Unweighted average, minimum and maximum values across six South Asian economies.
Source: Macro Poverty Outlook and our calculations.

However, expansionary policies during this recession were by necessity geared to sustaining firms and households rather than achieving a quick recovery. During typical recessions, liquidity-squeezed firms and households need a demand stimulus from the government, which can lead to increased employment, increased spending, and ensuing investment recovery. In this COVID recession, incentives for firms to invest did not work because they were not allowed to reopen, and many jobs requiring social interactions were restricted. Thus, public investment spending geared solely to jump-start the economy would be futile before re-opening, as the desire to work and invest has been artificially blocked by restrictions on movement. This was particularly true during the lockdown in 2020: monetary policy was geared toward extending liquidity, debt forbearance, and temporarily financing the government. Fiscal policy focused on food and cash transfer programs to ensure the bare minimum of consumption (IMF, 2020b). This was necessary, given the sheer number of individuals and households living close to subsistence levels, though in the absence of broad social safety nets and pervasive informality, those who urgently needed transfers did not necessarily receive them (Dennis Egger et al., 2021).

With the economic recovery firmly underway, fiscal policy in principle can take a more prominent role in stimulating the economy through combatting the health crisis and increasing public investment. The FY21/22 India budget suggests that financial support for livelihoods and the health crisis come mostly through recurrent expenditures (though capital expenditures are also expected to increase sharply by [25.4] percent). In Bangladesh, externally financed public infrastructure investments under the new 5-year Plan starting in 2021 will also support medium-term growth. Bhutan and Nepal will also resume public infrastructure projects in 2022 and beyond. The Bhutan projects, though, are mostly paid for by grants from India to state-owned enterprises, so they will not directly affect the budget. The forecast incorporates the expectation that, on average, around 0.5 percent and 1.5 percent of government expenditures will go to fund the vaccination programs in 2021 and 2022, respectively (Table 3.6), though this does not explain the full increase.

Against this background, it is necessary to clearly state the priorities, carefully design policies, and mobilize available resources toward their implementation. Fiscal policy, therefore, needs to be effective in terms of raising the level of economic activity while minimizing any further deterioration of budgetary soundness. Such effectiveness can be measured by the value of fiscal multipliers in South Asia.

2.3. Government spending multiplier is significant and larger under higher uncertainty

To understand the impact of government spending on economic activity, we use the Local Projection method (Jordà (2005)) to estimate expenditure multipliers in the region. This analysis does not focus on relief efforts during a crisis, which mainly come in the form of transfers and tax relief. It rather focuses on the impact of government consumption and investments, which are more important during recoveries. Appendix 2 describes our regression and assumptions. Studies

that estimate expenditure multipliers find that their size varies substantially, depending on several factors (Box 2.2).

Box 2.2. What does the economic literature tell us about government spending multipliers in developing countries?

The fiscal multiplier is a common metric used to summarize the impact of government spending and its composition on economic activity. Extensive research related to fiscal packages and their medium-term implications could provide important lessons for current policy measures. There are certain barriers to estimating fiscal multipliers, however. Firstly, the truly exogenous variation in government spending and its components is usually difficult to identify. Secondly, it might be hard to capture effects generated over the long-term, especially for infrastructure investments.

The size of the multiplier depends on various factors. A consensus in the literature is building around the idea that the size of the government spending multiplier depends on (1) the state of the economy, with multipliers being larger in recessions than in expansions (Auerbach and Gorodnichenko (2012, 2013); Riera-Crichton et al. (2015)), (2) the exchange rate regime, with multipliers being larger under fixed regimes (Ilzetzki et al. (2013)); (3) the degree of indebtedness, with multipliers being larger with lower levels of public debt (Ilzetzki et al. (2013); Huidrom et al. (2019)); (4) the degree of accommodation of monetary policy, with multipliers being larger when monetary policy is loose and/or close to the zero lower bound (Christiano et al. (2011); Coenen et al. (2013)); and (5) the degree of openness of the economy, with multipliers being larger in more closed economies (Ilzetzki et al. (2013); Gonzalez-Garcia et al. (2013)).

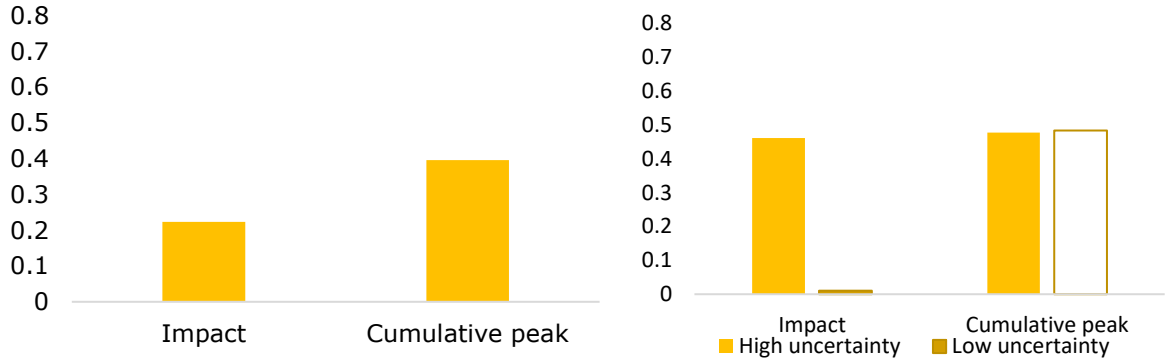
In addition, capital spending multipliers have often been estimated to be larger than one, implying high returns to public investment. Recent cross-country studies have confirmed this (Abiad et al. (2016); IMF (2020)). Moreover, results in Izquierdo et al. (2019) suggest that countries with a low initial stock of public capital (as a proportion of GDP) have significantly higher capital spending multipliers than countries with a high initial stock of public capital, implying that that public investment in developing countries would carry high returns. It is also important, however, that low efficiency, as shown by cost overruns, implementation delays, institutional weakness, corruption, and wasteful use of resources, seems to matter. In particular, the effect of public investment on output falls considerably when efficiency is low (Leeper et al. (2010); Cavallo and Daude (2011); Leduc and Wilson (2012); Furceri and Li (2017); Izquierdo et al. (2019)).

The evidence on the size of multipliers in developing countries and South Asia is relatively scant. Ilzetzki et al. (2013) argue that the government spending multiplier is around 0.3, whereas, using a large sample of developing countries, Kraay (2012, 2014) obtains an average government spending multiplier somewhere between 0.4 and 0.5. Hayat and Qadeer (2016) estimate fiscal multipliers for Bangladesh, India, Pakistan, and Sri Lanka from 1982 to 2014 and find an initial impact close to 0.4 and a surprisingly large long-run effect. Jain and Kumar (2013) estimate the size of the expenditure multiplier in India at the center and state levels using annual data for the period from 1980-2011. The size of the multiplier for all categories of expenditure by state governments is estimated to exceed that of the central government. Also, capital spending has a

higher multiplier than current spending. Finally, Beyer and Milivojevic (2021) find a positive and significant government spending multiplier for South Asia over the period 1990–2017. The estimated value of 0.4 in the medium run comes entirely from the capital spending multiplier, at 1.3 after four years. The limited impact of government consumption could result from the procyclical character of government consumption in South Asia. Increases in government consumption occur during booms when there is limited spare capacity.

Our results suggest the effect of government expenditure on economic activity in South Asia is positive and significant (Figure 2.15). An additional $1 of total expenditure leads to an immediate increase in GDP of $0.2. Over time, the effect builds up, and each $1 of additional spending results in $0.4 additional GDP after three years.

Figure 2.15. Government spending multiplier is statistically significant, with larger values under higher uncertainty



Note: Total expenditure multipliers overall (left panel) and values under high and low uncertainty (right panel).
Source: Our estimations (Appendix 2).

The multiplier is considerably larger in periods of high uncertainty when resources may be idle, confidence depressed, and crowding out more limited. An additional $1 expenditure increase under undesirable circumstances leads to an output rise of almost $0.5 on impact and in the medium term. However, these results should be interpreted with caution, given the unprecedented nature of the prevailing crisis and the supply restrictions due to COVID-19.

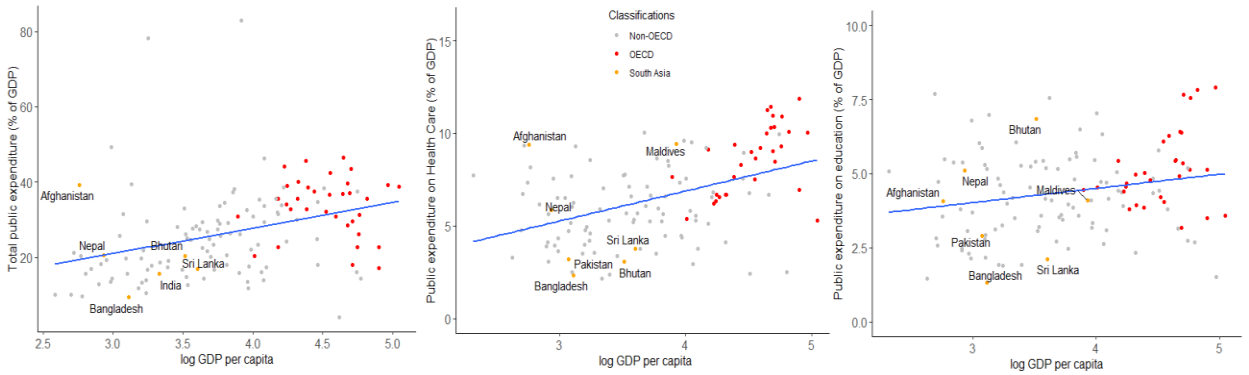
The composition and quality of total expenditure is what matters the most. While certain categories of current expenditure are usually not effective in stimulating economic activity, transfers and subsidies may be crucial for the most vulnerable at this juncture and also beneficial for the overall economy. Bracco et al. (2021) find considerably larger social transfer multipliers in developing than in advanced countries,[9] given the larger share of individuals with no access to financial markets and a higher marginal propensity to consume. They document that the average

[9] They estimate the social transfer multiplier of 0.9 in the sample of Latin American economies, relative to 0.3 in developed countries.

share of liquidity-constrained individuals is twice as large in emerging economies (around 47 percent) as in developed countries, with the estimated values of around 53, 51, and 58 percent in India, Pakistan, and Sri Lanka, respectively. According to the World Bank phone survey, households in the region see cash transfers and distribution of food or other basic needs as the most helpful government assistance at the moment.

Part of the current spending is necessary for vaccine purchases and their distribution. These costs are essential to save lives and livelihoods but also to set the stage for long-term recovery. The returns could be very large from a human capital point of view, leading to greater growth prospects, not only through a multiplier effect but more through positive externalities—by limiting the spread of the present pandemic and building regional resilience for the future (Chapter 3). And as expenditures on health care and education in South Asia are generally lagging relative to their peers (Figure 2.16), the pandemic and associated human costs have highlighted the need for additional spending in this direction. Indeed, according to the survey of our South Asia Network (Box 1.4), more that 60 percent of responders believe that the government should increase spending on recurrent, capital and health expenditures. Similarly, 17 percent of them believe that the currently most important spending category should entail current transfers to help households to weather the crisis and COVID-related health spending.

Figure 2.16. Public expenditures on health and education are relatively low in South Asia



Source: World Bank WDI 2019.

The size of the capital spending multiplier, although usually larger, is conditional on the efficiency of used resources. For advanced economies that do well on the World Economic Forum's index of government-spending wastefulness, public investment has been found to have a multiplier above two in the medium term, while the value for countries with a worse rating seems to be four times smaller (Abiad et al. (2016)). Differentiating emerging markets and low-income countries by the quality of public investment management, as measured in the IMF's Public Investment Management Assessment (Miyamoto et al. (2020)), yields similar estimates. This emphasizes the need for careful planning and execution of public investments across the region, but also expanding private sector participation.

Tighter financing constraints require the strengthening of domestic revenue mobilization and spending reallocation in the direction of the most efficient uses. Prolific investments in human capital and public infrastructure are essential for long-term economic prospects. Beyond their positive macroeconomic implications, they are indispensable factors to progress toward the Sustainable Development Goals (SDGs) and to strengthen economies' resilience to future crises.

2.4. Steering the transition in 2022 and beyond

South Asia faces significant potential fiscal risks from more frequent and damaging natural disasters due to climate change. Even a single big shock can force a stable country to an unsustainable development path, as seen from the recent pandemic. Box 2.3 discusses the importance of such fiscal-climate risk linkages.

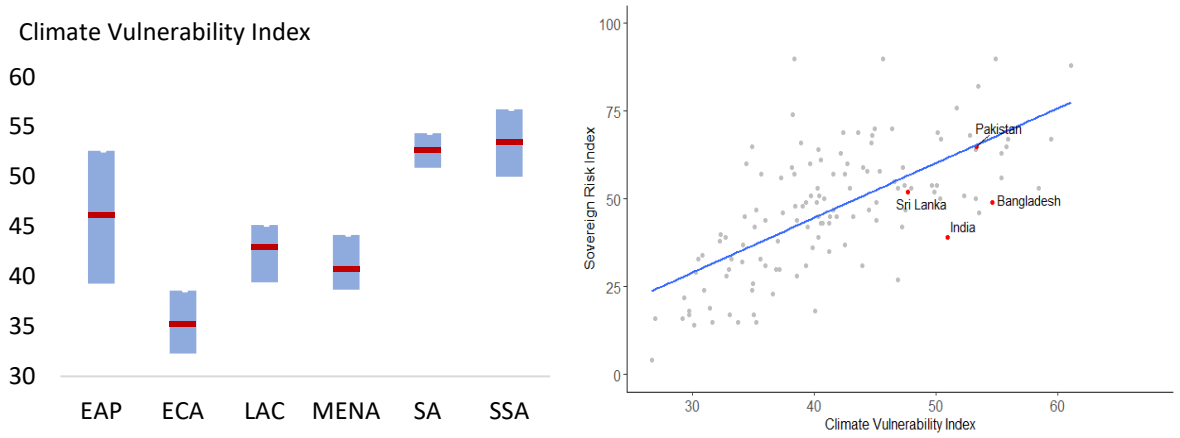
Box 2.3. The "double jeopardy" of fiscal and climate-related risks

Developing economies are likely to bear the worst impacts of climate change, given their high exposure, vulnerability, and limited means to respond to climate-related challenges. Climate change risks can be grouped into two categories: physical risks that are a consequence of changes in climate, and transition risks that derive from the transition to a low-carbon economy (Feyen et al. (2020)). Physical risks relate to the climate impacts from extreme weather events such as tropical cyclones, droughts, heat waves, or flooding, projected to increase in frequency and intensity due to global warming.

Fiscal management in South Asia is exposed to additional uncertainty due to climate change. Natural disasters have a direct impact on fiscal revenue by hurting the revenue base or on public expenditure for disaster relief and reconstruction outlays. Most South Asia countries do poorly in terms of revenue generation. Additional spending to finance the immediate rehabilitation costs of affected people and rebuild infrastructure could therefore lead to higher government debt and become a threat to debt sustainability. Climate change risks magnify macro-financial risks, even as macro-financial vulnerabilities limit the scope for urging mitigation and adaptation procedures (Cevik and Jalles (2020), Feyen et al. (2020)).

We use indicators of sovereign default and climate-related risks to examine the exposure to the elevated risk associated with the co-existence of fiscal and climate-related vulnerabilities. The EIU Country Risk Index provides sovereign debt risks based on more than 50 institutional, macrofinancial, and structural variables, assigning a score from zero to 100, where zero is the lowest risk and 100 is the highest default risk. Analysis of countries' vulnerability to climate disruptions is based on the Notre Dame-Global Adaptation Index (ND-GAIN). The vulnerability index covers the vulnerability of six life-supporting sectors to climate change: food, water, health, ecosystem service, human habitat, and infrastructure.

Figure 2.17. Vulnerability Index across the regions (left panel) and the sovereign – climate linkages scatter



Note: Regional median, together with 25th and 75th percentiles at the bottom and top of the box (left panel) and scatter with indices (right panel). The sample includes 127 countries in 2018.
Source: ND-GAIN, EIU Country Risk Model, and our calculations.

Figure 2.17 indicates that South Asia is disproportionately more vulnerable to climate risks, along with Sub-Saharan Africa. Furthermore, the graphical inspection shows that countries with higher vulnerability to climate change also feature higher sovereign risks, suggesting they would have less fiscal space to respond to potential disruptions. In addition, we rely on regression analysis, similar to Feyen et al. (2020), to provide an initial illustration of the fiscal-climate risk linkages. We use the panel data for 127 countries over the period 1997 to 2018 and estimate the following equation (with country-clustered robust standard errors):

$$sr_{i,t} = c_i + \tau_t + \beta V_{i,t} + \theta y_{i,t} + \varepsilon_{i,t}$$

where sr stands for the sovereign debt risk, c_i and τ_t denote country and time-fixed effects, respectively, V is climate vulnerability index, while y indicates GDP per capita growth. The positive and significant coefficient β (0.282***) confirms that countries more vulnerable to climate disruptions also show fiscal vulnerabilities that could affect their ability to respond to the disruptions generated by climate change.

This "double jeopardy" of simultaneously elevated sovereign and climate-related risks poses significant challenges for macro-financial management (Feyen et al. (2020)). And this has been exacerbated with the current pandemic and further fiscal deterioration. Potential economic losses of more frequent and intense natural disasters, as well as uncertainties associated with the transition toward a low-carbon economy, may have adverse impacts on investment and economic growth, fiscal revenue and expenditure, debt sustainability, and the valuation of financial assets. Weak fiscal positions, in turn, reduce the scope for implementing disaster management strategies and financing climate mitigation and adaptation measures.

Strengthening fiscal resilience is essential to address these concerns. To enhance the financial resilience of the public sector, enlarging sovereign borrowing space and building financial buffers are required (Nishizawa et al. (2019)). In addition, implementing measures that improve the flexibility of revenue and expenditures to adjust to external shocks is necessary to reduce fiscal stability risks. International support to tackle climate change and complement country-specific efforts in developing economies will be crucial, however.

South Asia's human capital deficit has become more apparent during the pandemic. New surveys already suggest that food insecurity increased, meaning that many people went hungry.[10] About 18 percent of households in Northern Bangladesh and Nepal saw an increase in food insecurity during the lockdown and much more in 2020 relative to previous years, according to a COVID survey (Section 1.4). Subsequent phone surveys from the World Bank also show an increase in food insecurity. The consequences for a region that already has high rates of stunting are immense, not just from the social and poverty point of view, but also concerning the ability of children in these families to grow up to be productive workers.

The stress and lack of schooling that has resulted from the pandemic have led to losses in learning-adjusted school years (World Bank, 2020). South Asia already had a deficit in this area compared to other regions. But this gap will increase due to the crisis. An estimated 5.5 million children are predicted to drop out of school due to COVID-related income losses—more than half of all global dropouts. The impact of the crisis and consequences for education and spending are discussed in Box 2.4.

Box 2.4. Without immediate action, learning losses and the resulting economic losses in South Asia could be catastrophic

School systems across South Asia continue to be largely closed. As of March 2021, only India and Afghanistan had partially reopened schools. Pakistan reopened March 1 but closed again due to a spike in COVID-19 cases in the country (though provincial enforcement differs). Even in these countries, spikes in infection rates suggest that schools in large urban centers will continue to close and reopen for some time to come. Estimates of the loss of learning-adjusted years of schooling (LAYS)[11] in the third quarter of 2020 were based on scenarios between three to seven months of school closures (World Bank 2020). As things stand, it seems an even more pessimistic scenario is unfolding—one where schools have been shuttered for nine months (Azevedo et al. 2021). Learning adjusted years of schooling in SAR may fall from a pre-COVID baseline of 6.5 years to 5.5 years—suggesting that children could lose a full year of learning adjusted schooling.

Many of these students will find it harder to return the longer they are away from school. The effects on their expected future lifetime earnings will be exceptionally large compared to a

[10] Food insecurity is defined as missing meals or reducing portions of food for at least 15 days in a month.
[11] LAYS are years of schooling that a child is expected to complete by age 18, adjusted for the quality of learning that takes place in school.

scenario where COVID never occurred. The typical student can expect to lose as much as $445 (2017 PPP) annually as a result of lost schooling and learning. In the long run, this could cost the South Asia region over $1 trillion dollars in lost earnings. This amount is almost a quarter of what the region will spend to educate this generation of students.

The education budgets in South Asia do not appear well-positioned to respond to the unfolding crisis. Across South Asia, the amounts committed in central government budgets[12] for education have fallen by 3.9 percent in real terms from 2020 to 2021 (Table 2.5). This is particularly driven by a decrease in India's central budget for education, which dropped by 9 percent in the same period. Pakistan's central education budget fell by 24 percent the year before COVID-19, particularly for the higher education sector, a level that has been maintained (although education is delivered at the province level which may mitigate the direct effect). In Nepal there has been a shift in spending responsibilities from the central to local governments since FY2018 as part of decentralization but was a shift from large increases prior to the pandemic to a small decrease in the central education budget during 2020-21. This matches a global trend, as education budgets declined by 65 percent in low and lower-middle income countries (Al-Samarrai et al., 2021).

Table 2.5 Central education budgets are under pressure

	Change 2019-2020	Change 2020-2021	Cumulative Change 2019-2021
Average change across South Asia	1.6%	-3.9%	-2.4%
Afghanistan (estimate)	-1%	0%	-1%
Bangladesh	9%	3%	12%
India	-2%	-9%	-11%
Nepal	16%	-1%	15%

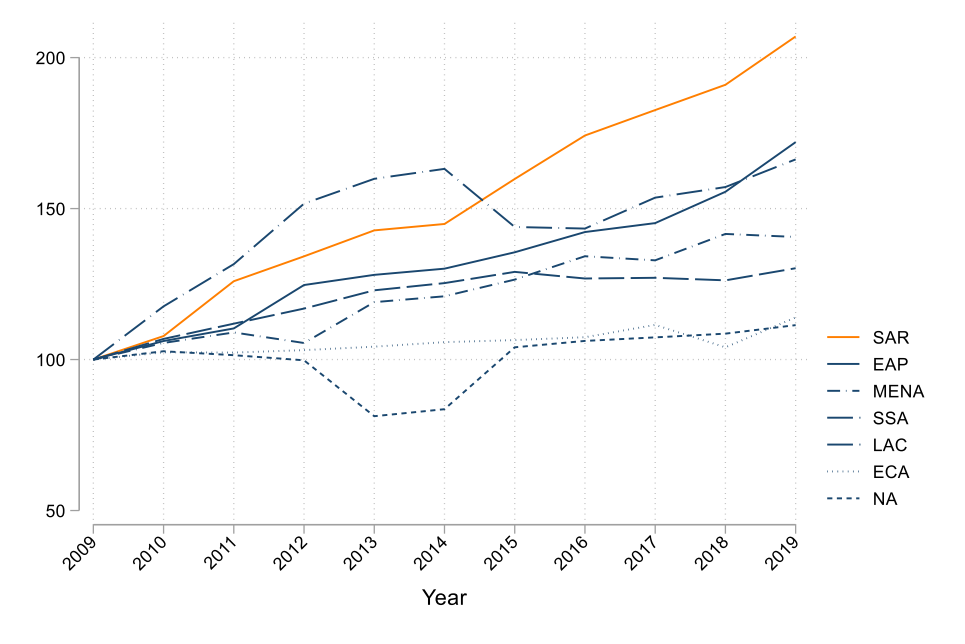
Source: Data provided by Al-Samarrai et al., 2021

Note: Change in yearly central education budgets (from publicly released budget figures), constant prices. Data do not reflect total budgets or expenditures by governments in South Asia.

Taking a longer-term perspective, real education spending in South Asia more than doubled from 2009 to 2019—making it the region with the fastest growth in education spending (Figure 2.18). This reflected a substantial increase in the number of students who were brought into the education system. This means that COVID-19 has not completely eradicated historical gains in education expenditures, but the trend reversal should be a concern for education budgets in the region.

[12] Note that these figures do not provide a comprehensive picture of all education spending in these countries. India, Nepal, and Pakistan, for example, have sub-national authorities that also spend public funds on education, which are not included in these figures. These figures also may not reflect spending from other sectors that benefit education (e.g., conditional cash transfers).

Figure 2.18. Prior to COVID-19, education spending in South Asia had more than doubled in the past decade, reflecting fast growth of their education systems

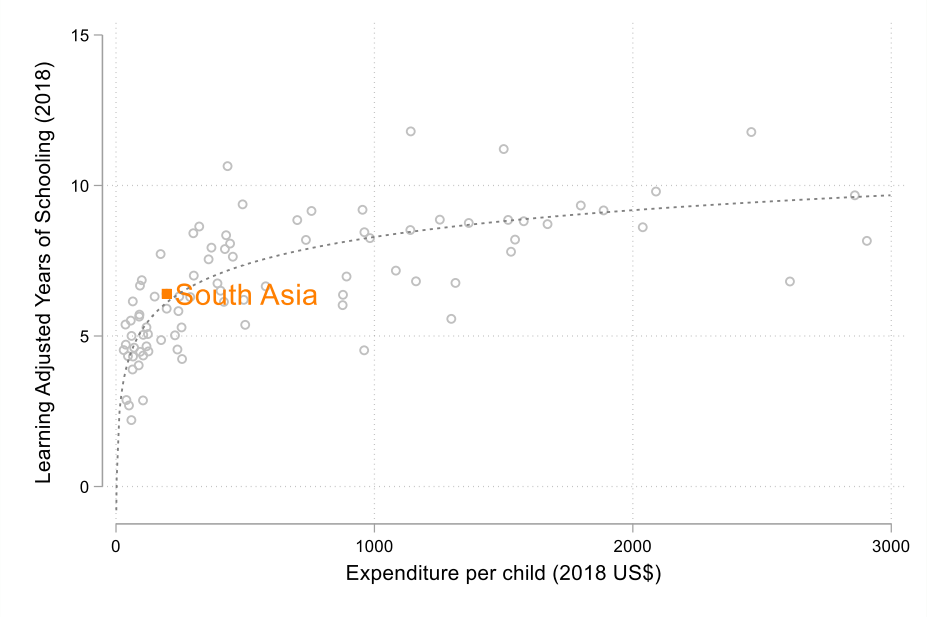


Note: Expenditure data (US$ 2018), 2009 levels are set to 100
Source: Global database on education financing (Al-Samarrai et al., 2021)

The quantity of spending alone is not necessarily a predictor of the quality: effective spending may now be more important after the crisis. Despite growth, spending per student in South Asia is still relatively low, with all countries spending much below $1,000 per student per year. The low levels of spending in SAR reflect both large classroom sizes in the public sector and the large size of the private education market, which relieves some of the burden on public budgets.

