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Shifting Gears: Digitization and Services-Led Development

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South Asia as used in this report includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. Common country and area codes used are: AFG = Afghanistan. BGD = Bangladesh. BTN = Bhutan. IND = India. MDV = Maldives. NPL = Nepal. PAK = Pakistan. LKA = Sri Lanka. SAR = South Asia region. The cutoff date for this report was September 27, 2021.

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Executive Summary

The economic recovery in South Asia continues, despite the ferocious resurgence of COVID-19 earlier this year. This recovery has not undone all the harm caused by the crisis, and targeted relief efforts are still needed. However, it is also time to shift gears and create the conditions for sustained growth going forward. New growth strategies should be informed by lessons learned from the crisis while using opportunities in the new normal. A key element of the new economic reality is the breakthrough of the new services sectors, which got a boost during the crisis. Services-led development has now become a possibility. That is good news for South Asia, which has a comparative advantage in services and has struggled to compete in manufacturing. To exploit this opportunity, a rethinking of institutions and regulations is needed.

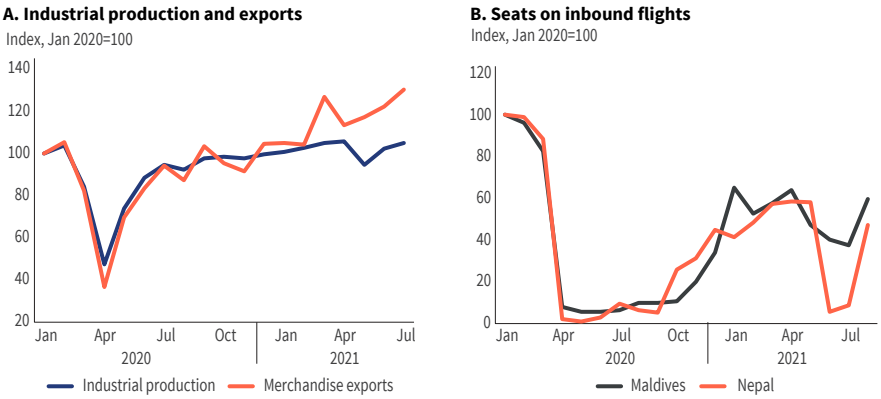
Chapter 1 Recovery amid COVID-19 waves

As the highly contagious and deadly COVID-19 Delta variant swept through South Asia this past Spring and Summer, many South Asian countries recorded their highest single-day new case numbers, and countries including India saw localized shortages in medical supplies. Despite high case numbers, the economic impacts are much smaller than a year ago, thanks to more targeted containment measures adopted by countries in the region. It also helped that support measures were in place and that the private sector had found ways to adjust to restrictions. After a brief setback, the recovery is back on track, with strong growth in production activities and exports (Figure ES.1.A). Countries that are heavily dependent on tourism also experienced a brief setback, but tourism is still significantly above levels seen at the beginning of the pandemic, albeit well below pre-pandemic levels (Figure ES.1.B).

However, the strong year-on-year growth is at least in part the result of very low bases in 2020, and not all economic harm inflicted by the crisis has been undone. In South Asia this year, around 50 million more people are living below the international poverty line than would have, absent a crisis. While stock markets in the region have boomed during the past year and business sentiments have withstood

recent COVID-19 waves, formal employment has yet to recover. The crisis has also left countries in South Asia with mounting public and private debt and heightened financial-sector vulnerabilities.

Figure ES.1 Recovery is back on track after a brief setback



Accommodative fiscal and monetary policies, supported by low global interest rates, have been instrumental in mitigating the impact of the crisis on households and firms. Further crisis responses, in the form of relief efforts and vaccination programs, are still warranted, but the limits of accommodative policies are becoming more evident. On the fiscal side, especially countries with large foreign debt find it increasingly difficult to further accumulate sovereign debt. Monetary authorities are becoming more concerned about elevated inflation rates, even though these rates do not yet reflect sustained excess demand. Rather, they reveal temporary supply disruptions and rising international energy prices.

Chapter 2 From fragile recovery to rebuilding

As South Asia continues on the path to recovery, the regional economy is expected to grow by 7.1 percent in 2021 and 2022 and by 5.4 percent in 2023 (Table ES.1). The strong near-term growth is again driven in part by a very low base in 2020. Taken together, the average annual growth in the four years from 2020-2023 is expected to be 3.4 percent, which is 3 percentage points below the average growth during the four years preceding the pandemic. Income per capita in the region is expected to reach close to the pre-pandemic level in 2021, but it is still expected to be 12 percentage points below the pre-pandemic trend level in this and the next year.

Table ES.1 GDP growth has turned positive again

		Real GDP growth at constant market prices (percent)				Revision to forecast from June 2021 (percentage point)	
Calendar year basis	Country fiscal year	2020	2021(e)	2022(f)	2023(f)	2021(f)	2022(f)
South Asia region		-5.4	7.1	7.1	5.4	0.3	0.3
Maldives	January to December	-33.6	22.3	11.0	12.0	5.2	-0.5
Sri Lanka	January to December	-3.6	3.3	2.1	2.2	-0.1	0.1
Fiscal year basis		**FY20/21**	**FY21/22(e)**	**FY22/23(f)**	**FY23/24(f)**	**FY21/22(f)**	**FY22/23(f)**
India	April to March	-7.3	8.3	7.5	6.5	0.0	0.0
		FY19/20	**FY20/21(e)**	**FY21/22(f)**	**FY22/23(f)**	**FY20/21(f)**	**FY21/22(f)**
Bangladesh	July to June	3.5	5.0	6.4	6.9	1.4	1.3
Bhutan	July to June	-0.6	-1.2	3.6	4.3	0.6	-1.4
Nepal	mid-July to mid-July	-2.1	1.8	3.9	4.7	-0.9	0.0
Pakistan	July to June	-0.5	3.5	3.4	4.0	2.2	1.4

Note: Afghanistan is not included in the regional aggregates. Pakistan is reported at factor cost.

Recovery notwithstanding, countries in the region face both internal and external challenges in the medium term. Internally, preexisting financial sector vulnerabilities have worsened since the onset of the pandemic. In some cases, the true extent of the risks is masked by accommodative policies. And, despite the acceleration of vaccine rollouts, most countries have yet to vaccinate much of their populations, keeping the threat of new, deadlier COVID strains alive. Externally, global recovery momentum is showing signs of a slowdown under the impact of the COVID Delta variant. If that weakening becomes more permanent, the outcomes for South Asia will likely fall short of the baseline forecast, as export revenues and remittances will be affected. A tightening of monetary policy in high-income countries would also be an external risk to the forecast. In addition to the medium-term uncertainties, the pandemic has left scars on the economy in the form of diminished investment stock, schooling losses, increased informality, and high government debt. The scars can have long-lasting impacts on recovery and growth.

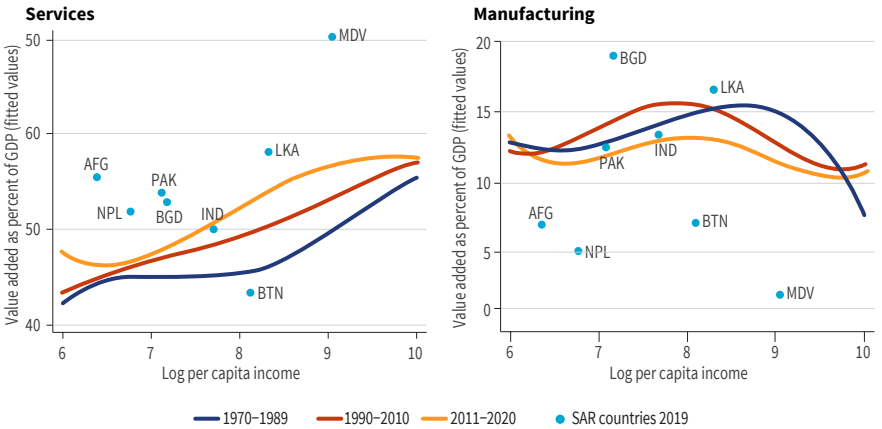
Nevertheless, the pandemic provides the opportunity for countries to craft a recovery path that draws lessons from the crisis and exploits innovations that were introduced during the crisis. The crisis has heightened awareness of the risk of extreme events. There is a possibility, using recent innovations and experiences, to strengthen social protection systems and to build political consensus around the need to protect

vulnerable groups against natural disasters and climate-change impacts. The recovery also provides an opportunity to narrow social divides that had widened during the crisis. This is why Nepal has formally adopted a green, resilient, and inclusive development strategy. And other countries in the region are shaping their strategies in a similar way, so that their economies are not just built back, but built back better.

Chapter 3 Shifting gears: Digitization and services-led development

Fundamental changes in services sectors are providing new opportunities as countries plan to build back better. Moreover, with some exceptions, South Asia has struggled to break into manufacturing export markets at scale. Automation of the manufacturing sector across the world is making it even harder to become highly competitive in international markets. However, the emergence of a new services economy creates an opportunity for the region to shift gears and move away from the traditional manufacturing-led growth model in middle-income countries and toward a services-led development model. As a result of technological changes, services value added has increased as a share of GDP regardless of the level of development. And in most countries in the region, the share of services in GDP significantly exceeds what should be expected, given its development stage. With the exception of Bangladesh, the share of manufacturing in GDP is mostly below the global trend (Figure ES.2).

Figure ES.2 The share of services in GDP is large and growing and the share of manufacturing in GDP is small, regardless of the level of development



The services economy got a further boost during the response to the COVID pandemic, when digital technologies became critical. The new services economy comprises much more than the Information and Communications Technology (ICT) sector. For example, the new technologies are transforming sectors that are producing business and professional services, while digital platforms are creating new markets or are vastly broadening existing markets. The impact of services on development is also unappreciated because of the difficulties in measuring its economic contribution.

Chapter 3 documents that the new services economy meets three criteria to become the driver of development in South Asia. First, services are now able to generate significant export revenues as they become increasingly tradable and represent a larger part of value added incorporated in the exports of manufactured goods. Second, services can drive productivity growth because they make other sectors such as manufacturing more efficient and because of services-sector innovations. Third, the services sector also generates jobs, and helps upgrade skills through on-the-job training. Most workers in South Asia already have service occupations, regardless of the sector in which they work.

To unleash the potential of the new services economy, policy makers should rethink regulations and establish new institutions. The main objectives of these new policies are: 1) to lower entry barriers to create more national and international competition while preventing the emergence of new monopoly powers; 2) to enable increased mobility in labor markets while encouraging the upgrading of skills, both through education and on-the-job learning; and 3) to facilitate the absorption of the new services, both by firms and households.

Governments in South Asia are addressing the new realities but face major hurdles. Existing regulations of business services in South Asia are stricter than in most other countries, and have created vested interests and entry barriers, with notable exceptions. Moreover, in several countries in South Asia, an implicit preference for manufacturing by policy makers makes it difficult to find the political will for major reforms in the services sectors. A complication with the ongoing reforms is that even globally, countries are struggling to find an optimal institutional environment for the new services sectors. Therefore, the best option is to experiment with regulatory sandboxes. If policy makers get it right, South Asia will be able to shift gears, with new and big development promises looming.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CHAPTER 1

Recovery amid COVID-19 waves

Déjà vu? South Asia again faces a COVID-19 health crisis, just as it did a year ago. But the economic impacts are smaller this time: countries have adopted more localized containment measures and the recovery is back on track. Yet, the recovery has not been even across countries, sectors, and individuals. Through the crisis, supply constraints have pushed up inflation in the region, and as the economy recovers, rising demand and global oil prices are expected to sustain high inflation. The recovery can alleviate inequality, but the process may be slow, and other factors can further widen inequality. Policies that deliver relief to households and firms are urgently needed, while monetary policy is confronted with an uncertain path for inflation.

The chapter is organized as follows. Section 1.1 looks at the impact of the recent COVID-19 waves on South Asia's recovery and puts it into a global perspective. Section 1.2 dives into the uneven nature of the recovery. Section 1.3 dissects the recent trend in inflation. Section 1.4 looks at the development in poverty and factors affecting inequality during the crisis and recovery. Finally, Section 1.5 takes stock of recent economic developments and discusses the implications for policies.

1.1 A recovery dented but not derailed by COVID-19 waves

The highly contagious COVID-19 Delta variant swept through South Asia this past Spring and Summer. In May, India recorded 280 new confirmed cases per million population, while Maldives hit the record of more than 4,000 new confirmed cases per million. As of September 27, the region had reported over half a million deaths, with the actual number believed to be many times higher (see

Box 1.1). The rapid surges in new cases within a short time have put the region's health care systems under immense pressure. There have been severe shortages of medical-use oxygen. In India, for example, the need for medical oxygen grew from 2,500 metric tons to over 12,000 metric tons per day during May-June, against an average daily supply of around 3,000 metric tons of Liquid Medical Oxygen (LMO). To make matters worse, most of the production of LMO in India is concentrated geographically, while the emergency demand was dispersed nationally. The resulting shortages led to tragic losses of life.

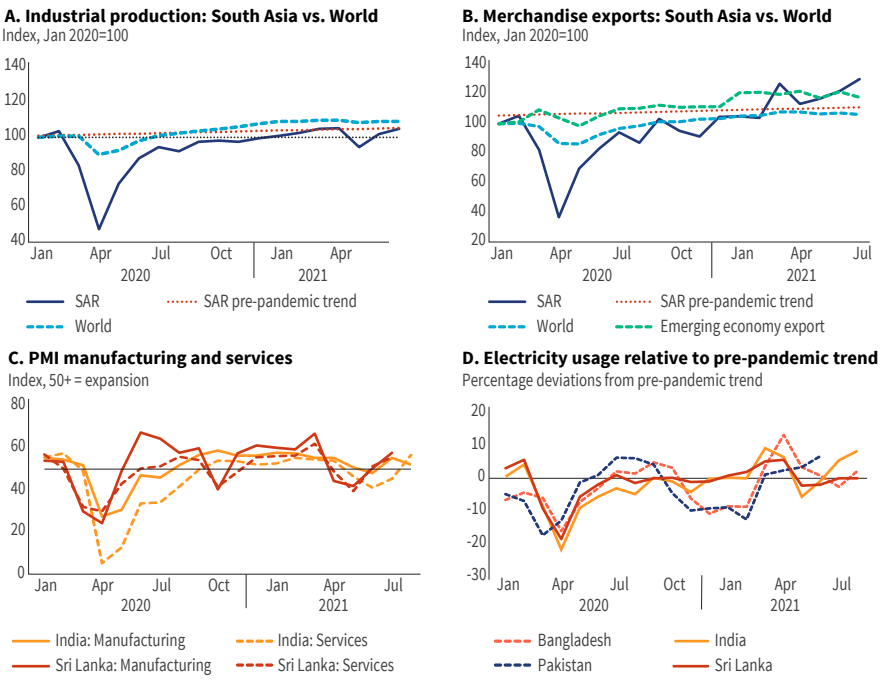
Along with the dire health consequences, the recent COVID-19 surges also dented recovery in the region (Figure 1.1). Before the recent COVID-19 surges, industrial production had recovered to above pre-pandemic *trend* levels in March and April. Merchandise exports reached 25 percent above the pre-pandemic level and even crossed the pre-pandemic *trend* level in March, with the speed of recovery surpassing emerging economy exports. With the recent surges in cases, industrial production in May dropped to 5 percent below the pre-pandemic level, and the growth in exports was also set back. Although exports remain above pre-pandemic levels, export growth in the region lagged that of emerging economies in April and May. Similarly, Purchasing Managers' Indexes (PMI) for India and Sri Lanka show that headline manufacturing and services slowed during April-June this year. Electricity usage also fell to below pre-pandemic trend levels in May and June for India and Sri Lanka and in July for Bangladesh, as COVID-19 raged through the countries.

The recovery in tourism slowed in May and June (Figure 1.2). Among South Asian countries, Maldives has had the most robust recovery in tourism. Visitor arrivals to the country recovered to over 60 percent of the pre-pandemic level by March. But the recent COVID-19 surges set back the recovery, and visitor arrivals in June dropped to around 30 percent of the January 2020 level, or 50 percent of the June 2019 level, reflecting the sensitivity of tourism to COVID-19 outbreaks. The dip happened in both total and non-domestic travel, as shown in the numbers of seats filled on inbound flights. Similarly, visitor arrivals in Nepal in May dipped to only 2 percent of the January 2020 level, after reaching 28 percent of this level in April.

The slowdown in economic activities is also captured by the composite activity indicators. This indicator aggregates statistics on the level of economic activity, including the Google mobility indexes, car sales receipts in India, and the export of ready-made garments in Bangladesh. It thus provides a sense of the overall activity levels in the region. Figure 1.3 shows the dent in economic activities in

India, Pakistan, and Bangladesh during April-May. For Nepal and Sri Lanka, the dents are larger and more sustained due to two successive COVID-19 spikes that have hit both countries since April.

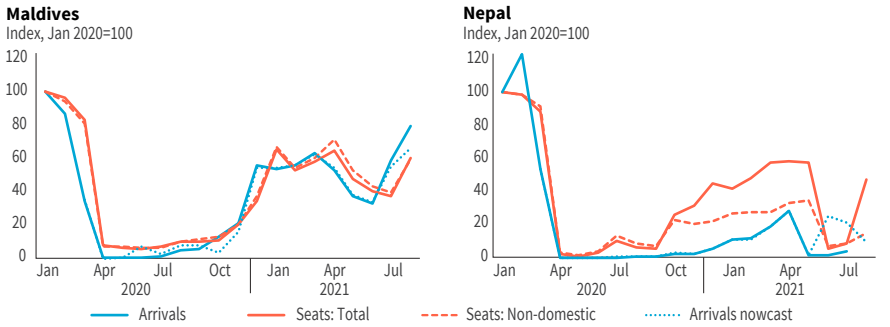
Figure 1.1 Aggregate indicators show a dent in recovery during the most recent COVID-19 waves



Note: SAR=South Asia region. A. South Asia region pre-pandemic trend is calculated as the linear trend over 2017-2019. B. South Asia export value is calculated as the sum of all regional countries' export values. Afghanistan and Bhutan are not included for June and July 2021 due to data release lags. The South Asia region pre-pandemic trend is calculated as the linear trend over 2017-2019. C. Purchasing Managers' Indexes (PMIs) are monthly economic indicators based on surveys of private companies. A value above 50 indicates an improvement and a value below 50 shows a deterioration from the previous month. D. Numbers shown are percentage differences between the actual and predicted electricity generation/consumption levels. Predictions are based on data before January 2020 and thus reflect the pre-pandemic trend levels. See World Bank (2021a) for details on the methodology.
Sources: World Bank Global Economic Monitor database, CEIC, Maldives Monetary Authority, Haver Analytics, and staff calculations based on Franco-Bedoya (2021).

Compared to Spring 2020, the slowdown is milder and shorter, even though the COVID-19 outbreaks are much more severe. During the COVID-19 waves in 2020, economies in the region came almost to a standstill, with industrial production falling to below 50 percent of the pre-pandemic level and tourism grinding to a halt. The Delta variant, though, is much more contagious. In all countries except

Figure 1.2 Earlier recovery in tourism reverted during the most recent COVID-19 waves

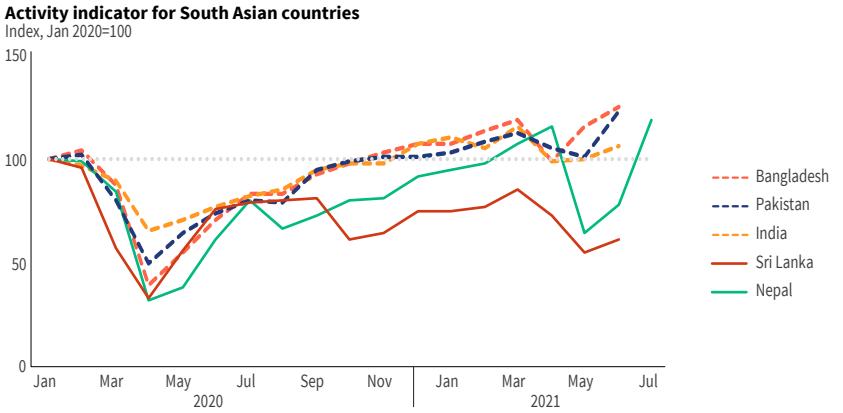


Note: Arrivals nowcast numbers come from a model that uses the numbers of flights and seats in inbound passenger flights to predict visitor arrivals in recent months.
Sources: CEIC, Maldives Ministry of Tourism, Global Aviation Dashboard, and staff calculations.

Pakistan, the peak daily case numbers were double or triple the peak numbers from last year, and they were more than ten times higher in Maldives. But the dip in economic activities is much shallower than last year, and after the brief setbacks in April-June, aggregate indicators have mostly recovered lost ground (Figures 1.1-1.3). Industrial production for the region is back to above the pre-pandemic level. Merchandise exports once again caught up with the recovery speed of emerging economy exports in June. PMI indexes moved back to expansion territory (a value above 50) in July and August, while electricity usage recovered in July in India. Tourism bounced back strongly in Maldives in August and reached close to 80 percent of the January 2020 level or 103 percent of the August 2019 level. Estimates based on data released so far for the year and predicted trends show that regional real GDP is expected to grow by 7 percent this calendar year, compared to a contraction of 5.4 percent in 2020.