As countries rationalize expenditures in the current environment, they should address inefficiencies in spending. Global evidence suggests that for every 10 percent increase in per-child spending, outcomes only improved by 0.8 percent (Al-Samarrai et al., 2019), with the marginal effect higher at lower spending levels. Differences in the efficiencies and accountabilities in education systems could result in similar amounts of spending, producing very different outcomes. Countries in SAR have obtained about average expected learning outcomes, given the level of expenditure (see Figure 2.19).

Figure 2.19. Countries in the region have plenty of scope to improve both spending and education outcomes



Note: Spending per child is computed as total public education spending on primary and secondary education divided by the school-age population. The curved line is an estimated stochastic frontier. The further below the frontier a country lies, the less efficient it is. Only countries with less than US$ 3000 per child shown. Where data was missing it was imputed based on country trends and trends within similar countries.
Source: World Bank (2020) and Al-Samarrai et al., 2021

Investing in education and skills has strong lifetime and intergenerational benefits. As governments in South Asia strive to build back after this crisis, it will serve them well to remember that human capital investments have high rates of return and can generate significant positive externalities—across society and generations. Investments in education today will not only help limit the impact of learning losses but could also prove useful to prepare for what the future may bring. As such, realigning public spending to ensure complementarities across investments will be critical to maximize value for money (forthcoming World Bank, 2021).

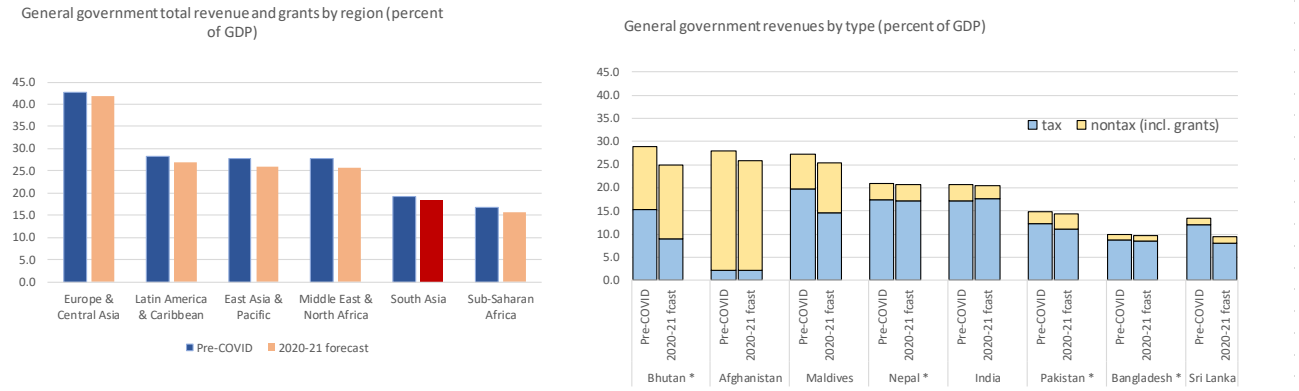
The key question moving forward is how to effectively use scarce resources to address critical challenges—the rise in food insecurity and decline in human capital resulting from the pandemic—and climate-related risks. The need to reprioritize resources has become crucial, with human capital and digital infrastructure taking on more prominence, while physical infrastructure expansion will rely more on larger private sector participation**.**

South Asian countries have an opportunity to make education and training skills acquisition easier with digital technologies, also ensuring poor kids are being reached. If governments expand access to digital platforms, Fintech money transfer (for both migrants and people in remote areas), and biometric ID systems, access will broaden for a range of services. For South Asia, this is best complemented by more portable social safety nets that apply to both

formal and informal workers (who are the majority). These approaches are now feasible, more affordable, and could have very high returns in the future if properly implemented.

Improved technologies could help improve revenue mobilization, in addition to the necessary tax reforms. South Asia's revenues to GDP was low even before the crisis. If compared globally, it is expected to average 19 percent of GDP in 2020-21, and only 11 percent if grants and other nontax revenues are excluded (Figure 2.20). Together with debt service relief and restructuring where needed, it can provide more space to revamp capacity to adapt and insure against future climate and pandemic shocks. International cooperation and support are crucial to complement country-specific efforts, as recent events have revealed.

Figure 2.20. Government revenue mobilization low in South Asia as a share of GDP



Source: World Bank MPO dataset.
Note: Pre-COVID refers to annual average 2015-2019. Post COVID is average 2020 and 2021 forecast. Countries with asterix show fiscal year (ending mid-2021). For India, last column refers to March 2020-2022. Region aggregates weighted by country GDP in USD.

In general, there is a good opportunity—through not a very long opportunity—to take advantage of the recovery from the crisis to rebuild. The pandemic has brought to light the fact that events previously considered remotely possible—so-called tail risks—will occur more often, and South Asia is particularly vulnerable to them. The region should, therefore, take the current state of affairs as an opportunity to build more resilience for the future. Given its levels of income, it has stepped up to the formidable challenge of vaccinating its population with boldness, as will be discussed in the next chapter.

Appendix 2

Derivation of synchronization measure and cyclicality estimation

Synchronization: to consider co-movements between the variables across the region, we rely on a standard synchronization measure from the GDP growth literature (Morgan et al. (2004); Giannone et al. (2008); Kalemli-Ozcan et al. (2013), Cesa-Bianchi et al. (2019)). Synchronization indicator is defined as the absolute bilateral differential in variables' growth rates:

$$S_{ij,t} = -\left|\Delta x_{i,t} - \Delta x_{j,t}\right|, \quad \text{(1a)}$$

where $\Delta x_{i,t}$ and $\Delta x_{j,t}$ are the growth rates of variables to be analyzed in the country *i* and *j* at time *t*. According to its definition, S increases with the degree of synchronization, with negative values closer to zero between countries that are more synchronized.

Cyclicality: to assess a stabilization effect of fiscal policy in the region, we estimate the response of fiscal balance to changes in economic activity (Furceri and Jalles (2018)):

$$b_{i,t} = \alpha_{i,t} + \beta_{i,t}\Delta y_{i,t} + \varepsilon_{i,t} \quad \text{(2a)}$$

$$\beta_{i,t} = \beta_{i,t-1} + v_{i,t}\ ,\ v_{i,t} \sim N\left(0, \sigma_i^2\right) \quad \text{(2b)}$$

where b is the fiscal balance-to-GDP ratio, Δy stands for the GDP growth as a proxy of changes in economic activity, whereas β measures the degree of fiscal countercyclicality, with larger values of the coefficient implying higher countercyclicality. Furthermore, we assume that the regression coefficients *α* and β may vary over time, with the conditional expected values equal to their past values, reflecting the fact that policy changes are slow and depend on the immediate past. Our dataset comes from Macro Poverty Outlook and covers six South Asia economies[13] over the period 1990 – 2019. We rely on Bayesian methods and Gibbs sampling algorithm (Carter and Kohn (1994)) to estimate the model.

In addition, to evaluate the features of government consumption in the region, we estimate the following panel regression with country fixed-effects and country-clustered standard errors (Fatas and Mihov (2003, 2006); Afonso et al. (2010); Agnello et al. (2013)):

$$\Delta g_{i,t} = \theta_i + \lambda\,\Delta g_{i,t-1} + \gamma\,\Delta y_{i,t} + \delta\,\Delta d_{i,t-1} + \Gamma X_{i,t} + \varepsilon_{i,t} \quad \text{(3)}$$

where Δg is the growth rate of real government consumption, Δy is the real GDP growth, Δd is the change in real government debt, while X is a set of other controls, including inflation and time trend. Coefficients λ and γ represent the measures of government consumption persistence and responsiveness, respectively.

Dependent variable	λ	γ	δ	Observations
Government consumption growth	-0.2	1.2**	-0.1	144

[13] We consider Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka in our sample.

Multiplier estimation

We use the Local Projection method (Jorda (2005)) to estimate expenditure multipliers within the region. It provides certain advantages over the traditional structural VAR methodology (Auerbach and Gorodnichenko (2012, 2013)). It estimates sequential regressions of the endogenous variable shifted several steps ahead instead of recursive use of the initial set of estimated coefficients and is more robust to potential misspecifications. Additionally, it is more suitable in capturing potential nonlinearities in the dynamic response that may be impractical in a multivariate SVAR context (an important feature in our interaction exercise). Our specification broadly follows Duval and Furceri (2018) and Izquierdo et al. (2019):

$$y_{t+k,i} - y_{t-1,i} = c_i + \tau_t + \beta_k^l S_{i,t} F(e_{i,t}) + \beta_k^h S_{i,t}(1 - F(e_{i.t})) + \theta X_{i,t-l} + \varepsilon_{i,t} \quad (4a)$$

$$F(e_{i,t}) = \frac{\exp(-\gamma e_{i,t})}{1+\exp(-\gamma e_{i,t})} \quad , \gamma > 0 \quad (4b)$$

where y is the log of real GDP, β stands for the cumulative response of y in each k year after changes in expenditure (S), whereas c and τ denote country and time-fixed effects, respectively. Additionally, X indicates the set of control variables that includes two lags of shocks, GDP growth, and tax revenues. $F(e)$ is the smooth transition function[14] that allows the interaction with the continuum of states in the World Uncertainty Index for particular countries.[15] Our dataset covers six South Asia economies from 1990 to 2019. We rely on World Bank WDI and IMF GFS data for the main variables.

The usual multiplier measures the effect of a $1 change in expenditure on the level of GDP, so we multiply the coefficients from the estimated equation by the average ratio of GDP to government expenditure or its components.

Regarding the empirical strategy for the identification of exogenous expenditure shocks, we follow the well-known Blanchard and Perotti (2002) methodology that imposes the following timing assumptions: (1) government expenditure changes are allowed to contemporaneously affect economic activity and (2) it takes the government at least one period to respond to developments in the state of the economy. Originally, this approach was applied to advanced economies with quarterly data. Due to limited data availability, we implement it here with annual data. Stronger assumptions are needed for the results to be valid in this case (Beetsma et al. (2014)). But it can be argued that the approach is justified because lags in implementing fiscal policies are longer in developing countries (Diop and Ben Abdallah (2009)).

[14] Equals 0 in our benchmark case.
[15] We use country-level smoothed version of the uncertainty index, as suggested by the authors. Missing values for Bhutan are proxied by India's data, given their strong economic ties.

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Chapter 3

South Asia Vaccinates

Chapter 3, the thematic chapter in this report, focuses on the unprecedented public effort to vaccinate against COVID-19. Countries in South Asia are doing a commendable job launching the COVID-19 vaccination campaign. While getting shots into arms is a key element of the recovery, as shown in the previous chapters, the task ahead to execute a fast, extensive, and equitable vaccination campaign remains daunting. This chapter describes in detail several elements of this task. The first three sections (Sections 3.1, 3.2, and 3.3) introduce the scale of the challenge and highlight the large positive benefit-cost ratios of vaccines, but also the difficulty of managing their production and distribution. The fact that benefits outweigh costs does not mean that the desirable level of vaccination will be achieved easily. Eradication of the disease is a public good, and yet vaccines—the means to that end—have characteristics of private goods. Well-coordinated public intervention is thus needed. Section 3.4 discusses the fiscal space to finance this public intervention and Section 3.5, by examining the current status of regional health systems, considers the preparedness of South Asian countries' overall distribution capacity. It also warns of the importance of demand side issues. Vaccine hesitancy may become a problem in the medium term even if currently, at 75 percent, reported acceptance rates in South Asian countries are high. Sections 3.6 and 3.7 examine the issue of equitable access to the vaccine. As the pandemic has had an inequality-widening impact, it is crucial to counter that with an equitable vaccination campaign. Section 3.8 has some concluding lessons for the future.

3.1 Vaccines save lives and livelihoods.

COVID-19 has taken a terrible toll on South Asian countries. The region has (through March 23, 2021) had over 13 million confirmed cases, 188,000 have lost their lives to the disease (Table 1), and the pandemic has erased a total of more than 2.5 million years of life.[1] A relatively small group of the elderly incurred many of the fatalities (about 0.04 percent of people aged 60 or more). The pandemic's economic losses also have been staggering. According to current estimates, the pandemic resulted in a 5.4 percent fall in GDP for the region as a whole in 2020 and a 7.2 percent rise in 2021. The pre-pandemic forecast for those two years was in the range of 6.5 percent to 7.0 percent positive growth, meaning GDP in 2020 and 2021 was likely between 10 and 12 percent below the expected level, absent the pandemic and accompanying economic crisis (Figure 2.5).

The enormous impact of the crisis indicates the potential benefits of vaccines. If vaccines were available at the beginning of the pandemic and if, as a result, the pandemic could have been prevented, vaccines would have saved more than 188,000 lives over two years in South Asia and prevented a cumulated loss of over 20 percent of GDP over the same period. Importantly, vaccines save lives and livelihoods at the same time. The current crisis has triggered a debate about the trade-off between lives and livelihoods: a lockdown saves lives, but at the cost of economic damage and livelihoods. With vaccines, there is no trade-off.

While it is relatively easy to estimate, with the benefit of hindsight, what the gains would have been if vaccines had existed, it is much more complicated to assess the benefits of future vaccinations. In the following paragraphs we look at the possible impact of vaccinations on lives and livelihoods.

The estimated impact of current vaccinations on lives depends on existing seroprevalence and the resulting infection probabilities. Figure 1 illustrates the results of an epidemiological model that uses the most recent data for Tamil Nadu. The results show that even with the state's high seroprevalence, which is estimated at 50 percent, vaccines will still save many lives, especially among the elderly. In terms of increases in life years, those in their 70s or older gain more than

[1] See i Arolas et al. (2021). Close to a third of all the years of life lost to COVID-19 in South Asia are in the 60+ age group; those 40 years old or younger account for about 18 percent.

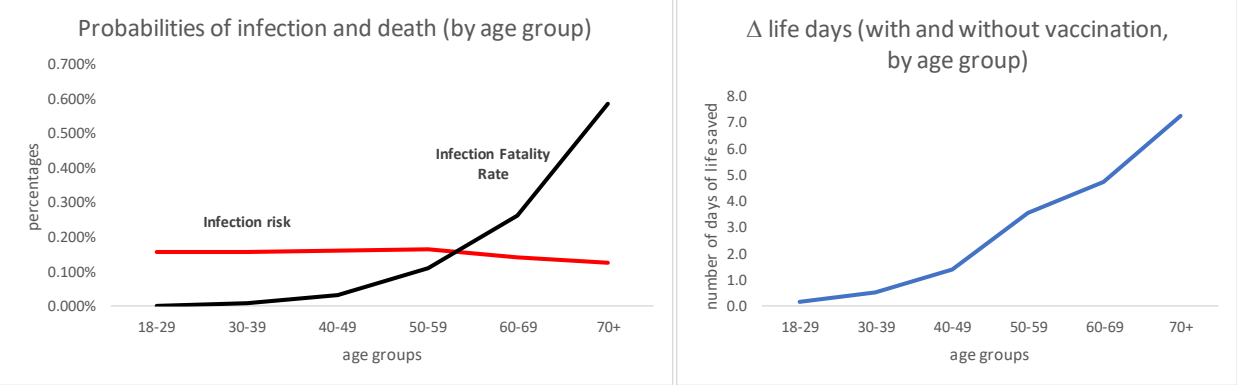
ten times as much from vaccination as individuals in their 30s (Figure 1, right panel),[2] despite the somewhat lower infection rates (Figure 1, left panel) and significantly lower remaining life expectancy among the elderly. While very few infected young adults die from the disease, six in one thousand die among those age 70 or older (Figure 1, left panel).[3] Thus, the much higher probability of dying if infected among the elderly far outweighs the larger number of life years lost by each younger person who succumbs to the disease.[4] This example shows that vaccination is still very effective, but the sooner the vaccinations occur, the larger the health benefits. With every month of delay, the fatalities that are not prevented will rise and fewer lives can be saved going forward, as the seroprevalence rate continuously increases and survival rates rebound even without vaccination.

Table 1. Total reported COVID-19 cases, deaths, and case fatality rates to date, by country in SAR

Country	Total cases	Cases per million	Total deaths	Deaths per million	Case fatality rate (%)
Afghanistan	56,103	1,441	2,463	63	4.4
Bangladesh	570,878	3,466	8,690	53	1.5
Bhutan	869	1,126	1	1	0.1
India	11,646,081	8,439	159,967	116	1.4
Maldives	22,513	41,649	66	122	0.3
Nepal	275,906	9,469	3,016	104	1.1
Pakistan	630,471	2,854	13,863	63	2.2
Sri Lanka	90,200	4,212	546	25	0.6
SAR	13,293,021	7,161	188,612	102	1.4

[2] Life years refers to the number of years of expected life lost when a person dies. That is, the death of someone who is 25 years of age, who had a life expectancy of 75 years, results in a loss of 50 life years. This measure weighs more heavily the loss of people at a younger age.
[3] The accuracy of data on case fatality rates is uncertain due to various reporting issues, for example, the potential for failure to correctly identify or record cases of the disease.
[4] Note that while infection mortality rates are consistently higher for older individuals, at the global level this gradient is steeper for high income countries than developing countries. i Arolas et al. (2021) find that “In higher income countries, a larger proportion of the years of life lost (YLL) is borne by the oldest group compared to the youngest age groups. The opposite pattern appears in low and mid-income countries, where a large fraction of the YLL are from individuals dying at ages 55 or younger.” Demombynes (2020) shows that the COVID-related deaths occur at younger ages compared to high income countries.

Figure 1: Impact of COVID-19 and vaccination, by age group for Tamil Nadu, India



Source: Malani et al. (2021), based on Tamil Nadu seroprevalence study.

Estimating the economic benefits of future vaccinations is even more complicated. Vaccination cannot immediately undo the economic damage that was done. It takes time to recoup foregone investments and growth. The later vaccines are administered, the more difficult it is to reverse the damage quickly. The longer the crisis lasts, the more firms go bankrupt. The longer workers are unemployed, children have difficulties attending school, and firms are shut down, the greater the loss of human and organizational capital, and the more difficult it becomes to reach the potential output growth experienced before the pandemic. As a result, it can take many years before the expected pre-pandemic level of GDP is reached, even with vaccines. Moreover, even without vaccination the economy will ultimately recover, perhaps even to the levels of future GDP expected before the pandemic.

One way of estimating the GDP gains created by vaccination is to assume vaccination will bring the future recovery forward, rather than assuming vaccination will undo the economic damage immediately. Under the assumption that vaccination doesn't change the slope of the recovery, but only the timing of the recovery, the cumulated future GDP gains equal the current GDP shortfall multiplied by the time the recovery is frontloaded (see Figure 2).[5] Importantly, these gains are not

[5] Assume that the GDP shortfall relative to the pre-pandemic growth path is A, and that without vaccines that gap will be gradually narrowed at a rate β:

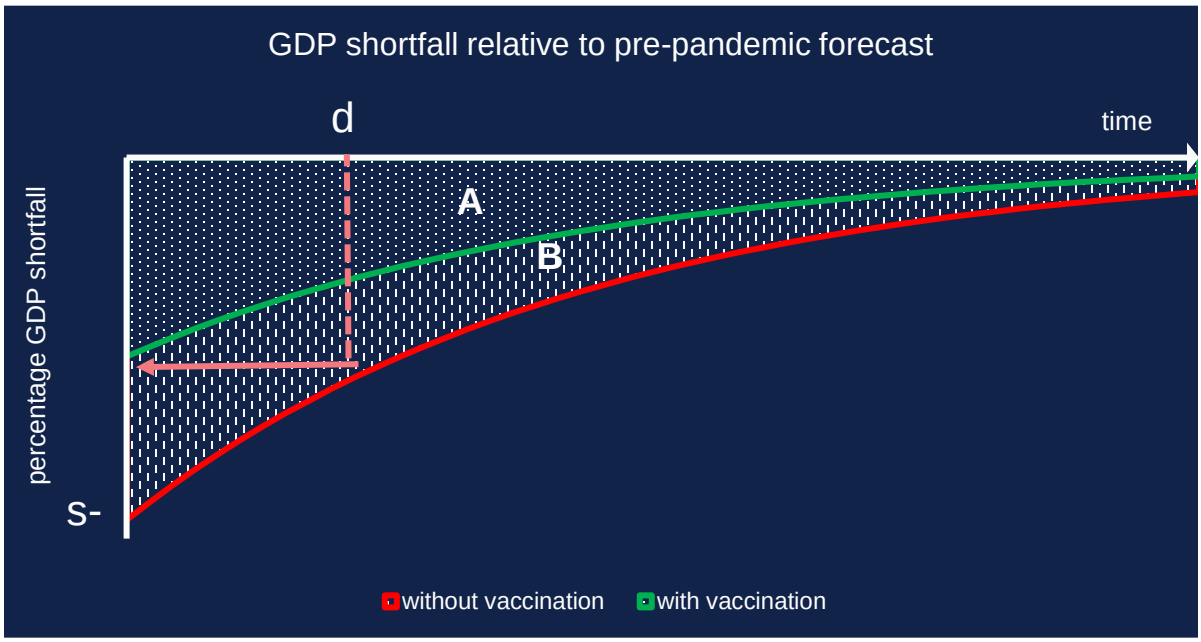
$y_t = y_t^* - A\, e^{-\beta t}$, with y: actual level of GDP; y*: GDP level at pre-pandemic growth path; and t: the time index. The cumulated future shortfall (areas A+B in the figure) is then $\int_0^\infty A\, e^{-\beta t} = \frac{A}{\beta}$.

Assume that vaccination can bring the recovery forward by a period d.

The cumulated future shortfall (area A in the figure) is then $\int_0^\infty A\, e^{-\beta(t+d)} = \frac{A}{\beta} e^{-\beta d} \approx \frac{A}{\beta}(1-\beta d)$.

immediately realized. They can spread over many years. The extent to which the recovery can be brought forward through vaccination is difficult to establish. But a range between one half and one-and-a-half years seems plausible. This provides estimates that give an indication of the order of magnitude of cumulated future gains. Table 2 presents the range of benefits.

Figure 2: GDP shortfall relative to pre-pandemic forecast



Source: Authors illustration. Note: S on the vertical axis denotes the shortfall in GDP at the end of 2021, relative to pre-pandemic forecasts (see third column in Table 2). The red curve is the presumed closing of the gap over time without vaccination. The areas A and B represent the cumulated GDP loss in 2022 and beyond on top of the loss that occurred in 2021. Assume that vaccination can bring that recovery forward by d time units. In that case, the green curve represents the GDP shortfall relative to the pre-pandemic growth paths. There is still a shortfall (area A) because even with vaccines the economic damage is not immediately undone, but the shortfall is shorter. Area B reflects the cumulated GDP gains as a result of vaccination. The size of the area B equals S times d. So, the economic benefits of vaccination at this time in the crisis are larger the larger the GDP shortfall is, and the earlier the recovery can be started

The cumulated future gains from vaccines (area B in the figure) equals therefore Ad, the shortfall multiplied by the time the recovery can be brought forward. This is also a good approximation of the gains in case of different recovery paths, as long as the recovery is merely brought forward, without changing the shape of the recovery.

Table 2. Cumulative future GDP gains because of vaccination

	2021 GDP forecast ($ bn)	Shortfall in GDP at the end of 2021, relative to pre-pandemic forecasts (%)	Cumulative future benefits of vaccination as share of current year GDP (%)
Afghanistan	19.1	7.7	3.8 - 11.5
Bangladesh	284.4	7.2	3.6 – 10.8
Bhutan	2.4	13.3	6.7 - 20.0
India	3240.6	11.0	5.5 – 16.4
Maldives	4.6	32.1	16.0 - 48.1
Nepal	31.4	9.7	4.9 - 14.6
Pakistan	324.7	4.5	2.2 – 6.7
Sri Lanka	91.8	7.5	3.7 – 11.2
SAR	3999	10.7	5.4 - 16.1

Source: Author calculations. Numbers were calculated on a calendar year basis.

Ending the pandemic a half to one-and-a-half years earlier and spurring an earlier economic recovery would avoid a substantial loss in output, ranging from 2.2 to 6.7 percent of 2019 GDP in Pakistan and 16.0 to 48.1 percent in Maldives (Table 2).[6] If it were possible to speed the recovery one-and-a-half years faster, the savings would have been potentially more than one-tenth of GDP for a majority of the countries in the region. The savings from accelerating the recovery by between one half and one-and-a-half years for the region would total between $215.9 billion and $643.8 billion. India provides a useful example. The income loss averted if the recovery can be accelerated by this range would equal between 5.5 and 16.4 percent of GDP. Note also that some gains from vaccines may have already been realized by the end of 2021.

Investment in vaccines can also generate advantages over the long term. This may not be the last time a coronavirus causes a global wave of illnesses as earlier episodes include severe acute respiratory syndrome and Middle East respiratory syndrome. The technologies developed to make the COVID-19 vaccines can be applied to making vaccines against other coronaviruses, and potentially against other infectious diseases. Greater global investment in these technologies is critical to a more rapid response to the next pandemic. Moreover, even if most countries reach

[6] The high savings in Maldives reflects the countries' dependence on tourism, which has been particularly affected by the pandemic. While vaccinations in Maldives are essential to encourage travelers to visit, a revival of international tourism also will require global efforts to control the virus. Similarly, for other countries the reduction in the income loss is in part based on a revival of global trade.

herd immunity over the next year or two, COVID-19 is likely to continue to circulate in some populations, with the potential for further mutations that could prove resistant to the current vaccines and threaten a renewed pandemic. The continued development of vaccines and monitoring of the incidence of disease is essential to the prevention of future pandemics. Some propose developing a universal coronavirus vaccine that protects against all forms of coronavirus, similar to the influenza vaccine. While this is scientifically feasible, they warn that it would have to be a worldwide effort and say it will not "happen until all stakeholders, across governments, industry, academia, and nongovernmental organizations, recognize this as a global public health priority. With COVID-19, much of the groundwork has been laid. To wait until after this crisis passes could prove to be a missed opportunity" (Koff and Berkley, 2021).