South Asian countries implemented more targeted and localized containment measures during the recent COVID-19 waves, compared to last year. When the first COVID-19 cases were detected in South Asia in Spring 2020, countries were quick to act, and most implemented stringent measures, including internal travel restrictions, border closures, and economic lockdowns. The stringency index for containment measures rose to over 80 (100 being the strictest) by late March in most South Asian countries (Figure 1.4). While the stringent measures might have prevented catastrophic health consequences in 2020, the economic losses were significant. Learning from past lessons, South Asian countries opted for more localized restrictions this year, with more widespread testing and targeted quarantine measures to contain the cross-border spread of the virus. For

Figure 1.3 Composite activity indicators show a slowdown in activities during the recent COVID-19 waves



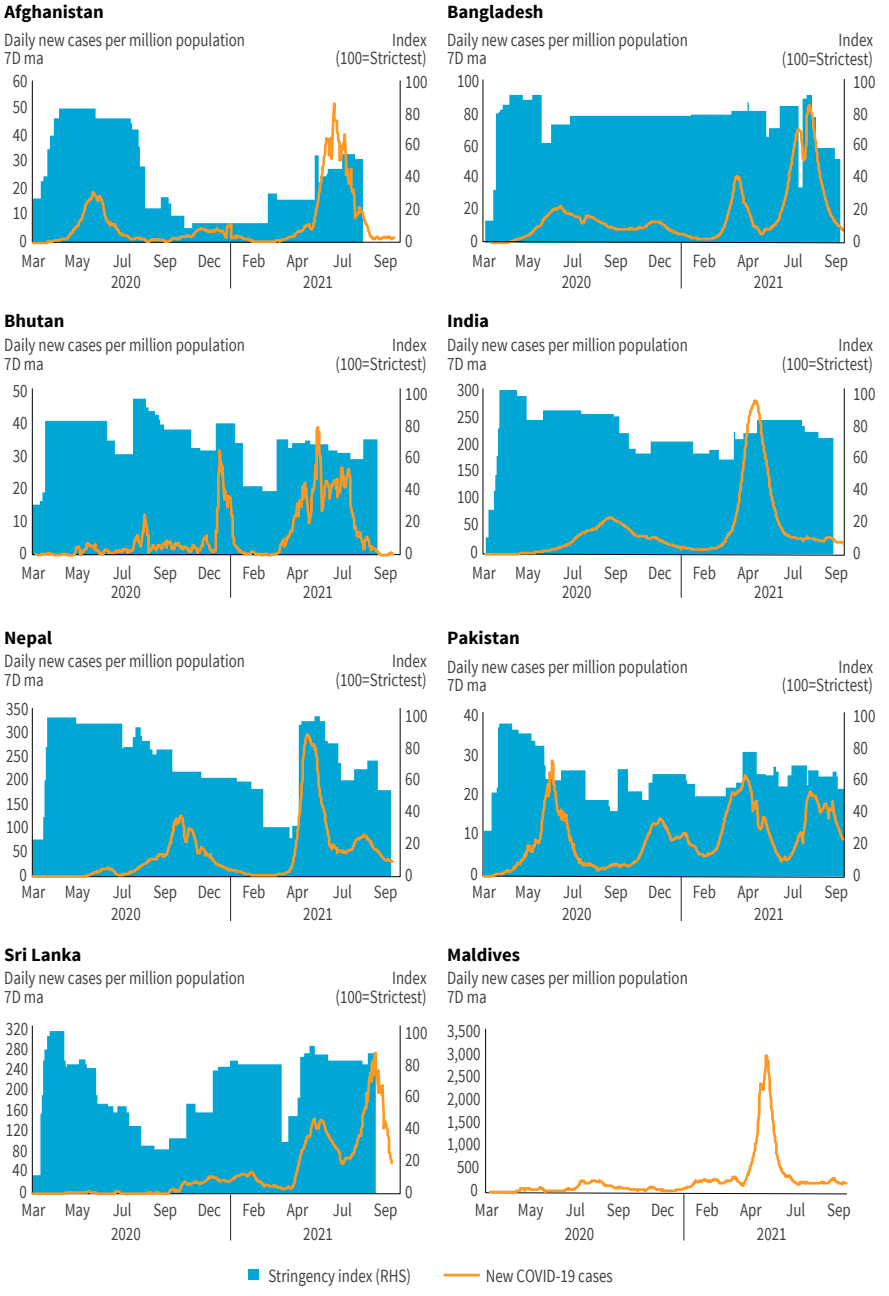
Note: Indicator aggregates the Google mobility indexes for workplace, retail and recreation, grocery, and pharmacy for all countries, and some of the following for some countries: visitor arrivals, tourism receipts, government tax revenue, ready-made garment exports, vehicle imports, crude steel production, passenger vehicle sales, and PMI indexes. For details see World Bank (2021a).
Sources: CEIC, Google mobility report, Oxford COVID-19 Government Response Tracker, United Nations, World Bank, and staff calculations.

example, Bangladesh shut down the border with India in April but allowed the trading of goods to continue, Sri Lanka imposed localized lockdowns at identified COVID-19 hotspots, and India implemented rolling mobility restrictions in states with high case counts. As a result, on an aggregate scale and for most countries, the stringency index is lower or stays at high levels for shorter periods than a year ago.[1]

Because of the limited impact from COVID-19 containment measures, the dent in recovery is modest and the year-on-year growth remains strong. For the second quarter this year, which coincided with the recent COVID-19 outbreak, India reported a record real GDP growth of 20 percent. The number reflects a recovery from the large contraction (24 percent) during the same period last year. Sri Lanka also reported a growth rate of 12 percent in the second quarter, from a 16 percent contraction last year. Nowcast of GDP growth shows equally strong rebounds in the second quarter for Maldives (Figure 1.5). The nowcast is based on different high-frequency activity indicators, and a LASSO statistical model is used to select the most relevant economic activity indicators for each country, following World Bank (2020a). The nowcast suggests a rebound of over 100 percent for Maldives, reflecting the strong recovery in the country's tourism sector.

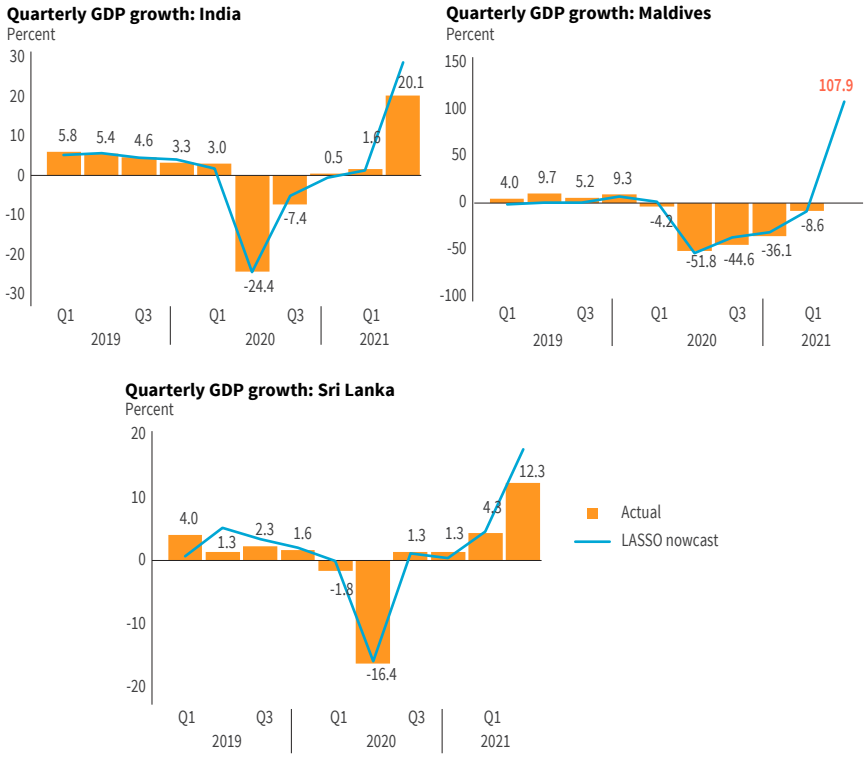
1 Additionally, in countries such as Bangladesh, even though measures were stringent in principle, they were not followed as well as during the waves last year.

Figure 1.4 More contagious COVID-19 surges and more targeted and localized containment measures in 2021 than in 2020



Note: The stringency index is based on school closings, workplace closings, cancellation of public events, restrictions on gatherings, public transport closings, stay-at-home requirements, restrictions on internal movement, and international travel controls. Index data is published by Hale et al. (2021) and made available through Our World in Data. No containment stringency index is available for Maldives.
Sources: Our World in Data (accessed September 27, 2021) and staff calculations.

Figure 1.5 Second-quarter GDP growth was strong year-on-year but shows a sequential slowdown

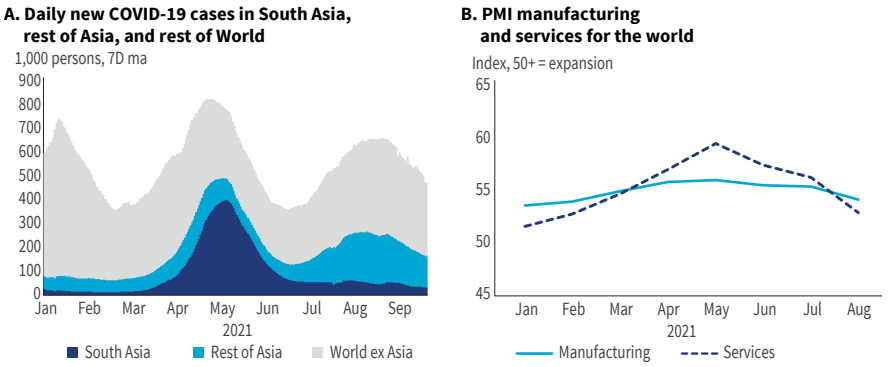


Note: Data are shown for the calendar year. For example, 2021Q1 is January-March 2021. The nowcasting index uses the set of variables that provide the most accurate in-sample forecast to nowcast the most recent complete quarter. Data labels are for actual GDP growth rates, except when they are not available, the data label shows LASSO nowcast (in red).
Sources: CEIC; Li, Mercer-Blackman, and Franco-Bedoya (2021).

The strong growth numbers in the second quarter are partly because of low bases in 2020. While India's GDP grew 20 percent compared to last year, it contracted by 12 percent compared to the first quarter this year (January-March 2021). Similarly, Sri Lanka's reported real GDP also points to a sequential contraction in the second compared to the first quarter. Only Maldives is estimated to have expanded continuously this year. This strong base effect during the second quarter is also evident in higher-frequency indicators. Compared to last year, industrial production for the region grew by 28 percent in May, even though it fell by 11 percent compared to April this year; merchandise exports increased by more than 200 percent in April compared to April 2020 but contracted by 11 percent sequentially.

As most countries in South Asia emerge from the recent COVID-19 waves, new COVID case numbers have started rising in the rest of the world, driven by the Delta variant (Figure 1.6.A). August PMI for the world shows that while both manufacturing and services continue to expand (a value above 50), the momentum has slowed down considerably for services and slightly in manufacturing, reflecting the impact of the Delta variant (Figure 1.6.B). Across the countries that have reported second-quarter GDP, growth rates correlate positively with the size of the contraction in 2020 and also positively with the pre-pandemic trend level of GDP growth rates.[2] These correlations suggest that countries that had a steeper contraction in 2020 on average also rebounded more this year, and those with higher long-run growth rates continue to have that advantage over others. In addition, the services sector share and the share of the fully vaccinated population also correlate positively, while the exports sector share correlates negatively with recovery, although these relationships are not always robust.[3]

Figure 1.6 Delta variant spreads to the rest of the world, slowing down global recovery



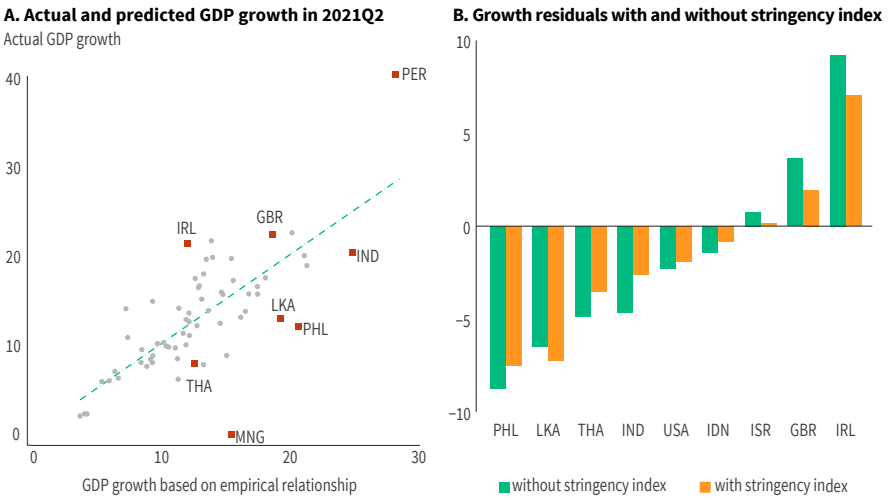
Note: B. PMIs are monthly economic indicators based on surveys of private companies. A value above 50 indicates an improvement and a value below 50 shows a deterioration from the previous month.
Sources: Our World in Data (accessed September 27, 2021) and Haver Analytics.

2 Of the 69 countries that have published 2021Q2 GDP data, the average year-on-year growth rate is 12.8 percent. Due to the availability of data on vaccination rates, we end up with 66 countries in the sample. We used the average GDP growth rate in 2020Q1-Q2 to capture the size of the contraction in 2020, and used the Hodrick-Prescott (HP) filtered trend growth rate in 2019Q2 as the pre-pandemic trend growth rate.

3 We find evidence that *lagged* vaccination rates have a more robust and statistically significant relationship with growth. But most countries, especially countries in South Asia, only sped up vaccinations in 2021Q2, so we may see a more stable correlation between vaccination and growth in the third quarter of this year.

Recent growth rates in India and Sri Lanka are below the predicted rates based on a cross-country regression analysis. Results from a linear regression of the GDP growth rate can be used to generate in-sample predicted GDP growth rates. The regression includes the size of the contraction in 2020, the pre-pandemic trend growth rate, sectoral composition, and vaccination rate as controls. The regression has an adjusted R-square of 0.5, with statistically significant coefficients for contraction and trend growth rate. Figure 1.7.A shows the actual and *predicted* growth rates for the countries in the sample. In general, countries line up along an upward-sloping line. Countries below the line have a negative growth residual, which means that their actual rebound in 2021 is smaller than predicted based on their size of contraction in 2020, pre-pandemic trend growth rate, sectoral composition, and vaccination rates. Both India and Sri Lanka fall into this group, along with Thailand and the Philippines. On the other side, countries including Peru, the United Kingdom, and Ireland have a positive growth residual, which suggests that given the contraction, trend growth, and vaccination rates, their actual rebound is larger than predicted.[4]

Figure 1.7 Faster recovery in 2021 is associated with larger contraction in 2020 and faster long-run growth, while the residuals can be partly explained by recent COVID-19 containment measures



Note: Actual GDP growth is calculated using GDP levels in constant local currency units (LCU). Predicted GDP growth is based on a linear regression. See Appendix 1.1 for details. A. Countries below (above) the linear line have negative (positive) growth residuals, which means their actual growth rate is smaller (larger) than predicted. B. Regression residuals shown are from two separate regressions, one without stringency index (shown in A) and one with additional stringency index in 2021Q1 and Q2. PHL=the Philippines, LKA=Sri Lanka, IND=India, THA=Thailand, IDN=Indonesia, USA=United States, GBR=United Kingdom, IRL=Ireland, ISR=Israel, MNG=Mongolia, PER=Peru.
Sources: World Bank Global Economic Monitor, Our World in Data, and staff calculations.

4 In Peru, manufacturing, construction, and mining sectors all contributed to fast growth in 2021.

Containment measures during the recent COVID-19 waves affected countries' growth residual. Figure 1.7.B shows that introducing the stringency index into the regression analysis reduces the residual size for some countries. For example, India's residual becomes less negative in the expanded regression. This suggests that the containment measures during the recent COVID-19 waves, although milder compared to last year, reduced India's growth, which is consistent with the previous discussion. The residual for some countries, including Israel, the United Kingdom, and Ireland, becomes smaller (and positive) in the expanded regression, which suggests that the absence of containment measures in early 2021 helped their growth. By contrast, the growth for Sri Lanka and the United States seems uncorrelated with COVID-19 containment measures, indicating that other factors are at play.

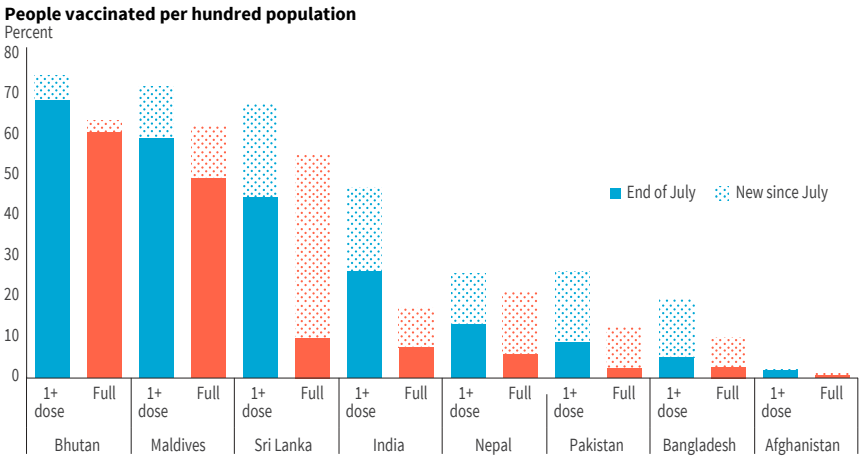
As the Delta variant spreads to the rest of the world and new variants emerge, the pandemic can continue to impact South Asia. The effects of the Delta variant on the rest of the world can have adverse spillover effects on the region. Tourism-dependent countries such as Maldives, Bhutan, and Nepal are especially vulnerable to yet another round of border closures and lockdowns in other countries. Given the substantial contribution of manufacturing to GDP growth in Bangladesh, and India's push for manufacturing and export-led growth, future disruptions to trade and global value chains can have devastating impacts on the region. With an uncertain future and risks of new and deadlier COVID-19 variants, the most effective course of action is to vaccinate a large majority of the population. Tourist destinations with high COVID-vaccination rates have become more attractive to vaccinated visitors, as in the case of Maldives (Box 3.2). For manufacturing and export-dependent economies, a vaccinated workforce helps avoid large-scale disruptions to production due to severe sickness and lockdowns.

South Asia has made tremendous progress administering vaccines. As of the end of September, both Maldives and Bhutan have fully vaccinated more than 60 percent of their total population. In the two months since the end of July, an *additional* 23 percent of Sri Lanka's population received their first dose, and an *additional* 45 percent became fully vaccinated (Figure 1.8). During the same period, an *additional* 18 percent of the population in Pakistan, 21 percent in India, 15 percent in Bangladesh, and 13 percent in Nepal received at least one shot. Despite the progress, most countries in the region are yet to vaccinate the majority of their population.

Most South Asian countries have the capacity to administer vaccines. South Asia reached a high level of readiness to deploy COVID-19 vaccines soon after they became available on global markets. An assessment conducted by the World Bank and UNICEF found that by as early as February 2021, all countries in the

region had completed most key preparedness measures, such as preparation of a national vaccine deployment plan and assessments of their cold chains.[5] In Bangladesh, India, and Sri Lanka, the government's capacity to deliver vaccines is larger than the current supply, and India has the highest pre-pandemic vaccine production capacity globally. By contrast, Pakistan and Afghanistan have lower capacity and are also constrained on the demand side by widespread vaccine hesitancy. Surveys indicate that 35 percent of Pakistanis and 30 percent of Afghans are not willing to be vaccinated.[6] For these countries, strong community norms can positively influence people's attitudes toward COVID vaccines (World Bank 2021a).

Figure 1.8 Tremendous progress made in South Asia on vaccination in the last two months, but more actions needed



Note: Our World in Data relies on figures that are verifiable based on official public sources. Latest data available is October 2 for all, except October 1 for Bangladesh, September 30 for Maldives and Pakistan, September 26 for Bhutan, August 31 for at least one dose and August 20 for full vaccination in Afghanistan.
Sources: Our World in Data (accessed October 3, 2021) and staff calculations.

The major obstacle to widespread vaccination in South Asia is still the supply of vaccines. According to World Bank figures, as of September 27, 2021, most large countries in South Asia have received fewer vaccines than needed to cover their target populations. Per 100 population, Bangladesh has received 14.1 doses, Pakistan has received 39.4 doses, Nepal has received 62.1 doses, and Sri Lanka has received

5 COVID-19 vaccine introduction readiness assessment tool, September 21, 2020.
6 Survey for Pakistan was conducted by Gallup Pakistan (https://gallup.com.pk/post/30779). Survey in Afghanistan was conducted by Acasus (not publicly available). Both were conducted in 2021.

143.9 doses.[7] Efforts by the international community have helped increase supplies. The World Bank has committed over $900 million to help finance the acquisition and distribution of COVID-19 vaccines in the region. A donation of 1.5 million doses to Sri Lanka through COVAX boosted supply there in mid-July, while China delivered 22 million doses of Sinopharm vaccines. Still, countries have a long way to go, and a concerted effort by the international community can help push South Asia closer to vaccinating most of its population.

Box 1.1 Alternative measures of COVID-19 deaths

According to official data, the South Asia region accounts for 17 percent of global COVID-19 cases and more than 11 percent of deaths.[8] The official total death count from COVID in the region has exceeded half a million.[9] But there is a growing sense that the official counts are underestimated and do not reflect the actual scale of the pandemic. **The undercount of deaths can be especially severe for developing countries.** For South Asian countries, several reasons can lead to undercounting (Banerjee and Arora 2021; Gamio and Glanz 2021). First, because of overwhelmed health systems, many COVID deaths occur at home or are indirectly caused by the crisis conditions, and these are excluded from the official counts. Second, because of inadequate testing, especially in rural areas, the official counts in many countries exclude COVID victims who did not test positive for coronavirus before death. Third, the system for keeping vital records is outdated. It may take hospitals and civil registries days or even weeks to process death certificates, creating lags in the data.

As an alternative measure, **excess mortality is considered a more comprehensive and robust measure of deaths.** The concept is not new. It is defined as the increase in the number of deaths from all causes during a crisis relative to the expected deaths under "normal" conditions. Excess mortality can be especially useful for counting COVID-related death. It includes not only confirmed deaths but also COVID-related deaths that were not

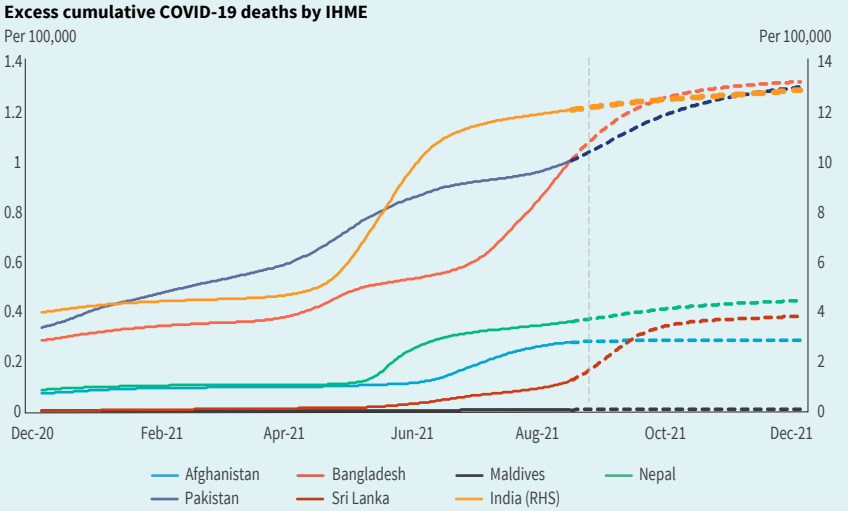
7 Vaccines received could be sourced from purchases, COVAX donations, or bilateral donations between governments. Vaccine supply information is not available for India, but the country has administered 61.4 vaccine doses per 100 population.

8 The numbers are as of September 12, 2021 and come from the data repository for the 2019 Novel Coronavirus Visual Dashboard operated by the Johns Hopkins University Center for Systems Science and Engineering (JHU CSSE), which is published on GitHub (https://github.com/CSSEGISandData/COVID-19).

9 Ibid.

correctly diagnosed and reported, as well as deaths that were indirectly caused by crisis conditions.

Figure 1.9 India's excess COVID-19 deaths are growing more rapidly than other South Asian countries



Note: The projections of excess deaths for countries by Institute for Health Metrics and Evaluation (IHME) are shown in dotted lines since August 12, 2021.
Source: IHME database.

There are two types of excess mortality estimates. The first, the **model-based estimate**, relies on official COVID reports and applies assumptions to generate estimates. The Human Mortality Database, the World Mortality Database (Karlinsky and Kobak 2021), the *Economist*, the *New York Times*, and the Institute for Health Metrics and Evaluation (IHME) (Figure 1.9) each maintain a database of COVID deaths using this method. But because of different underlying assumptions, model-based estimates can vary significantly, for example, from hundreds of thousands to over four million for India (Gamio and Glanz 2021; Institute for Health Metrics and Evaluation (IHME) 2021).

The second type, **data-based estimates** of excess mortality, uses different data sources and counts excess mortality for all causes (Anand et al. 2021; Banaji 2021; Deshmukh et al. 2021; Leffler et al. 2021). This method is especially useful in the absence of universal and timely information on death registration and reporting, such as during COVID in South Asia.

Table 1.1 compares the official COVID deaths in India with the estimates reported by Anand et al. (2021) using this method. The authors use three data sources:

- **Available data on COVID deaths from reports by governments, reporters, and researchers.** In India, COVID mortality data are compiled during the second COVID wave by seven Indian states as part of the civil registration of death (CRS). A range of estimates is provided by researchers based on different assumptions: whether data for the seven states, which together account for half of India's population, are representative for the country; and whether the same undercount ratio in 2019 can be applied to the COVID period.[10]

- **Seroprevalence survey data and infection fatality rates.** Medical researchers have conducted serosurveys around the world by collecting and testing blood from a subset of the population to estimate the prevalence of COVID antibodies. The results are a proxy for the population infection rate, especially when testing is inadequate. Using the estimated infection rates from seroprevalence studies and the infection-fatality rate (IFR), the excess mortality can be calculated using the following equation:

  $$\textit{Excess deaths} = \textit{Infection rate} * \textit{Infection fatality rate (IFR)} * \textit{Population}$$

  In addition, instead of the aggregate IFR, researchers have also used the international age-specific IFRs, combined with a country's demographic data and any age-specific data from seroprevalence studies for a more accurate estimate.

- **Household survey data.** For India, researchers have used the Consumer Pyramid Household Survey (CPHS), conducted by the Center for the Monitoring of the Indian Economy (CMIE). Since September 2014, the survey has asked whether any family member has died in the four months

10 CRS has been found typically to undercount final estimated deaths in India's Sample Registration System (SRS), which is managed by the central government and tracks deaths in an annual mortality survey. Based on 2019 data, the undercount ratio relative to SRS varies from zero for the southern states to 37 percent for Uttar Pradesh and 48 percent for Bihar (Anand et al. 2021).

covered by the survey. The survey is conducted nationally, and because it is conducted every four months, it covers both COVID waves in India.

The COVID-19 pandemic revealed many shortcomings in the health systems in the world and South Asia. Death accounting is one of them. A timely reporting of infections and deaths provides a picture of the scale of the pandemic and helps divert medical resources to where they are most urgently needed. As countries take stock and prepare for yet another possible COVID-19 wave, establishing a system of reporting and sharing such information can be part of the effort.

Table 1.1 Comparing data-based estimates of excess mortality in India (millions)

Data Source	Wave 1 (April 2020-March 2021)	Wave 2 (April -June 2021)	Total
Official	0.16	0.24	0.4
States' Civil Registration Systems (CRS)	2 [0.1-2.3]	1.4 [1-2]	3.4 [1.1-4]
International age-specific infection fatality rates applied to Indian demography and seroprevalence	1.5	2.4	4
Consumer Pyramid Household Survey (CPHS)	3.4 [2-4.8]	1.5 [0.8-2.3]	4.9

Note: Wave 2 contains COVID-caused numbers, as it is based on COVID infections and COVID-related IFRs. The numbers in brackets in Wave 1 come from the alternative scenarios, and the Wave 3 estimate comes from the statistical confidence intervals of regression estimates.
Source: Adapted from Anand et al. (2021).

1.2 An uneven recovery

Just like the crisis, the recovery is also uneven. While the recovery has been strong overall, the aggregate statistics mask considerable variations across countries, sectors, and individuals. Section 1.1 shows that recovery in the region's total industrial production has continued despite a brief setback during the recent COVID-19 waves (Figure 1.1.C). But the pattern is more diverse across countries (Figure 1.10.A). To avoid reflecting the effect from a low base during the pandemic in 2020, the comparison is made to the same period in 2019. Among the four countries with statistics, Bangladesh had the highest growth rate in April, with an over 30 percent increase relative to 2019, while Pakistan saw higher industrial production for three consecutive months compared to 2019, with a growth rate of 5 percent during April-July from the same period in 2019. During the same period, India's industrial

output fell by 5.4 percent, and Sri Lanka's industrial output contracted by 7.2 percent compared to 2019, reflecting the impact of the recent COVID-19 waves.

Figure 1.10 Recovery is uneven across South Asian countries

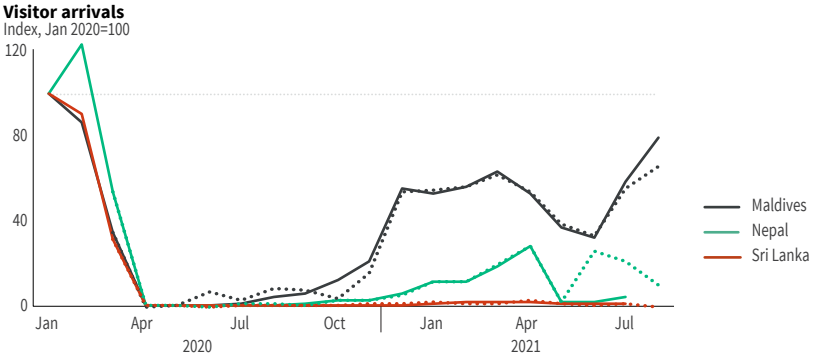
Note: A. Numbers shown are percent changes of April-July 2021 from the same period in 2019, except for Bangladesh, which shows the percent change in April 2021 from April 2019 due to the lack of data for May-July 2021. B. Numbers shown are the percent change of May-August 2021 from the same period in 2019, except for Maldives, Nepal, and Sri Lanka, which show the percent change of May-July 2021 from the same period in 2019.
Sources: World Bank Global Economic Monitor, CEIC, Maldives Monetary Authority, Nepal Rastra Bank, and staff calculations.

While merchandise exports in South Asia have recovered to above the pre-pandemic level, country experiences vary (Figure 1.10.B). Among the six countries that reported merchandise exports in recent months, the recovery has been strongest in Nepal, with a 40 percent growth during May-July relative to the same period in 2019. But because of a slow recovery in services exports, which are more than half of the country's total export value, Nepal's total exports are still below pre-pandemic levels. Recovery in merchandise exports has also been strong in India, Maldives, and Pakistan, especially after the recent COVID-19 waves. In Bangladesh, export growth has recovered relative to 2020, driven by ready-made garment orders, but it has not recovered to the pre-pandemic level. In July, the country's exports fell slightly relative to 2020 and 2019 levels, as lockdown measures and the Eid al-Fitr holidays affected production and shipment. As a result, the growth rate over May-August from the same period in 2019 is only slightly positive. Export recovery in Sri Lanka has lagged amid repeated COVID-19 waves this year, with exports falling in May and June compared to the same months in 2019, and picking up only slightly in July.

Tourism also shows an uneven recovery across countries (Figure 1.11). Recovery has been strong in Maldives, driven by visitors from within and outside the region. In August, visitor arrivals reached 3.1 percent above the August 2019 level.

Notably, both domestic and intra- or inter-regional travels have recovered, thanks to a policy of remaining open to visitors since July 2020 and effective testing and social distancing protocols for tourists. In comparison, visitor arrivals in Nepal and Sri Lanka have not recovered much since 2020. Nowcast of visitor arrivals using inbound flights and seats filled suggests that even with a rebound from the recent COVID-19 waves, arrivals in Nepal remain below 30 percent of the pre-pandemic level. For Sri Lanka, the decline in tourism had started even before the pandemic, following the Easter Sunday attacks of April 2019. To date, visitor arrivals in the country have recovered less than 2 percent as repeated COVID-19 outbreaks and related containment measures deterred visitors, despite policies to remain open to tourists even during internal lockdowns. Bhutan, by contrast, has maintained stringent lockdown policies through June 2021, with some relaxation measures announced only in August, and, as a result, tourism activities did not resume.

Figure 1.11 Uneven recovery in tourism across tourism-dependent countries in South Asia



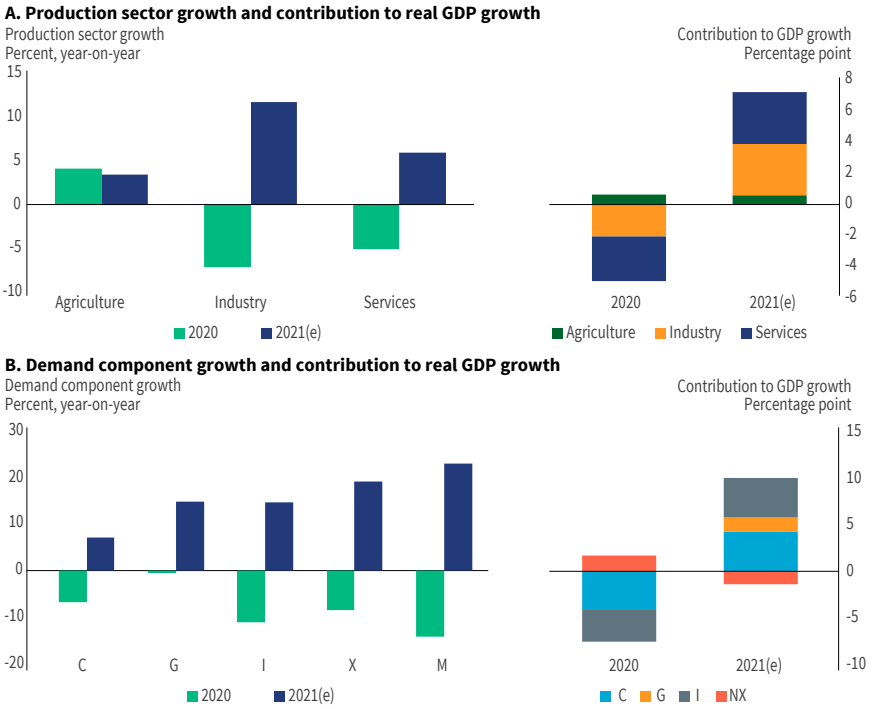
Note: Dotted lines are arrivals nowcast numbers that come from a model that uses the numbers of flights and seats in inbound passenger flights to predict visitor arrivals in recent months.
Sources: CEIC, Maldives Ministry of Tourism, Global Aviation Dashboard, and staff calculations.

South Asia has seen uneven recovery across sectors. Figure 1.12.A shows the growth rate of the main production sectors and their contributions to GDP growth in South Asia. Estimates are shown in calendar years. The contraction in 2020 was the largest for the industry sector, as stringent lockdowns limited production while a global slowdown lowered demand for exports.[11] On the flip side, the recovery in the sector is also expected to be the fastest in 2021. The agriculture sector did

11 For India, the PMI services index showed a bigger contraction in 2020 than manufacturing, whereas the national accounts data indicate a bigger fall in industry than services. The main reason is public services (public administration, defense), which are part of services in national accounts but not covered by the PMI, contracted much less in 2020 than both total services and industry.

not suffer a contraction in 2020, so the growth from last year is also the smallest. Because services typically contribute more than half of the region's GDP, the contraction in the services sector, although not the most severe, had the largest impact on GDP growth in 2020. Accordingly, as COVID-19 containment measures relax and tourism recovers gradually, the recovery in services in 2021 is also expected to contribute the most to overall growth.

Figure 1.12 Recovery is uneven across production and demand sectors



Note: 2021 values are estimated. South Asia aggregates are calculated by converting countries' fiscal year numbers to the calendar year before aggregating. C=Private consumption, G=Government consumption, I=Gross fixed investment, X=Exports of goods and services, M=Imports of goods and services, NX=Net export.
Sources: World Bank Macro Poverty Outlook and staff calculations.

Recovery is also uneven on the demand side. Private consumption is expected to make the smallest recovery, due to slow recoveries in incomes and limited growth of remittances in some countries. The real private consumption level in 2021 is estimated to remain slightly below the 2019 level (Figure 1.12.B). The other components of GDP are expected to recover to above pre-pandemic levels, with imports and exports estimated to make the largest recovery in 2021 as major trading partners recover and more trading activities resume. Despite the slow recovery, private consumption growth is expected to have the largest contribution to GDP growth

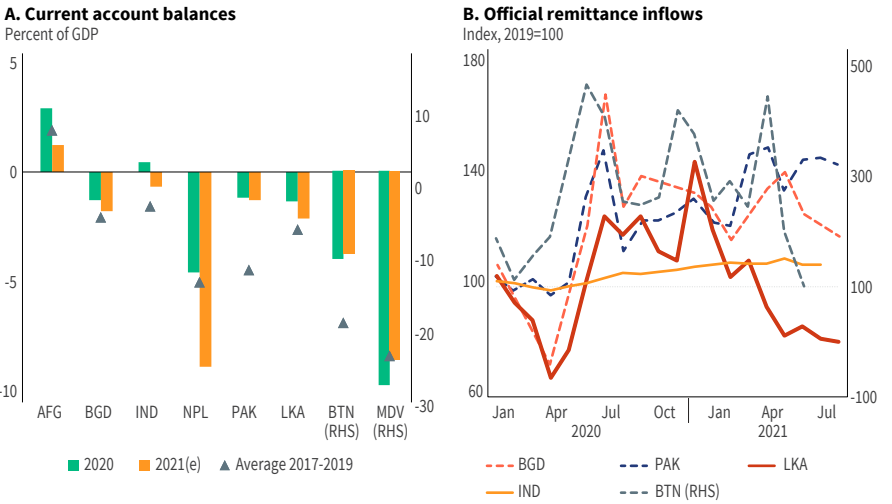
in 2021 because it is the largest GDP component, typically making up more than 60 percent of real GDP in the region. Investment is another large GDP component in the region, and with an estimated 15 percent growth in 2021, its recovery is also expected to make a large contribution to GDP growth. While government consumption had the smallest contraction in 2020, it is expected to increase by 15 percent in 2021, making a sizeable contribution to GDP growth. Because of faster growth in imports than exports, net exports are expected to negatively contribute to GDP growth.

The decline in imports due to income losses, forced savings, and trade disruptions led to a narrowing of current account deficits in 2020, but as consumption recovers, current account deficits are likely to widen during recovery. India recorded an annual current account surplus for the first time in 15 years. Bangladesh, Nepal, Pakistan, Sri Lanka, and Bhutan also had smaller deficits in 2020 compared to averages before the pandemic (Figure 1.13.A). Maldives is the only regional economy that recorded a larger current account deficit in 2020—at 30 percent of GDP—than before the pandemic, mostly due to the large contraction in GDP in 2020. As consumption and demand for imports rise, trade deficits are expected to widen, putting pressure on current accounts. Most South Asian countries expect to record a larger current account deficit in calendar year 2021, with Nepal anticipating the deficit to widen to over 8 percent of GDP on the back of surging imports.

Robust official remittance inflows helped narrow current account deficits in 2020, a trend that can reverse during recovery. Bangladesh, Bhutan, Pakistan, and Sri Lanka all enjoyed strong increases in official remittance receipts in 2020, with levels reaching over 140 percent of the pre-pandemic (average 2019) levels at one point (Figure 1.13.B). Part of the rise in official remittances may be a shift from informal to formal channels of remitting money, as informal channels are largely restricted during the pandemic. Household surveys conducted in Bangladesh (SANEM 2021) showed that more than 80 percent of surveyed households received less remittance money from abroad during March-November last year compared to before. As the COVID-19 risk recedes and travel becomes more accessible in 2021, a reversal of the pattern from formal to informal channels may see official remittances fall. Already, in Sri Lanka, official remittances have been sinking since January. The cumulative remittances declined by 3 percent during January-July compared to the same period in 2019, as people reportedly resort to the gray market to send money, due to its more favorable exchange rates. In Bangladesh, official remittances started falling in June and were down to 120 percent of the pre-pandemic level by August, compared to 140 percent a year ago. Similarly, official remittances increased more

than threefold in Bhutan in 2020 but have fallen close to the pre-pandemic level in recent months. Remittance inflows in Pakistan are still going strong, but year-on-year growth has shown signs of slowing down and is expected to moderate further in the coming months.

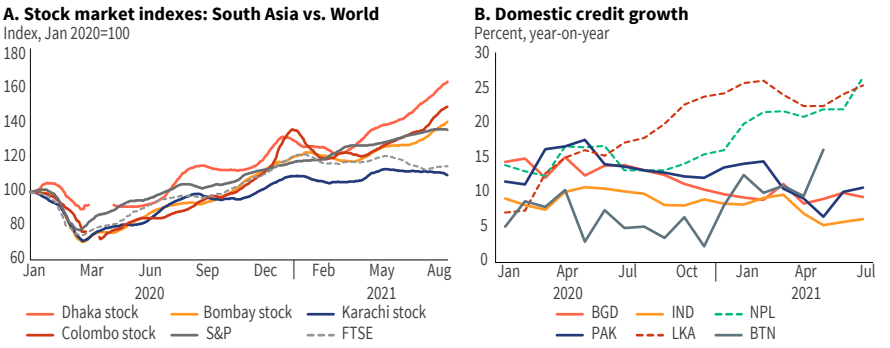
Figure 1.13 Robust official remittance inflows helped narrow current account deficits in 2020, but the trend can reverse during recovery in 2021



Note: Current account balances are shown for calendar years.
Sources: CEIC, World Bank Macro Poverty Outlook, Royal Monetary Authority of Bhutan, and staff calculations.

Thanks to fiscal stimulus, accommodative monetary and regulatory policies, and favorable investor sentiments, major stock indexes in the region continued upward despite recent COVID-19 waves (Figure 1.14.A). As of September 27, the Dhaka stock index reached 160 percent of its pre-pandemic level (average January 2021), while the stock index for Nepal reached 195 percent of the average level in March 2020. Domestic credit growth in the region shows divergent trends between two groups of countries (Figure 1.14.B). Bangladesh, Bhutan, India, and Pakistan have seen relatively stable or slightly declining credit growth since the start of the pandemic. By contrast, credit growth soared in Nepal and Sri Lanka. In Nepal, total domestic credit increased 27 percent in July compared to a year ago, while in Sri Lanka, the increase is mostly driven by the government sector, with private credit increasing 14 percent and credit to government by 46 percent in July. The rapid increases signal ample credit demand and easy access to credit, as is the case in many other regions around the world. At the same time, substantial financial sector vulnerability exists. Chapter 2 discusses these implications and potential risks.

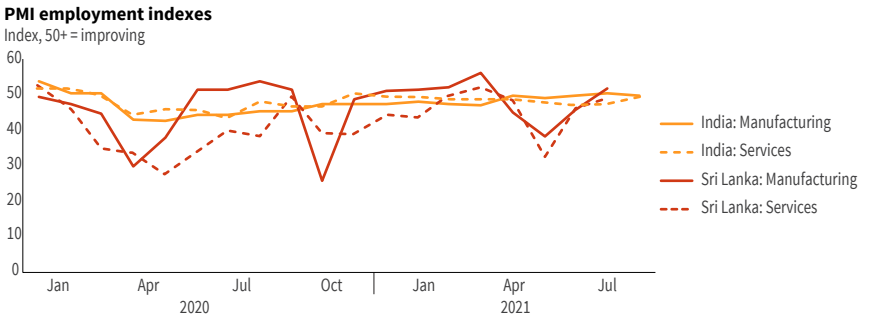
Figure 1.14 Performance in financial markets is strong, thanks to accommodative fiscal, monetary, and regulatory policies



Sources: Haver Analytics (accessed September 27, 2021), CEIC, and Royal Monetary Authority of Bhutan.

The employment side, in contrast, paints a less rosy picture. The PMI employment indexes show that employment in India never improved (a value above 50) after the fall during last year's COVID-19 wave and lockdowns (Figure 1.15). This is despite the expansion in headline indexes since the third quarter last year (Figure 1.1.C). Services sector employment in Sri Lanka also has not recovered since last year, while manufacturing employment saw brief improvements earlier this year but is very sensitive to COVID-19 surges. The slow recovery in employment could also reflect a shift of workers to the informal sector or out of the labor force altogether (World Bank 2020a), creating concerns for long-term scarring in the labor market (Section 2.4). Rapid increases in credit, if they occur without rises in the income streams of households and firms, could lead to bankruptcies and further stress in the financial sector (Section 2.2).

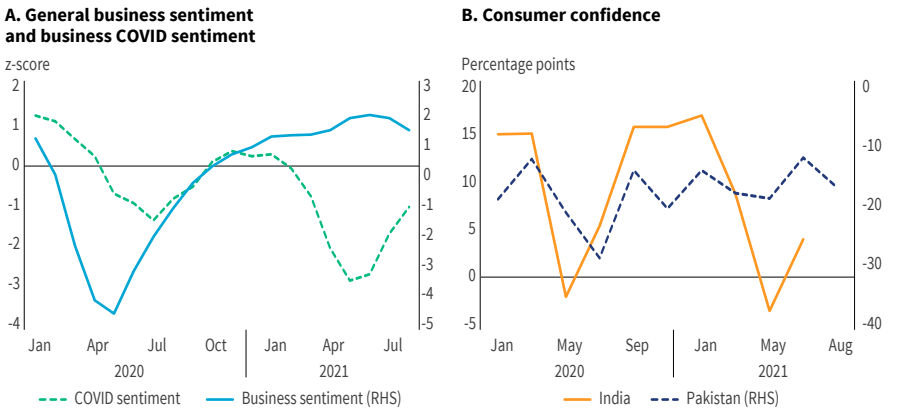
Figure 1.15 Recovery in formal employment is yet to take off



Note: A value above 50 indicates an improvement and a value below 50 shows a deterioration from the previous month.
Source: Haver Analytics.

The disparity between financial and labor markets is mirrored in the differences between business and consumer sentiments. Business sentiment indexes constructed by analyzing earnings calls of regional companies show that, while businesses expressed concerns about COVID-19 during the recent waves, the overall business sentiment was robust. This delinking between the pandemic and business this year stands in contrast with 2020, when business sentiment collapsed along with rising concerns about COVID-related risks (Figure 1.16.A). As discussed earlier, the pattern is consistent with the milder economic impact of COVID-19 containment measures this year. Despite the robust business sentiment, the consumer confidence index fell sharply in May, especially in India (Figure 1.16.B). The timing of the fall, which coincided with the peak of the second wave in India, suggests that consumers, unlike businesses, are directly susceptible to the health and income consequences of COVID-19. This may help explain why the recovery in private consumption has been slow and lags recovery in the external sector (Figure 1.12).

Figure 1.16 Sentiment shows divergent pattern between businesses and consumers



Note: A. COVID and general business sentiments are derived from earnings calls of publicly listed companies in South Asia. See Appendix 1.2 for details. B. Numbers shown are Consumer Confidence Net Balance rescaled by CEIC based on indexes from the State Bank of Pakistan and the Reserve Bank of India. See Appendix 1.2 for details.
Source: Shi and Taskin (forthcoming) and CEIC.

1.3 Supply constraints and demand recovery pushing up inflation

While inflation in other parts of the world has risen to above-average levels in 2021 as pent-up demand meets supply bottlenecks (World Bank 2021b), **inflation in most South Asian countries has stayed high since 2020.** In Bhutan, India, Pakistan, and Sri Lanka, the headline inflation has been higher than historical averages for all months since at least May (Figure 1.17.A). Although the latest data for July and August show that headline inflation may be weakening in countries including India and Pakistan, levels are still high relative to historical averages. Underlying the headline inflation numbers, some categories have risen faster, and both supply and demand factors play a role in pushing up inflation.