3.2 Vaccines are cost-effective

Under reasonable assumptions, the economic benefits of putting shots in the arms of enough people to reach herd immunity (assumed to be 70 percent) greatly exceed the costs involved in purchasing and distributing the vaccines. We present three scenarios for the costs to South Asian governments of vaccinating 70 percent of South Asia's population by the end of 2022 as developed in Andersen, Andrews, Cain, and Tandon (2021); the costs exclude free vaccines provided through bilateral or multilateral aid.

The assumptions behind these scenarios are the following:

All three scenarios: Thirty percent of the population is vaccinated in 2021, with the cost of vaccinating 20 percent of the population financed by Gavi, the Vaccine Alliance's official development assistance-funded COVAX mechanism and the government paying for vaccinating 10 percent of the population. The government pays for the vaccination of the remaining 40 percent of the population in 2022. The exercise assumes a $0.89 per dose cost for international delivery and a $1.66 per dose cost for delivering vaccines domestically, consistent with estimates from the COVAX costing and financing working group. It is assumed that 10 percent of the vaccine would be wasted, for example, due to failure to maintain appropriate cold storage conditions or failure to administer the vaccine within a given time period. Wastage rates are likely dependent on vaccine type (different vaccines have different cold chain requirements) and service delivery efficiency.

Scenario 1: The cost to the government of the vaccine to cover the 50 percent of the population that the government is paying for over 2021-22 is $7 per dose, the average portfolio price anticipated by Gavi for doses beyond the initial donor-funded doses. With a two-dose vaccine, this results in a per-person vaccination price (including distribution costs) of $19.10.[7] This is the most pessimistic scenario.

Scenario 2: The cost per dose for the 50 percent of the population for whom the government finances the vaccine is differentiated by country. India pays approximately $3 per dose (Serum Institute prices), and Bangladesh, Afghanistan, Maldives, Nepal, and Sri Lanka pay $4-5 each (based on agreements made or likely to be made with India).[8] Given the lack of information on Pakistan's vaccine procurement arrangements, the Gavi-recommended $7 per dose cost is assumed. For Bhutan, all doses are expected to be provided free of cost from India, so only local delivery costs ($1.66 per dose) will be shouldered by the government. Maldives is receiving 20 percent coverage from COVAX and an added 10 percent coverage from India (requiring only local delivery costs of $1.66 per dose). It only needs to shoulder the full cost (estimated at $4 per dose plus the international and domestic transport costs) for the remaining 40 percent coverage. We view this as the realistic scenario.

Scenario 3: The cost per dose is a maximum of $3 (plus domestic and international transport costs), mirroring vaccine costs in India, resulting in a total of $11.10 per vaccinated person for the vaccines provided beyond the initial 20 percent coverage from COVAX. Exceptions are: (i) Maldives receives 20 percent coverage from COVAX and an additional 10 percent coverage from India; (ii) Bhutan receives all of its doses from India, so only local delivery costs will be considered; and (iii) in India, only local delivery costs are required since the $3 vaccine is manufactured in India (the results for scenarios 2 and 3 are the same for Bhutan and India). This is the most optimistic scenario.

For all countries and scenarios, the economic benefits of vaccinations greatly exceed the costs of purchasing and distributing them (Table 3). Even in the most pessimistic case (Scenario 1), the lowest benefit cost ratio is for Afghanistan (3.46), while all other countries enjoy a benefit-cost

[7] It appears that the Johnson & Johnson vaccine would be more expensive than any of the vaccines underlying the scenario assumptions, despite being a one-dose vaccine, so it is not included in these estimations.
[8] As the vaccines are coming from India, the total cost per dose for India includes the cost of domestic distribution ($1.66 per dose), while the cost for the other countries includes both international and domestic distribution costs ($2.55 per dose).

ratio that is greater than six. In the most optimistic fact pattern (Scenario 3), even Afghanistan enjoys a benefit-cost ratio of 5.44, and the other countries' ratios all exceed nine. Overall, these calculations show that under a range of assumptions, vaccination is likely to be a highly cost-effective investment for South Asia. The benefits associated with the vaccine correspond to those calculated in Table 2, using the mean of the ranges presented.

Table 3. Benefit cost ratios for achieving herd immunity through vaccinating 70 percent of the population

	Gain from vaccination ($ bn)	Scenario 1 costs ($ mn)	Scenario 2 costs ($ mn)	Scenario 3 costs ($ mn)	Scenario 1 benefit-cost ratio	Scenario 2 benefit-cost ratio	Scenario 3 benefit-cost ratio
Afghanistan	1.47	0.425	0.314	0.271	3.46	4.68	5.44
Bangladesh	20.48	1.838	1.360	1.171	11.14	15.06	17.49
Bhutan	0.32	0.008	0.002	0.002	38.46	168.00	168.00
India	356.47	15.079	8.230	8.230	23.64	43.31	43.31
Maldives	1.48	0.004	0.003	0.002	360.15	546.89	642.00
Nepal	3.05	0.316	0.234	0.202	9.63	13.02	15.12
Pakistan	14.61	2.311	2.421	1.472	6.32	6.04	9.93
Sri Lanka	6.89	0.238	0.176	0.152	28.95	39.14	45.42

Source: Author calculations.

3.3 Disease eradication is a public good, while vaccines to achieve eradication have private good characteristics

The fact that benefits outweigh costs does not mean that the desirable level of vaccination will be achieved. Governments might have insufficient resources, and individuals in markets might not want to pay for the vaccine instead of free riding on the vaccination of others. This section looks at the role of governments and markets in the vaccination process.

Disease eradication is non-rival and non-excludable; clearly a public good and, in fact, a global public good. That is why governments usually run vaccination programs. If the number of vaccinations passes a critical threshold, everybody benefits. However, the vaccines themselves

are rivalrous and excludable. Especially in the short run, with a limited supply of vaccines, market mechanisms can determine the allocation of these vaccines. In the case of COVID-19, the distribution of vaccines across countries has been driven, at least partly, by the purchasing power of countries. The role of the market in global allocation has advantages and disadvantages. It is a disadvantage that countries do not take externalities beyond their border enough into account. It is an advantage that the competition among countries has accelerated the development of vaccines.

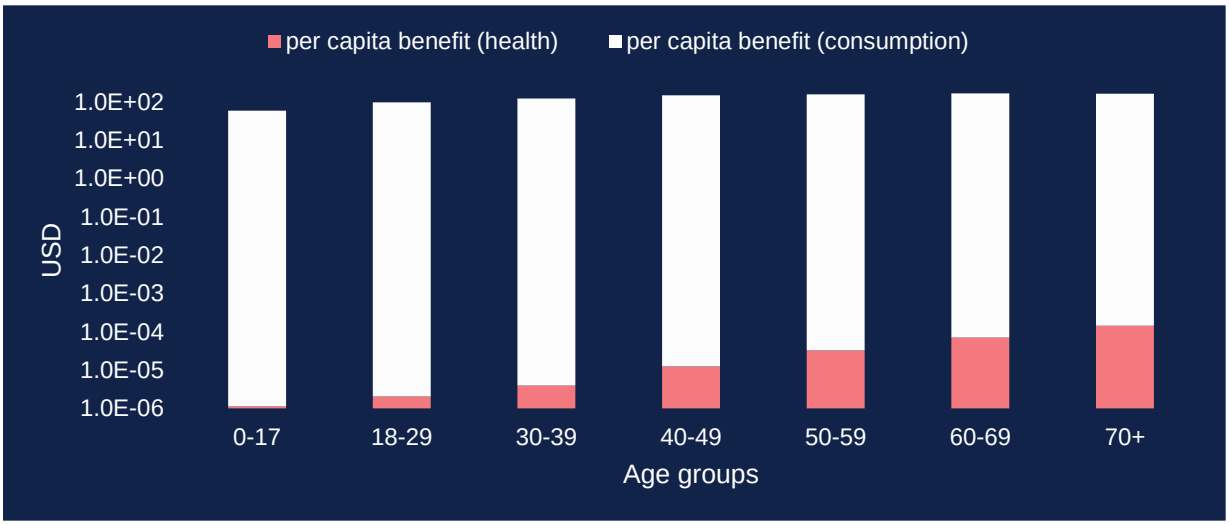
Typically, there are two externalities of vaccines that create social benefits beyond the private benefits. Individuals will not have a sufficient incentive to pay a price that includes these large externalities. Individuals will prefer to either pay a much lower price[9] or free ride. A first externality is that vaccinating an individual protects him or her and also reduces the probability that others will become infected. A second externality is that vaccinations avoid the need for subsequent curative health care. It has been documented that household demand for preventive care is weaker than for curative health care, and often the financial interests of the providers are also weaker (Gauri and Khaleghian, 2002). As a result, society often must shoulder the cost of curative care for diseases that the appropriate level of preventive care could have avoided.

In the case of COVID-19, there is a third externality that overwhelms the other two. The pandemic has created a global economic crisis. Reaching a critical mass of global vaccinations is a critical element in the recovery from that crisis. The global recovery, or the economic benefit, will not be taken into account by an individual that gets a vaccine.

Figure 3 illustrates the difference between the health and economic benefit of vaccination for different age groups in Tamil Nadu. For those under age 29, the health benefit of getting vaccinated is insignificant, but for ages 70 and above, the health benefit exceeds the social benefit. The conclusion from this analysis is that many people, particularly most young people, lack the incentive to pay a price to be vaccinated, equal to the total (including social) benefit of vaccination. Thus, a government role in ensuring widespread vaccination is essential.

[9] Note that some richer individuals may have a higher willingness to pay for the vaccine, but this would reflect their potentially higher private benefits from the vaccination. The gap between private and social benefits would however still be there even if everyone had the same income and ability to pay. The fact that some people will lack the resources to finance the vaccination is an additional issue.

Figure 3: Health and economic benefits of vaccination in Tamil Nadu, U.S. dollars



Source Malani et al (2021). Note: A logarithmic scale is used.

The same reasons—large externalities and the related gap between private and social benefits—affect the research and development, and production of vaccines. Firms may lack the incentive to produce the required amount of vaccine because market prices don't reflect all externalities. It is optimal for governments to incentivize research and the faster and larger installation of vaccine production capacity. In the case of COVID-19, governments have accomplished this through advanced market purchases, subsidies, or outright government production. Many, if not most, governments are investing in vaccines, and the competition between governments may have led to exceptionally rapid development and production of vaccines against COVID-19. Increasing the speed of these efforts is essential to avoiding further health and economic damage and maximizing the benefits, as shown by Castillo et al. (2021). Public investments in excess capacity can help, and Castillo et al. (2021) also propose reducing individual doses, vaccinating more people with one dose, initially delaying the second dose, and other ways to stretch the current capacity. In the short run, competition across countries might have been useful, but the fight against COVID-19 is a global public good in the longer term. The COVAX facility, which centrally buys vaccines and provides these for free to countries with insufficient resources, is the proper vehicle to provide this global public good.

Individual governments still have the momentous task of putting vaccine shots in the arms of all adults. They face three critical challenges in that endeavor. First, how can vaccination programs be financed, given the limited fiscal space of countries in the region? Second, can governments

administer vaccine programs successfully, in light of the limited capacity of their health care systems? And third, what are the challenges of ensuring equity in the distribution of vaccines? These are the subjects covered in the next sections.

3.4 South Asia has limited fiscal space to finance the vaccination program

As shown above, vaccines are cost effective. Still, it is not easy to finance them due to the strict limits on domestic resource mobilization in South Asia. Increasing taxes is particularly difficult in South Asia because of both the low public willingness to pay for public goods and the problem of financing costs in the short run during the pandemic. The share of tax revenue in GDP in South Asia was already low relative to global benchmarks before the pandemic. The economic contraction has reduced revenues by about 2 percent of GDP on average. Most countries raised borrowing sharply in 2020, primarily to finance the emergency pandemic response: expanding social protection programs and countercyclical government spending. As a result, public debt levels have risen across the region— from already elevated pre-crisis levels in India, Maldives, and Sri Lanka—to exceed 60 percent of GDP on average. Higher public debt levels may imply higher debt servicing in the future and the potential for continued fiscal tightening, at least in the medium-term.

Moreover, there is little ability to reallocate health spending to vaccines, since overall and public financing for health are relatively low in SAR, and private out-of-pocket (OOP) financing dominates. The region has the lowest total health spending and public health spending as a share of GDP, and the highest private OOP financing as a share of total health spending (Table 4).

Table 4. Health spending indicators, by region

Classification	Total health spending		Public spending share of GDP (%)	OOP share of total (%)	External share of total (%)
	Per capita (US$)	*Share GDP (%)*			
East Asia & Pacific	269	6.5	4.8	23	16
Europe & Central Asia	380	6.5	3.2	46	1
Latin America & Caribbean	456	6.8	3.9	33	3
Middle East & North Africa	291	6.1	3.0	40	3
South Asia	187	5.1	2.0	51	5
Sub-Saharan Africa	109	5.6	2.3	37	23
LMICs	*261*	*6.1*	*3.2*	*36*	*12*

Source: WHO (2020)

The estimated cost of vaccinations is significant compared to total government expenditures and is large compared to health expenditures in some countries. Vaccination costs are likely to be relatively low in 2021, given the assumptions for the three scenarios of vaccine costs shown above. In these hypothetical scenarios, in most countries, the government in 2021 is only financing the full cost of vaccination for 10 percent of the population (COVAX is assumed to finance the purchase of vaccines for 20 percent of the population). Even in the most pessimistic scenario, the average cost of vaccination programs across regional countries in 2021 is forecast to be 0.5 percent of government spending, or 14.4 percent of government spending on health. By contrast, in 2022, the government is assumed to finance the cost of vaccinating 40 percent of the population, and the fiscal burden would average 1.5 percent of spending in the most pessimistic scenario. In particular, the estimated costs in 2022 exceed 2 percent of the government budget in Afghanistan (5.7 percent), Pakistan (2.7 percent), Bangladesh (2.5 percent), and Nepal (2.2 percent), which will likely be difficult for these governments to cover. In Afghanistan and Bangladesh, the costs of procuring and delivering the vaccine would amount to somewhat less than or more than the estimated budgetary expenditures on health (budget estimates as of 2018) (Table 5).

In light of the limited information on the safety and efficacy of vaccinating those under age 18, countries in the region might consider vaccinating only those age 18 and above. For example, if governments targeted vaccinating 100 percent of those 18 years old and above—rather than setting a 70 percent coverage target for the entire population—total costs to the government would fall by 34 percent in Afghanistan and 19 percent in Pakistan (given their relatively young populations). In contrast, costs would be 11 percent higher in Maldives (given the relatively older population). However, since people of any age can transmit the virus to others, it is likely that 70 percent of the entire population will have to be vaccinated in order to achieve herd immunity.

Table 5. Cost of vaccinations, Scenario I

Country	Coverage		Vaccine Cost ($M)		Share health (%)		Share budget (%)		Share GDP (%)	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Afghanistan	11.7	15.9	110.2	334.7	43.8	124.8	2.0	5.7	0.56	1.61
Bangladesh	51.0	68.7	481.5	1,444.0	28.3	75.2	1.0	2.5	0.14	0.39
Bhutan	0.2	0.3	2.2	6.5	3.0	9.5	0.2	0.8	0.08	0.23
India	418.7	563.8	3,951.4	11,845.9	13.6	37.9	0.5	1.3	0.14	0.38
Maldives	0.1	0.2	1.1	3.3	0.3	0.7	0.1	0.2	0.02	0.05
Nepal	8.8	11.8	82.7	248.6	15.1	43.8	0.8	2.2	0.24	0.67
Pakistan	63.7	86.6	601.6	1,819.2	18.0	52.0	0.9	2.7	0.22	0.61
Sri Lanka	6.6	8.9	62.5	186.6	4.4	11.9	0.4	1.0	0.07	0.20
Average	-	-	-	-	14.4	40.1	0.5	1.5	0.15	0.40

*Population in millions

Under the more realistic scenario 2, vaccine delivery costs in the region would average 0.4 percent of government expenditures in 2021 and 0.8 percent in 2022 (Table 6). Only Afghanistan (1.5 percent) would see outlays of greater than 1 percent of budget in 2021. However, more countries in 2022, including Afghanistan (3.9 percent), Bangladesh (1.7 percent), Nepal (1.5 percent), and Pakistan (2.7 percent), would incur costs greater than 1 percent of budget. For all countries, the cost is less than the total health budget in both 2021 and 2022. While these estimated expenses are notably less than those from Scenario 1 (the most pessimistic scenario), they remain non-negligible. Countries are likely to still need to mobilize additional financing to cover costs to reach coverage rates required for herd immunity.

Table 6. Cost of vaccination, Scenario 2

Country	Coverage		Vaccine Cost ($M)		Share health (%)		Share budget (%)		Share GDP (%)	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Afghanistan	11.7	15.9	84.5	229.6	33.6	85.6	1.5	3.9	0.43	1.10
Bangladesh	51.0	68.7	369.3	990.4	21.7	51.6	0.7	1.7	0.11	0.27
Bhutan	0.2	0.3	0.8	1.1	1.1	1.6	0.1	0.1	0.03	0.04
India	418.7	563.8	2,450.1	5,780.3	8.4	18.5	0.3	0.6	0.09	0.19
Maldives	0.1	0.2	0.4	2.3	0.1	0.5	0.0	0.1	0.01	0.04
Nepal	8.8	11.8	63.4	170.5	11.6	30.0	0.6	1.5	0.19	0.46
Pakistan	63.7	86.6	601.6	1,819.2	18.0	52.0	0.9	2.7	0.22	0.61
Sri Lanka	6.6	8.9	47.9	128.0	3.4	8.2	0.3	0.7	0.06	0.14
Average	-	-	-	-	9.8	23.0	0.4	0.8	0.10	0.23

*Population in millions

In the more optimistic Scenario 3, where vaccine prices are consistently on the low end of observed prices thus far, the fiscal burden of vaccinating against COVID-19 would fall to a regional average of 0.3 percent of the overall government budget in 2021 and 0.8 percent in 2022 (0.09 percent and 0.21 percent of GDP, respectively) (Table 7).[10] Nevertheless, vaccination expenditures would average a fifth of health expenditures for the region as a whole in 2022, indicating the necessity for considerable reallocations of expenditures to meet vaccination targets. Moreover, these overall, seemingly more affordable costs mask significant country-by-country heterogeneity. Costs in all countries except for Afghanistan would not exceed 1.1 percent of the government budget in 2021, but the share of budget required to achieve 70 percent coverage is at least 1.3 percent in Afghanistan, Bangladesh, Nepal, and Pakistan in 2022. This suggests that even under optimistic costing circumstances, some SAR countries may require additional financing to achieve herd immunity through vaccination.

[10] The estimate of the share of vaccination expenditures in the budget actually is lower in Scenario 3 than Scenario 2, but by less than the rounding error.

Table 7. Cost of vaccination, Scenario 3:

Country	Coverage		Vaccine Cost ($M)		Share health (%)		Share budget (%)		Share GDP (%)	
	2021	2022	2021	2022	2021	2022	2021	2022	2021	2022
Afghanistan	11.7	15.9	76.0	194.5	30.2	72.5	1.4	3.3	0.39	0.93
Bangladesh	51.0	68.7	331.8	839.2	19.5	43.7	0.7	1.5	0.10	0.23
Bhutan	0.2	0.3	0.8	1.1	1.1	1.6	0.1	0.1	0.03	0.04
India	418.7	563.8	2,450.1	5,780.3	8.4	18.5	0.3	0.6	0.09	0.19
Maldives	0.1	0.2	0.4	1.9	0.1	0.4	0.0	0.1	0.01	0.03
Nepal	8.8	11.8	57.0	144.5	10.4	25.4	0.5	1.3	0.17	0.39
Pakistan	63.7	86.6	414.6	1,057.2	12.4	30.2	0.7	1.6	0.15	0.35
Sri Lanka	6.6	8.9	43.1	108.5	3.0	6.9	0.3	0.6	0.05	0.12
Average	-	-	-	-	9.2	20.5	0.3	0.8	0.09	0.21

*Population in millions

3.5 South Asia rollout of the vaccine has started well, but its health systems may face capacity constraints in reaching the full population

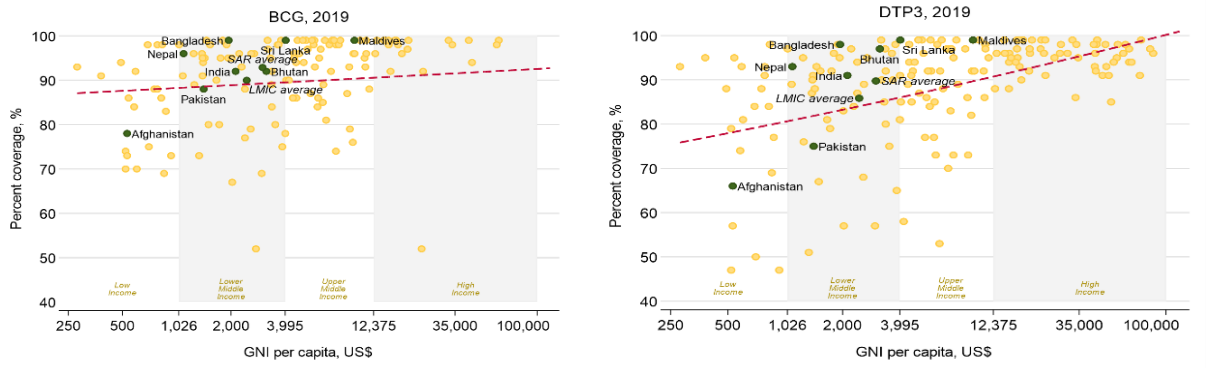
Countries in South Asia have made progress in vaccinating their populations, despite capacity challenges affecting their health care systems. For example, 20 million people in India have received their first shot. However, if 70 percent of India's population is to be vaccinated by the end of 2022, the number of shots in arms will have to average 80 million per month. The COVID-19 vaccination campaign is not comparable to any health programs implemented in the past, so examining the region's health systems may not offer a reliable prediction for how the COVID-19 vaccinations will be executed. In fact, based on the time it took in the past to research and test new vaccines, it would not have expected that multiple, highly effective COVID-19 vaccines would be available after about one year, with India producing and exporting large amounts of the vaccines. Nevertheless, examining the problems facing the system does supply useful information about potential bottlenecks and thus focuses the attention of policy making in alleviating them.

Insights into capacity issues can be gleaned from reviewing the region's performance with other immunization programs, barriers to health facility access, the limited number of nurses and doctors relative to the population, and the problems affecting the cold chain and related logistics. Moreover, effective vaccines will only contribute to herd immunity if people know about them, accept them, and follow the correct vaccination course. Thus, obstacles to an extensive and efficient vaccination campaign could come both from the supply and demand side.

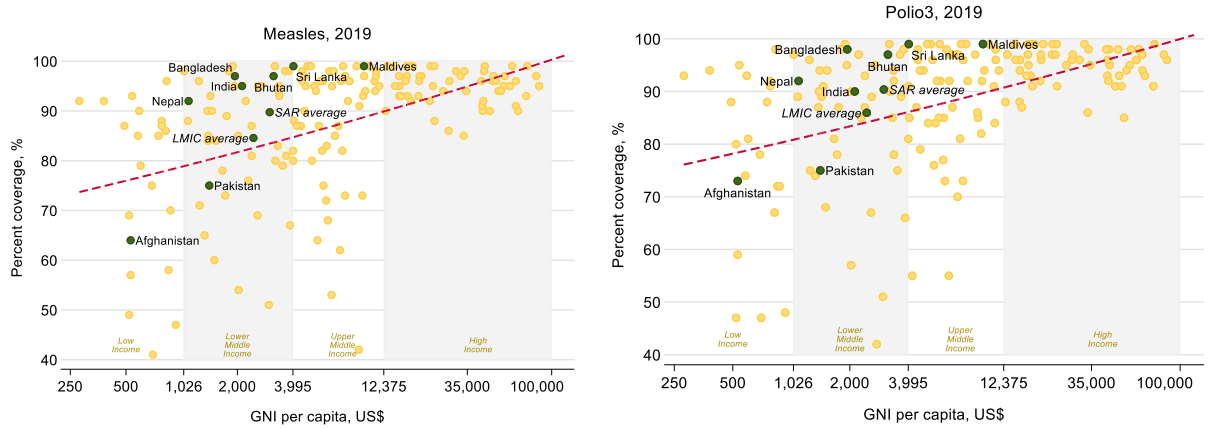
Other immunization programs.

Existing (non-COVID-19) vaccination programs differ in nature from immunization efforts against COVID-19. Most non-COVID-19 vaccination programs target children rather than adults, who are the main target of COVID-19 vaccines. Those programs usually function incrementally, focusing on specific cohorts of young children or pregnant women, whereas COVID-19 vaccine campaigns aim to vaccinate most of the adult population in a short period. Figure 4 displays the childhood immunization coverage for Bacillus Calmette–Guérin (BCG) and diphtheria, tetanus pertussis third dose (DTP3), measles, and polio third dose (polio 3), for children between 12 and 23 months of age in 2019. While most countries in the region are above the immunization rates expected given their level of development, Afghanistan and Pakistan fall below those rates. This is concerning, as polio remains endemic in the two countries and has probably worsened due to health system disruptions because of the COVID-19 pandemic.[11]

Figure 4. Immunization coverage (percent) including Bacillus Calmette–Guérin (BCG) and Diphtheria, Tetanus Pertussis third dose (DTP3), Measles and polio third dose (polio 3) for children between 12 and 23 months of age in SAR countries in 2019



[11] The number of polio cases reported in 2020 was 135, remaining close to the high level reached in 2019 (144), compared to 20 in 2016, 8 in 2017, and 12 in 2018. (http://www.emro.who.int/pak/programmes/polio-eradication-initiative.html and https://polioeradication.org/where-we-work/pakistan/) In Afghanistan, 56 polio cases were reported in 2020, almost double the amount in 2019 and the highest number on record for years (https://www.thelancet.com/action/showPdf?pii=S0140-6736%2821%2900030-1)

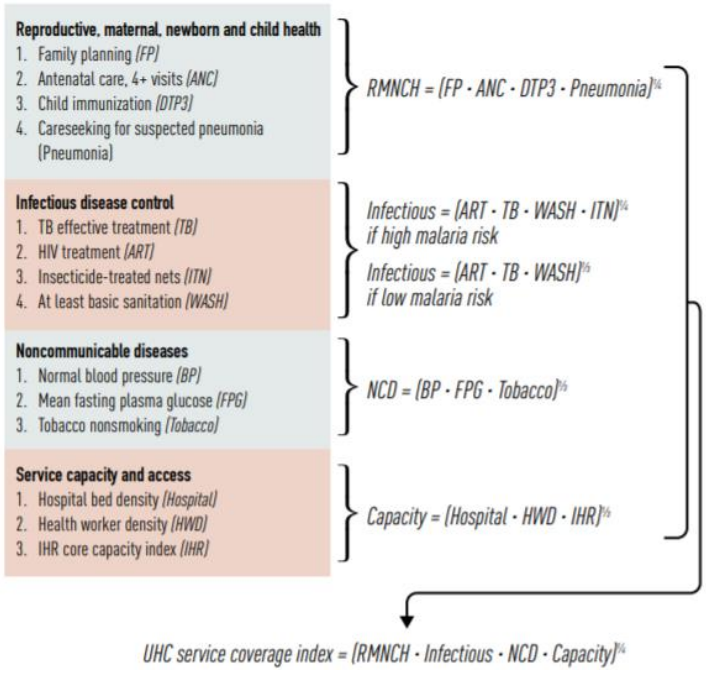


Source: Author calculations using DHS and WHO data

Health services availability

South Asian countries' scores on the Universal Health Coverage (UHC) service coverage index (SCI) raise concerns about their COVID-19 vaccine preparedness. The UHC SCI is the official measure for Sustainable Development Goal indicator 3.8.1, i.e., coverage of essential health services. This index aggregates tracer indicators in four essential health service areas: reproductive, maternal, and newborn and child health; infectious diseases; noncommunicable diseases; and service capacity and access.