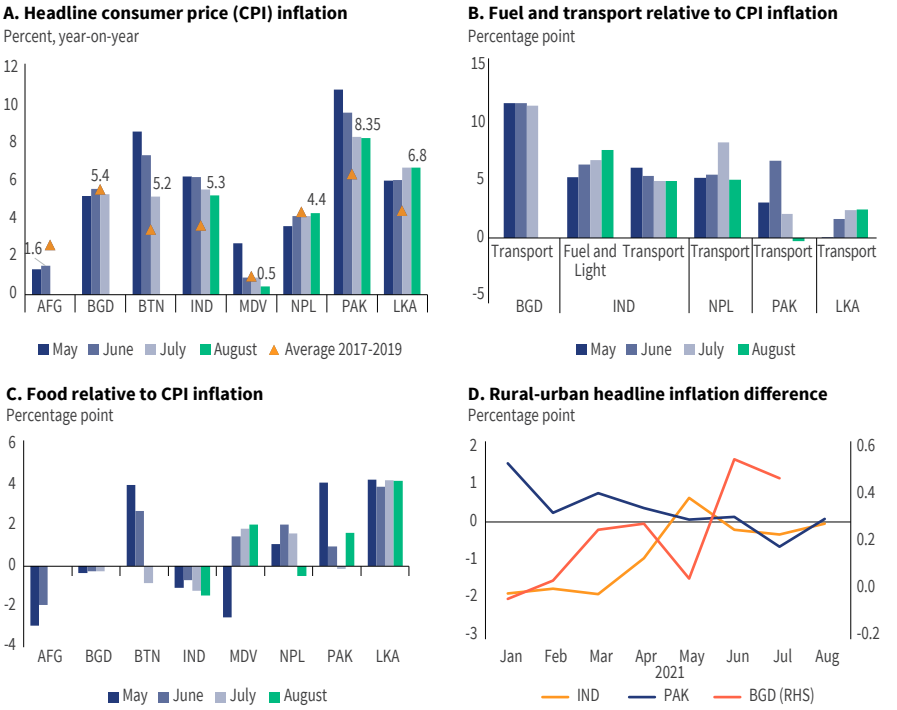
Prices of fuel-related items and food have increased rapidly this year. Inflation in transport, in particular, has been above headline inflation in most South Asian countries in recent months, which suggests faster-rising transport prices than average prices (Figure 1.17.B). In India and Nepal, transport inflation was higher than headline inflation by more than 5 percentage points during May-August 2021, and in Bangladesh by more than 10 percentage points. Transport inflation in Pakistan was also above headline during May-July and only came down relative to headline inflation in August. Food prices have also been rising faster than average prices. In Bhutan, Nepal, Pakistan, and Sri Lanka, food price inflation is higher than headline inflation in at least two of the three most recent months (Figure 1.17.C). In all except Bangladesh, food inflation has been higher than the country's historical average. While transport is usually a small expenditure group, making up less than 10 percent of total expenditure, food is by far the largest expenditure category in South Asia.

Supply constraints have contributed to high food inflation. Global agricultural prices rose sharply in 2020 and 2021, driven by strong global demand, weather-related supply disruptions, and COVID-related export restrictions in major grain exporting countries (World Bank 2021b). In addition, fertilizer prices, which rose 57 percent globally in June compared to 2020 and 29 percent relative to 2019,[12] also contributed to rising food prices. Lockdown measures within countries have further disrupted supply. In India, for example, disruptions to food supply chains from COVID-related lockdowns saw product availability drop (Mahajan and Tomar 2021). Vegetable prices in the country rose by 22 percent in October 2020 on an annual basis. A variance decomposition exercise using global and country-level data in South Asia shows that variations in fertilizer prices contributed around 6

12 Data available from World Bank Pink Sheet (accessed September 27, 2021).

percent to fluctuations in food prices in the fourth quarter after an initial shock, compared to 1-3 percent by changes in oil prices. The results also suggest that a large part of the effect of oil prices on food prices works through changes in fertilizer prices.[13]

Figure 1.17 High inflation compared to historical levels, especially in transport and food prices



Note: A. Data labels indicate the latest reported headline inflation for the country. B., C. Relative inflation is the difference between monthly price inflation of food/fuel/transport and CPI inflation. Categories underlying the consumer price index differ across countries.
Sources: CEIC, Haver Analytics, and staff calculations.

13 We perform the variance decomposition using a panel-VAR model with four South Asian countries with good high-frequency data (Bangladesh, India, Pakistan, Sri Lanka). The model uses both country-level and global variables. Country-level variables include industrial production, which is high-frequency, correlates with country's GDP growth, and is used here to proxy for aggregate demand in the country; CPI inflation; food inflation; Liner Shipping Connectivity Index (United Nations Conference on Trade and Development, UNCTAD) to proxy for transportation accessibility; real interest rate; and exchange rate. Global variables include fertilizer prices and oil prices. We perform the VAR with different orderings, which gives the range of estimates. To understand whether oil prices affect food prices through fertilizer prices (or shipping cost), we compare results from a model with fertilizer prices (or shipping connectivity index) to results from a model without the additional factor.

Other idiosyncratic factors have contributed to food inflation in South Asia. For example, in Sri Lanka, a depreciating currency has exacerbated rising food prices by raising the prices of imported foods.[14] The country's food inflation has been above 10 percent for 13 of 19 months since the start of 2020, compared to an average of less than 4 percent over 2017-2019. In Afghanistan, the capital city Kabul has reportedly seen a 35 percent increase in the prices of basic food items as chaotic events there brought on supply disruptions. The surge in food prices in Kabul has also spilled across the border to Pakistan and pushed up food prices there even further (Dilawar 2021). To stabilize food inflation, Sri Lanka announced emergency regulations at the end of August to make essential food items available at subsidized prices. Pakistan is stepping up imports of food staples, including sugar and wheat, to manage food inflation.

High food inflation impacts rural and urban households differently. Food is typically a larger expenditure component for rural than for urban households. In Pakistan, food and non-alcoholic beverages comprise 41 percent of the consumption basket for rural households and 30 percent for urban households. Food and beverages take up 54 percent of expenditure for India's rural households compared to 36 percent for urban households. In Bangladesh, the share is 61 percent for rural and 46.5 percent for urban households. Because of the larger shares of food items in rural households' expenditure, rising food prices have contributed relatively more to rural inflation. In Pakistan, average prices in rural areas have risen faster than in urban places (a positive rural-urban inflation difference). In India and Bangladesh, where inflation is historically lower in rural than in urban areas, rural inflation has been catching up since the beginning of this year (Figure 1.17.D). While the rising food prices affect average prices in rural areas more, rural households that are net food producers could also see their income rise, whereas poor urban households must purchase food at markets and therefore may be worse off.

Both supply and demand factors drive headline inflation. To disentangle these factors, a structural Bayesian vector autoregression (SBVAR) model with sign restrictions is used and adapted for South Asia. The model allows us to decompose variations in consumer price inflation into supply shock, demand shock, and exogenous oil shock.[15] In the model, a supply shock is defined as one that raises output and reduces inflation, whereas a demand shock raises output and inflation at the

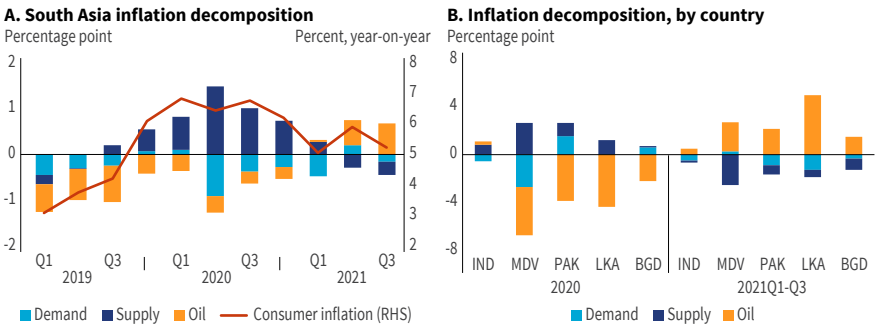
14 Official reserves declined to an 11-year low of $2.8 billion in July, only enough to cover 1.8 months of imports. The country subsequently received Special Drawing Rights (SDR) allocations from the IMF, and proceeds from a currency swap with Bangladesh.

15 India is the third largest importer of oil and could affect global oil prices on the margin. To be agnostic about India's impact on global oil prices, a model with endogenous oil prices is used for the country.

same time. Due to data availability, the exercise is performed in five South Asian countries: India, Maldives, Pakistan, Sri Lanka, and Bangladesh. A regional aggregate is calculated as the country average weighted using 2020 constant GDP in U.S. dollars. More details are included in the Appendix.

The onset of the COVID-19 pandemic in 2020 saw large supply and demand shocks hit economic activity. A large supply shock due to disruptions in production and distribution raised inflation, while a negative demand shock from loss of income and mobility restrictions lowered inflation. Oil prices were at depressed levels for most of 2020 due to low global demand. The model decomposition shows that large supply shocks contributed over 1 percentage point to the rise of inflation in the second and third quarters of 2020, which were only partially offset by a negative demand shock (Figure 1.18.A). Across the five countries, only India had an oil shock that contributed positively to inflation in 2020, as the central government raised excise duties on petrol and diesel.[16] The aggregate regional story for demand and supply in 2020 also played out in India and Maldives, as stringent domestic lockdowns generated large supply shocks that were offset only partially by demand (Figure 1.18.B). In Pakistan, Sri Lanka, and Bangladesh, the rebound in demand in the second half of 2020 was strong enough to push the average demand shock for the year into positive territory. Supply shocks in these countries were also smaller, as supply conditions eased more rapidly there in the second half of 2020 than in India and Maldives.

Figure 1.18 Supply constraints drove inflation in 2020 while rising demand and oil prices sustain inflation in 2021



Note: Results come from a structural Bayesian vector autoregression model. See Appendix 1.3 for details.
Sources: Haver Analytics and staff calculations using the model in Ruch and Taskin (forthcoming), adapted to South Asia.

16 The central government in India raised excise duty by 13 rupees per liter on petrol and by 15 rupees a liter on diesel, cumulatively, in two installments in March 2020 and May 2020. This endogenous response to low global oil prices raised the domestic market prices for petrol and diesel.

As supply and demand conditions improve in 2021, the shocks are starting to reverse. In the second quarter, demand recovered gradually, while supply conditions eased as countries emerged from sporadic COVID-19 lockdowns that disrupted production and distribution. As global demand recovered, oil prices rose and contributed increasingly to domestic inflation. This is consistent with the rapidly rising transport and fuel prices shown earlier. Into the third quarter, as the rest of the world was hit by the Delta variant, demand in the region also showed signs of weakening, while oil prices continued to make sizeable contributions to inflation. The contribution from an oil price shock was especially acute for Maldives, which reflects the country's dependence on imported energy (Figure 1.18.B). Sri Lanka's weakened position in the external market also made it susceptible to external oil price shocks. In India, supply conditions were negatively impacted by COVID-19 waves in the second quarter. Still, with conducive supply conditions in the first quarter, the overall effect of supply in the first three quarters helped ease inflation, as did weak demand conditions. In Maldives, while supply shocks eased due to improving supply conditions, recovery in demand contributed to rising inflation. As the recovery becomes more entrenched and recovery in demand gains momentum, countries may start to consider shifting monetary policy positions.

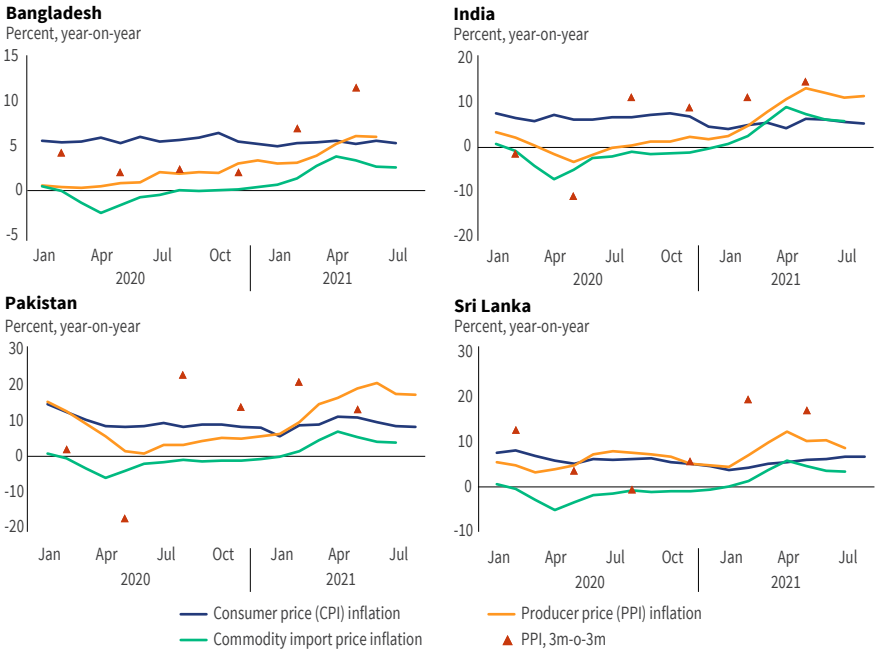
Because of supply constraints and rising global oil prices, South Asia has seen elevated producer price (PPI) inflation. In three of the four countries that recently reported the index, PPI inflation has been higher than CPI inflation since early 2021, and in Bangladesh, PPI inflation rose above CPI inflation in May (Figure 1.19). In Pakistan, PPI inflation reached over 20 percent in June. In India and Sri Lanka, PPI inflation was also above 10 percent in recent months.[17] Much of the price pressure for producers comes from imports. The commodity import price inflation—which measures the average import prices that a country pays on 45 commodities, including energy, metals, food, and agricultural raw material items (Gruss and Kebhaj 2019)—has been moving in line with PPI inflation in all four countries. This is not surprising, as all four are net importers of raw materials.[18] Although domestic supply conditions have started to ease after the recent COVID-19 surges, prices for oil and other commodities can still rise, driven by recovering global demand and pent-up

17 Because of low or negative PPI inflation in 2020, the year-on-year PPI inflation in 2021 may be artificially high due to a low base in 2020. For this reason, Figure 1.19 additionally shows the annualized quarter-on-quarter (3m-o-3m) change in PPI. With this measure, the increase in the PPI is also higher than that of the CPI (year-on-year) for the regional countries. Note that the quarter-on-quarter CPI inflation is not shown but is similar to year-on-year CPI inflation, as the four countries did not have a drop in CPI inflation in 2020.

18 According to World Bank's World Integrated Trade Solution (WITS) database (accessed September 26, 2021). Available at http://wits.worldbank.org/wits/.

demand in the region. This could mean sustained high PPI inflation, possible future inflationary pressures as producers pass high prices to consumers, and more pressure for countries to shift their monetary policy stances.

Figure 1.19 Elevated producer price inflation and commodity import price inflation could lead to future inflationary pressure



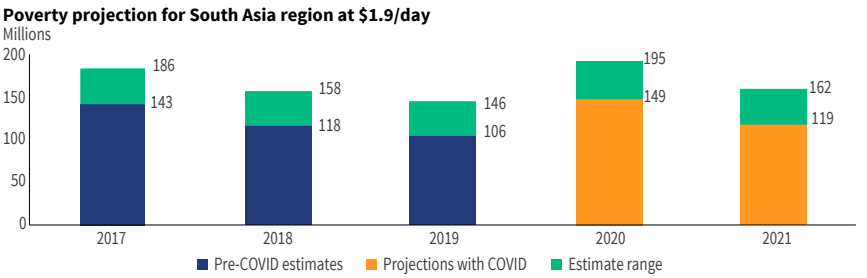
Sources: CEIC, Haver Analytics, IMF Commodity Terms of Trade Database, and staff calculations.

1.4 Unprecedented rises in poverty and inequality

The COVID-19 pandemic has created sharp rises in poverty and widening inequality. Globally, COVID-19 pushed close to 100 million people into poverty in 2020. Despite the global recovery in 2021, the economic benefits are unlikely to accrue fast enough to return the poverty level to levels that would have occurred absent the pandemic. At the same time, the lingering effects of COVID-19 will continue to push people into poverty even in 2021. In South Asia, the pandemic is estimated to have led to 62-71 million new poor in 2020 and 48-59 million new poor in 2021, defined as those who would not have fallen into poverty or would have escaped poverty in the absence of the pandemic. The region's poverty level in 2021 is estimated to remain above the pre-pandemic level (Figure 1.20). This demonstrates the intensity and durability of the pandemic's impacts on South Asia. In addition to the estimated poverty number, the impact of the economic

crisis that followed COVID-19 was also evident in labor deterioration (lost wages, declines in earnings, job losses, or temporary absences), food insecurity, and increases in informality, all of which could continue to contribute to inequality in the region.

Figure 1.20 COVID-19 set back poverty reduction in South Asia



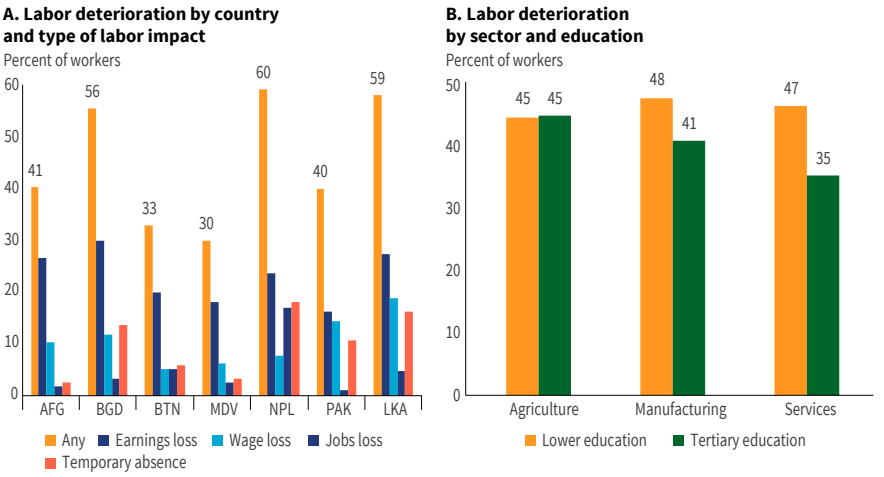
Note: The range captures the uncertainty from the lack of official household survey data for India since 2011.
Sources: South Asia Region Team for Statistical Development (SARTSD) based on international poverty as March 2021 World Bank update, per capita private consumption growth available in WDI in June 2021, and Macro Poverty Outlook September 2021 per capita private consumption growth projection. Follows Lakner et al. (2020) and PovCalNet methodology.

The pandemic led to widespread labor deterioration in 2020. The World Bank's SAR COVID-19 Surveys 2020, conducted between August 2020 and March 2021, offer a glimpse into the extent and nature of labor deterioration. The surveys were conducted by phone, covered more than 43,000 individuals 15 years of age and older, and asked questions related to activities during 2020.[19] According to the survey results, between 30-60 percent of workers who were *ever* economically active in 2020 prior to the survey interview reported some type of labor deterioration (Figure 1.21.A). Because of South Asia's large numbers of informal and self-employed workers, the deterioration has been largely in the form of lost earnings and wages. Across the seven countries, 18-30 percent of survey respondents reported having experienced earnings losses, and 5-19 percent suffered wage losses. By contrast, smaller shares of respondents faced job losses or temporary absences. These findings are consistent with results by Apedo-Amah et al. (2020), who used the International Finance Corporation (IFC) Business Pulse Surveys and found that during the pandemic, a significantly larger share of firms in the region adjusted on the intensive margin (cutting wages) than on the extensive margin (laying off workers).

19 The survey results were weighted to reduce (but cannot eliminate) the difference between survey and national population. The results here include survey data from all South Asian countries except India, the detailed survey data which is not yet available.

The impact of COVID-19 is uneven across workers. Across South Asia, industry and services have faced larger contractions in growth relative to agriculture (Section 1.2). Within industry and services, workers with low education, who are also likely to have lower incomes, experienced the brunt of the impact in 2020. Workers in manufacturing with less than a tertiary education were 7 percentage points more likely to have experienced labor deterioration than those with a tertiary education. In comparison, the difference in services is even larger, at 12 percentage points (Figure 1.21.B). As low-paid workers in general have small savings buffers, the adverse economic shocks likely sent many of them into poverty. The larger impact of COVID-19 on lower-paid workers has also exacerbated inequality in the region.

Figure 1.21 Widespread labor deterioration in South Asia during COVID-19

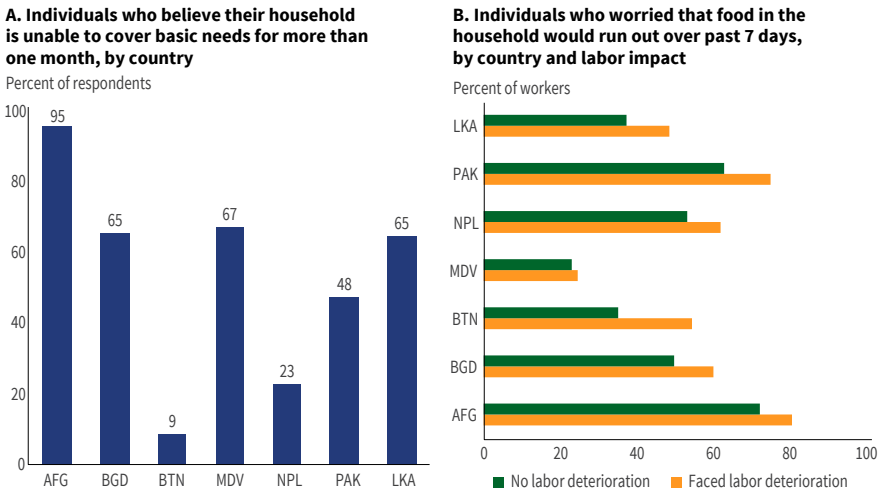


Note: Estimates are weighted, not representative at the national level. B. Regional aggregate includes seven countries covered in the SAR COVID-19 Surveys 2020 (India not included). Sector of employment is based on the classification of reported occupation.
Sources: SAR COVID-19 Surveys 2020 and staff calculations.

COVID-19 created crises of food insecurity in some South Asian countries. However, across the region, 46 percent of respondents in the SAR COVID-19 Surveys 2020 reported that their household would be unable to meet basic needs beyond one month. This share varies significantly across countries, from an extreme of 95 percent in Afghanistan to only 9 percent in Bhutan (Figure 1.22.A). The large shares likely reflect households' lack of a savings buffer and the absence of comprehensive social protection. The limited access to insurance and its inadequacy is illustrated in Figure 1.22.B, which shows that, in all seven countries, individuals who faced labor deteriorations also experienced higher rates of food insecurity. Maldives is the only

country in the region where the chance of food insecurity is only marginally affected by labor deterioration.

Figure 1.22 Households' ability to meet basic needs and concerns for food insecurity during COVID recession



Note: Estimates are weighted, not representative at the national level.
Sources: SAR COVID-19 Surveys 2020 and staff calculations.

High food price inflation may have exacerbated food insecurity. Food price inflation has remained high during the pandemic and has been higher than headline CPI inflation in most South Asian countries (Section 1.3). The share of food items in households' consumption expenditure is typically higher for lower- and middle-income countries than for advanced economies (World Bank 2021b). In South Asia, food and non-alcoholic beverages comprise 60 percent of an average household's consumption expenditure in Bangladesh, 45 percent in India and Sri Lanka, and 35 percent in Pakistan. Because of the large shares of household expenditure on food, fast-rising food prices can reduce households' ability to afford food staples, exacerbating food insecurity. Exploring post-cash transfer surveys of refugees in the region, Box 1.2 finds that 80-90 percent of refugee respondents could not afford food, as a vast majority saw price increases in local basic food baskets during late 2020-early 2021.

Box 1.2 Impact of Covid-19 among refugees in South Asian countries

South Asia remains home to a significant refugee population. More than 2.5 million refugees are living in South Asian countries, with the majority being hosted in Pakistan (1,438,955) and Bangladesh (866,534), while other countries in the region also receive sizable numbers of refugees: India (195,403), Afghanistan (72,278), Nepal (19,565), and Sri Lanka (1,013).[20] At the same time, South Asian countries are the place of origin for about 3 million refugees; Afghanistan has the world's third-largest refugee population (2.6 million) under the United Nations High Commissioner for Refugees (UNHCR)'s mandate.

COVID-19 has exacerbated an already fragile situation where many refugees are suffering from extreme poverty. The pandemic has significantly impacted the livelihoods of refugees who often work in low-wage informal jobs, have limited human rights, little or no savings, and are unable to access cash independently. Due to funding shortfalls in humanitarian organizations over the past few years, many refugees struggle to cover basic needs. In countries like India, Pakistan, and Bangladesh, where prevailing international law protecting refugees has not been ratified, some refugees lack secure legal status and therefore find themselves excluded from the protective responsibility of states. Driven in part by the negative impact of the pandemic on livelihoods, gender inequality and gender-based violence have increased (UNHCR 2020), and freedom of movement beyond the settlement areas and access to asylum have declined.

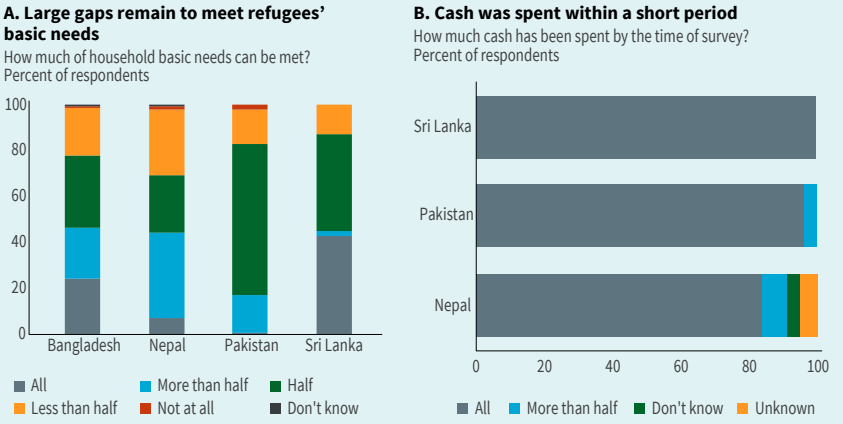
As refugees are often not included in the national social protection schemes, cash-based assistance enables them to get support and protection fast, fulfill their basic needs, and mitigate some of the negative effects of COVID-19. In collaboration with governments and other partners, UNHCR has provided cash assistance of $700 million to 8.5 million people in 100 countries. In Pakistan, the government worked with UNHCR to initiate an emergency cash assistance program following the "Ehsaas Emergency Cash Programme" to help refugees impacted by COVID-19. UNHCR has provided the Cash Based Intervention (CBI) program across the South Asia region, and has conducted the Post-Distribution Monitoring (PDM) tool in

20 It refers to the number of refugees registered by UNHCR. Source: https://www.unhcr.org/refugee-statistics/download/?url=E1ZxP4

Bangladesh, Pakistan, Nepal, and Sri Lanka. The UNHCR also conducted the Post-Distribution Monitoring Survey among refugees receiving cash assistance in those four countries. Using the surveys taken in 2020 and 2021, we provide some insights into the situation of refugees in South Asia during the pandemic. Additionally, we take advantage of the two survey waves (2018 and Fall 2020) available for the Rohingya refugees in the Cox's Bazar region in Bangladesh to explore the impact of the pandemic on refugees' livelihoods.[21]

While cash assistance has supported refugees to meet their basic needs, major gaps remain. Among the four surveyed South Asian countries (Bangladesh, Pakistan, Nepal, and Sri Lanka), 33 percent of the respondents can meet only half their basic household needs, 19 percent can meet less than half, and 8 percent stated they cannot meet basic needs at all. The distribution of answers varies across countries: while only 0.6 percent of respondents in Pakistan can meet all their basic needs, 57 percent in Sri Lanka can do so (Figure 1.23.A). In Pakistan, Nepal, and Sri Lanka, more than 92 percent of the respondents reported that they had spent all cash received by the time of the survey (Figure 1.23.B). The large proportion of people who have run through the money so quickly suggests that refugees' pressing needs are not being met.

Figure 1.23 Refugees' basic needs are not fully covered

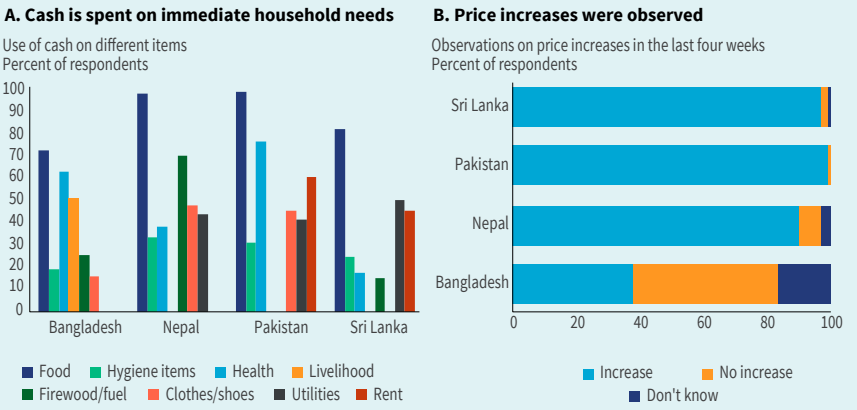


Sources: UNHCR's Post-Distribution Monitoring Surveys.

21 The survey periods are: Bangladesh, May 14-28, 2018 and September 22-28, 2020; Pakistan, November 4-27, 2020; Nepal, November 24, 2020-February 9, 2021; Sri Lanka March 25-May 6, 2021.

COVID-related expenditure increased significantly. In particular, the expenditure on hygiene items has increased substantially following COVID-19. In Bangladesh, the percentage of respondents who reported using cash on hygiene items increased from 7.3 percent in the 2018 survey to 19.2 percent in the 2020 survey. Overall, refugees are spending cash to meet immediate household needs: food, health, hygiene items, firewood/fuel, livelihood, clothes/shoes, utilities, and rent are the largest expenditure items among the South Asian countries (Figure 1.24.A). However, price hikes in local markets likely pushed many families into food insecurity. A large proportion of respondents (38 percent in Bangladesh, 90 percent in Nepal, 99 percent in Pakistan, and 97 percent in Sri Lanka) stated that they observed some increase in the price of items or services in the month preceding the survey (Figure 1.24.B). All respondents in Nepal observed a price increase in the local basic food basket, and a high share of respondents in Pakistan (99 percent) and Sri Lanka (84 percent) claimed that they cannot afford food.

Figure 1.24 COVID-19 is affecting refugees' expenditure items and price



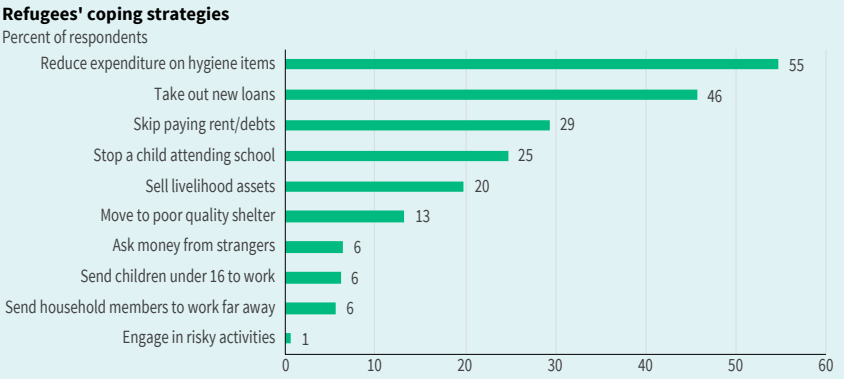
Note: A. Only the top six items and services are shown for each country.
Sources: UNHCR's Post-Distribution Monitoring Surveys.

Following governments' restrictive measures to control the spread of COVID-19, many refugees were unable to engage in regular work or move freely, leaving them even more vulnerable to economic challenges. Across South Asian countries, about 44 percent of respondents reported facing some challenge with receiving, withdrawing, or spending cash. This is largely linked to COVID-related movement restrictions

and issues with using new digital cash delivery systems. For example, in Nepal, 91 of the 113 respondents who experienced challenges reported that COVID-related movement restrictions made it harder for them to withdraw and spend money. In Bangladesh, the number of refugees reporting a problem with receiving, withdrawing, or spending cash increased dramatically, from 28 percent in the 2018 survey to 57 percent in the 2020 survey. These findings demonstrate a need for guidance and assistance to ensure that refugees not only can receive cash transfers but also can spend them.

To cope with the economic challenges during the pandemic, refugees are increasingly relying on survival strategies. All surveyed households in South Asia engaged in one or more negative coping strategies to meet their basic needs (Figure 1.25). In the surveyed countries, reducing expenditure on hygiene items was the most common strategy (55 percent), followed by taking out new loans (46 percent), skipping rent or debt payments (29 percent), stopping children from attending school (25 percent), and so forth. Approximately 20 percent of surveyed households also resorted to a decapitalization strategy, such as selling livelihood assets, to meet basic needs. The widespread use of these strategies highlights the vast unmet needs of refugees despite assistance. These strategies have negative impacts on the health and wellbeing of households, as they contribute to concerning levels of food insecurity and unsustainable debt levels for refugees. These impacts can last far beyond the pandemic.

Figure 1.25 The use of negative coping strategies remained high



Sources: UNHCR's Post-Distribution Monitoring Surveys.

Given the prolonged and uncertain nature of the pandemic, there is a pressing need for more data on refugees. Collecting data on refugees has traditionally been the domain of humanitarian organizations, and refugees are often omitted from country-level studies for various reasons. But to better understand the extent of COVID-19's impact on extreme poverty and how individual countries are faring, it is crucial to track the situation of refugees systematically. Policies that address the long-term livelihood needs of refugees can also increase the potential economic contribution of refugees to their host countries.

Informality among workers increased following the COVID-19 waves of 2020. Using the Consumer Pyramids Household Survey (CPHS), Bussolo et al. (2021) found that after the initial lockdown in 2020, large proportions of workers in India moved from the formal sectors to the informal and self-employed sectors. This pattern persisted even after the recovery in aggregate employment after May 2020. As a result, by August 2020, the share of workers employed in the formal sector had declined to 8 percent, from 11.2 percent at the end of 2019 (Bussolo et al. 2021). The increase in the size of the informal and self-employed sectors can have long-lasting impacts on average worker welfare, especially since workers in these sectors usually have less access to social protection and are more vulnerable during economic downturns than those in the formal sector (Ohnsorge et al. 2021).

As South Asia recovers from the large pandemic shock, improving aggregate economic conditions can help reduce inequality and alleviate poverty. As the economies of the region recover, employment opportunities are important for reducing poverty and inequality. Rising demand for exports from the rest of the world can create employment opportunities for the manufacturing and exporting countries in the region, including Bangladesh and India. Recovery in the tourism sector as countries vaccinate can provide major sources of income and employment for people in tourism-dependent countries, such as Maldives. Worker mobility can also help reduce inequality. For example, Bussolo et al. (2021) found that employment in the informal sector in India was more resilient and recovered faster than employment in the formal sector during the pandemic. The shift into the informal and self-employed sectors during the pandemic could thus help reduce inequality between workers in the formal and informal sectors. In addition, as remittance is an important source of income for many households in the region, a strong recovery in host countries could induce increases in remittance receipts and help alleviate poverty and inequality in the region (Box 1.3).

But inequality and poverty could also worsen further during the recovery. As the earlier discussion has shown, despite a strong aggregate economic recovery so far, the recovery in formal employment has yet to take off in the region (Section 1.2). A slow recovery in employment can widen inequality if it means lower-paid workers are unable to find jobs. Driven by high global prices, high food inflation has persisted into the recovery period (Section 1.3) and can continue to contribute to food insecurity. At the same time, the financial markets are booming, with stock market indexes soaring in the region. Past studies have shown that poorer individuals without access to capital and savings are often left out of rapid rises in asset prices (Owyang and Shell 2016). But at the same time, evidence from South Asia suggests that some people laid off during the pandemic might have started investing (Mazumdar and Acharya 2021). So, the effect of stock market trends on inequality in the region during the pandemic is ambiguous. On the firm level, early evidence suggests that smaller firms, which are also more likely to be harder-hit during the crisis, have struggled to recover, while large and technologically advanced firms have taken advantage of access to the capital market and low-interest loans. To prevent further setbacks in poverty and inequality, government assistance programs are urgently needed.

Box 1.3 Remittances and the effects on poverty and inequality

Workers' remittances represent a very important source of income in South Asia, and their dynamics during the pandemic and its aftermath may have strong implications for poverty and inequality in the region. Global studies suggest that remittances tend to increase when receiving countries experience disasters or recessions (Chami et al. 2005). However, the COVID-19 shock has been global and led to economic downturns in sender countries, too.

Despite the strong growth in remittances in 2020, which could be just a partial reflection of the formalization of remittances flows, their outlook is highly uncertain. In 2021, remittances may rise in line with economic recovery in sender countries. Yet, there is a considerable uncertainty surrounding the stock of migrants in the medium term and the composition of host countries that may lead to less demand from the Middle East and more from the United States and Europe, which tend to attract more educated migrants. There is 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, although this effect is likely to be temporary.[22]

As in Azizi (2021), we examine the impact of workers' remittances on poverty and inequality in South Asia, using the data for six regional economies from 1990 to 2014. The following equation with country fixed effects (δ_i) is estimated, using robust standard errors clustered by country:

$$\log(H_{it}) = \beta_0 + \beta_1 \log(R_{it}) + \beta_2 \log(I_{it}) + X'_{it}\gamma + \delta_i + e_{it}$$

where H_{it} is the poverty or inequality measure, R_{it} stands for real remittances per capita, I_{it} is real per capita income (GDP), while X_{it} represents a matrix of control variables, and e_{it} is the error term. Two poverty measures (poverty headcount and poverty gap) and one inequality measure (the Gini coefficient) are considered as dependent variables. Three explanatory variables are employed in poverty regressions: real per capita remittances, real per capita GDP, and the Gini coefficient. Five explanatory variables are employed in the inequality regression: per capita remittances, per capita GDP, inflation, broad money, and real per capita foreign direct investment (FDI). All the data, except remittances (IMF Balance of Payments statistics) and the Gini coefficient (World Inequality Database), come from the World Bank World Development Indicators (WDI).

In addition to the Ordinary-Least-Squares (OLS) regressions, we exploit an Instrumental Variable (IV) approach using five instruments to address the potential endogeneity problem: weighted per capita GDP, unemployment rate, real interest rate, and labor force participation rate of the remittance-sending countries. The weights, as bilateral shares of remittances, come from Azizi (2021). Table 1.2 displays the results of estimated fixed-effect OLS and IV regressions. Since variables are in logarithm, β_1 can be interpreted as elasticity of poverty or inequality with respect to per capita remittances.

22 For instance, Saudi Arabia granted 12 percent fewer work visas in 2021Q1 relative to the same period in 2020, whereas Oman reported a 15 percent year-on-year decline of Bangladeshi workers in 2021Q1. Additionally, there are other frictions in migrant labor flows, like establishing rapid PCR testing in the airport to comply with new procedures in the host countries (the United Arab Emirates is an example).

OLS estimates suggest that, on average, a 10 percent increase in per capita remittances leads to a 1.98 percent decrease in poverty headcount and a 2.2 percent decline in the poverty gap. IV estimates confirm a statistically significant inverse relationship but indicate somewhat stronger effects. Accordingly, a 10 percent increase in per capita remittances leads to an average 5.77 percent decrease in poverty headcount and a 6.7 percent decline in the poverty gap. However, IV results should be taken with a grain of salt, given that the instruments are not very strong.[23] Both OLS and IV imply that the effect on poverty is stronger than in a broader sample of developing countries used in Azizi (2021).[24] Finally, remittances have a statistically significant effect on reducing inequality in the region. On average, a 10 percent increase in per capita remittances leads to a 0.316 (OLS) and 0.244 (IV) percent decline in the Gini coefficient. Obtained results suggest that remittances have a significant positive impact on poverty and inequality reduction in South Asia. Any slowdown in future remittance inflows, therefore, might be a source of concern for the region.

Table 1.2 Estimates from regression models

Dependent variable	$\beta_1(OLS)$	$\beta_1(IV)$	Observations
Poverty headcount	-0.198**	-0.539***	34
Poverty gap	-0.220**	-0.633***	34
Gini coefficient	-0.0316**	-0.022**	152

Note: ***, **, * denote significance at the 1, 5, and 10 percent levels, respectively.

1.5 Unorthodox macroeconomic policies

In response to the pandemic, governments in South Asia have expanded social assistance programs, while monetary and regulatory policies have remained accommodative in most regional countries. But unlike previous recoveries from economic downturns, fiscal policies during the current recovery do not aim to stimulate aggregate demand, as measures to contain COVID-19 have created pent-up demand both internally and outside the region. Instead, fiscal policies have focused

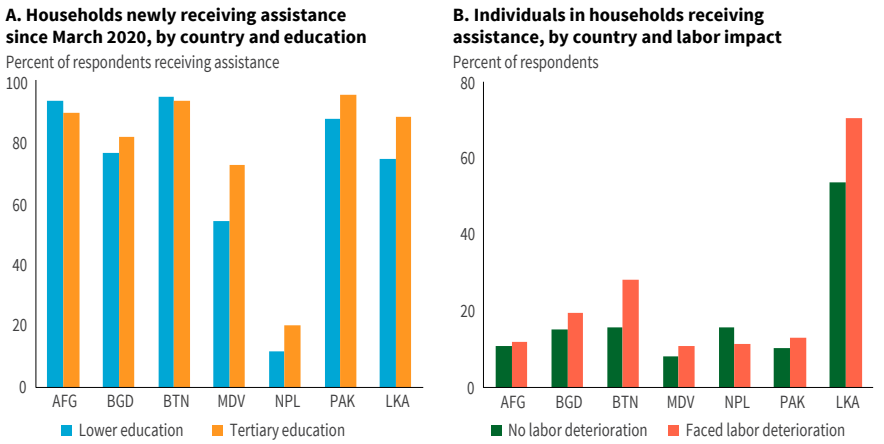
23 Stock et al. (2002) suggest that the F statistic from a first-stage regression should exceed 10 for the IV inference to be reliable. F statistics are smaller than 10 in the poverty regressions, and higher in the inequality regression, which may be related to different sample sizes.

24 Estimates based on a sample of 103 developing economies imply that a 10 percent increase in per capita remittances is associated with a 1.2 percent fall in poverty headcount and a 1.6 percent fall in poverty gap (OLS), and a 1 percent and 1.8 percent respectively in the IV regressions.

on relief efforts, with cash transfers and food distribution as the predominant policy responses in South Asia (Gentilini et al. 2020). At the same time, the supply constraints and release of pent-up demand, both somewhat unique to the COVID-19 recession, have pushed up inflation close to or above countries' target range. High inflation levels can present a challenge to monetary authorities, especially when recovery is just getting back on track after the recent COVID-19 waves.

Fiscal policy. South Asian countries expanded social assistance programs during the pandemic. Results from the SAR COVID-19 Surveys 2020 indicate that most respondents who were getting support from their government or non-governmental organizations (NGOs) at the time of the survey reported that they had received assistance only since March 2020 (Figure 1.26.A). This suggests a significant expansion of programs since the start of the pandemic. Nepal is an exception, where recipients of assistance were largely those already covered before COVID-19. In most countries (Bangladesh, Maldives, Nepal, Pakistan, and Sri Lanka), respondents with a tertiary education were more likely to have started receiving support *after* March 2020. The higher shares of *new assistance* among higher educated respondents reveal the widespread economic shocks of COVID-19—which affected not only the poorest but also those in the lower-middle/middle of the distribution (World Bank 2020b; World Bank 2021c).

Figure 1.26 Social assistance has expanded in South Asia, but targeting may be weak



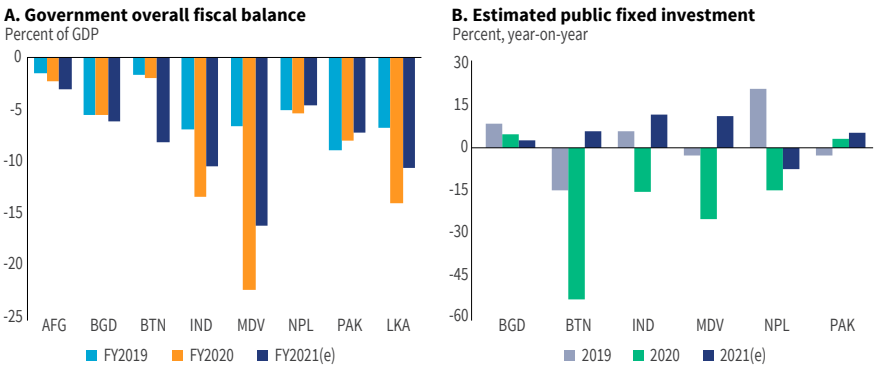
Note: Estimates are weighted, not representative at the national level.
Sources: SAR COVID-19 Surveys 2020 and staff calculations.

Despite program expansions, social protection programs in the region still face challenges in coverage and targeting. Results from the SAR COVID-19 Surveys 2020 indicate that only 15 percent of respondents belonged to households receiving some social protection. Country-specific shares range from 10 percent of respondents in

Pakistan to 60 percent in Sri Lanka. The data also suggest some targeting failure, as respondents who did not face any labor deterioration were equally likely to access assistance as those who did.[25] Sri Lanka and Bhutan are exceptions where individuals who experienced labor deteriorations were more likely to receive assistance during the pandemic. But coverage is only partial in Bhutan, with only 30 percent of affected workers receiving some assistance (Figure 1.26.B).

During recovery, government policies focus on continued relief efforts, but fiscal space may be a constraint. Increased poverty and inequality in the region call for more effort on redistribution that focuses in the short term on providing relief to households and firms in need, and in the medium-to-long term on expanding the coverage ratio of social protection programs. To achieve those goals, governments need fiscal space. With the expansion of social assistance programs during the pandemic and reduced revenue from tax receipts due to lower income and economic activity, government fiscal deficits increased in 2020 (Figure 1.27.A). But recently, some countries, including India, have seen rising government revenue from higher oil revenues and stock sales, while the winding down of tax relief policies adopted in 2020 have also contributed to rises in revenue. As a result, the overall fiscal deficit is expected to shrink in India, Maldives, and Sri Lanka in fiscal year 2021, although deficits are still much larger than before the pandemic.

Figure 1.27 Improving fiscal balance, reviving public investment in 2021



Note: (e)=estimate. Numbers shown are in fiscal year. For India FY2021 is April 2021-March 2022; for Bangladesh, Bhutan, and Pakistan, FY2021 is from July 2020-June 2021; for Nepal, FY2021 is from mid-July 2020-mid-July 2021; for Afghanistan, Maldives, and Sri Lanka, fiscal year is calendar year. B. Public fixed investment numbers are estimated by the World Bank for modeling purposes.
Source: World Bank Macro Poverty Outlook.

25 Social assistance in general depends on the level and not the deterioration of income. But in the absence of information on income levels, deterioration provides a good proxy, especially given that the large size of labor deterioration during COVID-19 likely pushed many into low-income groups.

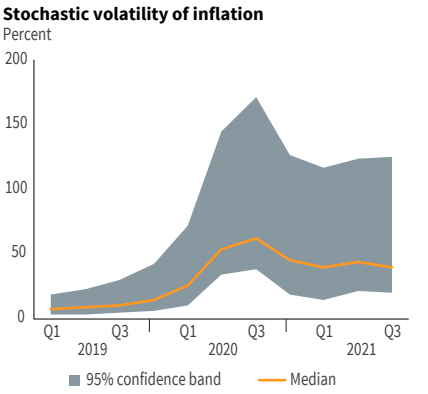
Another goal of fiscal policy during recovery is capacity building. Because of COVID-19 lockdown policies and a shift in spending focus, many public projects were halted. As a result, public fixed investment fell in fiscal year 2020 for most South Asian countries, which can lead to long-term scarring effects (Section 2.3). During recovery, as governments learn from the crisis and anticipate increased demand for health and education services, countries expect to restart halted projects and increase spending to build capacity in key sectors to withstand future COVID-like shocks. Accordingly, public investment is expected to recover gradually in fiscal year 2021 (Figure 1.27.B), although this year-on-year increase reflects, to a large extent, the low base of 2020. The government in Maldives intends to continue increasing capital spending to complete mega-projects ahead of the 2023 presidential election. In Bhutan, public infrastructure projects are expected to restart as the economy normalizes and the availability of migrant labor from India improves. In India, the rebound in tax revenues allowed a 26 percent increase in the central government's capital expenditure during April-June this year.