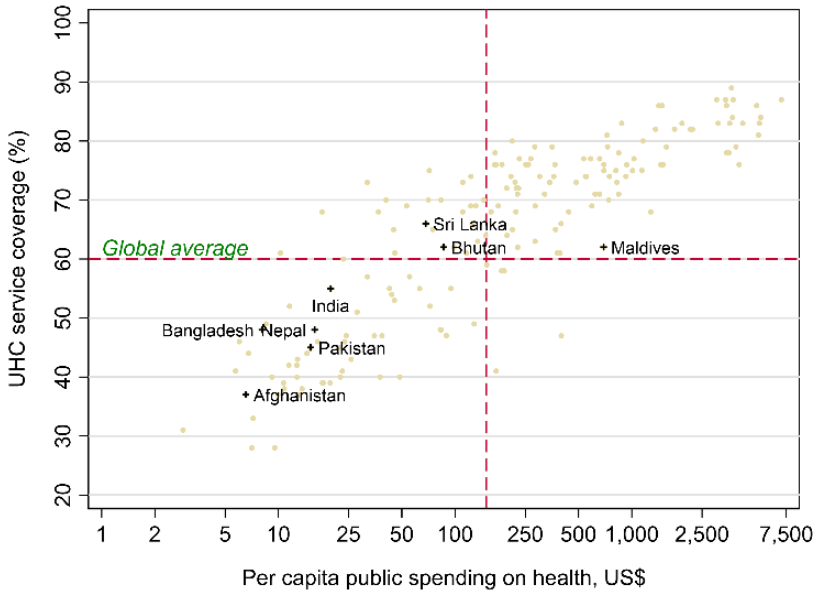
Figure 5. Calculation of the index of health service coverage



The index is constructed from geometric means of 14 tracer indicators described in Figure 5. The UHC SCI is presented on a scale of 0 to 100, with higher scores indicating better performance: approaching or reaching 100 on the index can be interpreted as meeting the SDG target (WHO, 2019). Afghanistan, Pakistan, Bangladesh, Nepal, and India show coverage that is significantly below the global average, suggesting that these countries' health systems might not be fully

prepared for COVID-19 immunization and may encounter challenges in ensuring its wide coverage (see Figure 6).

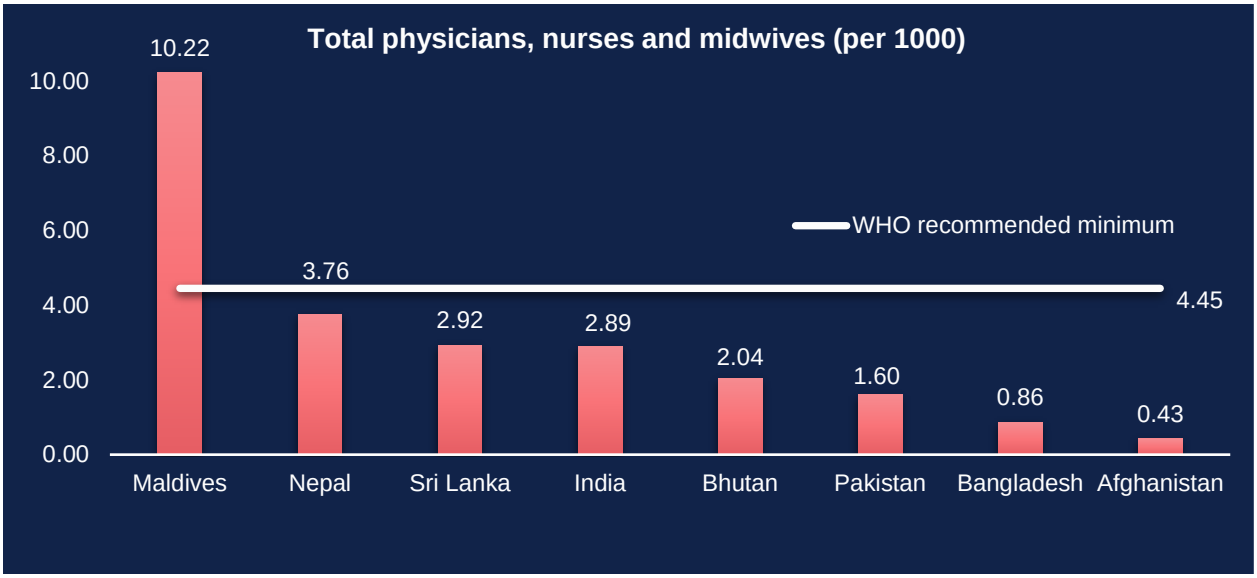
Figure 6. UHC SCI for SAR countries, 2017 (red lines represents global averages)



Source: Author calculations on WDI and WHO data.

The number of health professionals in South Asia is small relative to the population, and access to services is sharply limited. All South Asian countries (except Maldives) fall short of the WHO recommended minimum number of skilled health workers (doctors, nurses, and midwives); WHO recommends 4.45 doctors, nurses, and midwives per 1,000 population; half the region's countries are at less than half that level (Figure 7). In addition, access to health care within 5 kilometers is limited. For example, data from Pakistan shows that only 54 percent of the population has access to health services within 5 kilometers for basic health units. The numbers drop to 23 percent for rural health centers and 28 percent for hospitals. The findings also show severe shortages of health equipment, drugs, and supplies at all levels and in all provinces, creating bottlenecks for service delivery and affecting the quality of services (Giorgio, 2019; DHS Program, 2018).

Figure 7. Availability of skilled health workers in South Asia



Source: World Bank Group, * Latest data available, 2017 and 2018

Cold chains

While information is scarce, there is reason to fear that the region's cold chain capacity, which is of paramount importance for immunization, faces severe problems. For example, a 2020 assessment performed in a district of New Delhi, India (Kumar, 2020) found that of 56 units of electrical cold chain equipment, 8.9 percent were nonfunctional, and 48.2 percent were noncompliant with WHO standards. While 86 percent of passive containers complied with WHO standards, the storage capacity of electrical vaccine storage equipment was insufficient in 3.4 percent, the passive container capacity in 65.5 percent, and ice pack preparation and storage capacity in 24.1 percent of health facilities. There was no planned preventive maintenance of cold chain equipment and no standard operating procedure for emergency event management. If unaddressed, and depending on the vaccines available and procured, these problems with cold chain equipment could be a substantial roadblock for the safe and successful administration of COVID-19 vaccines also in other cities and areas of the region.

Steps are being taken to generate more information on cold chain capacity in South Asia. A December 2020 meeting organized by WHO with national regulators and vaccine manufacturers of the SAR countries highlighted the need for all countries to assess available cold chain space and meticulously plan cold chain requirements, including necessary improvements in storage,

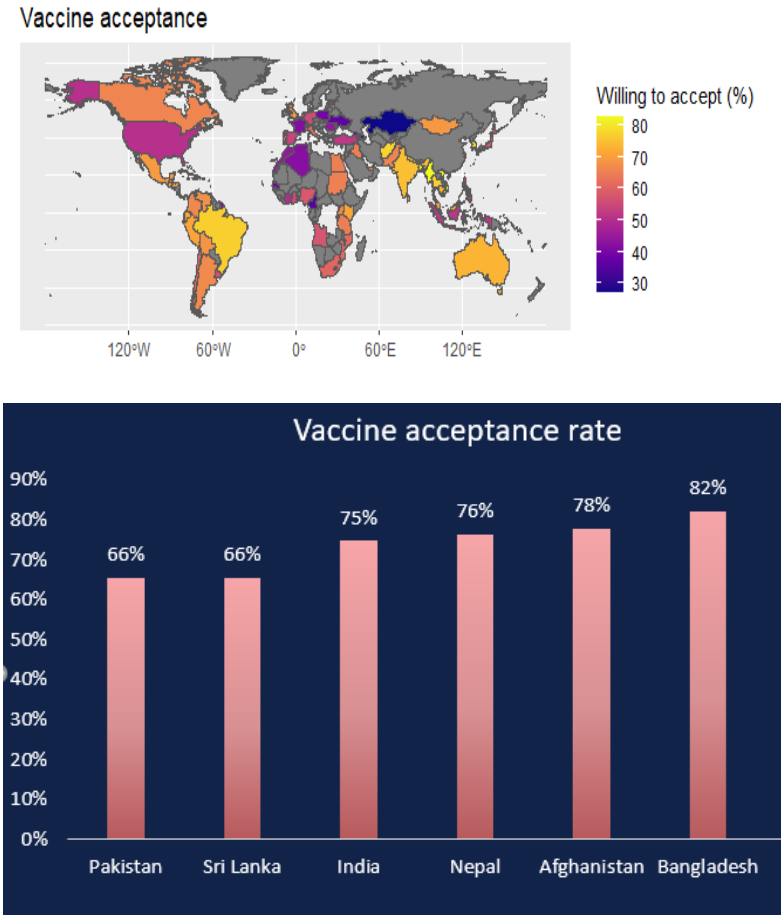
stock management, vaccine delivery strategy, and waste management. The WHO also organized a meeting of cold chain managers in regional countries to help assess cold chain needs, identify gaps, and plan for appropriate measures to prepare for introducing the COVID-19 vaccine (WHO, 2020; Kumar, 2020).

Demand side issues

Vaccination programs may also face challenges in achieving adequate take-up (or acceptance) for herd immunity. With a vaccine that is 90 percent effective, a 77.7 percent take-up rate is needed to reach the herd immunity threshold of 70 percent. The region has an average take-up rate of 75 percent, according to a joint survey conducted by Facebook, the WHO, Johns Hopkins University, and the Massachusetts Institute of Technology.[12] South Asia's acceptance rate is high compared to some regions; for example, only 50 percent of North America's population was estimated to accept a COVID-19 vaccination. On the other hand, a similar web-based survey estimated China's acceptance rate at 84 percent (Lin et al. 2020). Acceptance rates vary considerably within SAR: only 66 percent of adults in Sri Lanka and Pakistan responded yes to the question "If a vaccine for COVID-19 becomes available, would you choose to get vaccinated?" while the share in Bangladesh is much higher, at 82 percent (see Figure 8).

[12] The survey sampled more than 1.2 million Facebook users in 67 countries to ask about their preventive health behavior and vaccine acceptance (COVID-19 Beliefs, Behaviors & Norms Survey). The aggregate-country level data are weighted to reduce bias due to nonresponse and to be representative of the country's adult or internet-using population.

Figure 8: Vaccine acceptance rates globally (top) and for covered SAR countries (bottom)



Source: COVID-19 Beliefs, Behaviors & Norms Survey (2021)

Immunization programs differ from most other forms of health care, and demand-side factors play a substantial role in take-up. Studies of demand-side determinants of childhood immunization find that characteristics of children's mothers, such as education and household socio-economic status, are significantly correlated to the probability of immunization. Among adults, education continues to play a role in vaccine take-up and in other related health behaviors (Maurer, 2009). The links between demographic characteristics and vaccine take-up are often non-monotonic, with lower literacy or income groups complying with social norms or policy interventions. In contrast, groups higher up on the income or education ladder may have information on vaccines, with independent or contradictory effects (Streatfield, Singarimbun, and Diamond, 1990).

Demand for and acceptance of vaccination also depends on broader cultural and social factors. Marti et al. (2017) found that major issues related to vaccine hesitancy were fear of side effects,

distrust in vaccinations, and a lack of information on immunization or immunization services. The authors found that countries in all WHO regions reported some negative media coverage about vaccines. While discussing immunization policy and supply-side issues, Levine and Levine (1997) posited that in addition to production costs, intellectual property rights, and liability, public perceptions of the disease and vaccination influence the implementation of new vaccines. Web-based survey data from Saudi Arabia found that willingness to accept a vaccine is higher among older age groups, married individuals, those with higher education, and government sector employees (Al-Mohaithef and Kumar Padhi, 2020). Health risk perceptions and greater trust in public health systems were also significant predictors of vaccine take-up.

The latest Demographic and Health Surveys Program in South Asia provide information that can be used to estimate the impact of demand- and supply-side variables on adult vaccination. We focus on the take-up of the tetanus-toxoid vaccines among women to protect their last birth against tetanus, one example of an immunization program with a broad reach targeted to adults. There is substantial variation across countries in vaccination rates, from below 50 percent in Afghanistan to 85 percent or above in Bangladesh, Nepal, and India.

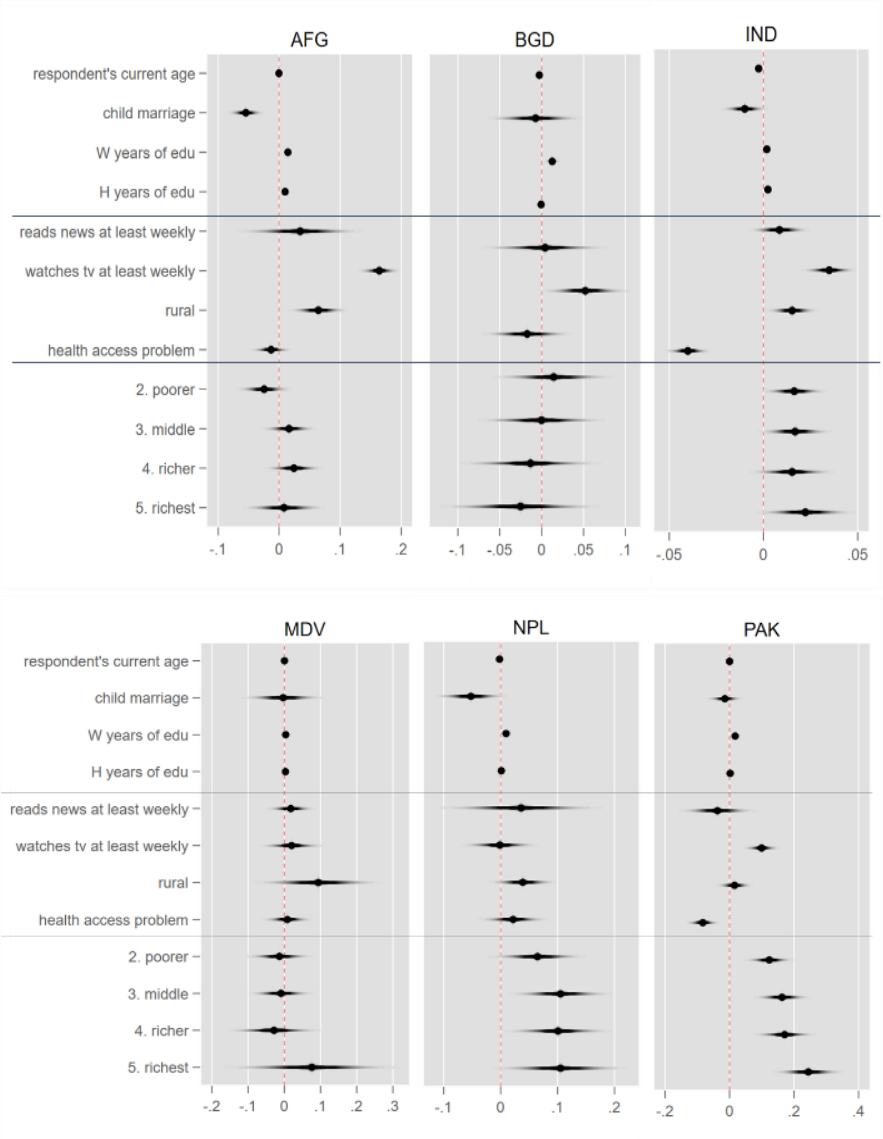
Figure 9 plots the marginal effects of characteristics of individual women and their households on the likelihood of vaccination using country-level regressions. Similar to other studies cited above, women's education significantly increases the probability of vaccination acceptance, as does access to information by watching television at least weekly. The marginal effect of an additional year of education on vaccination rates is sizeable, ranging between 1.2-1.8 percentage points in Afghanistan, Bangladesh, Maldives, and Pakistan. In Afghanistan, for example, the share of newborns protected against tetanus increased by eight percentage points over the past decade. Raising women's education from the regional minimum by four years is roughly equivalent to a whole decade of vaccination progress. Women who are married before age 18 and younger women are also less likely to get vaccinated.[13]

As measured by the ownership of assets and classification into quintiles, wealth plays a significant and monotonic role in vaccine take-up in Pakistan. In India and Nepal also, the richest quintile has a significantly higher likelihood of being vaccinated relative to the poorest, but the positive differential does not increase as we move from poorer to richer quintiles. And in Bangladesh, the

[13] Acceptance rates of actual COVID-19 vaccine in the United States are affected in a similar way by these variables (see, for example, Malik et al. 2020).

richer quintiles are less likely to be vaccinated than the poorest quintile (Figure 9). The discussion below, which analyzes how inequality may have constrained access to some vaccines, shows that controlling for supply and demand determinants of vaccination reveals that wealthier households are more likely to have their children vaccinated (Figure 13).

Figure 9: Marginal effects of individual and household characteristics on probability of tetanus-toxoid vaccination. Gradual shaded confidence intervals up to 99 percent are depicted. (DHS – latest available years)



Source: Authors' estimation based on DHS data. Note: The marginal effects for the wealth quintiles are all in relation to the poorest group.

Looking at one proxy for supply-side constraints, women reporting distance as a problem in accessing health care are between 4 to 7 percentage points less likely to get vaccinated in India

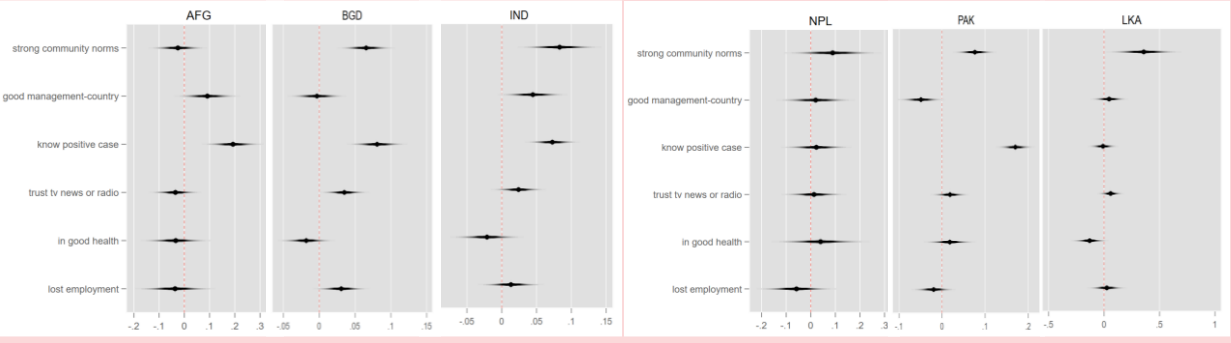
and Pakistan. Conversely, women in rural areas are significantly more likely to get vaccinated in Afghanistan, India, and Nepal—possibly due to wide-scale reproductive health programs as opposed to those in urban areas.

The ability to extrapolate those findings to the uptake of vaccines against COVID-19 is limited due to the novelty of the virus and the still-nascent evidence on vaccine performance.

Box 1: How can countries address COVID vaccine hesitancy and increase take-up?

Using the COVID-19 Beliefs, Behaviors and Norms Survey data (the same data presented above in Figure 8), we estimated the correlations of some key variables on the decision to accept a COVID-19 vaccine for the case of South Asian countries. For all countries (except Afghanistan), strong community norms—i.e., the importance people give to preventive action to limit the spread of COVID-19, according to the respondent's opinion—positively influence the acceptance of the vaccine. In contrast, correlations of the acceptance of the vaccine with some other context variables show mixed results. In some countries, the respondent's positive view about the authorities' handling of the pandemic (good management-country) or the respondent's trust in media sources for information on COVID-19 (trust in TV, news, radio) correlate positively with acceptance of the vaccine. In contrast the correlations are negative or close to zero in other countries. Finally, direct experiences with the virus, either because the respondent personally knows someone who tested positive for COVID-19 (know positive case) or has faced a job loss since January 2020 (lost employment), have the expected strong link with acceptance of the virus.

Figure box 1: Marginal effects of individual characteristics on probability of accepting COVID-19 vaccination



Source: Authors' estimation based on COVID-19 Beliefs, Behaviors & Norms Survey (2021) data. The plots show the marginal effects of country-specific regressions where the dependent variable is equal to 1 if the respondent is willing to get vaccinated or has already been vaccinated, and 0 is he/she is unwilling to get vaccinated. In addition to the explanatory variables above, the regressions include age, education, gender, and sector of employment as control variables. Smoothed confidence intervals from 1-99 percent are shown using robust standard errors.

The behavioral science literature suggests the importance of understanding the underlying drivers of vaccine decision-making (Betsch, Böhm, and Chapman 2015). Countries should design their strategies for vaccine take-up to target these factors, including the perceived risk of disease and side effects, social norms, costs in terms of time and effort, and trust in the health system and government. Behavior science offers options that go beyond traditional behavior change campaigns (de Walque and Chukwuma, 2010).

One might imagine that the communication strategy could be quite simple: "take it or risk dying." But it is known that depending on age and risk-profile, not everyone is confronted with the same mortality or morbidity risk in the case of COVID-19 infection (see above in main text). And so, people who do not feel threatened by COVID-19 might be reluctant to be vaccinated. A revised slogan could then be "take it or risk dying or causing others' deaths." But will relying on people's self-interest and altruism be sufficient to achieve sufficiently high take-up rates?

One option that has been used for other diseases is mandatory vaccination. School systems across the world require immunization records for enrollment, with some exceptions, and vaccination cards are required to enter some countries. Mandating vaccination sounds extreme, but medical ethicists argue that a COVID-19 vaccine could be made compulsory if the four following conditions are satisfied: i) there is a grave threat to public health; ii) the vaccine is safe and effective; iii) mandatory vaccination has a superior cost-benefit profile compared with the alternatives, and; iv) the level of coercion is proportionate (Savulescu, 2021).

However, making vaccination compulsory could wrongly create a perception that COVID-19 vaccines are not safe. Also, given the supply-side constraints that may persist in the short-term, these policies could inadvertently discriminate against individuals who are willing to be vaccinated but do not have access.

Another option is that people could be paid to be immunized instead of using negative incentives to promote immunization (Mankiw 2020). Vaccines also benefit those in contact with the immunized person, a textbook example of a positive externality. The social benefit of vaccination is larger than the individual benefit. It thus makes sense to compensate the individuals for taking the vaccine. For example, in-kind conditional incentives were effective in increasing full immunization rates among young children in India (Banerjee, Duflo, Glennerster, and Druva, 2010).

Nonetheless, cash or in-kind incentives might be unaffordable as a strategy for many countries in South Asia that already struggle to cover the cost of procuring COVID-19 vaccines. In these contexts, other options have been shown to achieve high coverage for childhood immunizations and may apply in this case, including ensuring vaccines are free of charge, home visits, reminders,

and well-designed information campaigns. Regardless of the mix of interventions, a decline in trust in health workers and the government will stall COVID-19 vaccines' uptake. Countries can build trust through clear and understandable communication, informing campaigns with feedback from communities, and mobilizing trusted advocates to lead stakeholder engagement. As countries work to strengthen the supply-side challenges to procuring and deploying vaccines, they would do well not to ignore the demand-side. National programs can draw on behavioral insights that address the drivers of hesitancy and ensure as many people as possible receive a safe and effective COVID-19 vaccine.

Note: this box was written by Damien de Walque and Nayantara Sarma.

3.6 Equitable distribution of vaccines – allocation rules

The limited supply of vaccines over the next year or so and constraints affecting the distribution of vaccines confront governments with the challenge of choosing the most equitable and efficient rules for distributing vaccines. However, the principles involved in determining what is equitable or efficient are unclear, and at times the two goals may conflict. For example, it may be viewed as equitable to distribute the vaccines across regions in relation to the population size. However, this approach may not allow any region to ease restrictions on trade and movement, so distributing the same amount of vaccine across all regions (a form of equitable distribution) may mean sacrificing income. Since poor areas tend to have higher incidences of infection, it could be viewed as equitable to distribute more vaccines to the poor. But higher immunity levels in these areas may imply that the benefits of vaccination are smaller than in areas with few infections so far. And it would likely be viewed as inequitable to provide more vaccines to men than to women, but men have a higher risk of dying, so vaccinating men may be more effective in saving lives.

The rules governing distribution need to be simple so that eligibility is easily determined by individuals and easily verified by those distributing the vaccine. The rules should also conform to widely accepted ethical precepts to avoid implementation obstacles and encourage take-up. Decisions about tradeoffs between equity and efficiency when formulating vaccination plans must be aware of ethical, political, and social concerns.