Monetary policy. South Asian countries reduced main policy rates in the first half of 2020, and all but Sri Lanka have kept rates low since then. On the one hand, monetary authorities want to maintain an accommodative policy stance to support a recovery that is underway. On the other hand, inflation has been running high in some countries, and an inflation level that is consistently above the central bank's target range can threaten to de-anchor inflation expectations. The headline consumer price inflation in India breached the country's 4-6 percent target range in May and June, and inflation in Pakistan exceeded the 7-9 percent target range for four out of seven months this year. Inflation is also higher than previously anticipated. At the start of the year, the Reserve Bank of India projected an inflation rate of 5 percent for the second quarter of 2021 (World Bank 2021a), while actual inflation was above 6 percent for two of the quarter's three months.

Despite high inflation, the absence of sustained demand-side pressures so far suggests that monetary policy has been accommodative for good reasons. As Section 1.3 reveals, in countries other than Maldives, headline inflation this year has been driven mainly by supply constraints and external factors such as oil prices. While demand-side factors started to contribute to regional inflation in the second quarter, it is not yet clear how sustainable that is. India and Pakistan have seen slightly declining headline inflation in July and August, which may suggest that the demand-side factors, including a release of pent-up demand as the economy reopens, may only be transitory.

At the same time, uncertainty around inflation has risen since the pandemic and remains elevated. The measure of inflation uncertainty derived from the SBVAR model (Section 1.3) increased nine-fold for the region since the start of the pandemic (Figure 1.28). Going forward, considerable uncertainty remains. If global and regional recoveries become entrenched and countries learn to manage the impacts of COVID-19, then demand-side pressures can become more than just transitory. But if new COVID-19 variants lead to renewed lockdowns, supply-side pressures may return. The ripple effects from the disruption of global value chains during the recent surge in cases worldwide can take some time to materialize in South Asia, further complicating the inflation outlook for the rest of the year. The heightened uncertainty can make it even harder for central banks to decipher the path of inflation.

Figure 1.28 Uncertainty around inflation has risen and remains elevated in South Asia



Note: Uncertainty measure is derived from the SBVAR model with stochastic volatility used in Section 1.3. See Appendix 1.3 for more details.
Sources: Haver Analytics and staff calculations using the model in Ruch and Taskin (forthcoming), adapted to South Asia.

Besides the current and future paths of inflation, the external sector is another concern for monetary authorities. Pressure in the external sector, including low foreign reserve levels and the need to maintain stable exchange rates, can push countries to normalize monetary policies. In Latin America, five of the six countries with active monetary policies increased the policy rate by late August to preempt large deteriorations in exchange rates.[26] At the end of August, Sri Lanka announced a 50-basis point increase of its policy rate corridor, with the upper bound going from 5.5 to 6 percent, in response to rising inflationary pressures and weakness in the external sector. That made it the first country in Asia to increase the policy rate since the pandemic's start.

Financial sector vulnerabilities can be yet another concern, as extended periods of accommodative monetary and regulatory policies can build up risks in the financial sector. Low policy rates elsewhere in the world have been shown to inflate asset prices, including speculation and skyrocketing prices in housing markets.

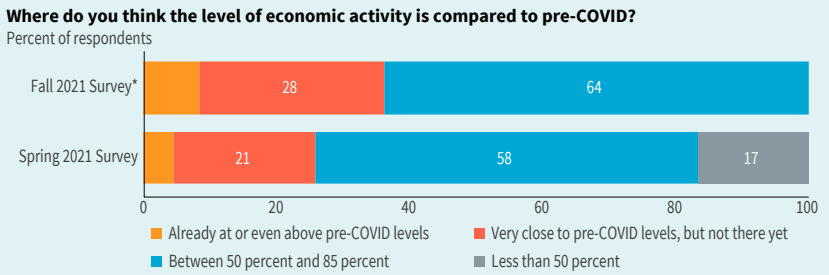
26 The sixth country, Colombia, raised benchmark rate by 25 basis points on September 30.

In South Asia, the same policy has supported the soaring stock markets (Figure 1.14.A). Regulatory policies that facilitate easy access to loans, including loan refinance programs, and extensions of loan repayment and grace periods (loan moratorium), could lead to excessive borrowing and artificially low non-performing loan ratios. Extended periods of accommodative policies can thus exacerbate underlying vulnerabilities in the financial sector, increasing the possibility of further financial sector stress (Chapter 2)

Box 1.4 Views from the South Asia Economic Policy Network

As in the last five editions of this report, we conduct an opinion survey among members of the South Asia Economic Policy Network. The Network consists of more than 500 members from seven South Asian countries. Its members are well-known experts and researchers working in academia, policymaking, and consultancies, and are regionally and internationally recognized in their fields. The opinion survey takes the pulse of informed experts to gain insight into future economic growth and development prospects in the region. The Fall 2021 survey includes core macroeconomic questions and a module on services-led growth related to the discussion in Chapter 3. We received 73 responses from six countries. Around 80 percent of respondents identified as academics, 76 percent as macroeconomists, 40 percent as policy advisors, and 13 percent as policy makers.

Figure 1.29 Economic activity is still below pre-pandemic levels but closer than back in the Spring



Note: The survey this time did not provide the option "Less than 50 percent."

Expert opinions suggest that the economic recovery in South Asia is still ongoing. The majority of respondents believe that the level of economic activity is still below pre-COVID levels. Half of the respondents expect that

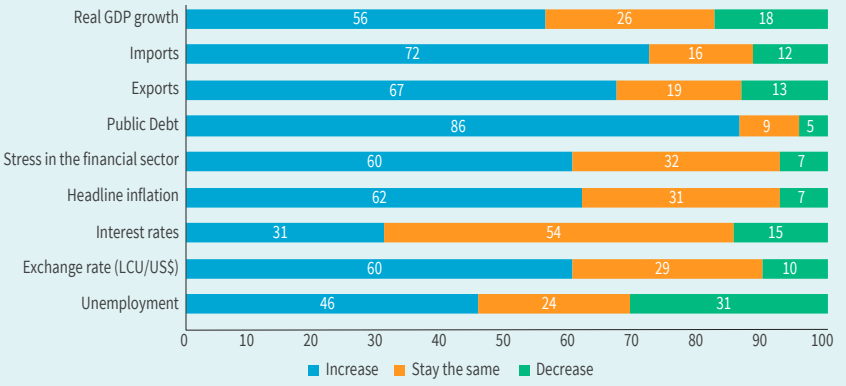
tourism will rebound by the end of 2021/early 2022, and that the main downside risks to growth for the next six months are related to a new COVID-19 wave. Accordingly, around half of the respondents think that government policy should mainly allocate fiscal resources to COVID-19 related spending, such as vaccines.

Network members expect higher economic growth. Around two-thirds of survey respondents believe that economic activity has recovered to 50-85 percent of the pre-pandemic level, and 8 percent believe activity is already at or even above pre-COVID levels (Figure 1.29). The results suggest an improvement in the levels of economic activity compared to Spring 2021, when the previous round of this survey indicated that 5 percent of respondents believed the economy was back to pre-COVID levels. Going forward, more than 50 percent of the respondents believe that real GDP growth will increase in the next six months. Two-thirds of the respondents expect exports and imports to continue to increase. This is consistent with the view that a global recovery and a gradual recovery in domestic demand will ensure a strong continued recovery in trade (Figure 1.30).

Figure 1.30 Economic outlook for the next six months

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

Percent of respondents

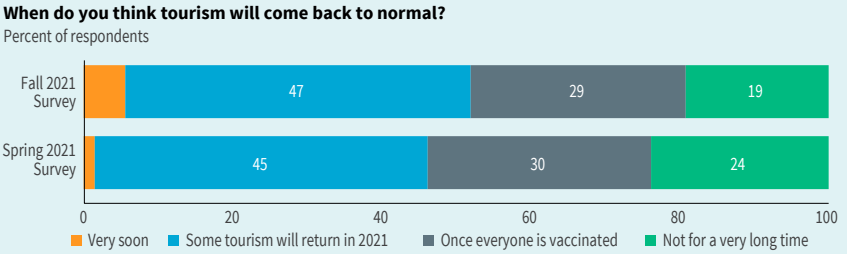


Public debt is expected to rise, as is stress in the financial sector. Around 86 percent of Network members expect a rise in public debt during the next six months. This may reflect an expectation of increasing government expenditure as public projects restart (Figure 1.30). Furthermore, the results

show that 60 percent of respondents anticipate an increase in financial sector stress. Although a high share, it is a decline compared to results from the Spring edition, when more than 70 percent expected greater financial sector stress.

Around half of the respondents expect tourism to recover by the end of 2021 or early 2022, which is a slight improvement compared to the outlook on tourism back in the Spring. Still, around 30 percent of respondents conditioned the tourism recovery on the speed with which vaccination rates increase, which is similar to the share in the Spring (Figure 1.31). Compared to the Spring, a smaller share of respondents now expect that tourism will not return to normal for a very long time.

Figure 1.31 Tourism improved relative to Spring, but vaccination is still important for its recovery

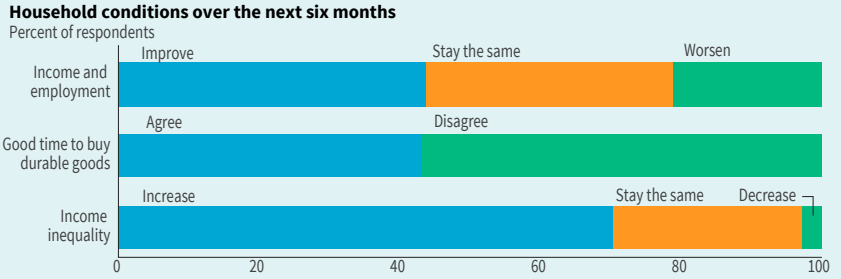


Inflationary pressures are here to stay. Around 60 percent of survey respondents expect inflation to rise, but only one-third expect a policy rate increase in the next six months (Figure 1.30). This may suggest that people expect central banks to weigh the need to contain inflation against the perhaps more urgent need to support a nascent economic recovery. Around 60 percent of respondents expect a currency depreciation, as increases in policy rates in the rest of the world and a change in investor sentiment could easily induce a capital outflow and a currency depreciation. Views vary across countries, with 40 percent anticipating a depreciation in some countries and 70 percent in other countries sharing that belief. Around 75 percent of the respondents from Sri Lanka expect a currency depreciation, reflecting existing fiscal and external sector pressures. In India, around 60 percent of respondents expect a depreciation, which could reflect expectations about capital flows and increased pressures in the external sector.

Despite the expected economic growth, there is no clear outlook to improving household conditions. Respondents are split on the issue of unemployment. Around half expected an increase in unemployment in the next six months while one-third saw unemployment decreasing (Figure 1.30). Similarly, opinions are split on household income and employment conditions. While around 40 percent of the respondents expect conditions will improve, more than half believe that income and employment conditions will worsen or stay roughly the same in the next six months. The outlook was also pessimistic on durable goods consumption. Nearly 60 percent of the respondents think that the next six months will not be a good time to buy durable goods (Figure 1.32).

Inequality will be a pressing issue in the months to come. Around 70 percent of respondents expect inequality to rise further, consistent with the early patterns we have seen in the data. Accordingly, one in five respondents believes that one of the primary government policy efforts should be increasing current household transfers to help weather the crisis.

Figure 1.32 Despite optimistic views on growth, there is no clear outlook on household conditions

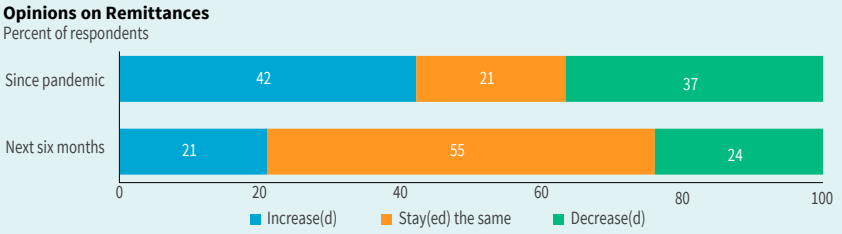


Views on remittances vary across countries. While official remittances increased during the pandemic in many South Asian countries, survey evidence suggests that remittance receipts have fallen on the household level, possibly due to a shift from informal to formal channels of remitting money (Section 1.2). Among the survey respondents, more than 40 percent believe that remittances have indeed increased since the start of the pandemic, while 37 percent believe that actual remittances have fallen (Figure 1.33). The divergent views reflect country-level differences. The majority of

respondents from Bangladesh and Sri Lanka and around half the respondents from Pakistan believe that total remittances have increased since the start of the pandemic. By contrast, the majority of respondents from India think that remittances have decreased during this period.

Uncertainty surrounds the outlook for remittances. More than half of the respondents expect remittances to stay at the current levels over the next six months, and the rest are almost evenly split between an increase and a decrease in future remittances (Figure 1.33). This pattern is roughly consistent across countries. Over time, total remittances may fall if migrant workers switch back from formal to informal channels, and they may rise if a global recovery takes hold and workers can send more money back from jobs overseas. In addition, financial sector innovations, changes in tax policy, and interest rate differentials between host and home countries can also affect the future trend of remittances. The Spring edition of this report discussed these factors in more detail (World Bank 2021a).

Figure 1.33 Uncertainty surrounds the outlook for remittances



Services-led growth is a feasible long-term development strategy for South Asia. Moreover, the vast majority believe this pathway is even more probable post-COVID. Within the services sector, business and professional services and information and telecommunications sectors would be the most relevant drivers of medium-term growth (Figure 1.34). Tourism, which is a major sector for the small economies in the region (Box 3.2), is almost as likely to be a driver of exports and long-term growth as labor-intensive manufacturing, according to respondents, consistent with the notion that services of all types will play a more prominent role in development going forward. Digital platforms and e-commerce would also positively contribute to low-skilled sectors, creating local employment and expanding business opportunities. These results are in line with the discussion and evidence presented in Chapter 3.

Figure 1.34 Services to lead future growth, but manufacturing also important

Which one(s) of the following subsectors do you think could drive future growth in your country?

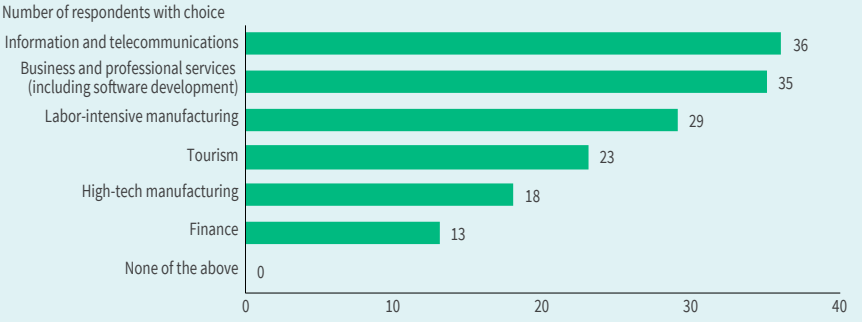
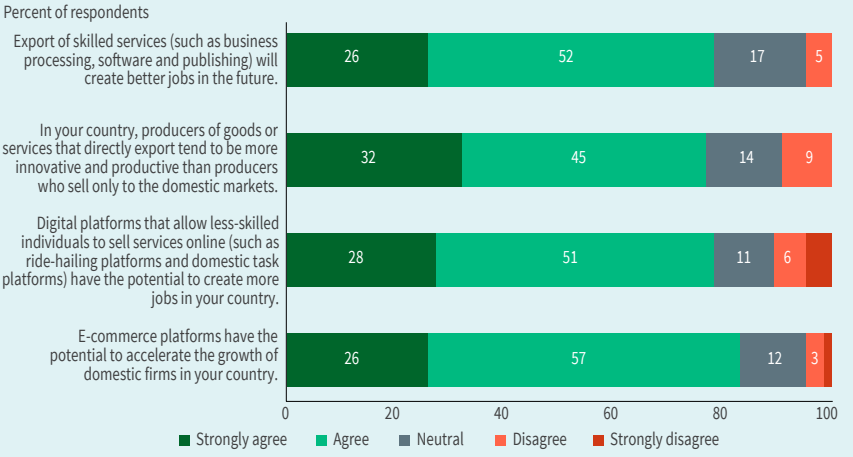


Figure 1.35 Among the benefits of services-led development are positive spillovers in different sectors and the labor market

Miscellaneous questions on skilled services exports, digital platforms and e-commerce



Appendices

Appendix 1.1 Regression analysis on recovery in 2021 (Figure 1.7)

For this analysis, a country-level linear regression is performed of GDP growth rate on the size of the contraction in 2020, the pre-pandemic trend growth rate, sectoral composition, and the share of the fully vaccinated population. The sample includes 66 countries that have published 2021Q2 GDP data and also have recent data on vaccination rates. The average GDP growth rate in 2020Q1-Q2 is used to capture the size of the contraction in 2020, and the HP-filtered trend growth rate in 2019Q2 is used as a proxy for the pre-pandemic trend growth rate. To capture countries' sectoral composition, the GDP share of the services sector and GDP share of the exports sector in 2019 are included. The share of the fully vaccinated population is taken to be the country's average level within the quarter.

From coefficients of this regression, the country-specific predicted GDP growth rate in 2021Q2 can be calculated, and the country-specific growth residual is then the difference between the predicted and the actual growth rates. Figure 1.7.A compares the actual and predicted GDP growth rates for the countries. Both India and Sri Lanka (the only two countries with reported 2021Q2 GDP) have negative growth residuals, which indicate that the actual growth rate in 2021Q2 is smaller than predicted based on their contraction in 2021 pre-pandemic trend growth rate, sectoral composition, and vaccination rate.

Because South Asian countries experienced the COVID Delta waves during 2021Q2, a containment stringency index is added to the regression to further investigate the effect of recent COVID-19 containment measures on growth. Comparing the growth residuals between the baseline and this expanded regression, India's residual becomes smaller (less negative) with the stringency index, which suggests that the recent COVID-19 waves and containment measures did lower the actual growth rate for the country (Figure 1.7.B).

Appendix 1.2 Business sentiment and consumer confidence indexes (Figure 1.16)

Figure 1.16.A shows the general business and COVID sentiment indexes derived following Shi and Taskin (forthcoming). The analysis is based on the earnings call transcripts of publicly listed companies in the United States stock market between 2006Q1 and 2021Q3. The sentiment series are calculated by focusing on the companies that either have their headquarters or at least one first-tier subsidiary in South Asia. The sample covers 374 companies operating in India, 23 in Pakistan, and 9 in Bangladesh as of 2021Q3. In each earning call, the business sentiment score is calculated by the balance of positive and negative words divided by the total number of words; the COVID-19 sentiment score is calculated around COVID-19 mentions. Regional sentiment scores are constructed by simple average across earning calls. The last observation was August 12, 2021.

Figure 1.16.B shows the consumer confidence indexes for India and Pakistan, both are from CEIC. CEIC calculates monthly Consumer Confidence Net Balance by rescaling the bi-monthly Consumer Confidence Index. The raw index for Pakistan is provided by the State Bank of Pakistan with a range from 0 to 100 and neutral point 50. The raw index for India comes from the Reserve Bank of India's Future Expectations Index derived from surveys covering six metropolitan cities—Bengaluru, Chennai, Hyderabad, Kolkata, Mumbai, and New Delhi—and the rate index has a range from 0 to 200 and neutral point 100.

Appendix 1.3 Modeling supply and demand decompositions

To decompose inflation growth into supply and demand, a Bayesian structural Vector Autoregressive model is used following Blanchard (1989) and Ruch and Taskin (forthcoming). The model is run for Bangladesh, India, Maldives, Pakistan, and Sri Lanka and includes five variables: real GDP (Y), consumer prices (π), oil prices (Oil), a monetary policy variable (MP), and the real effective exchange rate (ER). To identify supply and demand shocks, sign restrictions are imposed as follows:

$$\begin{bmatrix} \mu_t^{Y} \\ \mu_t^{\pi} \\ \mu_t^{MP} \\ \mu_t^{ER} \end{bmatrix} = \begin{bmatrix} + & + & * & * \\ + & - & * & * \\ * & * & * & * \\ * & * & * & * \end{bmatrix} \begin{bmatrix} \varepsilon_t^{Demand} \\ \varepsilon_t^{Supply} \\ \varepsilon_t^{MP} \\ \varepsilon_t^{ER} \end{bmatrix}$$

where a structural supply shock (ε) is defined as that which moves output and inflation in opposite directions, and a demand shock moves them in the same direction.

The sign restrictions are imposed for the first two periods. Oil prices are modeled as an exogenous process in all economies. The exception is India. Given that it is the third-largest importer of oil, its demand could affect global oil prices on the margin, so a model with endogenous oil prices is used.

All variables, except interest rates, are transformed to growth rates using first difference log transformations and annualized. The model is estimated using Bayesian priors with 10000 draws and 2000 burn-in draws. The Minnesota prior is used with hyperparameters on the first own lag of each variable set at 0.8, overall tightness is 0.1, cross-variable weighting is 0.9, and lag decay is 1.2. The model is estimated with four lags and on quarterly data from 2000Q1 (or based on availability) to 2021Q3 with forecasts for unavailable data points.

Output data is real GDP in local currency units, and consumer inflation data is headline consumer price inflation partly due to the limited availability of core inflation. Both real GDP and inflation are seasonally adjusted by source or Haver Analytics. The real exchange rate is trade-weighted and deflated using the consumer price index. The oil price is the average of Brent crude, West Texas Intermediate, and Dubai Fateh. In Pakistan, the model excludes a monetary policy variable due to limited data, while the output variable is manufacturing production. In Bangladesh, industrial production is used. In Sri Lanka, base money is the monetary policy variable. In Maldives, the model excludes a monetary policy variable given that the economy imposes an exchange rate anchor vis-à-vis the U.S. dollar. A South Asia average is calculated as the country average weighted using 2020 constant GDP in U.S. dollars.

The unprecedented nature and size of the COVID-19 shock presents possible challenges to the effective modeling of the pandemic, especially for the historical decomposition of the VAR model. However, to deal with the significant change in volatility, the VAR model includes stochastic volatility in the error structure, a generic version of what is suggested in Lenza and Primiceri (2020) as a solution to modeling COVID-19.

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CHAPTER 11

From fragile recovery to rebuilding

As South Asia continues on the recovery path despite the most devastating COVID-19 waves yet this past Spring and Summer, countries in the region face internal and external challenges in the medium term. Internally, vaccine rollouts have accelerated but most countries still have some way to go to vaccinating the majority of the population. In the meantime, the risks of new, deadlier, and vaccine-resistant COVID strains still haunt countries and their people. Externally, global recovery momentum shows signs of a slowdown under the weight of the Delta variant. Any major disruptions to the global recovery will have an adverse impact on South Asia, through trade, tourism, and income from migrant workers. In addition to the medium-term uncertainties, the pandemic has left scars on the economy, the impacts of which can last well into the recovery. Nevertheless, the pandemic provides the opportunity for countries to craft a recovery path that promotes green, resilient, and inclusive development.