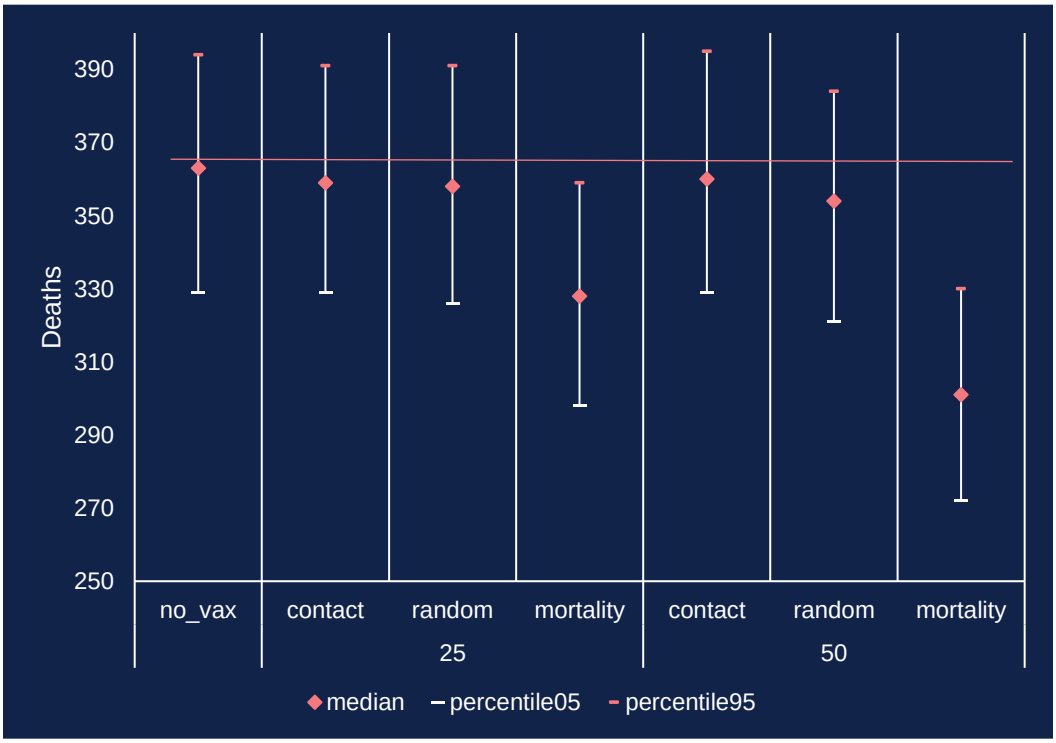
Given the context-dependent impact of different rules for vaccine distribution and the different ethical perspectives that policy makers may bring to this decision, it is difficult for economists to

recommend how to set priorities. Instead, our goal here is to show that the size of the economic benefits (to society and individuals) varies, depending on which subgroups of the population are targeted.

We illustrate some of the issues involved in using data from Tamil Nadu and the methodological framework explained in Box 2. That is, we analyze the impact of targeting different population groups in Tamil Nadu for vaccine distribution to provide some insight into what policy makers should take into account in exploring this problem. There are many possible ways of targeting vaccines that could improve social welfare compared to a random distribution or a first-come, first-serve approach. However, there is a premium on simple rules that can be easily verified in poor countries with limited administrative capacity and data availability. We will look at the impact of vaccine distributions based on age.

Targeting the elderly, as is done by most countries that are distributing vaccines against COVID-19, saves lives. Figure 10 compares forecasts of the number of deaths from COVID-19 in Tamil Nadu under various distribution rules. With 50 percent of the population vaccinated, the number of COVID-19 deaths falls by 14 percent more if the elderly are targeted than if vaccines were allocated randomly. As mentioned above, a decline in life years lost is also achieved by targeting the old. Risk factors, such as obesity, diabetes, cardiovascular disease, and chronic respiratory disease, are correlated with age, so prioritizing vaccine access by age will largely mirror prioritization by health risk factors. Figure 10 also shows that a “mortality prioritized” allocation, i.e., an allocation that considers the higher infection fatality rates (which is equivalent to targeting older groups), achieves better results than random or contact rate-based allocations. The latter considers the mixing of individuals and is based on contact tracing studies, such as Laxminarayan et al. (2020). The fact that random assignment and contact rate priority assignment do not differ much from the no vaccine scenario is because the probability of contracting the virus in Tamil Nadu has waned due to the already quite high level of seroprevalence. This underlines the importance of speed and adopting sensible rules for the allocation of vaccines.

Figure 10: Impact on number of deaths of alternative vaccine allocation rules, Tamil Nadu



Source: Malani et al. (2021)

Box 2: Methodology for modeling impact of COVID-19 by population groups

On the epidemiological side, we use a compartmental model to simulate the pandemic's progression. In such compartmental models, each member of the population is assigned to a compartment reflecting their infection status: susceptible, infectious, recovered, or deceased. This set of compartments, known as a SIRD model, is the most parsimonious, given available data. The class of compartment models is also described by a parameter known as the reproductive rate, or the number of secondary infections induced by a current infection. With the estimated reproductive rate, the compartmental model can be run forward to estimate the population's future infection risk. Reproductive rates and mortality are estimated by applying a Bayesian learning procedure to recent data on reported case prevalence and seroprevalence.

On the economic side, we employ an economic model of lifetime utility. We calculate the social value of vaccination as equal to the private willingness to pay for the equivalent of the expected consumption from vaccination, where expectations reflect survival probabilities obtained from our epidemic forecasting, given a vaccination policy. The incremental social value is the difference between the social value under a vaccination or a no vaccination policy We specifically choose

to use consumption rather than income to measure economic benefits to capture the benefits of vaccination to household members who are not in the workforce.

The link between these two models occurs by mapping infection levels to economic consumption levels. To do so, we obtain household-level monthly consumption from January 2018 to October 2020. We regress the percentage decline in consumption relative to average 2019 consumption for the household against an array of fixed effects and indicators for different levels of local infection rates and deaths from official reports. Under the regression's structure, when COVID-19 cases vanish, average monthly consumption will return to average 2019 levels before growing again. We project household consumption using this regression and forecasts of local infection and death rates from our epidemiological simulations.

The aggregate private benefit for each vaccination policy is calculated in two steps. First, for an individual in a given age category and district, we estimate the benefit from (a) getting a vaccine that is 70 percent effective (similar to the Asta Zeneca vaccine approved in India) and (b) living under the vaccination policy even though one is not personally vaccinated. In each scenario, daily age- and location-specific survival probabilities are obtained from epidemic simulations. Analog daily consumption is obtained from the consumption forecast with the additional assumption that, if one is personally vaccinated, per capita consumption returns to 2019 levels. Second, the average per capita private benefit is a weighted average of age-specific benefits, where the weights are the share of the local population in each age category.

When employing the economic model for valuation, we separate value into age-specific direct benefits to the target person being vaccinated (based on the probability of dying if infected and life years lost as a result) and age-specific indirect benefits or externalities to persons who avoided infection from the target person (based on economic recovery). To estimate the indirect benefits of vaccinating a person in a given age category, we take two steps. First, we project the daily reproductive rate of the epidemic in each age group. Second, we determine the share of each age group's projected infections that are due to every other age group using the India and COVID-specific contact matrix from a contact-tracing study of two Indian states. Third, we allocate the aggregate private benefit of avoiding each day's infections to each age group based on the last step.

3.7 Equitable distribution of vaccines, inequality in South Asian health systems

The pandemic has had an unequal impact in terms of health and economic costs. Less well-paid workers, especially in urban areas, tend to live in more densely populated zones. Concentrated in occupations and sectors with a higher intensity of face-to-face contacts, they have been more exposed to the contagion. Their job and income losses have been more intense (Bussolo, Kotia, and Sharma, 2021). This inequality dimension was also found in pre-COVID health access and outcomes. There is a strong risk that inequality may hamper the vaccination effort against the coronavirus or its financing. A large body of literature points out the difficulties of delivering public goods in less homogeneous, more unequal societies (Alesina, Baqir, and Easterly, 1999; Easterly and Levine, 1997; Banerjee and Somanathan, 2006). The main mechanism is that in fragmented societies, different groups have different preferences for how much and which type of public goods to produce with given tax revenues. A second mechanism is that some groups resist paying higher taxes to finance a specific public good if it benefits more individuals of other groups.

It is impossible to predict the extent to which different groups will have access to vaccines, and vaccination programs are too new for data to be available on their implications for inequality. In principle, providing vaccines to reach herd immunity could help reverse the widening of inequality resulting from the pandemic. For example, poor individuals' ability to return to service jobs with face-to-face contact could produce far greater percentage income increases than the impact of reaching herd immunity on the incomes of richer people who worked remotely throughout the pandemic.

However, aspects of health systems in South Asia and perhaps the region's vaccination efforts point to the potential for a rise in inequality. Areas of concern include the potential for vaccination programs to reduce access to other health care services among the poor and evidence of unequal access to other kinds of vaccines.

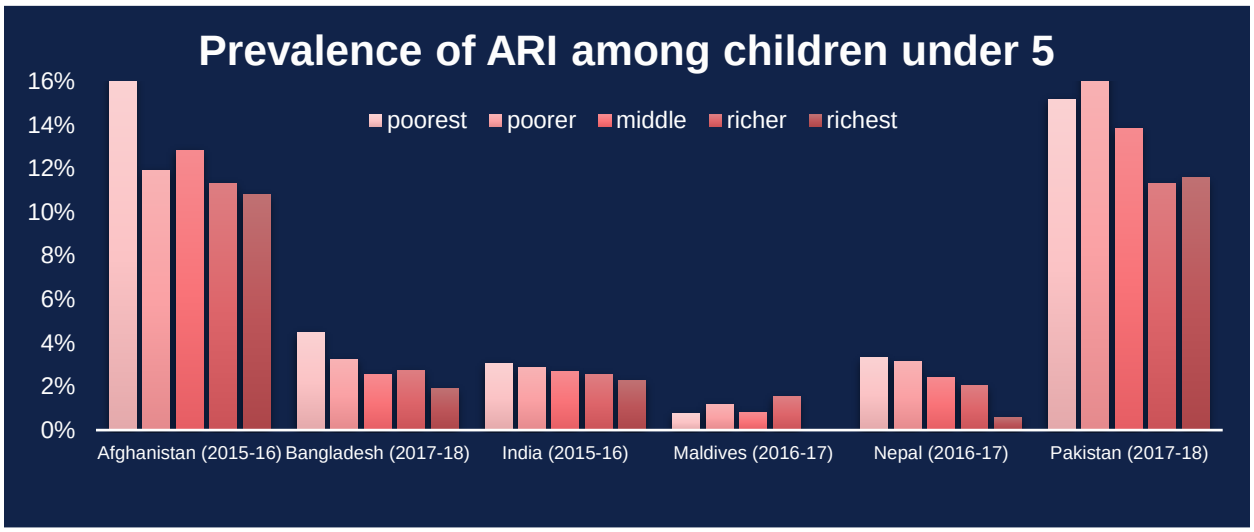
The potential for reducing access to health care services

As shown in Table 4 above, most SAR countries record low public spending on health care and correspondingly high private out-of-pocket spending. This low prioritization of public health in government expenditures has meant that many poorer individuals are either under-serviced or may not afford the high private cost to purchase health goods and services. In fact, high out-of-pocket expenditures to pay for health services could result in financial catastrophe for many

households, and COVID-19 infections could exacerbate this financial hardship. If government at the same time has to reallocate spending and other resources from the provision of other health care services to the massive vaccination program, the cost of the former could rise, potentially making it all the more difficult for poor households to access health care. This may be particularly serious now, as the pandemic has likely led many people to postpone seeking treatment of chronic problems for fear of contracting COVID-19.

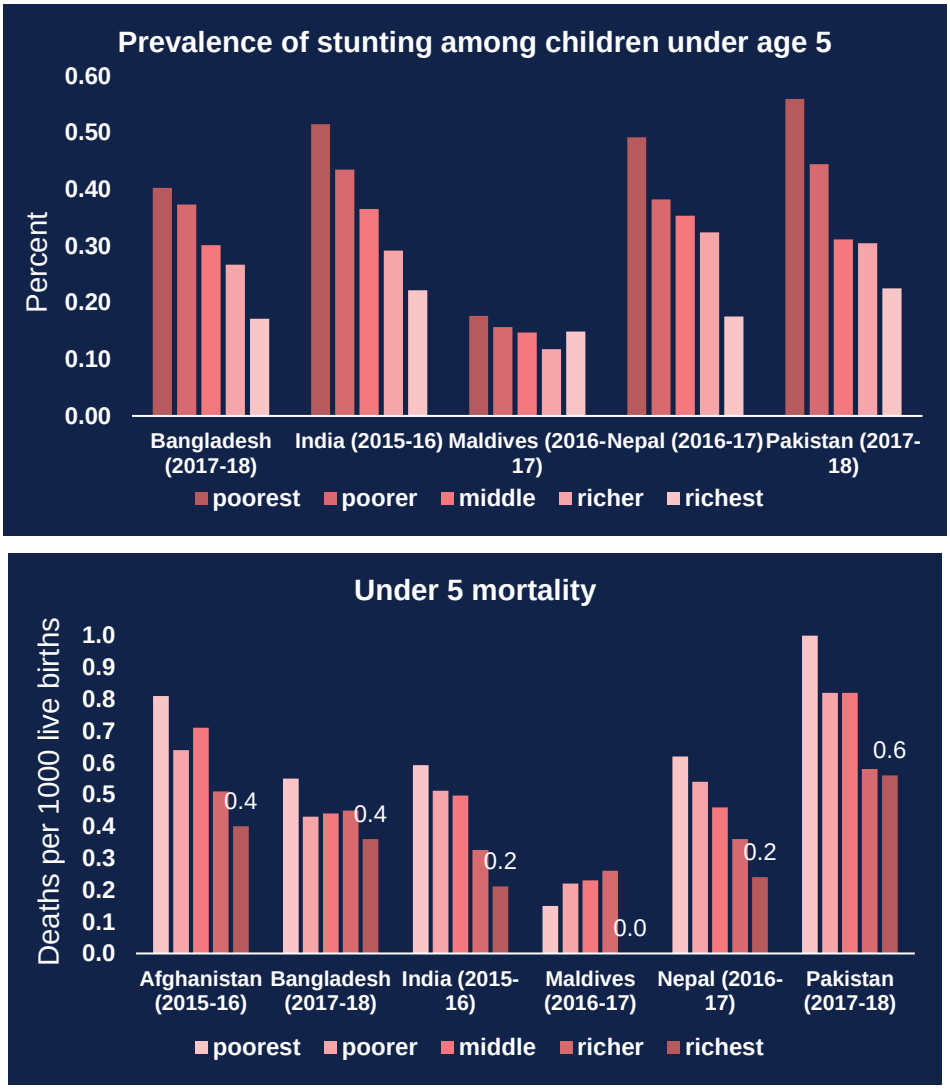
Increasing difficulties in accessing non-vaccination health services will cause particular problems for the poor, as there is ample evidence that health outcomes are unequal across income levels. According to the most recent Demographic and Health Surveys data, the incidence of acute respiratory infectious (ARI) for children under age five is highest in households of the lowest wealth quintiles in all South Asian countries, except for the Maldives, where the overall incidence is quite low. Similarly, the prevalence of stunting and under-five mortality rates are consistently higher in the poorest quintiles (see Figures 11 and 12). While the incidence of these health problems fell sharply from 2004 to 2017, the gap between the richest and poorest groups remained almost unchanged. In Bangladesh, for example, the percentage of children under age five who are stunted fell by 8-10 percentage points during this period, but the gap between the first and the fifth quintile remained large. In Pakistan, the gap between the richest and poorest quintiles for under five mortality fell over this period, but the difference of 44 deaths per thousand separating these two groups remained very significant.

Figure 11. Prevalence of Acute Respiratory Infections (ARI) in children under five years of age.



Author estimations based on DHS data

Figure 12. Inequality of health outcomes (stunting and under-5 mortality)



Source: Author estimations based on DHS data

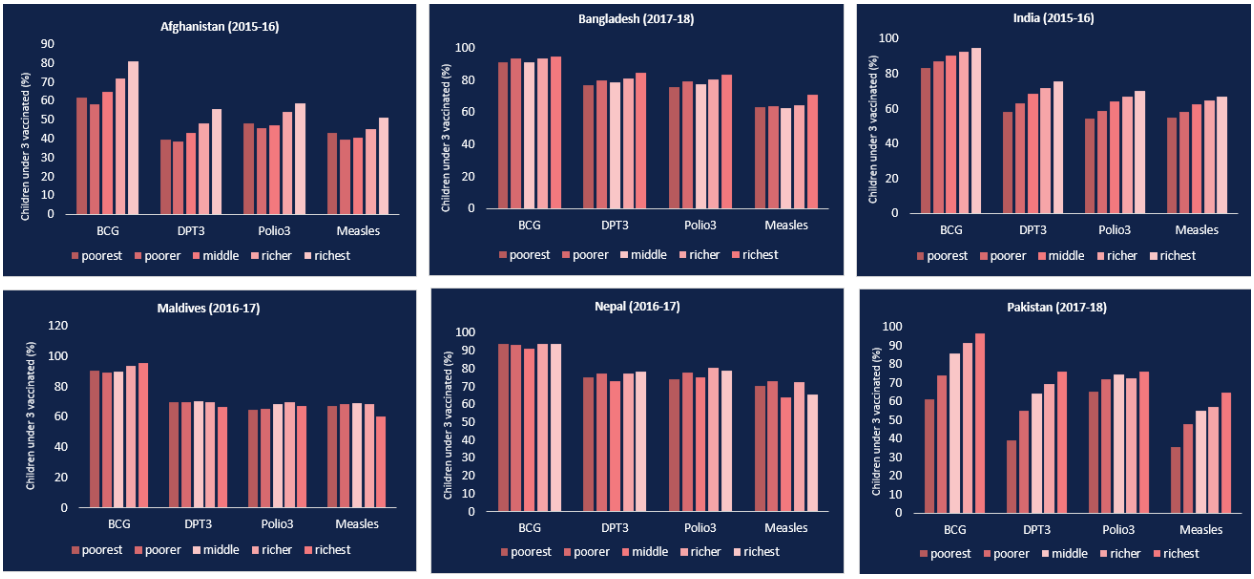
A study in India (Thakur, 2011) found that the impacts of non-communicable diseases (NCDs)—whose incidence is normally higher among richer people—are inequitable due to their greater financial implications for poorer households. There is evidence that the risk of cardiovascular disease (CVD) is increasing among the poor in slum and rural areas. Likewise, the study found that the CVD mortality was higher for poor than rich patients (8.2 percent vs. 5.5 percent, p<0·0001). The study also showed evidence of limitations in access to treatments for poor people, which lead to adverse outcomes in case of an episode of NCD. As mentioned above, the take-up of preventive programs to improve behaviors is lowest among the poor, and low-cost generic medicines for NCDs remain inaccessible to most poor patients. Finally, the study found that the

out-of-pocket expenditure associated with the acute and long-term effects of NCDs is high, resulting in health expenses that risk pushing households into poverty. About 25 percent of families with a member who has CVD and 50 percent who have a member with cancer experience very large health expenditures, and 10 percent and 25 percent, respectively, are driven into poverty. COVID-19 infections could aggravate this financial hardship for the population's poorest households.

Immunization inequality

Access to vaccination differs significantly across wealth groups, which points to the potential for unequal access to the COVID-19 vaccine as well. Inequality in access is particularly high in Afghanistan, Pakistan, and India for the BCG and DPT vaccine (Figure 13). And while there have been improvements in the last decade or so, inequality across quintiles has often remained stable. The gap in adult immunization coverage between the poorest and richest quintiles is large in Pakistan: 47 percentage points separate the two groups (Figure 13). As with child immunization, neonatal tetanus toxoid coverage is positively correlated with higher education, wealth, and geographical residency.

Figure 13. Coverage of selected vaccines by wealth quintiles



Source: Author estimations based on DHS data

Inequality in child immunization coverage is also found across groups defined by socio-economic characteristics other than wealth. For example, in a study on Pakistan (DHS Program; 2018), child immunization varied according to the following criteria:

I. Girls are less likely to receive all basic vaccines than boys (63 percent and 68 percent, respectively)
II. Sixty-nine percent of children of first, second, and third-order births received all basic vaccines in contrast to 50 percent of children of order six or higher,
III. Regional variation indicates that all basic vaccination coverage is most prevalent among children of Punjab (80 percent), followed by children from Azad Jammu and Kashmir (75 percent), while coverage is lowest in FATA (30 percent) and Balochistan (29 percent),
IV. Maternal education is positively associated with vaccination coverage. Only 50 percent of children whose mothers had no education received all basic vaccines, compared with 82 percent of children whose mothers had a higher level of education,
V. Children in the highest wealth quintile (80 percent) received all basic vaccines compared with only 38 percent of those in the poorest wealth quintile.

Inequality in access to immunizations across countries in the region also is very high. According to WHO/UNICEF figures on child immunization for 2019, BCG coverage for children varied between 78 percent for Afghanistan and 99 percent for Maldives and Sri-Lanka; measles coverage ranged from 64 percent for Afghanistan and 99 percent for Maldives and Sri Lanka; DTP 3 coverage registered at 66 percent for Afghanistan and 99 percent for Maldives and Sri Lanka; and polio 3 coverage placed at 73 percent for Afghanistan and 99 percent for Maldives and Sri Lanka (IHME, 2021). As described above, childhood coverage in Afghanistan continues to be the lowest in SAR countries. Adult vaccination coverage—more relevant for the COVID-19 vaccine campaign—is low for Afghanistan (44 percent), Pakistan, and even for Maldives (67 percent).

Finally, unequal access to vaccines has a global dimension. There is a concern that the more advanced countries, with the technological and financial resources to develop vaccines rapidly, may secure the lion's share of the vaccines now available. Some middle-income countries are also developing vaccines, and India is a major producer. Nevertheless, poor countries without their own vaccine production and limited access to external sources are likely to confront

significant delays in having the vaccines available to achieve herd immunity, even if the financing has been secured.

It is understandable that countries wish to safeguard their own populations first. However, as long as the virus is circulating in unprotected populations, it remains a threat to global health. Rich countries, as well as other vaccine producers, thus have a real interest in ensuring sufficient vaccine access for all countries. International efforts are underway to invest in vaccines and assure access to lower income countries, including countries in South Asia. These include Gavi's COVAX facility, a donor-funded initiative to pool procurement for vaccines across countries and subsidize access for the poorest, as well as the World Bank's $12 billion Additional Financing mechanism for COVID-19 vaccine purchase and distribution.

3.8 Lessons for the future

The COVID-19 pandemic is far from over. Nevertheless, it is useful to consider lessons from COVID-19 for improving future pandemic preparedness.

Globally, governments have been able to accelerate the development and production of vaccines with advanced market commitments, subsidies, or research in government facilities. High priority should be given to investments in developing vaccines, such as finding a vaccine with general application to all coronaviruses or perfecting vaccines against known diseases with pandemic potential. It also is vital to build infrastructure that can be scaled up rapidly to produce vaccines en masse in a short period of time, and perhaps to stockpile the materials required. A portion of such expenditures, including financing research into vaccines that never pan out, will be lost. Still, the potential for large gains and the limited funds required for research, compared to the costs of another pandemic, argue for taking some risks in this area. Another lesson is that a higher priority should be given to international coordination, with the COVAX facility playing a more central role in obtaining and distributing vaccines across nations. Importantly, such an effort would help countries with limited resources to obtain vaccines early on.

For South Asia, it is critical to strengthen the delivery systems needed to reach the entirety of a country's population at minimal cost to the recipients. Cold chains are a key part of those delivery systems, as is the training of nurses. Countries in South Asia are doing an admirable job launching the COVID-19 vaccination campaign, but going forward, an expanded health infrastructure would

facilitate faster vaccination of their populations. The pandemic has also underscored the value of preventive care. While comorbidities increase the virus's fatality rate, preventive care is still insufficient, especially for poorer parts of the population. Addressing the problem requires increased primary care investments, which also generate huge gains in income and well-being. Such investments entail a shift from hospital care to primary care and an increase in public spending on health care, which is low in South Asia compared to other regions. Prioritizing groups in a vaccination campaign will always be difficult. The takeaway is that simple rules work best, and as a general principle, priority should be given to the most vulnerable, both from a health and economic perspective. In the case of COVID-19, the elderly are most vulnerable from a health perspective, and (essential) workers who can't adhere to social distancing are the most vulnerable from an economic perspective.

Appendix 3: Data requirements for modeling exercise

For the models we have specified, three data categories are required: disease surveillance, demographic, and historical consumption. We describe each of these data sources and their uses in turn.

Disease Surveillance Data

To estimate the prevalence and potential risk as the pandemic continues, certain disease surveillance data are required.

- **Confirmed case data**

The basic epidemiological data required to run the compartmental model comes in the form of confirmed new daily cases for each geography being considered for vaccine distribution. Ideally, each case count time series should be broken down by each demographic category considered for vaccine allocation (age, sex, occupation, etc.). Lacking this breakdown, it is possible to use demographic data or seroprevalence data to disaggregate these counts to each specific population category.

The case time series data are fed into the epidemiological model to project case counts into the future under different vaccination policies. For this analysis, we use data from the COVID19India website, a crowdsourced initiative aggregating official COVID-19 data from across India at a district-specific level.

- **Confirmed recoveries**

In addition to daily new cases, daily recoveries are also a key source of data to estimate the value of vaccination. This is because recovery from prior infection provides a measure of natural immunity from reinfection. The cumulative recovery count time series therefore provides an estimate of natural immunity in a geography.

As with confirmed cases, these data should ideally be broken down into demographic categories; different recovery rates imply that different subpopulations have varying levels of natural immunity, reducing the value of vaccinating that subgroup. Additionally, we also use the COVID19India website for the district-level recovery time series.

- **Seroprevalence**

Because of selection issues, confirmed case counts may not accurately reflect the total disease prevalence. Not all cases may be found via hospital testing or by test-and-trace procedures,

especially given asymptomatic spread of COVID-19. A properly representative seroprevalence survey will estimate the number of people who have recovered from COVID-19 (putting aside the issue of waning antibodies). Serology studies are of limited use in differential diagnoses, so surveys are rare and capture prevalence at a specific point in time. We use seroprevalence to scale the number of confirmed cases and use the trend in confirmed cases to project future prevalence according to the epidemiological model specified above. This requires assuming the trend in actual cases (i.e., including unconfirmed and asymptomatic) is independent of the selection issues in confirmed case counts. We turn to a novel, large sample (N = 26,000) seroprevalence study in the Indian state of Tamil Nadu, conducted in November 2020, for this analysis.

Demographic Data

Additionally, the breakdown of each district's population by vaccination group is needed to set the initial conditions of the epidemiological model. Moreover, knowing the number of people in each demographic group is required to estimate when each group will be completely vaccinated according to a given prioritization scheme. For this demographic data, we use the 2011 Government of India census.

Economic Consumption Data

In order to assess the economic benefits of vaccination of each group, historical data on consumption is required. We use estimated consumption data before and during the pandemic to project the economic trajectory along which societies will recover as people return to pre-pandemic levels of economic activity. We then map the epidemiological model's projected case counts to estimated levels of resumed economic activity. The increase in economic activity for each vaccination group (measured by consumption) factors into the valuation of vaccinating that group.

For historical consumption data, we rely on the Centre for Monitoring Indian Economy's Consumer Pyramids Database, a population-representative panel data set with monthly observations sampling 174,000 households in India. Since this data is at the household level, we disaggregate the household level data to age bins using the OECD's standard formula for this problem.

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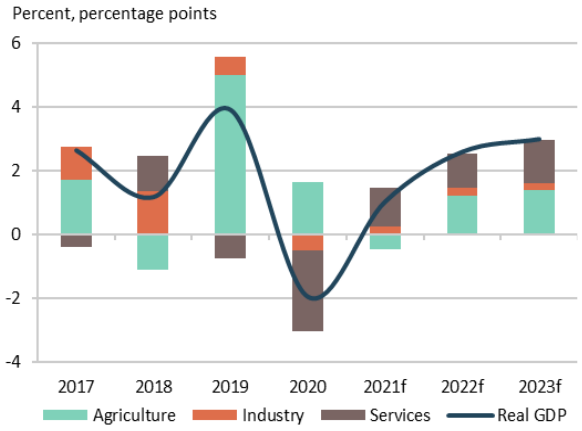
AFGHANISTAN

Afghanistan is expected to experience sluggish growth over 2021, as political uncertainty, insecurity, and declining aid depress the pace of recovery from the COVID-19 crisis. The combination of low revenue collection and declining grants means that the government has limited fiscal space to provide countercyclical support. Poverty remains high and informal and self-employed workers have been hit hard by COVID-19 related disruptions. To reach and sustain higher growth the following will be key: continued support from the international community, a resolution of current political uncertainties, and the mobilization of new sources of growth including the extractives.

Table 1	2020
Population, million	38.9
GDP, current US$ billion	19.9
GDP per capita, current US$	511.0
Poverty headcount ratio[a]	47.1
School enrollment, primary (% gross)[a]	72.5
Life expectancy at birth, years[b]	64.5

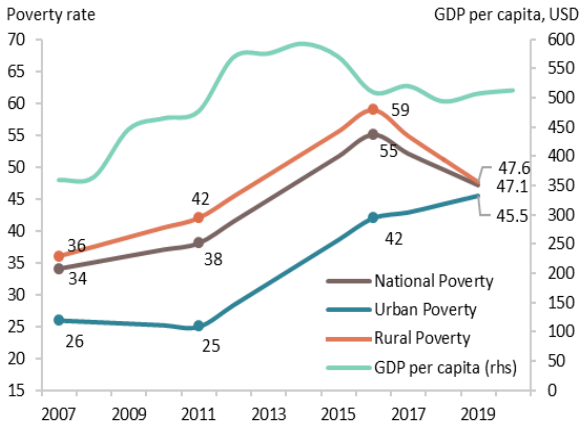
Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Income, Exp. and Labor Force Survey (IE-LFS) (2020).
(b) Most recent WDI value (2018).

Figure 1: Real GDP growth and contributions to real GDP growth



Source: World Bank, Macroeconomics Trade and Investment Global Practice.

Figure 2: Actual poverty rates and real GDP per capita



Sources: WDI, NSIA, Official data, and IE-LFS (2020).

Key conditions and challenges

In Afghanistan's recent past, economic activity has been adversely impacted by deep-rooted political instability, institutional weakness, and violent insurgency. Poverty has remained stubbornly high and GDP per capita is among the lowest in the world. Afghanistan also lags in terms of key social indicators and ranked 169th in the 2020 Human Capital Index.

The economy is shaped by the disproportionate weight of aid and security related services, with small spillovers to other sectors of the economy. Aid inflows exceed 45 percent of GDP, and security spending is equivalent to approximately 30 percent of GDP. Grants finance more than 75 percent of total public spending (including off-budget spending) and around half of the budget. The livelihood of seventy percent of the population continues to depend on agriculture. The development of private sector activity unrelated to aid or security development, particularly of industries and manufacturing, has been heavily constrained by political instability, weak institutions and widespread corruption, inadequate infrastructure, and onerous regulation.

As a result, Afghanistan has a small and undiversified production base and structural fiscal and trade deficits, financed almost entirely by international grants. There are only limited economic opportunities for the estimated 300,000 Afghans entering the labor force each year.

The COVID-19 shock has exacerbated economic and social challenges. The pandemic and related containment measures, including border closures and lockdowns of major cities, disrupted commerce and trade. Poverty is believed to have increased significantly, as urban casual workers were impacted disproportionately. Peace talks with the Taliban have stalled, dampening expectations that sustainable peace can be achieved over the short-term.

The outlook is highly uncertain. Critical risk factors include: a possible decline in international security support, a deterioration of security conditions (a possible intensification of Taliban attacks), and faster-than-expected reductions in aid support (if governance improvements are not sufficient to reassure donors, who increasingly condition grants on reforms).

Recent developments

The economy is estimated to have contracted by 1.9 percent in 2020, reflecting the impact of the COVID-19 crisis. Thanks to favorable weather conditions and its relative insulation from COVID-19 impacts, agriculture production is estimated to have increased by 5.3 percent. By contrast, lockdowns and intermittent border closures had a significant adverse impact on industrial and services output, which contracted by 4.2 and 4.8 percent, respectively.

Inflation rose to an annual average of 5.6 percent in 2020, up from 2.3 percent in 2019. This mostly reflected a sharp increase in food prices due to panic buying and import disruptions in the second quarter. Over the second half of the year, inflation decelerated as trade disruptions were resolved.

External balances are estimated to have improved in 2020. The trade deficit is believed to have narrowed slightly to 27.6 percent of GDP (from 30.4 percent in 2019), with imports and exports declining by 4.5 percent and 10 percent respectively (such that value of imports fell more than exports in absolute). Despite the large trade deficit, the current account is estimated to have reached a surplus of 2.9 percent of GDP (up from 0.6 percent in 2019), thanks to continued high foreign grant inflows. The afghani remained stable against the US dollar throughout the year, and international reserves are estimated to have increased to USD 9.7 billion in 2020, corresponding to approximately 16 months of goods and services imports.

The fiscal deficit widened to 2.3 percent of GDP in 2020 (from 1.6 percent in 2019), reflecting reduced revenues and increased expenditures in the context of the COVID-19 crisis. Domestic revenues fell around 20 percent short of budget targets, given weak overall economic activity, low

proceeds from import taxes, and poor compliance. Meanwhile, overall expenditure increased by 3.4 percent relative to 2019, amounting to 28.6 percent of GDP.

According to estimates from the 2019-2020 Income and Expenditure Household Survey, some 47.1 percent of Afghans are poor, a slight reduction from the previous estimate (54.5 in 2016-2017). Urban poverty increased from 42 to 45 percent between the two rounds, while rural poverty declined significantly (from 59 to 48 percent). Better rural outcomes reflect the recovery of agriculture incomes in the aftermath of the 2018 drought, and the relatively lower exposure of rural and subsistence communities to the impacts of COVID-19 lockdowns and trade restrictions.

Outlook

The baseline scenario assumes (i) a continuation of current security conditions, (ii) a gradual improvement in the political backdrop, (iii) no further COVID-19 lockdowns, despite continued high infection rates; and (iv) a gradual decline in grant support, in line with pledges made at the 2020 Geneva Conference.

Under this baseline scenario, the economy is expected to grow by one percent in 2021. Industry and services are expected to recover gradually from the COVID-19 crisis, but the onset of drought conditions is expected to dampen agricultural output. Over the medium-term growth is expected to firm up gradually as weather conditions improve and the scarring effect of the COVID-19 disruptions dissipates.

Notwithstanding a slight increase in non-food inflation due to higher global oil prices, inflation is expected to fall to 3.8 percent in 2021, as COVID-19-related supply restrictions fade and growth of food prices moderates (despite impacts of the drought). Over the medium term, inflation is expected to stabilize at around 5.0 percent.

The current account surplus is projected to narrow to 0.3 percent of GDP in 2022, before moving into deficit from 2023 onward, as a result of lower grants and the continuation of a large trade deficit. Thus, international reserve buffers are projected to decline.

Given weak growth prospects, tax revenues will remain constrained. This, coupled with lower projected international grants, will drive a fiscal deficit of around 3.1 percent of GDP in 2021, to be financed largely from cash reserves. Over the medium term, the fiscal deficit is expected to narrow to less than 2 percent of GDP, partly thanks to the expected implementation of the VAT in 2022.

Drought conditions are likely to result in increased poverty and food insecurity in some rural areas, while the recovery from COVID-19 disruptions in commerce and trade may support modest reductions in urban poverty.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2018	2019	2020 e	2021 f	2022 f	2023 f
Real GDP growth, at constant market prices	1.2	3.9	-1.9	1.0	2.6	3.0
Private Consumption	10.0	-2.0	-3.7	1.5	3.0	3.5
Government Consumption	-17.8	15.0	5.6	1.2	1.3	1.8
Gross Fixed Capital Investment	0.0	-15.3	-13.6	-0.1	1.4	1.3
Exports, Goods and Services	49.6	-6.3	-2.3	4.1	7.2	7.3
Imports, Goods and Services	13.1	-6.8	-5.3	2.3	3.1	3.5
Real GDP growth, at constant factor prices	1.2	4.4	-1.9	1.0	2.6	3.0
Agriculture	-4.4	17.5	5.2	-1.5	4.0	4.5
Industry	11.1	4.8	-4.4	2.0	2.0	2.0
Services	1.9	-1.4	-4.9	2.3	2.0	2.5
Inflation (Consumer Price Index)	0.6	2.3	5.6	3.8	4.5	5.0
Current Account Balance (% of GDP)	2.7	0.6	2.9	1.2	0.3	-0.6
Net Foreign Direct Investment (% of GDP)	0.5	0.0	0.0	0.1	0.2	0.3
Fiscal Balance (% of GDP)	0.8	-1.5	-2.3	-3.1	-1.1	-0.7
Debt (% of GDP)	5.8	7.1	8.2	9.7	9.9	9.3
Primary Balance (% of GDP)	1.0	-1.4	-2.2	-3.0	-1.1	-0.7

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate. f = forecast.

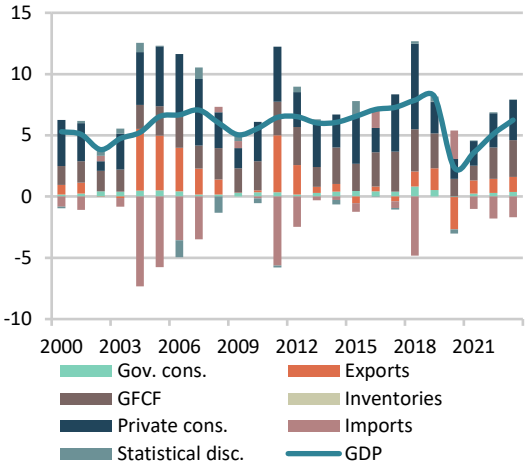
BANGLADESH

Following sharp GDP growth deceleration in FY20 due to the COVID-19 pandemic, the economy started recovering in the first half of FY21, as movement restrictions were lifted and international buyers reinstated export orders. Going forward, a gradual recovery is expected to continue, particularly if the government's COVID-19 recovery programs are implemented swiftly. Downside risks include new waves of COVID-19 infections that may dampen external demand for exports and Bangladesh's labor force overseas. With growth firming up, poverty is projected to decline marginally in FY21.

Table 1	2020
Population, million	170.3
GDP, current US$ billion	324.2
GDP per capita, current US$	1903.7
International poverty rate ($1.9)[a]	14.3
Lower middle-income poverty rate ($3.2)[a]	52.3
Upper middle-income poverty rate ($5.5)[a]	84.2
Gini index[a]	32.4
School enrollment, primary (% gross)[b]	116.5
Life expectancy at birth, years[b]	72.3

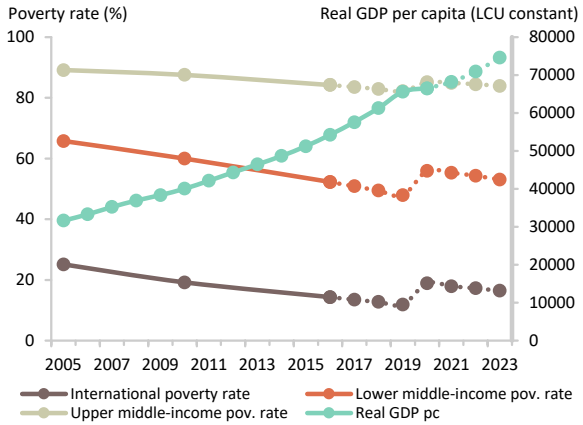
Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Most recent value (2016), 2011 PPPs.
(b) Most recent WDI value (2018).

Figure 1: Real GDP growth and contributions to real GDP growth



Sources: Bangladesh Bureau of Statistics (BBS) and World Bank staff.

Figure 2: Actual and projected poverty rates and real GDP per capita



Source: World Bank. Notes: see table 2.

Key conditions and challenges

Bangladesh made rapid development progress over the past two decades, reaching lower-middle-income country status in 2015. Rapid GDP growth was supported by a demographic dividend, sound macroeconomic policies, and an acceleration in readymade garment (RMG) exports. Meanwhile, job creation and growing remittance inflows contributed to a sharp decline in poverty. However, from 2013 onward, the pace of job creation and poverty reduction slowed, even as GDP growth accelerated. Persistent structural weaknesses include low institutional capacity, highly concentrated exports, growing financial sector vulnerabilities, unbalanced urbanization, and slow improvements in the business environment. Bangladesh is also highly vulnerable to the effects of climate change.

The COVID-19 pandemic impacted the economy profoundly. A national shutdown from March to May 2020 resulted in severe supply-side disruptions in all sectors of the economy. On the demand side, losses in employment income dampened consumption growth, although remittance inflows provided some buffer. The government's COVID-19 stimulus program provided firms with access to working capital and low-cost loans to sustain operations and maintain employee wages in FY20 and FY21. From June onward, movement restrictions have been progressively lifted, and transit and workplace movement patterns returned to pre-pandemic levels by October. Officially recorded infections peaked in July 2020 and declined gradually in subsequent months.

Downside risks to the outlook are likely to persist if new waves of COVID-19 re-emerge in Bangladesh or its trading partner countries. This could necessitate additional movement restrictions, dampen demand for RMG, and/or limit the outflow of migrant workers. Bangladesh's expected graduation from the UN's Least Developed Country status in coming years will present opportunities but also challenges, including the eventual loss of preferential access to advanced economy markets.

Recent developments

After a substantial deceleration in growth in FY20, early signs of recovery emerged in the first half of FY21 (July to December 2020). Following a 16.8 percent decline (y-o-y) in FY20, exports rebounded in the first half of FY21 as RMG export orders were reinstated. On the demand side, growth was primarily supported by private consumption, underpinned by a recovery in labor income and remittance inflows. However, a contraction in capital goods imports (-19.1 percent, y-o-y) suggests that private investment has not yet normalized.

Inflation decelerated from 5.6 percent in FY20 to 5.3 percent by December 2020, as food and non-food prices moderated. Monetary policy was further eased in July 2020. However, growing risk aversion among commercial banks, a cap on lending rates, and rising non-performing loans limited the transmission to lending rates. Private sector credit growth continued to decline, falling from a high of 13.3 percent (y-o-y) in December 2018 to just 8.4 percent (y-o-y) by the end of December 2020.

The current account moved into surplus in the first half of FY21, as the trade deficit declined due to lower imports and surging official remittance inflows. Possible reasons could be that overseas workers switched to formal payment systems as the traditional hundi system was disrupted by international travel restrictions, and/or, returning overseas workers also repatriated accumulated savings. Foreign exchange reserves remained adequate at 8.6 months of goods and non-factor services imports in December 2020.

The fiscal deficit widened marginally to an estimated 6.0 percent of GDP in FY20, with a decline in revenue and slower expenditure growth, relative to FY19. Expenditure growth moderated due to the slow implementation of development projects in the context of COVID-19, while revenue collection declined as international trade and the domestic economy stalled. Bangladesh was at low risk of debt destress in a Debt Sustainability Assessment completed in May 2020. Preliminary data from the first four months of FY21 show further reductions in the growth of recurrent and development expenditure, and modest revenue growth.

Estimated poverty rose sharply in FY20 amidst substantial job and income losses. However, household surveys point to a gradual recovery in employment and earnings and a decline in poverty in the first half of FY21. Food security improved across the country, with the greatest increase in Chittagong.

Outlook

The economy is expected to continue to recover gradually. Given the significant uncertainty pertaining to both epidemiological and policy developments, real GDP growth for FY21 could range from 2.6 to 5.6 percent depending on the pace of the ongoing vaccination campaign, whether new restrictions to mobility are required and how quickly the world economy recovers. Over the medium term, growth is projected to stabilize within a 5 to 7 percent range as exports and consumption continue to recover, and investment rises, led by externally financed public infrastructure investments under the recently adopted 8th Five-Year Plan. The recent surge in official remittance inflows is unlikely to persist if (i) the net outflow of migrant workers slows in FY21 (as visa issuance in the Middle East declined during the pandemic) and (ii) the reliance on formal payment channels subside (as normal travel resumes). If weakness in revenue collections persist, the fiscal deficit is projected to remain at 6.0 percent of GDP in FY21, moderating over the medium term with tax reforms and expenditure prioritization. Sustaining the economic recovery and further reducing poverty will depend, inter alia, on the implementation of the government's COVID-19 response program, including credit programs in the banking sector.

Downside risks to the outlook may persist. Fiscal risks include weak domestic revenue growth (if tax reforms are delayed) and higher expenditure for COVID-19 vaccinations (if external financing is limited) and for supporting the Rohingya refugees (if donor fatigue sets in). In the financial sector, contingent liabilities from non-performing loans combined with weak capital buffers could necessitate recapitalizations (resulting in higher domestic government debt) and depress credit growth. External risks could also be elevated. While external demand for RMGs appears to be stabilizing, the recovery is fragile and could be vulnerable to new waves of COVID-19 infections. Demand for Bangladesh's overseas workforce in the Gulf region may also be impacted by the ongoing recession in that region, impairing future remittance inflows.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2017/18	2018/19	2019/20 e	2020/21 f	2021/22 f	2022/23 f
Real GDP growth, at constant market prices	7.9	8.2	2.4	3.6	5.1	6.2
Private Consumption	11.0	3.9	2.6	3.2	4.5	5.3
Government Consumption	15.4	9.5	-0.9	4.3	5.4	6.5
Gross Fixed Capital Investment	10.5	8.4	4.3	3.6	7.4	8.6
Exports, Goods and Services	8.1	11.6	-16.8	8.4	8.6	8.9
Imports, Goods and Services	27.0	-0.2	-12.1	6.0	10.5	9.4
Real GDP growth, at constant factor prices	7.9	8.4	2.6	3.6	5.0	6.1
Agriculture	4.2	3.9	3.0	2.2	3.3	3.1
Industry	12.1	12.7	1.3	4.5	6.1	7.4
Services	6.4	6.8	3.4	3.3	4.8	6.0
Inflation (Consumer Price Index)	5.8	5.5	5.6	5.7	5.7	5.8
Current Account Balance (% of GDP)	-3.5	-1.5	-1.5	-0.5	-2.1	-2.4
Net Foreign Direct Investment (% of GDP)	0.6	0.9	0.4	0.3	0.5	0.6
Fiscal Balance (% of GDP)	-4.6	-5.4	-5.5	-6.0	-6.0	-5.9
Debt (% of GDP)	31.9	33.7	37.6	41.7	44.9	47.2
Primary Balance (% of GDP)	-2.8	-3.4	-3.2	-3.6	-3.4	-3.0
International poverty rate ($1.9 in 2011 PPP)[a,b]	12.7	11.9	18.9	17.9	17.2	16.4
Lower middle-income poverty rate ($3.2 in 2011 PPP)[a,b]	49.4	47.9	55.9	55.3	54.3	53.1
Upper middle-income poverty rate ($5.5 in 2011 PPP)[a,b]	82.9	82.2	85.2	84.9	84.5	83.9

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate. f = forecast.

(a) Calculations based on SAR-POV harmonization, using 2010-HIES and 2016-HIES. Actual data: 2016. Nowcast: 2017-2020. Forecast are from 2021 to 2023.
(b) Projection using annualized elasticity (2010-2016) with pass-through = 1 based on GDP per capita in constant LCU.

BHUTAN

Output is projected to contract by 1.8 percent in FY20/21, reflecting the adverse impact of the COVID-19 crisis on tourism and non-hydropower industries. Poverty is expected to slightly increase due to high food price inflation and disruptions in agricultural activities. While the state-led hydropower sector cushioned the impact of the crisis on economic growth and fiscal accounts, accelerating reforms to promote private sector development is important to generate more and better jobs.

Table 1	2020
Population, million	0.8
GDP, current US$ billion	2.4
GDP per capita, current US$	3079.8
International poverty rate ($1.9)[a]	1.5
Lower middle-income poverty rate ($3.2)[a]	12.2
Upper middle-income poverty rate ($5.5)[a]	38.9
Gini index[a]	37.4
School enrollment, primary (% gross)[b]	105.8
Life expectancy at birth, years[b]	71.5

Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Most recent value (2017), 2011 PPPs.
(b) WDI for School enrollment (2020); Life expectancy (2018)

Key conditions and challenges

Annual real GDP growth has averaged 7.5 percent since the 1980s, mainly driven by public sector-led hydropower development and electricity sales to India. However, while hydropower has provided a reliable source of growth, it has resulted in high fiscal volatility (temporary one-off profits from the on-streaming of hydropower plants boosting revenues and driving up current spending). The capital-intensive hydropower sector has also failed to generate a large amount of jobs. Thus, over half of Bhutan's workforce remains employed in agriculture, primarily of subsistence nature, while one-third is employed in low value-added services. Nonetheless, poverty reduction was impressive, with a decline in the $3.20 poverty rate from 30.6 percent to 12.2 percent between 2007 and 2017, partly supported by a greater commercial orientation of farmers.

Bhutan has avoided a large-scale domestic COVID-19 outbreak thanks to stringent domestic containment measures, including two nationwide lockdowns in FY20/21. The closure of domestic borders since March 2020 brought the tourism industry to a standstill and disrupted trade with India, Bhutan's main trading partner. As a result, many workers in the services sector, especially in urban areas, experienced job and/or earning losses. The government launched a COVID-19 recovery package, with emphasis on agriculture, tourism, and construction.

The pace of economic recovery will depend on how fast COVID-19 vaccines can be deployed globally, and specifically in India (given significant tourism and trade linkages). Domestic risks include delays in hydro projects and lower-than-expected hydropower production (due to adverse weather patterns) as well as the materialization of financial sector contingent liabilities, which could strain government finances. The implementation of revenue measures, particularly the goods and services tax (GST), is critical to expanding domestic resource mobilization.

Recent developments

The economy contracted by 0.8 percent in FY19/20. Lower tourist arrivals y-o-y in the second half of FY19/20 (January to June 2020) dampened services sector growth. While the hydropower sector performed well thanks to the on-streaming of the Mangdechhu hydroelectric power plant, other industrial activities have been significantly affected by supply-chain disruptions (for critical inputs, including foreign labor), and depressed external demand (especially from India). On the demand side, public consumption and net exports supported growth. An increase in hydro exports more than offset the decline in non-hydro exports, and imports for infrastructure projects were subdued. However, there was a contraction in private consumption and investment due to domestic containment measures and disruptions in infrastructure projects.

Average inflation increased from 3.0 percent in FY19/20 to 7.7 percent in the first half of FY20/21. While non-food inflation remained modest, averaging 1.7 percent in the first half of FY20/21, food inflation averaged 15.3 percent–due to import restrictions on food and severe supply disruptions. High food inflation–along with disruptions in the production, transport, and sales of agricultural products–likely eroded the real incomes of many rural poor. This is expected to have led to a slight increase in the $3.20 poverty rate, from 10.7 in 2019 to 11.2 percent in 2020.

The current account deficit narrowed to 12.2 percent of GDP in FY19/20, mainly thanks to a smaller trade deficit. Hydropower exports doubled as a share of GDP, more than offsetting the decline in non-hydro exports, which have been severely impacted by the border closure and lower external demand during the last quarter of the fiscal year. Meanwhile, goods imports declined, as the pandemic depressed public investment–including hydro projects. Gross international reserves increased by 22 percent (y-o-y) to US$ 1.43 billion in November, equivalent to 16.1 months of FY19/20 goods and services imports.

The fiscal deficit widened to 3.2 percent of GDP in FY19/20 with spending growing faster than revenues. While the latter was boosted by one-off profits from hydropower, non-hydro revenues decreased with the discontinuation of excise duty refunds from India and lower-than-normal tourism receipts. The increase in spending was primarily driven by the increase in salaries and wages (40 percent, y-o-y) and an increase in capital expenditures. Public debt rose to 120.7 percent of GDP as of June 2020 (up from 106.6 percent in FY18/19). However, debt sustainability risks are moderate as the bulk of the debt is linked to hydropower project loans from India (to be paid off from future hydro revenues), which reduces re-financing and exchange rate risks.

Outlook

Under the baseline scenario, economic growth is projected to contract further by 1.8 percent in FY20/21 (July 2020 to June 2021). Services sector output is expected to fall by 3.7 percent, as tourism activity is not expected to reopen until mid-2021. Labor shortages, high input prices, and trade disruptions are expected to weigh on construction, manufacturing, and non-hydro exporting industries. Output is expected to return to pre-pandemic levels (in real terms) in FY21/22, when tourist inflows gradually resume and activities in the non-hydro industry pick up.