This chapter presents the World Bank's forecast for the South Asia region and evaluates the potential medium- and long-term risks facing the regional economy. Section 2.1 presents the forecasts for the region and compares the current recovery to the last recovery. Section 2.2 looks at the risks and alternative scenarios to the forecasts. Section 2.3 evaluates the long-term scarring effects of the pandemic and their impact on the recovery. And Section 2.4 discusses the potential for South Asian countries to follow a green, resilient, and inclusive recovery path.

2.1 A fragile recovery

South Asia's recovery is still underway, despite a devastating health crisis in the second quarter of this year. Thanks to more targeted and localized containment measures, the recent COVID-19 waves had relatively small impacts on production and other economic activities in the region (Chapter 1). The recent slowdown in

August and September in global recovery and the remaining disruptions in global supply chains will constrain the recovery in South Asia going forward. The strength of the recovery will also depend on the stance of macroeconomic policy in the region and around the world. Fiscal stimulus packages are winding down globally, reducing potential demand, although large capital expenditure and public projects in advanced countries could provide sources for future demand and growth. With the uncertainty around the future path of inflation, countries around the world are prepared to normalize or in some cases have already normalized monetary policy.

The outlook for the region improved slightly compared to the last forecast in June 2021, as the economic impacts from the most recent COVID waves proved to be smaller than previously thought and countries increased the speed of vaccination compared to earlier this year. The outlook for South Asia will depend crucially on the speed of vaccination, emergence of new COVID variants, as well as the appearance of any major slowdown in global growth momentum. The region is expected to grow by 7.1 percent each year in 2021 and 2022 and 5.4 percent in 2023 (Table 2.1). The strong near-term growth is driven in part by a very low base in 2020. This forecast implies an average annual growth of 3.4 percent in the four-year period 2020-2023, which is 3 percentage points below the average growth during the four years preceding the pandemic. Due to the heightened economic and political uncertainties in Afghanistan, there are no forecasts for the country this time. Instead, Box 2.1 provides an overview of the economic challenges facing the country in the short to medium term.

Only three countries in the region report GDP figures on a calendar year basis: Maldives and Sri Lanka (Afghanistan omitted).

- In **Maldives**, output is projected to grow by 22.3 percent in 2021, a 5.2 percentage point upward revision compared to the June 2021 forecast. The growth rate is expected to moderate to the 11-12 percent range in 2022-2023. One reason for the upward revision in 2021 is the downward revision of the estimate for the year 2020 (by 5.6 percentage points), as the full extent of the damage from COVID-19 is slowly revealed. In the medium term, tourism is especially vulnerable to the threat of new COVID variants, and Maldives may see increased competition from other similar destinations as more of them reopen.

- In **Sri Lanka**, high debt burden, large gross financing needs, and weak external buffers cast shadows on the outlook. Despite a fast vaccine rollout in the last two months, the country is in the middle of the second COVID wave of 2021. Real GDP is expected to grow by 3.3 percent in 2021, from a 3.6 percent contraction in 2020. GDP is expected to grow around 2 percent each year

over the next two years. The government's ability to implement policies to support recovery are limited by sovereign rating downgrades.

Table 2.1 The recovery in South Asia remains strong, consistent with the last forecast

Calendar year basis	Country fiscal year	Real GDP growth at constant market prices (percent)				Revision to forecast from June 2021 (percentage point)	
		2020	2021(e)	2022(f)	2023(f)	2021(f)	2022(f)
South Asia region		-5.4	7.1	7.1	5.4	0.3	0.3
Maldives	January to December	-33.6	22.3	11.0	12.0	5.2	-0.5
Sri Lanka	January to December	-3.6	3.3	2.1	2.2	-0.1	0.1
Fiscal year basis		**FY20/21**	**FY21/22(e)**	**FY22/23(f)**	**FY23/24(f)**	**FY21/22(f)**	**FY22/23(f)**
India	April to March	-7.3	8.3	7.5	6.5	0.0	0.0
		FY19/20	**FY20/21(e)**	**FY21/22(f)**	**FY22/23(f)**	**FY20/21(f)**	**FY21/22(f)**
Bangladesh	July to June	3.5	5.0	6.4	6.9	1.4	1.3
Bhutan	July to June	-0.6	-1.2	3.6	4.3	0.6	-1.4
Nepal	mid-July to mid-July	-2.1	1.8	3.9	4.7	-0.9	0.0
Pakistan	July to June	-0.5	3.5	3.4	4.0	2.2	1.4

Note: (e)=estimate, (f)=forecast. GDP measured in 2015 prices and market exchange rates. 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. Afghanistan is not included in the regional aggregates; the country's GDP in 2020 is about 0.5 percent of regional GDP. Pakistan is reported at factor cost.
Sources: World Bank Macro Poverty Outlook and staff calculations.

Bangladesh, Bhutan, and Pakistan report GDP in fiscal years that run from July 1 to June 30, while Nepal's fiscal year runs from mid-July to mid-July of the following year. Because the most recent COVID waves fell roughly in the last quarter of their last fiscal years, estimates for growth in FY20/21 already capture the impact from the recent waves.

- In **Bangladesh**, GDP is estimated to have grown by 5 percent in FY20/21, supported by strong exports of readymade garments and a steady recovery in private consumption as labor income recovered and remittance inflows remained robust through the pandemic. Growth in imports of consumer and capital goods further point to a broad-based recovery. Growth rates are expected to pick up further to above 6 percent during the current and the following fiscal years, as exports and consumption continue to recover.

- In **Bhutan**, GDP is estimated to have contracted by 1.2 percent in FY20/21, which reflects the standstill in the tourism industry as the country remained closed to visitors and only opened up in August with strict quarantine

policies. Despite having the region's highest vaccination rates, the country's strict COVID-19 containment measures have constrained tourism recovery in FY20/21, while public infrastructure and hydro projects suffered from a shortage of migrant labor. The economy is expected to gradually recover in FY21/22, with the annual GDP growth rate expected at 3.6 percent, supported by the return of migrant labor and an expansion of public infrastructure projects. Recovery in tourism is likely to be more gradual.

- In **Nepal**, GDP in FY20/21 is estimated to have grown by 1.8 percent, a 0.9 percentage point downward revision compared to the last forecast, as localized lockdowns in April stalled the recovery. As domestic vaccination picks up and tourism recovers, output is expected to grow by around 4 percent annually for the current and the following fiscal years.

- In **Pakistan**, GDP is estimated to have grown by 3.5 percent in FY20/21,[1] an upward revision of 2.2 percentage points compared to the last forecast. Strengthening private consumption and investment are projected to have driven the overall recovery, while net exports are estimated to have contracted due to strong domestic demand driving import growth. GDP growth is expected to ease to 3.4 percent in the current fiscal year, as both expansionary fiscal and monetary measures are expected to unwind. For FY22/23, growth will pick up again to reach 4 percent as major structural reforms are implemented that are expected to strengthen the economy's overall competitiveness.

Finally, **India**'s current fiscal year (FY21/22) runs from April 1, 2021 to March 31, 2022. This means that the projection for the current fiscal year will reflect the economic impact of the most recent COVID wave. Despite the devastating health consequences, the economic impact of the recent waves is relatively small compared to the impact from the waves in 2020. Real GDP in the current fiscal year is expected to grow by 8.3 percent, which is consistent with the last forecast from June 2021, and a 1.8 percentage point downward revision from the forecast in March 2021. The projected growth is supported by an increase in public investment to boost domestic demand and production-linked incentive schemes to boost manufacturing. Over the next two years, as the base effect fades, growth is expected to stabilize at around 7 percent, aided by structural reforms to ease supply-side constraints and infrastructure investment. In the medium term, uncertainty around asset-quality deterioration from the pandemic, higher-than-expected inflation, and slow recovery in the informal sector are the main downside risks.

1 World Bank estimate. The government's preliminary growth estimate for FY20/21 is 3.9 percent.

Among the components that make up the regional GDP, exports and imports are estimated to grow at the fastest rates in 2021, up from low bases in 2020. Both estimates are large upward revisions from the last forecast in June 2021 (Table 2.2). Growth in trade will stabilize to around 8.5 percent in both imports and exports in 2022. Following the decline in 2020, the net trade deficit is expected to widen as domestic demand for imports recovers this year. In countries such as Maldives and Nepal, import growth is expected to remain strong throughout the forecast horizon as consumption recovers and construction projects restart. Both government consumption and investment are expected to grow by over 14 percent in 2021. The growth rate in government consumption is mostly driven by a large number in India in the first quarter of 2021 (January-March), and it is lower than previously anticipated (by around 5 percentage points). Private consumption is estimated to grow by 7 percent this year, from a contraction of 6.8 percent in 2020, a 1.3 percentage point upward revision from the forecast in June 2021.

Table 2.2 All demand components are projected to continue rising

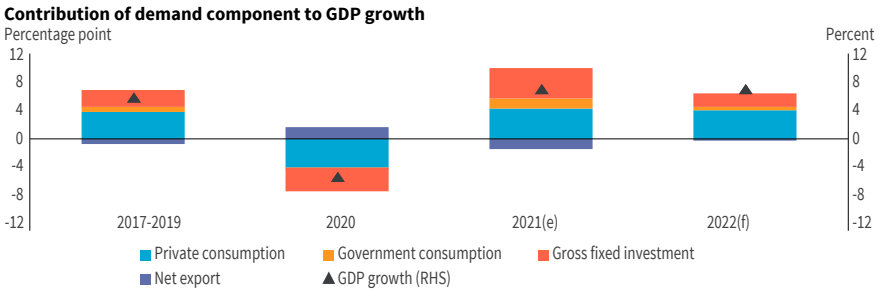
Calendar year basis	South Asia real GDP and demand components growth (percent)			Revision to forecast from June 2021 (percentage point)	
	2020	2021(e)	2022(f)	2021(f)	2022(f)
GDP	-5.4	7.1	7.1	0.3	0.3
Private consumption	-6.8	7.0	6.7	1.3	-0.4
Government consumption	0.0	14.7	4.9	-4.8	-3.6
Investment	-11.1	14.6	6.0	2.9	-2.9
Exports	-8.5	19.1	8.6	7.0	1.8
Imports	-14.2	22.9	8.5	9.1	1.0

Note: (e)=estimate, (f)=forecast. South Asia GDP and its components are calculated using country-level fiscal year numbers converted to calendar year. Afghanistan is not included in the regional aggregates.
Sources: World Bank Macro Poverty Outlook and staff calculations.

Because of its large size in the region's GDP, private consumption is expected to contribute 4 percentage points to GDP growth in 2021, the largest in terms of contribution, along with investment (Figure 2.1). The contribution by private consumption is in line with pre-pandemic levels, while the contribution by investment is larger than pre-pandemic levels, reflecting the stimulus effect from accommodative monetary policies, including low policy rates and loan guarantee programs. Public consumption is expected to contribute 1.6 percentage points to overall growth, a slightly higher level than before the pandemic, and almost exactly offset by the negative contribution from net exports. In 2022, the growth of most components will slow down as the base effects of 2020 fade. Only private consumption will keep contributing 4 percentage points to GDP growth, once again showcasing the long-running stability of the consumption component in the region.

Current account deficits are expected to widen in 2021 and 2022. Current account deficits for some regional countries are already estimated to widen in 2021. Nepal's current account deficit is estimated to have widened from 0.9 percent of GDP in FY19/20 to 8 percent in FY20/21, while estimates show a narrowing of the deficit in Pakistan and Bangladesh in FY20/21 due to robust remittance inflows. India's current account is expected to return to deficit, after recording in FY20/21 the first surplus since 2003. For 2022, the current account deficit is expected to widen in most countries in the region, as imports recover, remittances inflow is expected to slow down, and global commodity prices increase with recovery.

Figure 2.1 Private consumption expected to continue making the largest contribution to GDP growth

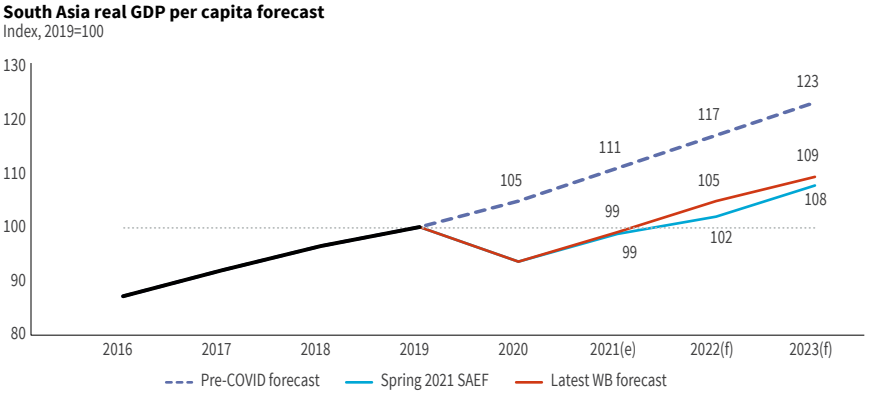


Note: (e)=estimate, (f)=forecast. South Asia aggregates shown are in calendar year. The value of stacked bars does not exactly sum to GDP growth due to inventory changes and statistical discrepancies. Afghanistan is not included in the calculations.
Sources: World Bank Macro Poverty Outlook and staff calculations.

The region's GDP per capita is expected to reach close to the pre-pandemic level by the end of 2021. Real GDP per capita fell in 2020 for the majority of the South Asian countries, due to the steep fall in real GDP. While GDP per capita for the whole region is expected to recover to the pre-pandemic level by the end of 2021 (Figure 2.2), it is still estimated to be 12 percentage points below the pre-pandemic *trend* level in both 2021 and 2022.

Compared to the Global Financial Crisis, the COVID-19 crisis was characterized by a much larger fall in private consumption, and the contribution of consumption to recovery is also expected to be larger. During the Global Financial Crisis, real GDP growth for the region fell from 9 percent in 2007 to an average of 5 percent in 2008-2009. In comparison, the collapse in GDP in 2020 is much deeper, with a contraction in output in 2020. During the 2009 downturn, the decline in growth was led by exports and investment, as global demand shrank and high uncertainty reduced investor risk appetite, while growth in private consumption remained mostly stable (Figure 2.3.A). This time around, private consumption and investment were the

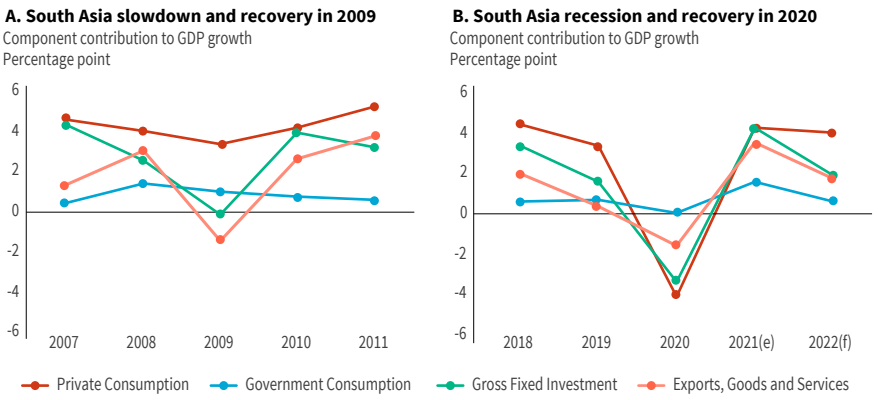
Figure 2.2 Per-capita income expected to recover to pre-pandemic level this year but still far below pre-pandemic trend



Note: (e)=estimate, (f)=forecast. South Asia aggregates shown are in calendar year. Afghanistan is not included in the calculations.
Sources: World Bank Macro Poverty Outlook and staff calculations.

largest contributors to the overall contraction, as COVID-19 containment measures reduced income, and mobility restrictions limited households' ability to consume (Figure 2.3.B).[2] In recovery too, the two periods differ. Regional growth coming out of the 2009 downturn was led by rebounds in exports and investment, as both grew by 13 percent in 2010 year-on-year. The rebound in exports contributed 2.6 percentage points to the overall growth rate in 2010, and the rebound in investment

Figure 2.3 A different recovery following a different downturn



Note: (e)=estimate, (f)=forecast. South Asia GDP and its components are calculated using country-level fiscal year numbers converted to calendar year. Afghanistan is not included in the calculations.
Sources: World Bank Macro Poverty Outlook and staff calculations.

2 During both periods, net exports increased year-on-year during the downturn, and the contribution of net exports to GDP growth also increased.

contributed 4 percentage points. This time, private consumption and investment lead the recovery. As the discussion in Chapter 1 points out, even though private consumption has the slowest recovery speed, it contributes the most to GDP growth because of its large relative size. As with the aftermath of the last crisis, private consumption is expected to remain the largest contributor to GDP growth two years after the trough.

Box 2.1 Afghanistan in crisis

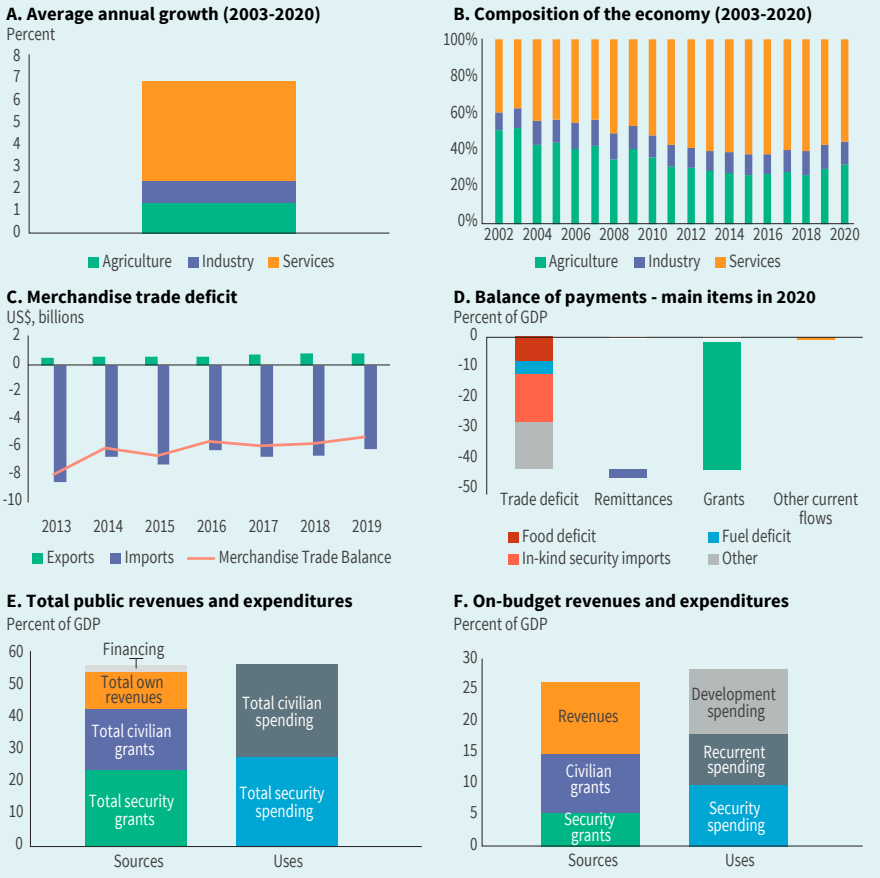
Recent political developments have pushed Afghanistan into an economic crisis. The rapid reduction in international grant support, loss of access to offshore assets, and disruption to financial linkages are expected to lead to a major contraction of the economy, increasing poverty and macroeconomic instability.

Afghanistan's economic development since 2001 has been fundamentally shaped by high levels of international aid support. Afghanistan's economy has grown by more than 180 percent since 2002. A slowly expanding agricultural sector has supported the large rural population, while very high levels of international grant support have driven the rapid growth of the urban service economy, incorporating contracting, construction, procurement, and employment opportunities associated with spending by government and aid agencies. As of 2020, the service sector accounted for 58 percent of GDP, and the construction and services sectors accounted for 77 percent of urban employment. Aid-driven growth has also driven a rapid expansion of imports, which were equal to around $7 billion per year (35 percent of GDP), vastly outstripping exports of only around $1.5 billion per year. While grants have declined substantially since 2009, they have recently averaged around $8.5 billion per year, equivalent to 43 percent of Afghanistan's GDP. Grants financed 75 percent of public expenditure, 50 percent of the budget, and around 90 percent of government security spending in 2020.

Afghanistan was facing daunting economic and development challenges even before the recent political crisis. Following the COVID-19 pandemic, the economy contracted by 2.4 percent in 2020, period average inflation more than doubled, and recent gains in poverty reduction were lost. At the time of the latest household survey (2019/20), 15 million Afghans (47

percent of the population) lived in poverty. An additional 10 million Afghans were at risk of falling into poverty, with incomes between one and 1.5 times the poverty line. Afghanistan also faced an internal displacement and food security crisis.

Figure 2.4 An overview of the Afghan economy pre-2021



Sources: National Statistics and Information Authority of Afghanistan, Da Afghanistan Bank, Ministry of Finance and staff estimates.

With the Taliban takeover, Afghanistan faces an impending economic and development crisis. Declines in grant support will drive a fiscal crisis. Afghanistan is one of the world's most aid-dependent economies. The sudden stop in aid is driving a collapse in basic services such as health and education and has undermined the capacity of the government to pay civil

servants. Even assuming the Taliban could maintain domestic revenue collections at close to current levels, loss of on-budget grants would drive on-budget expenditure cuts of at least 60 percent. If on-budget grant support ceased and own-revenues declined by 50 percent, total government spending would need to contract by 72 percent.

Declining grants combined with a loss of access to foreign exchange will drive a balance of payments crisis. Over the past two decades, Afghanistan has relied on grant inflows to finance its very large trade deficit. Afghanistan has built up substantial foreign exchange reserves, which are now equal to around $9 billion. However, nearly all (at least 95 percent) foreign exchange reserves are held offshore (mostly in the United States and multilateral institutions). While a significant share of imports are directly linked to grant inflows (especially security sector grants), the abrupt stop in grant inflows combined with the loss of access to foreign exchange reserves will leave Afghanistan with very limited hard currency with which to purchase basic items such as food (imports of around $2 billion per year), fuel (nearly $1 billion), and electricity (around $280 million). The large external financing gap is likely to lead to shortages of critical imports, including food, fuel, and electricity.

Economic isolation will drive a financial crisis. Supply of new U.S. dollar banknotes has already ceased, with only minimal physical U.S. dollar cash balances available in central and commercial bank vaults. Households and firms are unable to access savings or cash for transactions, generating friction across the economy. As a result of the higher risk environment and international sanctions regime, commercial banks are facing difficulties in processing international transactions. Firms and households are unable to access deposits in the banking sector, with strict limits imposed by the central bank on the withdrawal of U.S. dollar and local currency balances. Constrained ability to process international transactions has effectively undermined formal sector international trade, with firms unable to transfer funds overseas to pay for imports. This is expected to further contribute to inflation and shortages.

Afghanistan's economy is likely to fall into a severe recession. An economic analysis conducted by the World Bank suggests a contraction of GDP of between 20-30 percent, depending on different external engagement

scenarios. Output and production will be negatively impacted through several channels. The fiscal contraction will undermine the service sector, which has driven growth since 2001. The rapid loss of public sector activity will have flow-on impacts throughout the economy, especially in the service and construction sectors.

Macroeconomic instability will also deter investment. Many firms find it difficult to operate in the context of high inflation, exchange rate volatility, limited access to foreign exchange, and disruptions to supply chains (access to imported inputs or export markets). Larger firms may be deterred from continued operation or further investment by the imposition of international sanctions, which constrain the movement of products, people, and funds across national borders. Constraints to lending further exacerbate the impact.

Economic activity will also be constrained, potentially for a sustained period, by the exodus of skills and capital and reduction in the female labor force. Many skilled and educated Afghans have left Afghanistan in recent months and more are likely to follow. It is unclear whether the female labor force remaining in Afghanistan will retain full access to employment opportunities. The absence of critical skills will immediately impact private sector activity, including in crucial enabling sectors such as telecommunications and banking. The departure of skilled and educated Afghans also poses a major challenge to effective public administration and economic management.