The current account deficit is expected to remain low relative to pre-COVID levels. Non-hydro exports are expected to recover gradually, supported by the global recovery and a resumption of

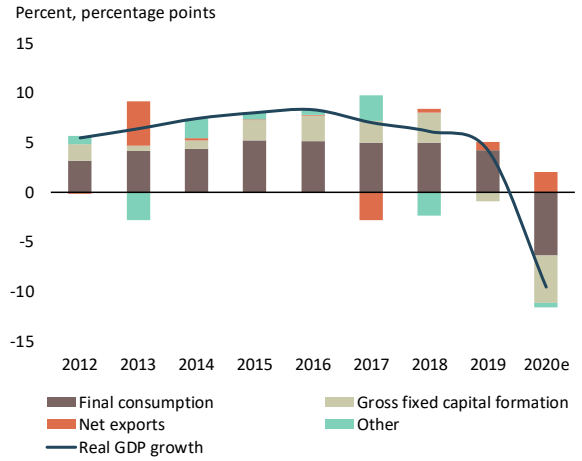
tourism. Import growth is projected to increase gradually over the medium term, in line with increases in public investment.

The fiscal deficit is projected to increase sharply in FY21/22, with the discontinuation of profit transfers from Mangdechhu (4.0 percent of GDP in FY20/21), upward pressure on current expenditures (due to higher salaries and the COVID-19 recovery package), and downward pressures on non-hydro revenues from weak economic activity. Thereafter, the deficit should narrow to pre-COVID levels (in FY23/24) as profit transfers from Puna II begin. Public debt is expected to remain elevated as a share of GDP due to low economic growth, high financing needs, and an increase in hydropower debt (in FY22/23).

The $3.20 poverty rate is projected to rise further to 12.5 percent in 2021, given continued disruptions in economic activities.

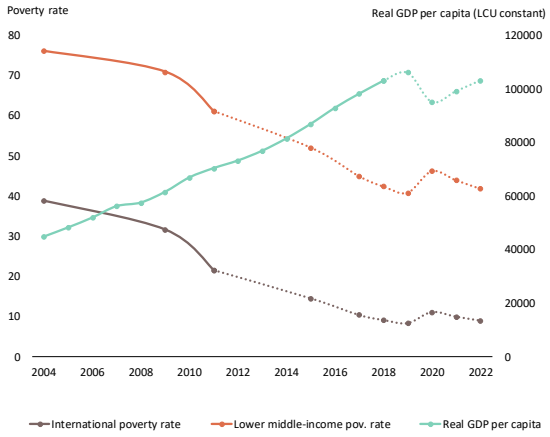
A delay in the domestic rollout of vaccines could further impact economic activity. However, a faster-than-expected implementation of the COVID-19 recovery package, including employment programs and the national credit guarantee scheme to small and medium-sized enterprises, could support domestic job creation and growth.

Figure 1: Actual and projected poverty rates and real GDP per capita



Sources: National Statistical Office, World Bank staff calculations.

Figure 2: Real GDP growth and contributions to real GDP growth



Sources: World Bank. Notes: see Table 2.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2017/18	2018/19	2019/20 e	2020/21 f	2021/22 f	2022/23 f
Real GDP growth, at constant market prices	3.8	4.3	-0.8	-1.8	2.9	4.5
Private Consumption	10.0	10.1	1.0	-4.0	3.0	0.2
Government Consumption	3.7	7.0	30.0	1.8	2.2	0.6
Gross Fixed Capital Investment	-3.6	-11.4	-29.2	-8.1	3.7	0.5
Exports, Goods and Services	5.5	9.6	12.5	-23.2	10.3	23.5
Imports, Goods and Services	3.6	0.5	-3.6	-22.0	8.6	6.7
Real GDP growth, at constant factor prices	3.2	4.5	0.4	-1.8	2.9	4.5
Agriculture	3.6	2.7	1.9	2.0	3.0	3.0
Industry	-1.3	-1.6	-1.5	-0.7	2.2	5.4
Services	7.8	10.8	1.6	-3.7	3.4	4.0
Inflation (Consumer Price Index)	3.7	2.8	3.0	7.2	3.7	3.7
Current Account Balance (% of GDP)	-19.1	-21.1	-12.2	-10.2	-10.9	-7.0
Fiscal Balance (% of GDP)	-1.6	-1.6	-3.2	-5.4	-7.4	-5.9
Debt (% of GDP)	110.5	106.6	120.7	121.5	120.5	133.9
Primary Balance (% of GDP)	-0.3	-0.7	-2.7	-4.3	-5.8	-4.3
International poverty rate ($1.9 in 2011 PPP)[a,b]	1.4	1.3	1.4	1.5	1.4	1.3
Lower middle-income poverty rate ($3.2 in 2011 PPP)[a,b]	11.5	10.7	11.2	12.5	12.0	11.2
Upper middle-income poverty rate ($5.5 in 2011 PPP)[a,b]	37.8	36.9	37.4	38.6	37.9	36.9

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate. f = forecast.

(a) Calculations based on SAR-POV harmonization, using 2017-BLSS.Actual data: 2017. Nowcast: 2018-2020. Forecast are from 2021to 2023.
(b) Projection using neutral distribution (2017) with pass-through = 0.7 based on GDP per capita in constant LCU.

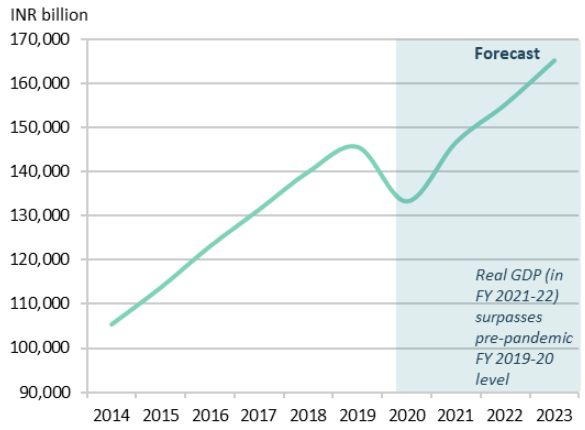
INDIA

India's economy had been slowing prior to the COVID-19 pandemic. The spread of the virus and containment measures have severely disrupted supply and demand conditions. Monetary policy has been deployed aggressively and fiscal resources have been channeled to public health and social protection, but additional counter-cyclical measures will be needed, within a revised medium-term fiscal framework. Despite measures to shield vulnerable households and firms, the trajectory of poverty reduction has slowed, if not reversed.

Table 1	2020
Population, million	1380.0
GDP, current US$ billion	2590.6
GDP per capita, current US$	1877.2
International poverty rate ($1.9)[a]	22.5
Lower middle-income poverty rate ($3.2)[a]	61.7
Gini index[a]	35.7
School enrollment, primary (% gross)[b]	96.8
Life expectancy at birth, years[b]	69.4

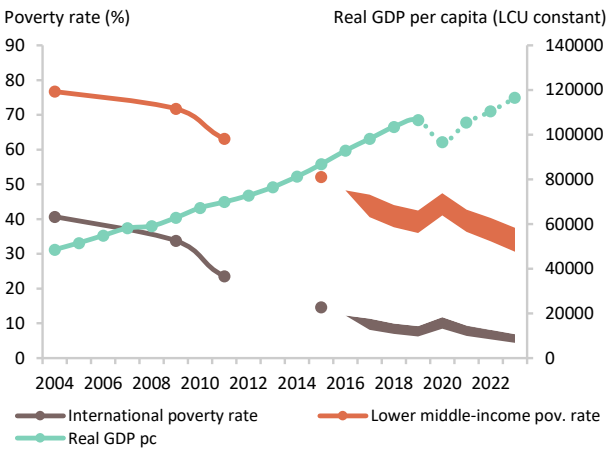
Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Most recent value (2011 /21), 2011 PPPs.
(b) WDI for School enrollment (2013); Life expectancy (2018)

Figure 1: Real GDP



Sources: National Statistics Office (NSO) and World Bank staff calculations.
Note: 2014 refers to the fiscal year 2014-15 (FY15) and so on.

Figure 2: Actual and projected poverty rates and real GDP per capita



Source: World Bank. Notes: see Table 2.

Key conditions and challenges

The economy was already slowing when the COVID-19 pandemic unfolded. After reaching 8.3 percent in FY17, growth decelerated to 4.0 percent in FY20. The slowdown was caused by a decline in private consumption growth and shocks to the financial sector (the collapse of a large non-bank finance institution), which compounded pre-existing weaknesses in investment.

In response to the COVID-19 outbreak, the authorities implemented a nation-wide lockdown, which brought economic activity to a near standstill between April and June 2020 (Q1FY21). The most impacted sub-sectors included aviation and tourism, hospitality, trade, and construction, but

industrial activity was also deeply disrupted by mobility restrictions. Agriculture, however, was mostly unaffected.

To mitigate the social and economic impacts of the COVID-19 induced crisis, the Reserve Bank of India (RBI) provided liquidity and other regulatory support (including forbearance measures), and the government increased spending on health and social protection through expenditure re-prioritizing and fiscal expansion. Still, the sharp contraction in output between April and September 2020, is expected to have inflicted significant economic and social impacts.

Going forward, the main risks to the outlook include the materialization of financial sector risks, that could compromise a recovery in private investment, and new waves of COVID-19 infections.

Recent developments

Output is estimated to have contracted by 8.5 percent in FY21 (April 2020 to March 2021), with all components of demand – except government consumption- significantly affected. Private consumption, the backbone of India's growth, is estimated to have fallen by 10 percent and investment by about 13 percent. Government consumption provided partial relief (expanding y-o-y by 4.1 percent), as did net exports (due to a steep fall in imports). On the supply side, agriculture was mostly unaffected, but industrial activity was impacted by supply chain disruptions and construction and services by mobility restrictions.

Despite the contraction in output and low oil prices, headline inflation remained elevated throughout the first three quarters of the year, due to supply chain constraints and rising food prices. Inflation averaged 6.6 percent between April and December, only declining in January, to 4.1 percent back within the RBI's target range. Still, the Reserve Bank of India cut the repo rate in May 2020 to 4 percent -leaving it unchanged since then- and maintained significant excess liquidity in the market. It also intervened to mitigate an appreciation of the rupee, which still gained 3.5 percent relative to the dollar between April and December.

A decline in the trade deficit combined with an increase in net services receipts and private transfers turned the current account balance into a surplus of 1.3 percent. Together with robust net foreign investment inflows, and unsterilized RBI intervention in forex markets, reserves reached a peak of USD 584.6 billion at end-February, equivalent to around 15 months of FY20 merchandise imports.

The COVID-19 pandemic, together with measures to contain its effects, had a significant impact on public finances in FY21. The fiscal deficit of the central government was revised to 9.5 percent of GDP (from 3.5 percent initially targeted in the budget), reflecting both lower than expected tax revenues, government measures to support the economy, as well as bringing past off-budget expenditures on the books. The fiscal deficit of States is estimated to have been between 4 and 5 percent of GDP against the planned 2.8 percent.

The lockdown, in the first quarter of FY21, appears to have had a major impact on household consumption. Mean per capita consumption is estimated to have dropped by 36 percent over April-July, 2020 y-o-y. Available household survey data indicate that relative to the "traditional poor" the most affected population were relatively younger, more urban and educated. With the end of the lockdown, however, household consumption seems to have recovered to almost pre-pandemic levels.

Outlook

Given the significant uncertainty pertaining to both epidemiological and policy developments, real GDP growth for FY21/22 can range from 7.5 to 12.5 percent, depending on how the ongoing vaccination campaign proceeds, whether new restrictions to mobility are required, and how quickly the world economy recovers.

As economic activity normalizes, domestically and in key export markets, the current account is expected to return to mild deficits (around 1 percent in FY22 and FY23) and capital inflows are projected by continued accommodative monetary policy and abundant international liquidity conditions.

The COVID-19 shock will lead to a long-lasting inflexion in India's fiscal trajectory. The general government deficit is expected to remain above 10 percent of GDP until FY22. As a result, public debt is projected to peak at almost 90 percent of GDP in FY21 before declining gradually thereafter.

As growth resumes and the labor market prospects improve, poverty reduction is expected to return to its pre-pandemic trajectory. The poverty rate (at the $1.90 line) is projected to return to pre-pandemic levels in FY22, falling withing 6 and 9 percent, and fall further to between 4 and 7 percent by FY24.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2018/19	2019/20	2020/21 e	2021/22 f	2022/23 f	2023/24 f
Real GDP growth, at constant market prices	6.5	4.0	-8.5	10.1	5.8	6.5
Private Consumption	7.6	5.5	-10.0	11.0	7.7	8.1
Government Consumption	6.3	7.9	4.1	13.8	6.4	9.2
Gross Fixed Capital Investment	9.9	5.4	-12.9	15.2	7.9	8.9
Exports, Goods and Services	12.3	-3.3	-8.0	9.7	8.5	8.7
Imports, Goods and Services	8.6	-0.8	-18.1	14.0	12.0	12.9
Real GDP growth, at constant factor prices	5.9	4.1	-7.1	9.6	5.6	6.5
Agriculture	2.6	4.3	3.4	3.5	3.5	4.0
Industry	5.3	-1.2	-8.6	13.2	6.0	7.3
Services	7.2	7.2	-9.1	9.5	6.0	6.7
Inflation (Consumer Price Index)	3.4	4.8	6.0	4.5	4.0	4.0
Current Account Balance (% of GDP)	-2.1	-0.9	1.3	-1.1	-1.2	-1.4
Net Foreign Direct Investment (% of GDP)	1.1	1.5	2.0	1.5	1.4	1.4
Fiscal Balance (% of GDP)	-5.8	-8.0	-14.0	-10.4	-9.4	-8.5
Debt (% of GDP)	68.6	72.5	89.7	88.4	88.1	86.5
Primary Balance (% of GDP)	-1.1	-3.4	-8.5	-4.6	-3.2	-2.5
International poverty rate ($1.9 in 2011 PPP)[a,b]	6.9-10.0	6.2-9.2	8.5-11.8	6.4-9.3	5.4-8.2	4.4-6.9
Lower middle-income poverty rate ($3.2 in 2011 PPP)[a,b]	37.7-44.0	36.0-42.5	41.0-47.4	36.3-42.8	33.6-40.3	30.6-37.5

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate. f = forecast.

(a) Calculations based on SARMD harmonization, using 2011NSS-SCH1.

(b) Projection using neutral distribution base on GDP pc in constant LCU with pass-through = .67 for 2018-23, and 2017 international poverty as a range of 8.1to 11.3 percent (at 19 PPP$ a day) estimated for the 2020 PSPR. The latest official data for estimate poverty in India date to 2011/12. Nowcast: 2018-2020. Forecast are from 2021to 2023.

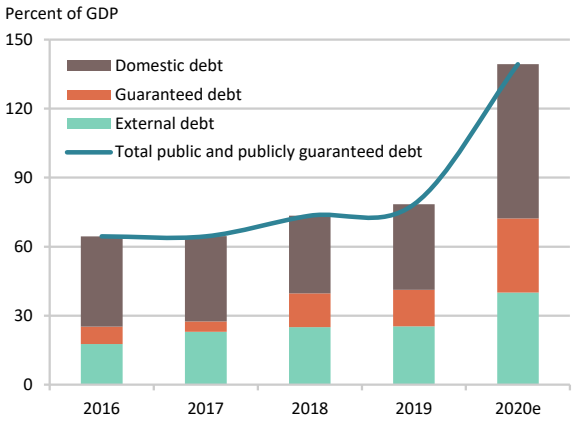
MALDIVES

Maldives has suffered an unprecedented shock from COVID-19 as tourism came to a standstill. Output contracted by an estimated 28 percent in 2020, leading to a projected increase in poverty. In 2021, with a partial recovery in tourism and large base effects, growth is expected to rebound to 17 percent. While Maldives' appeal to tourists remains strong, the outlook largely hinges on factors outside its control. More prudent fiscal policies would help reduce debt vulnerabilities, which were already high before the pandemic.

Table 1	2020
Population, million	0.5
GDP, current US$ billion	4.0
GDP per capita, current US$	7458.8
Upper middle-income poverty rate ($5.5)[a]	3.6
Gini index[a]	31.3
School enrollment, primary (% gross)[b]	98.0
Life expectancy at birth, years[b]	78.6

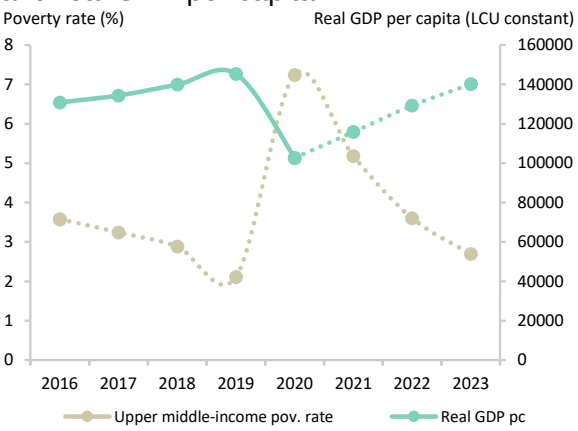
Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Most recent value (2016), 2011 PPPs.
(b) Most recent WDI value (2018).

Figure 1: Public and publicly guaranteed debt



Sources: Ministry of Finance

Figure 2: Actual and projected poverty rates and real GDP per capita



Sources: World Bank. Notes: see Table 2.

Key conditions and challenges

Maldives has managed to attain upper middle-income status and reduce poverty mainly through the successful development of high-end tourism. According to official estimates, only 3.6 percent of the population lived below the poverty line for upper middle-income countries (US$ 5.50/person/day in PPP) in 2016. However, heavy reliance on tourism, which directly accounts for a quarter of GDP, makes the economy vulnerable to external shocks. Although growth averaged 5.7 percent from 2000 to 2019, natural disasters and global shocks have repeatedly caused large and sudden swings in output. Opportunities for diversification are limited in the near term due to scarce land, remoteness, and other geographical constraints.

The COVID-19 pandemic is the largest shock to have ever hit the Maldives' economy. The government closed borders between end-March and mid-July 2020, resulting in a sudden stop of tourist inflows. To mitigate the adverse welfare impacts of the crisis, the government spent USD 187 million or about 4.7 percent of estimated 2020 GDP on special financing facilities for firms and freelance workers, monthly income support allowances, and discounted utility bills.

Restoring fiscal and debt sustainability is key to building back better. Even before the pandemic, Maldives was already at high risk of overall and external debt distress. Reliance on external non-concessional loans to finance the ambitious public infrastructure agenda led to a large increase in debt between 2016 and 2019. The large contraction in GDP and additional borrowing due to COVID-19 have further elevated debt vulnerabilities. Delaying large public investment projects until the economy strengthens would help to alleviate these pressures.

Recent developments

Maldives' economy is estimated to have contracted by 28 percent in fiscal (calendar) year 2020 as tourism and construction activity slumped. Only 555,494 tourists visited the country, a third of the number in 2019. Since December, however, tourism has picked up strongly thanks to the absence of quarantine requirements and the unique 'one island, one resort' concept. Approximately 189,000 tourists, mostly from Russia and India visited Maldives in January and February 2021; however, this is still 42 percent below the comparable period in 2019.

Against this backdrop of anemic economic activity, prices fell by an average of 1.4 percent y-o-y in 2020. The deflation was more pronounced in Malé than in the atolls, but in both cases driven by housing and utilities (reflecting lower rent and oil prices), as well as information and communications services. Food prices, however, rose by 3 percent on average, driven by an increase in tobacco duties.

The goods trade deficit narrowed from US$ 2.5 billion in 2019 to US$ 1.5 billion in 2020, as a compression in imports outweighed the decline in exports. Imports fell by an estimated 36 percent y-o-y, driven by lower imports of raw materials as construction activity contracted. Lower imports of food and fuel due to lower tourist arrivals and lower oil prices, respectively, also contributed. Meanwhile, exports fell by 20 percent y-o-y, mostly due to a large decline in re-exports of jet fuel from fewer international aircraft movements. However, exports of fish increased by 3 percent, boosted by a large increase in exports of processed fish in the second half of the year.

Maldives maintains a de facto stabilized exchange rate arrangement. Official reserves recovered from a low of US$ 569.8 million at end-August 2020 to US$ 855.7 million at end-February 2021, as tourists returned and the Maldives Monetary Authority activated the remainder of its US$ 400 million foreign currency swap arrangement with the Reserve Bank of India. The Monetary Authority also implemented measures to manage shortages of US dollars. Usable reserves—netting out short-term liabilities—amounted to US$ 156.5 million at end-February 2021, equivalent to a month of 2020 goods imports.

The fiscal deficit reached 20 percent of estimated GDP in 2020. While the sudden stop in tourism led total revenues and grants to fall by 35 percent y-o-y, total expenditures fell only by 4.5 percent. Although the government cut recurrent spending by 9 percent, capital expenditures are estimated to have grown by 7 percent. As a result of the higher deficit and negative growth, total public and publicly guaranteed debt is estimated to have increased to 139.3 percent of GDP in 2020 from 78.4 in 2019.

With most Maldivians dependent on tourism and fisheries for their livelihoods, World Bank estimates based on household survey data indicate that the poverty rate has increased from an estimated 2.1 percent in 2019 to 7.2 percent in 2020.

Outlook

Assuming its borders remain open to visitors, Maldives is expected to receive 1 million tourists in 2021, about 60 percent of the 2019 number. Real GDP is therefore projected to grow by 17 percent in 2021. The rebound in growth largely reflects base effects and assumes a continuation of strong tourism inflows especially from Russia and India. Although medium-term prospects for tourism are strong, real GDP is not expected to return to pre-pandemic levels until 2023, in line with global aviation and travel forecasts. The poverty rate is expected to decline slowly over the medium term to 2.7 percent in 2023.

External and fiscal imbalances will remain elevated. Despite the recovery in tourism receipts, the current account deficit is expected to widen over the medium term as imports linked to tourism and construction normalize. The fiscal deficit is expected to decline as revenues recover but is forecast to remain in double-digits due to expansionary fiscal policies. The 2021 Budget, for example, targets a 45 percent increase in capital expenditures from 2020, while revenues are not expected to cover current expenditures. With the recovery in growth, the debt ratio is expected to moderate to 131.4 percent of GDP in 2023.

Risks are heavily tilted to the downside and some are outside Maldives' control, such as the pace and effectiveness of COVID-19 vaccinations globally. The outlook would deteriorate if more stringent restrictions on international travel are reintroduced. The low level of usable reserves and high indebtedness pose significant risks to macroeconomic stability.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2018	2019	2020 e	2021 f	2022 f	2023 f
Real GDP growth, at constant market prices	8.1	7.0	-28.0	17.1	11.5	8.3
Private Consumption	10.6	5.5	-35.0	27.0	20.0	12.0
Government Consumption	9.0	-4.2	0.6	2.7	2.3	1.5
Gross Fixed Capital Investment	29.1	-2.7	-5.9	2.3	4.4	4.8
Exports, Goods and Services	10.1	6.1	-45.0	30.0	14.1	11.9
Imports, Goods and Services	12.8	0.3	-38.0	24.0	14.8	12.0
Real GDP growth, at constant factor prices	8.1	7.1	-25.9	16.0	10.7	8.2
Agriculture	4.8	5.0	8.0	5.5	5.6	3.6
Industry	15.6	1.5	-19.7	7.1	6.6	5.8
Services	7.3	8.0	-28.9	18.4	11.7	8.9
Inflation (Consumer Price Index)	-0.1	0.2	-1.4	2.5	1.1	1.0
Current Account Balance (% of GDP)	-28.3	-26.8	-26.3	-27.1	-27.5	-27.7
Net Foreign Direct Investment (% of GDP)	10.9	17.0	7.9	9.3	10.6	14.0
Fiscal Balance (% of GDP)	-5.3	-6.6	-20.1	-18.5	-15.2	-12.7
Debt (% of GDP)	74.0	78.4	139.3	135.2	132.1	131.4
Primary Balance (% of GDP)	-3.5	-4.9	-16.4	-14.2	-10.9	-8.3
Upper middle-income poverty rate ($5.5 in 2011 PPP)[a,b]	2.9	2.1	7.2	5.2	3.6	2.7

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate, f = forecast.

(a) Calculations based on SAR-POV harmonization, using 2016-HIES.Actual data: 2016. Nowcast: 2017-2020. Forecast are from 2021to 2023.
(b) Projection using neutral distribution (2016) with pass-through = 0.87 based on GDP per capita in constant LCU.

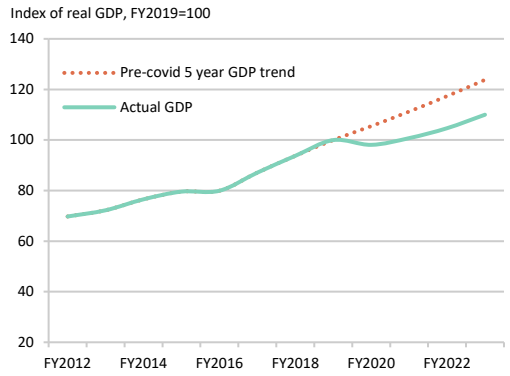
NEPAL

After contracting in FY20, Nepal's economy is expected to grow in FY21, as COVID-19 related disruptions fade and government relief spending materializes. Significant jobs and income losses, however, are likely to have increased vulnerability. To ensure the recovery is sustained and resilient, policy priorities will need to include: strengthening health systems, supporting agriculture production, and a focus on green, resilient, and inclusive development. Downside risks to the outlook stem from new waves of COVID-19 infections and political uncertainties.

Table 1	2020
Population, million	29.1
GDP, current US$ billion	33.9
GDP per capita, current US$	1163.7
International poverty rate ($1.9)[a]	15.0
Lower middle-income poverty rate ($3.2)[a]	50.9
Upper middle-income poverty rate ($5.5)[a]	83.0
Gini index[a]	32.8
School enrollment, primary (% gross)[b]	142.1
Life expectancy at birth, years[b]	70.5

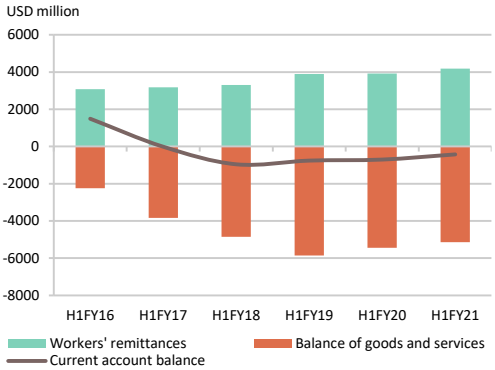
Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Most recent value (2010), 2011 PPPs.
(b) WDI for School enrollment (2019); Life expectancy (2018).

Figure 1: Real GDP levels: Actual vs pre-covid trend



Sources: World Bank staff projections and Nepal Central Bureau of Statistics.

Figure 2: The current account deficit has narrowed



Sources: World Bank staff calculations and Nepal Rastra Bank.

Key conditions and challenges

Growth averaged 4.9 percent, over FY09-FY19, supported by remittance inflows but constrained by structural vulnerabilities and periodic shocks. Natural disasters (such as the April 2015 earthquake and recurring floods and landslides) and external developments (such as border closures, trade disruptions, and the recent pandemic) depressed growth and impacted livelihoods. Meanwhile, high political instability (including episodes of civil unrest) and infrastructure gaps impede private investment. The adoption of a new constitution in 2015, created a federal system that decentralizes some responsibilities to the seven provincial and 753 local governments. This is expected to improve service delivery and reduce geographical disparities. At the same time, it has exacerbated pre-existing weaknesses in administrative and implementation capacity that need to be addressed. Against this backdrop, scarce domestic employment opportunities have triggered mass outmigration. The resulting high remittance inflows, averaging around 22 percent

of GDP over the past decade, have supported private consumption and poverty reduction, but contributed to a real appreciation of the exchange rate and eroded external competitiveness.

In FY20, COVID-19 related social distancing measures and lockdowns triggered the first economic contraction in 40 years, likely reversing past progress in poverty reduction. While lockdowns impacted all sectors of the economy, they disproportionately affected workers engaged in subsistence activities, who make up over half of the employment. International border restrictions and economic downturns abroad also forced thousands of Nepalese migrants to return home, elevating the risk that many households who have relied on remittances and informal sector jobs may fall back into poverty.

Sources of risk to the outlook include possible new waves of COVID-19, as well as increased political uncertainties, following the dissolution of Parliament's lower house in December 2020 and the Supreme Court's February 2021 decision to reinstate it.

Recent developments

A nation-wide lockdown, implemented during March-July 2020, impacted economic activity in the last four months of FY20. As a result, output contracted by an estimated 1.9 percent in FY20. Wholesale and retail trade, tourism, transport, and associated services such as hotels and restaurants – which are all important drivers of growth - were particularly impacted.

In the first half of FY21 (mid- July 2020 – mid-January 2021), growth has remained sluggish, given that tourism activity was stalled, and private investment constrained by risk aversion and uncertainty. However, there were incipient signs of recovery in wholesale and retail trade, transport, and financial services, as containment measures were gradually eased. Subdued demand and adequate food supply brought consumer price inflation to a three-year low of 3.7 percent y-o-y.

Against the backdrop of muted economic activity, the current account deficit declined by 39.6 percent year-on-year in the first half of FY21. This was driven by a sharp contraction in imports (11.8 percent y-o-y) which, in absolute terms, far outweighed a parallel decline in exports (of 36.6 percent), as well as an increase in remittance inflows (by 6.7 percent). Given modest levels of foreign direct investment, external concessional loans financed the current account deficit. Official foreign exchange reserves reached US$ 11.3 billion by mid-January 2021—equivalent to 11.3 months of imports.

Spending was higher and revenue lower, y-o-y, over the first half of FY21. Higher spending was driven by purchases of COVID-related health equipment and investments at the subnational levels (which offset a 19 percent y-o-y reduction in capital spending). Meanwhile, tax revenues fell by 2.1 percent y-o-y, with trade and consumption taxes as well as corporate income taxes performing poorly. Non-tax revenues continued to suffer from the near standstill in tourism. As a result, public debt increased by 7.4 percent over the first half of FY21 to 36.1 percent of projected FY21 GDP.

A recent World Bank COVID monitoring survey suggests that the pandemic-related economic slowdown had a major impact on jobs and incomes, with more than 2 in 5 economically active workers reporting a job loss or prolonged work absence in 2020.

Outlook

Economic growth is projected to recover gradually, to 5.1 percent by FY23. The baseline projections assume a successful domestic and global vaccination rollout, and a gradual resumption of international tourism. Agriculture should continue to contribute positively to growth. However, industrial activity is expected to remain below pre-pandemic levels up until early FY22, and services are expected to recover only gradually as domestic confinement measures are lifted.

With roughly a third of the population living close to the poverty line before the pandemic, widespread jobs and earning losses are likely to have increased poverty, particularly for women, younger age cohorts, and workers in non-agricultural sectors.

The current account deficit is expected to widen over the medium term. Import growth is expected to accelerate as consumption resumes, while service exports should remain subdued until FY22 (as tourism is only expected to recover fully in FY23). Consequently, the current account deficit is projected to reach 3.2 percent of GDP by FY22, financed primarily by long-term concessional borrowing.

The fiscal deficit is projected to remain elevated over the medium term. While revenue performance is expected to remain weak, additional spending on economic relief measures, vaccinations, and the resumption of project implementation will widen the fiscal deficit to just under 8 percent of GDP in FY22. Thereafter it is projected to stabilize at 6.5 percent of GDP in FY23 as revenues recover. Total public debt is expected to reach 41.9 percent of GDP in FY21 and gradually increase to 51.3 percent by FY23.

The economic outlook is subject to downside risks. Delays in vaccination and/or new outbreaks of COVID-19 both domestically and globally would dampen prospects of economic recovery. The resumption of tourism would be delayed if international travel restrictions are imposed. Domestic risks include political uncertainty, which could undermine investment sentiment. On the upside, effective vaccination campaigns in Nepal and abroad could facilitate the resumption of tourism.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2018	2019	2020 e	2021 f	2022 f	2023 f
Real GDP growth, at constant market prices	7.6	6.7	-1.9	2.7	3.9	5.1
Private Consumption	6.2	5.6	3.7	4.0	4.2	4.5
Government Consumption	2.1	7.3	6.2	11.8	15.4	4.1
Gross Fixed Capital Investment	11.8	11.3	-3.5	4.2	9.2	12.2
Exports, Goods and Services	7.7	5.5	-16.0	-18.0	11.1	17.2
Imports, Goods and Services	19.0	5.8	-15.3	4.5	12.4	11.4
Real GDP growth, at constant factor prices	7.4	6.4	-2.0	2.7	3.9	5.1
Agriculture	2.6	5.2	2.2	2.5	2.7	2.8
Industry	10.4	7.4	-4.2	3.1	4.6	6.9
Services	9.3	6.8	-3.6	2.7	4.4	5.9
Inflation (Consumer Price Index)	4.1	4.6	6.1	4.8	5.1	5.7
Current Account Balance (% of GDP)	-7.1	-6.9	-0.9	-1.2	-3.2	-4.4
Fiscal Balance (% of GDP)	-5.8	-5.0	-5.2	-6.9	-7.7	-6.5
Debt (% of GDP)	26.5	27.2	36.0	41.9	47.9	51.3
Primary Balance (% of GDP)	-5.4	-4.4	-4.5	-6.2	-6.8	-5.5

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate. f = forecast.

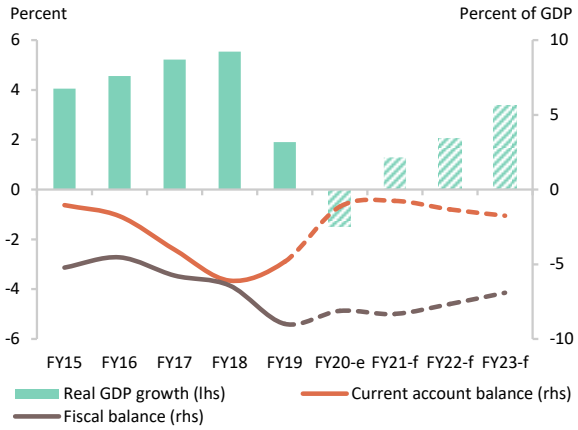
PAKISTAN

Pakistan's economy was severely impacted by the COVID-19 shock in FY20 leading to an increase in poverty. With the lifting of lockdown measures, the economy is showing signs of a fragile recovery. Growth is expected to gradually strengthen but remain muted in the medium-term. Fiscal deficit and debt levels are projected to remain elevated but to gradually improve. Risks to the outlook include new waves of COVID-19 infections and delays in the implementation of critical structural reforms.

Table 1	2020
Population, million	220.9
GDP, current US$ billion	264.5
GDP per capita, current US$	1197.6
International poverty rate ($1.9)[a]	4.4
Lower middle-income poverty rate ($3.2)[a]	35.7
Upper middle-income poverty rate ($5.5)[a]	76.2
Gini index[a]	31.6
School enrollment, primary (% gross)[b]	95.4
Life expectancy at birth, years[b]	67.1

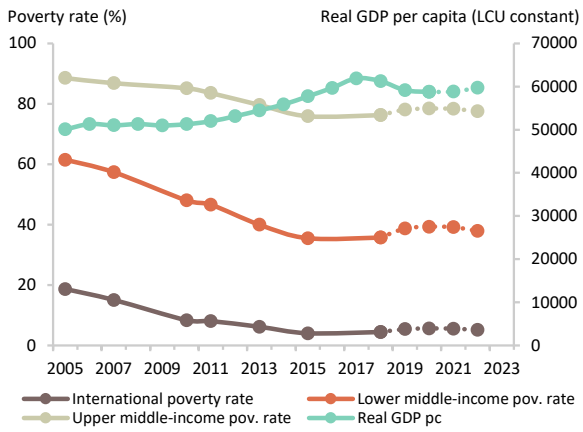
Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Most recent value (2018), 2011PPPs.
(b) WDI for School enrollment (2019); Life expectancy (2018).

Figure 1: Twin deficits and real GDP growth



Sources: Ministry of Finance and World Bank staff estimates.
Note: Pakistan reports data on fiscal year (FY) basis. The fiscal year runs from July 1 through June 30.

Figure 2: Actual and projected poverty rates and real GDP per capita



Sources: World Bank. Notes: see Table 2.

Key conditions and challenges

Pakistan's economy has been growing slowly over the past two decades. Annual per capita growth has averaged only 2 percent, less than half of the South Asia average, partly due to inconsistent macroeconomic policies and an under-reliance on investment and exports to drive economic growth. Short periods of rapid consumption-fueled growth frequently led to sizable current account and fiscal deficits, that ultimately required policy tightening, resulting in recurrent boom-bust cycles (Figure 1).

In early FY20, which runs from July 2019 to June 2020, following one such episode of external and fiscal imbalances, the country entered a 39-month IMF-Extended Fund Facility. The associated adjustment measures, including fiscal consolidation, contributed to a reduction of the imbalances over the year and improved macroeconomic stability.

However, the containment measures adopted in response to the COVID-19 pandemic led to a collapse in economic activity during the final quarter of FY20. As a result, GDP growth is estimated to have contracted by 1.5 percent in FY20. Half of the working population saw either job or income losses, with informal and low-skilled workers employed in elementary occupations facing the strongest contraction in employment. As a result, poverty incidence is estimated to have increased in FY20 from 4.4 to 5.4 percent, using the international poverty line of $1.90 PPP 2011 per day (Figure 2, Table 2), with more than two million people falling below this poverty line. Moreover, 40 percent of households suffered from moderate to severe food insecurity. The government, therefore, focused on mitigating the adverse socioeconomic effects of the pandemic, and the IMF program was temporarily put on hold.

Major risks to the outlook include the possibility of new waves of infections, the emergence of new vaccine-resistant strains, and setbacks in mass vaccinations. In addition, more delays in the implementation of critical structural reforms could lead to further fiscal and macroeconomic imbalances.

Recent developments

Over the first half of FY21 (July to December 2020), there have been signs of a fragile recovery. With increased community mobility, private consumption has strengthened, aided by record official remittance inflows. Investment is also estimated to have slightly recovered, as machinery imports and cement sales both recorded double-digit growth rates.

On the production side, crop production was relatively weak in the first six months of FY21, as cotton production was adversely affected by heavy monsoon floods. Following the phased lifting of lockdown measures from May 2020 onwards, indicators of industrial and services activity have recovered, with “Large Scale Manufacturing” and business confidence indexes exceeding pre-COVID levels in December 2020. As a result, the majority of the informal workers affected by the crisis are expected have been able to return to work.

Although headline inflation fell over July-February FY21 (y-o-y), it is still high at 8.3 percent on average, mostly on account of high food inflation. Since July 2020, the State Bank of Pakistan (SBP) has maintained the policy rate at 7.0 percent to support the economy. The capital adequacy ratio at end-December 2020 remained well above the minimum regulatory requirement, indicating banking sector resilience over the first half of the fiscal year.

Compared to a deficit of US$2.0 billion for June-December 2019, the current account recorded a surplus of US$1.1 billion for June-December 2020, the first half-yearly surplus in almost a decade, as strong official remittance inflows more than offset a wider trade deficit. Both foreign direct investment and portfolio investment inflows decreased during this period, but the improved current account supported a balance of payments surplus. The Pakistani rupee appreciated by 5.4 percent against the U.S. dollar, from end-June 2020 to end-December 2020, and official foreign exchange reserves increased to US$14.9 billion at end-December 2020, equivalent to 3.3 months of imports of goods and services.

The fiscal deficit widened over the first six months of FY21 (y-o-y), as expenditure growth outpaced an increase in revenues. In line with the recovering of economic activity, total revenues grew by 3.7 percent. Over the same period, total expenditures rose by 6.2 percent, partly driven

by higher interest payments. Public debt, including guaranteed debt, reached 87.9 percent of GDP at end-December 2020, up from 86.7 percent of GDP at end-December 2019.

Outlook

Output growth is expected to recover gradually over the medium-term, averaging 2.2 percent over FY21-23, mostly due to contributions from private consumption. However, sectors that employ the poorest, such as agriculture, are expected to remain weak, and therefore poverty is likely to remain high. The baseline outlook is predicated on the absence of significant infection flare-ups that would require more extensive lockdowns.

The current account deficit is projected to narrow to 0.8 percent of GDP in FY21, as a wider trade deficit is more than offset by stronger remittances inflows. However, it is expected to increase over the medium term. Exports are projected to grow from FY22 onwards, as external conditions become more conducive and tariff reforms gain traction, but imports are also expected to increase in line with stronger domestic activity and higher oil prices.

While fiscal consolidation efforts are expected to resume, the deficit is projected to remain elevated at 8.3 percent of GDP in FY21, partly due to the settlement of arrears in the power sector. As critical revenue-enhancing reforms gain pace and expenditure rationalization efforts resume, the fiscal deficit is projected to gradually narrow over the medium-term. Still, public debt will remain elevated in the medium term, as will Pakistan's exposure to debt-related shocks.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2017/18	2018/19	2019/20 e	2020/21 f	2021/22 f	2022/23 f
Real GDP growth, at constant market prices	5.8	1.0	-1.5	1.3	2.0	3.4
Private Consumption	6.2	2.9	-1.0	2.5	2.5	3.4
Government Consumption	8.6	0.8	5.6	0.1	2.2	3.0
Gross Fixed Capital Investment	11.2	-12.8	-17.9	-4.2	1.1	3.7
Exports, Goods and Services	12.7	14.5	-8.6	-1.7	3.0	5.5
Imports, Goods and Services	17.6	4.3	-10.5	0.9	4.3	4.8
Real GDP growth, at constant factor prices	5.5	1.9	-1.5	1.3	2.0	3.4
Agriculture	4.0	0.6	1.5	0.5	2.3	2.6
Industry	4.6	-2.3	-5.0	1.5	1.7	3.5
Services	6.3	3.8	-1.3	1.4	2.1	3.6
Inflation (Consumer Price Index)	4.7	6.8	10.7	9.0	7.0	6.0
Current Account Balance (% of GDP)	-6.1	-4.8	-1.1	-0.8	-1.3	-1.7
Net Foreign Direct Investment (% of GDP)	0.9	0.5	1.0	0.7	0.8	1.0
Fiscal Balance (% of GDP)	-6.4	-9.0	-8.1	-8.3	-7.7	-6.9
Debt (% of GDP)	75.9	89.9	93.6	93.9	94.4	94.1
Primary Balance (% of GDP)	-2.1	-3.5	-1.8	-2.1	-1.7	-1.1
International poverty rate ($1.9 in 2011 PPP)[a,b]		4.4	5.4	5.6	5.6	5.1
Lower middle-income poverty rate ($3.2 in 2011 PPP)[a,b]		35.7	38.7	39.3	39.2	37.9
Upper middle-income poverty rate ($5.5 in 2011 PPP)[a,b]		76.2	78.1	78.4	78.3	77.5

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate. f = forecast.
(a) Calculations based on SAR-POV harmonization, using 2018-PSLM.Actual data: 2018. Nowcast: 2019-2020. Forecast are from 2021 to 2023.
(b) Projection using neutral distribution (2018) with pass-through = 1 based on GDP per capita in constant LCU.

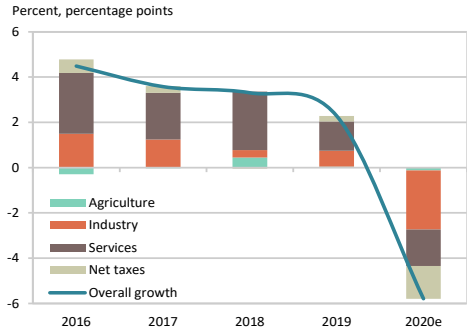
SRI LANKA

The COVID-19 pandemic resulted in a sharp economic contraction of 3.6 percent in 2020. With jobs and earnings lost, poverty is projected to have increased. Growth is expected to recover to 3.4 percent in 2021, but the medium-term outlook is clouded by the lasting impact of COVID-19. Economic scarring from the slowdown increased risks to debt sustainability and external stability and macroeconomic vulnerabilities will remain elevated due to large refinancing needs.

Table 1	2020
Population, million	21.9
GDP, current US$ billion	80.7
GDP per capita, current US$	3685.6
International poverty rate ($1.9)[a]	0.9
Lower middle-income poverty rate ($3.2)[a]	11.0
Upper middle-income poverty rate ($5.5)[a]	42.0
Gini index[a]	39.3
School enrollment, primary (% gross)[b]	100.2
Life expectancy at birth, years[b]	76.8

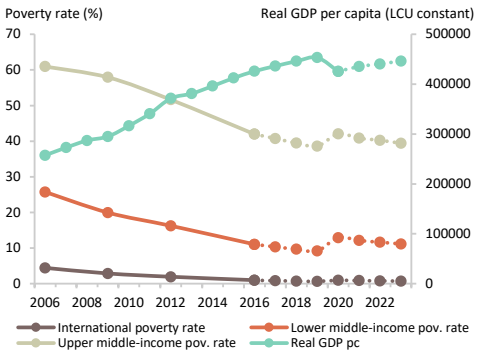
Source: WDI, Macro Poverty Outlook, and official data.
Notes:
(a) Most recent value (2016), 2011 PPPs.
(b) Most recent WDI value (2018).

Figure 1: Real GDP growth and contributions to real GDP growth (production side)



Sources: Department of Census and Statistics, staff calculations.

Figure 2: Actual and projected poverty rates and real GDP per capita



Source: World Bank. Notes: see Table 2.

Key conditions and challenges

The economy was already showing signs of weakness before the COVID-19 pandemic. Between 2017 and 2019, the average growth rate was only 3.1 percent, well below the levels of the beginning of the decade, when the economy reaped a peace dividend and the benefits of a determined policy thrust toward reconstruction. Modest growth, in recent years, is partly a reflection of (i) limited progress on structural reforms to shift the growth model toward greater private sector participation, export-orientation, and integration into global value chains; (ii) frequent macroeconomic shocks, from inclement weather in 2016 and 2017, a political crisis in late 2018, and the Easter Sunday attacks in 2019; and (iii) low fiscal space to support growth (although a fiscal stimulus package was implemented in 2019, further reducing fiscal space).

Against this backdrop, COVID-19 had a significant impact on the economy and welfare. The government reacted swiftly to control the first large outbreak of COVID-19 in mid-March 2020.

Related containment measures, especially in the second quarter of 2020, and a standstill of tourism activity, impacted the economy significantly.

With the slowdown in the economy, fiscal balances were also impacted and particularly so since Sri Lanka is highly exposed to global financial market sentiments (as its debt repayment profile requires accessing financial markets frequently). Further sovereign rating downgrades by major rating agencies could negatively impact market sentiments and constrain market access. Thus, the country will need to strike a balance between supporting the economy and ensuring fiscal and external sustainability.

Recent developments

Real GDP contracted by 3.6 percent in 2020, the worst performance on record. It was caused by contractions in construction, tourism, textile, mining and transport, due to mobility restrictions in the second quarter amid strict lockdowns. Agricultural activities were relatively uninterrupted, but the fishery sector suffered a significant shock. As a result of widespread earnings losses, particularly in industry sectors, poverty using the $3.20 per day poverty line is projected to have increased significantly, from 9.2 percent in 2019 to 11.7 percent in 2020.

Despite high food inflation, annual average inflation (measured by the Colombo Consumer Price Index) remained low at 4.6 percent in 2020 due to the offsetting effects of weak aggregate demand and low oil prices. This allowed the central bank to reduce policy rates by 250 basis points (Standing Deposit Facility to 4.5 percent and Standing Lending Facility to 5.5 percent) and the reserve ratio by 300 basis points (to 2.0 percent) in 2020.

The current account deficit is estimated to have narrowed to 0.9 percent of GDP in 2020, as a reduction in imports due to low oil prices and severe import restrictions offset reduced receipts from exports. However, official reserves declined to an 11-year low of US$ 4.6 billion by February 2021, mainly because reserves were mobilized to service external debt. The US$ 1.5 billion currency swap approved by the People's Bank of China in March 2021 is expected to provide a boost to the reserves. After depreciating by 2.6 percent against the US Dollar in 2020, the LKR further depreciated by 4.1 percent in the first two months of 2021.

The combination of a stimulus package in 2019 (pre-pandemic) and low revenues in the aftermath of the COVID-19 shock resulted in a steep deterioration in fiscal balances. The deficit is believed to have increased to 12.6 percent of GDP in 2020 (after including arrears payments), and public and publicly guaranteed debt to have increased to 109.7 percent of GDP. Citing limited fiscal buffers and external vulnerabilities, Fitch, S&P, and Moody's downgraded the sovereign rating to the substantial risk investment category.

Outlook

The pandemic has further clouded an already challenging outlook. While the economy is expected to grow by 3.4 percent in 2021, output will remain 0.3 percent below its pre-COVID level. With a gradual improvement in labor market conditions, poverty at $3.20 per day is projected to fall to 10.9 percent in 2021, still significantly above the 2019 level. Continued import restrictions and the

high debt burden will adversely affect growth and poverty reduction over the medium-term. Inflation is projected to increase gradually, as domestic banking institutions, including the central bank, are contributing to finance the government deficit.

The current account deficit is expected to remain low due to strict import restrictions, which should largely offset a deceleration of export growth. Still, significant additional borrowings will be required to close the external financing gap in 2021 and beyond, as external public debt service requirements are estimated above US$ 4.0 billion each year between 2021 and 2023. External buffers are expected to weaken relative to external liabilities as reserves may need to be used to service the external debt.

The fiscal deficit is expected to be high in the forecast period, despite tightly controlled expenditures, as revenue collection is expected to remain weak. In turn, public and publicly guaranteed debt is expected to reach 115.0 percent of GDP in 2021 and to rise further between 2022-2023. High gross financing requirements will exert pressure on the domestic financial market.

This baseline assumes a quick and comprehensive vaccine rollout, in line with the government's aim to vaccinate 60 percent of the population in 2021. Delays in the vaccination process in Sri Lanka and/or major tourist origin countries would extend the horizon and depth of economic disruptions. A longer downturn could push many small and medium enterprises from illiquidity to insolvency, further holding back the recovery process and the return to a path of poverty reduction. Lower growth would also put additional strain on public finances and increase risks to macroeconomic stability. Depleted fiscal buffers, high indebtedness, and constrained market access will continue to pose risks to debt sustainability.

Table 2: Macro poverty outlook indicators (annual percent change unless indicated otherwise).

	2018	2019	2020 e	2021 f	2022 f	2023 f
Real GDP growth, at constant market prices	3.3	2.3	-3.6	3.4	2.0	2.1
Private Consumption	3.7	2.9	-3.7	3.3	1.9	2.2
Government Consumption	-5.1	9.6	6.0	-1.0	-1.0	-1.0
Gross Fixed Capital Investment	-1.4	4.0	-6.7	3.7	2.0	1.8
Exports, Goods and Services	0.5	7.1	-16.8	5.8	5.3	4.7
Imports, Goods and Services	1.8	-5.8	-12.4	3.1	2.7	2.5
Real GDP growth, at constant factor prices	3.7	2.2	-3.1	3.4	2.0	2.1
Agriculture	5.8	1.0	-2.4	2.0	2.0	2.0
Industry	1.3	2.6	-6.9	3.9	1.8	1.9
Services	4.6	2.2	-1.5	3.3	2.1	2.2
Inflation (Consumer Price Index)	4.3	4.3	4.6	5.2	6.0	6.0
Current Account Balance (% of GDP)	-3.2	-2.2	-0.9	-1.2	-1.3	-1.4
Net Foreign Direct Investment (% of GDP)	1.8	0.7	0.6	0.8	1.0	1.2
Fiscal Balance (% of GDP)[a]	-5.4	-6.8	-12.6	-9.4	-8.9	-8.3
Debt (% of GDP)[a]	92.2	94.3	109.7	115.0	117.7	119.6
Primary Balance (% of GDP)[a]	0.6	-0.8	-6.0	-2.7	-2.2	-1.7
International poverty rate ($1.9 in 2011 PPP)[b,c]	0.7	0.6	1.2	1.1	1.0	0.9
Lower middle-income poverty rate ($3.2 in 2011 PPP)[b,c]	9.6	9.2	11.7	10.9	10.4	10.0
Upper middle-income poverty rate ($5.5 in 2011 PPP)[b,c]	39.5	38.6	42.3	40.7	39.7	38.9

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.
Notes: e = estimate. f = forecast.
(a) Fiscal balance in 2020 includes arrears payments pertaining to 2019 and foreign funded project related expenditures not included in the audited financial statements in 2019.
(b) Calculations based on SAR-POV harmonization, using 2016-HIES. Actual data: 2016. Nowcast: 2017-2020. Forecast are from 2021 to 2023.
(c) Projection using neutral distribution (2016) with pass-through = 0.87 based on GDP per capita in constant LCU.