The economic crisis is likely to impact critical infrastructure. A shortage of foreign exchange, depreciation, and economic contraction are likely to have severe implications for core infrastructure, including electricity (77 percent of the electricity supply is imported), telecommunications, and internet (aid programs have financed broadband infrastructure). Disruptions to critical infrastructure services may compound economic disruption and create important challenges for any humanitarian response. For example, disruptions to the electricity supply may disrupt or increase the cost of maintaining cold-chain distribution for vaccines. Coordination and planning of humanitarian efforts may be disrupted by reductions in internet and telecommunications coverage and quality.

Overall, on the current trajectory, development gains achieved over the past two decades are at high risk of being lost. The collapse of primary health services is expected to drive a sharp increase in mortality among women and children of around 33 percent, equivalent to 26,040 additional child deaths and 1,920 additional maternal deaths per year. Inability to pay teacher salaries is expected to lead to a rapid contraction in education coverage, with 6.5 million primary students (including 2.5 million girls) and two million secondary students at risk of being excluded from education. The poverty rate in Afghanistan is expected to increase above 50 percent due to loss of access to services, increasing unemployment, declining incomes, and increasing prices for (and shortages of) vital household items. An estimated 3.5 million internally displaced persons, 80 percent of whom are women and children, will need humanitarian assistance. The United Nations estimates that the total number facing acute food insecurity could increase to 14 million (or more than one-third of the total population).

Note: *The World Bank has paused disbursements in our operations in Afghanistan and does not have the authorizing environment to engage in financing. We are closely monitoring and assessing the situation in line with our internal policies and procedures. As we do so, we will continue to consult closely with our Board of Directors, the international community, and development partners.*

2.2 Significant downside risks

While regional recovery has been strong in 2021, significant downside risks exist. Outside the region, as the Delta variant spread to the rest of the world, major economies have started seeing signs of a slowdown in growth in August and September (Chapter 1). Those South Asian countries that are more connected to the rest of the world through trade and tourism can be more severely impacted in the event of a moderate to severe external slowdown. Within the region, the possibility of a COVID resurgence due to the emergence of new and deadlier variants poses threats to recovery. To better understand the impacts on the regional economy, these risk scenarios are simulated by imposing exogenous changes into a model (the World Bank's Macroeconomic and Fiscal Model—MFMod)[3] that is employed to produce the

3 MFMod is a collection of standardized country models used for the Macro Poverty Outlooks at the Word Bank (Burns et al. 2019). Models are classic Keynesian (IS-LM) models with supply side, and well-defined cross-country trade, remittances, and commodity interlinkages. The version used in the present analysis has been tailored to the South Asia region specifically.

baseline regional forecasts in Section 2.1. For each risk scenario, a range of estimated impacts is provided depending on the assumptions.

Slowdowns in the rest of the world could impact regional economies. With the external risks, it is assumed that in the moderate scenario trading partners experience further COVID-19 waves but with limited impacts due to fast vaccine rollouts and more targeted containment policies. In this scenario, GDP outside the region is assumed to be 0.5-1 percent lower during 2021-2023, compared to the baseline. In the severe scenario, slowdowns in the pace of vaccine rollouts combined with further COVID-19 waves and strict containment measures lead to larger slowdowns in trading partner countries. External GDP is assumed to be 1-1.5 percent lower during 2021-2023 compared to the baseline (details are in Table 2.3). On the regional level, GDP would decline by 0.2-0.7 percent in 2021, 0.4-0.8 percent in 2022, and 0.15-0.5 percent in 2023, relative to the baseline projections (Figure 2.5). At the country level, the impacts vary widely. Countries that are more connected to the rest of the world would experience a larger slowdown relative to the baseline. In India, for example, GDP would be 0.5 percent lower in 2022 in the moderate scenario and 0.9 percent lower in the severe scenario, compared to the baseline. With an economy that is highly dependent on visitors from outside the region, Maldives would see a 1-2 percent lower GDP in 2022 relative to the baseline, depending on the severity of the external downturn. In contrast, Bhutan and Nepal, which are more dependent on the regional economy (for example, through trade with India) than the global economy, would see smaller impacts from a shock originating outside the region.

Compared to the risk of an external slowdown, a COVID-19 resurgence in the region would have much larger impacts. In the moderate scenario, fast vaccine rollouts in the region will limit the impact of further COVID-19 waves by allowing contact-intensive services to recover swiftly. In the severe scenario, slow vaccine rollouts, new variants, and strict containment measures hamper recovery in the region (Table 2.3). On the regional level, the potential COVID-19 risk would reduce GDP by 0.7-0.9 percent in 2021, 1.2-2 percent in 2022, and 0.8-1.9 percent in 2023, compared to the baseline and depending on the severity of the COVID risk. As with the risk of a global downturn, the impacts of the regional COVID-19 risk vary across countries. By assumption, countries with larger contact-intensive sectors such as the market services sector would experience larger shocks. In addition, the manufacturing sector would also experience relatively large shocks as COVID-19 lockdowns would affect supply chains. Across the regional countries, as a share of national GDP, Bangladesh has the largest manufacturing sector and Sri Lanka has the largest market services sector. Accordingly, these are the countries that would experience relatively large impacts from a COVID-19 resurgence. An additional

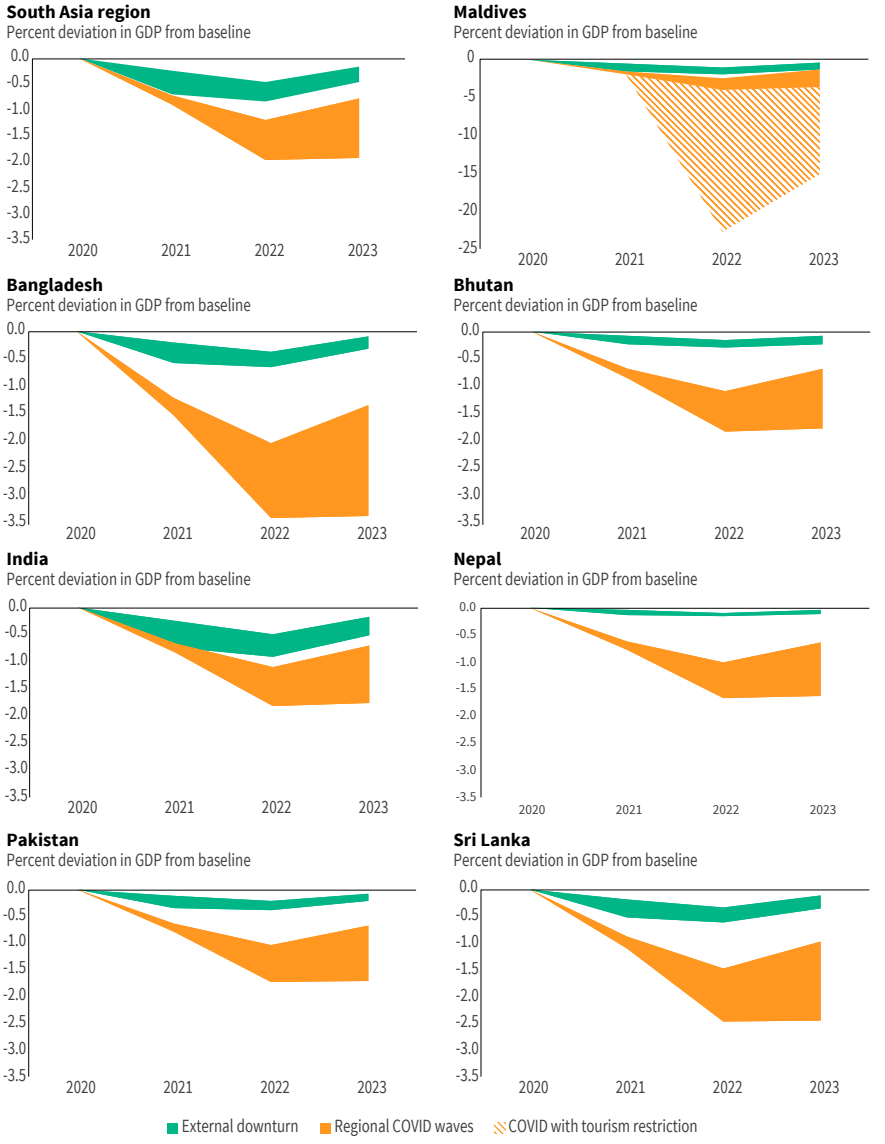
restriction in the tourism sector in Maldives would lower the country's GDP by 21 percent in 2022 compared to the baseline forecast, although this scenario is highly unlikely, given that the country has managed to keep the tourism sector largely open despite the COVID waves.

Table 2.3 Assumptions of risk and alternative scenarios

Scenario		Assumption behind scenario
External downturn	Moderate	Relative to the baseline projections, GDP outside the SAR region will be around half a percent lower in 2021, 1 percent lower in 2022 and half a percent lower in 2023. Commodity prices move in line with reduced global demand, falling by around twice as much as the fall in global output.
	Severe	Relative to the baseline projections, GDP outside the SAR region will be around 1 percent lower in 2021, 1.5 percent lower in 2022 and 1 percent lower in 2023. Commodity prices move in line with reduced global demand, falling by around twice as much as the fall in global output.
Regional COVID-19 wave	Moderate	New COVID-19 outbreak and lockdown is assumed to reduce domestic demand by around 1 percent in 2021, 1.5 percent in 2022, and 1 percent in 2023, relative to the baseline forecasts. Country impacts vary depending on the size of the contact-intensive sectors.
	Severe	In SAR countries, a new COVID-19 outbreak and stricter lockdown is assumed to reduce domestic demand by around 1 percent in 2021, 2.5 percent in 2022, and 2.5 percent in 2023, relative to the baseline forecasts.
	Severe, with tourism restrictions in Maldives	Relative to the baseline forecasts, exports in Maldives are 25 percent lower in 2022 and 15 percent lower in 2023.
An increase in capital expenditure of 0.5 percent GDP	All regional countries	Government capital expenditure is assumed to increase by 0.5 percent of GDP relative to the baseline in both 2022 and 2023. The additional financing needs are assumed to be met without the need for fiscal consolidation (such as offsetting tax increases) during the time horizon of the simulations.
	Only India	Government capital expenditure is assumed to increase only in India, by 0.5 percent of GDP relative to the baseline in both 2022 and 2023. Other regional countries do not make any active adjustments.
Further financial sector stress		Private investment falls and interest rates rise at the end of 2021 until 2023. The size of the private investment shock is calibrated following the method in SAEF Fall 2020 and uses the fall in GDP and investment in India during the 2008 financial crisis, scaled by the share of non-performing loans.

Spending in the 2020 budgets focused on immediate health crisis needs, including higher social assistance transfers to households in need. In fiscal year 2021-2022, as countries emerge from a devastating health crisis, some spending will be reoriented to capital expenditure items, focusing on building capacity in health care and infrastructure. India, for example, is set to increase government capital expenditure to 2.3 percent of GDP in FY21/22, up from 1.7 percent in FY20/21. While the increase in planned spending is already reflected in the baseline forecast, to better understand the effect, a scenario is simulated with additional increases in capital expenditure by 0.5 percent of GDP in calendar years 2022 and 2023. For this exercise, it is assumed that there is no subsequent fiscal consolidation.

Figure 2.5 Downside risk scenarios for the region: external downturn and regional COVID waves

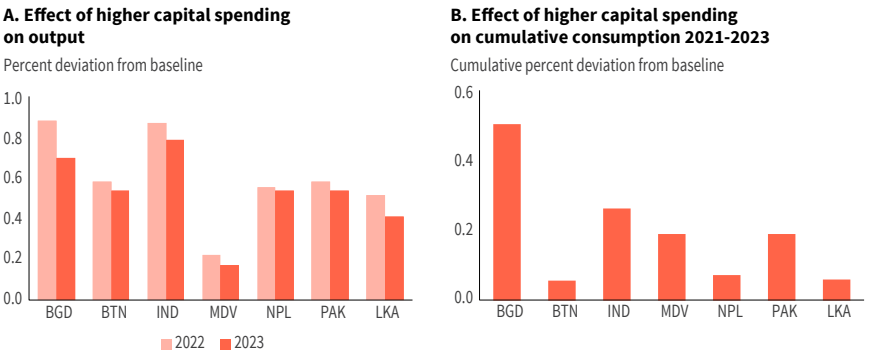


Note: Numbers shown are percent deviation from the baseline forecasts presented in Section 2.1. Exercise excludes Afghanistan as there is no forecast available for the country at this time.
Source: Staff calculations based on MFMod simulation output.

Across countries, the effect of higher capital spending is not uniform (Figure 2.6.A). The effects would be largest in Bangladesh and India, increasing output by 0.9 percent in 2022 and 0.7-0.8 percent in 2023, compared to the baseline. In Maldives, by contrast, an increase in capital spending by 0.5 percent of GDP would

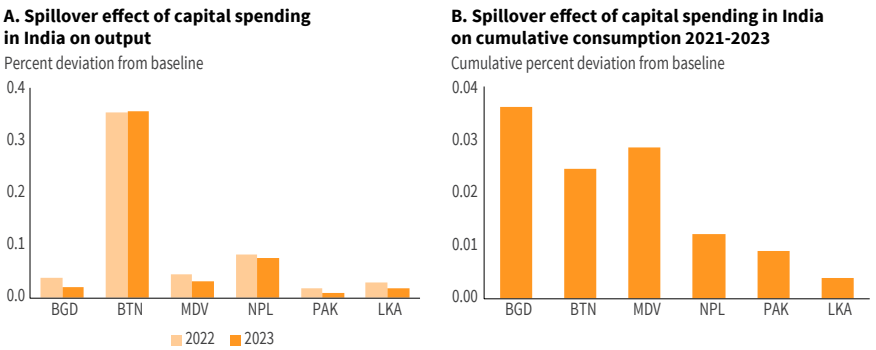
only boost output by around 0.2 percent in the next two years. The different sizes of the impact reflect differences in countries' fiscal multipliers. Capital spending can generate consumption responses in the medium term through increasing employment, as publicly funded projects help create jobs. Among the regional countries, Bangladesh would have the strongest consumption response to government capital spending, with a 0.5 percent cumulative increase from 2021 to 2023 (Figure 2.6.B). Bhutan, Nepal, and Sri Lanka, by contrast, would see much weaker consumption responses. In Bhutan and Nepal, the increase in GDP would be driven mostly by higher net exports, whereas in Sri Lanka it would be driven by a large increase in government consumption. The different consumption responses stem from different elasticities of consumption to income, which vary widely across countries.

Figure 2.6 Higher capital spending would boost output and increase private consumption



Source: Staff calculations based on MFMod simulation output.

Figure 2.7 Higher capital spending in India would have spillover effects on regional economies



Source: Staff calculations based on MFMod simulation output.

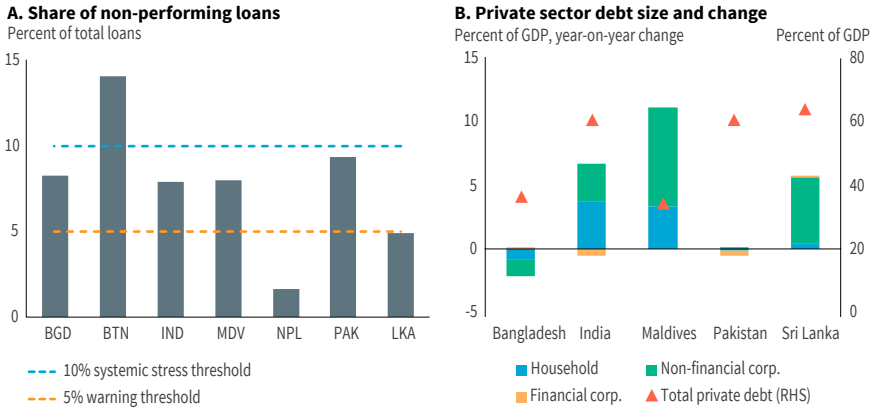
Higher capital expenditure in India alone can have spillover effects on the rest of the region. As countries face limited fiscal space, some may not find it feasible to increase capital expenditure. An alternative scenario is simulated to look at the spillover effects from an increase in capital expenditure in India alone (Figure 2.7.A). Here again, the impact varies widely across countries. In general, smaller countries would see larger impacts, reflecting the higher dependence of these countries on the Indian economy. Bhutan would see a 0.36 percent increase in output for the next two years compared to the baseline. Because India is Nepal's largest trading partner, an increase in income in India brought on by higher capital spending would lead to a large increase in exports in Nepal. The overall increase in output in Nepal from this spillover effect would be 0.08 percent over the next two years, relative to the baseline. Maldives, which has benefited from visitors from India for much of the recovery in tourism, would also see sizeable impacts, driven by increases in private consumption and investment. The spillover effect on private consumption is strongest in Bangladesh (Figure 2.7.B), although the scale is much smaller compared to the direct effect from an increase in domestic capital spending. Sri Lanka would have the smallest consumption response from the spillover effect, while Pakistan would see the smallest spillover effect on total output from higher capital expenditure in India.

High shares of non-performing loans, together with easy monetary policy, could lead to renewed financial sector stress. With large fiscal stimulus, accommodative monetary and financial policies, and a favorable investor sentiment, asset prices have soared during the pandemic and recovery in South Asia (Chapter 1). At the same time, loan guarantee programs and low policy rates have encouraged credit growth and private sector borrowing in some countries. The non-performing loan ratio, the ratio of the amount of non-performing loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds, is an indicator of the health of the banking sector. While for the majority of South Asian countries the ratio is below the 10 percent threshold commonly associated with banking sector systemic stress, the majority of the countries with recent data are above the 5 percent warning threshold (Figure 2.8.A). Perhaps more alarmingly, low lending rates and debt relief measures implemented at the onset of the pandemic and still in place now could have artificially lowered the share of non-performing loans.

At the same time, household debt and non-financial corporate debt have increased substantially during the recovery (Figure 2.8.B). In India and Maldives, household debt rose by more than 3 percent of GDP in late 2020 and the beginning of 2021, compared to a year ago. Non-financial corporate debt increased by 3 to 8

percent of GDP in India, Maldives, and Sri Lanka during the same period. In addition, the private sector debt *levels* are also high (above 60 percent of GDP) in these three countries. As monetary policy normalizes and regulatory relaxation is phased out, high shares of non-performing loans and high private debt can lead to renewed stress in the financial sector.

Figure 2.8 High shares of non-performing loans and private sector debt, in an environment of easy monetary policy could lead to further financial sector stress

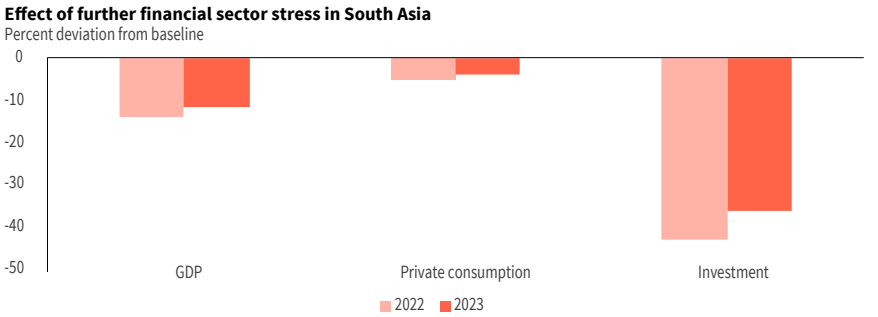


Note: A. >5 percent is a warning sign, >10 percent has been commonly associated with banking sector systemic stress. Data shown are latest available: 2021Q2 for Bhutan; 2021Q1 for Bangladesh, Maldives, and Pakistan; 2020Q4 for India, Nepal, Sri Lanka. B. Data for India and Pakistan are from the global debt monitor database of the Institute of International Finance (IIF) and data shown are for 2021Q1. Data for Bangladesh, Maldives, and Sri Lanka are from the IIF's frontier market database and data shown are for 2020Q4. Data on financial corporate debt is not available for Maldives. Non-financial corporate debt is estimated as the sum of cross-border bank loans, outstanding bonds and domestic loans (BIS, Bloomberg, IMF, World Bank). Financial sector debt statistics are derived from countries' financial accounts or the summation of cross-border bank loans and outstanding bonds (BIS, Bloomberg).
Sources: CEIC, Institute of International Finance and Royal Monetary Authority of Bhutan.

Simulated effects of further stress in the financial sector show substantial impacts on the region. Following the Fall 2020 issue of the South Asia Economic Focus (World Bank 2020), we allow private investment to decline by 10 percent at the end of 2021 as scarce credit to the private sector leads to higher interest rates. This shock would generate a 14 percent fall in regional GDP in 2022 and a 12 percent fall in 2023, relative to the baseline forecast (Figure 2.9). Further stress in the financial sector would have a devastating impact on investment, reducing gross fixed investment by 30-40 percent over the next two years, compared to the baseline. In comparison, consumption responses are milder, as private consumption would fall by 4.5 percent over the next two years. The larger fall in investment than consumption is consistent with experiences during the Global Financial Crisis. The fall

in output from further financial sector stress now is much larger than was anticipated back in Fall 2020 (a 6 percent fall in GDP in 2022), because the full impact of the pandemic was less well understood and estimated back then. In addition, the prolonged periods of accommodative policies have also added to financial risks in the economy. Given the risks, governments in the region need to strengthen resilience in the financial sector during the recovery (Section 2.4).

Figure 2.9 Further stress in the financial sector now could drastically lower output, consumption, and investment



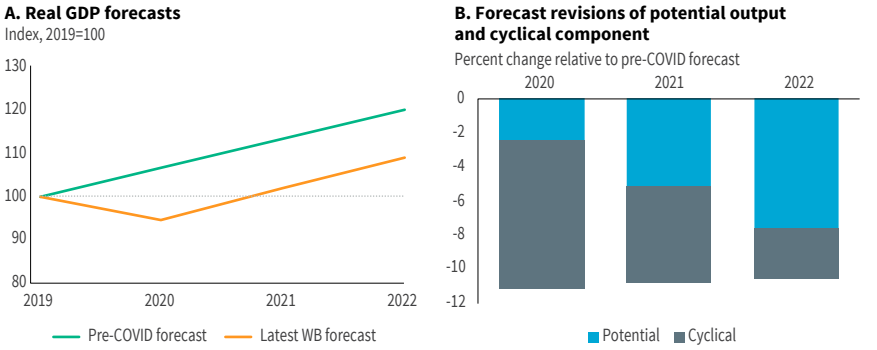
Source: Staff calculations based on MFMod simulation output.

2.3 Long-term scarring effects of the pandemic

The pandemic-induced crisis led to a greater economic downturn in the region than any other crisis before. Whether the COVID-19 shock is a temporary contraction in activity or a permanent setback to the region's development will depend on the extent of the economic scarring. The extent of scarring depends not only on the nature of the shock but also on each country's initial conditions and policy reactions during the crisis. Historically, increases in unemployment, poverty, and inequality were lower for countries with greater fiscal support and relatively stronger initial conditions, which included less informality, social transfers to households, and public health spending (Cuesta Aguirre and Hannan 2021).

World Bank projections show that economic activity in South Asia will stay below the pre-pandemic trend for several years (Figure 2.10.A), **underscoring that the scarring effects of the pandemic persist beyond the immediate crisis.** COVID-19 has profound impacts on the supply side of the economy through lower investment flows, disrupted supply-chain linkages, effects on health and livelihoods, and setbacks to human capital accumulation. These impacts can compound and lead to a sustained lower level of potential output (Figure 2.10.B).

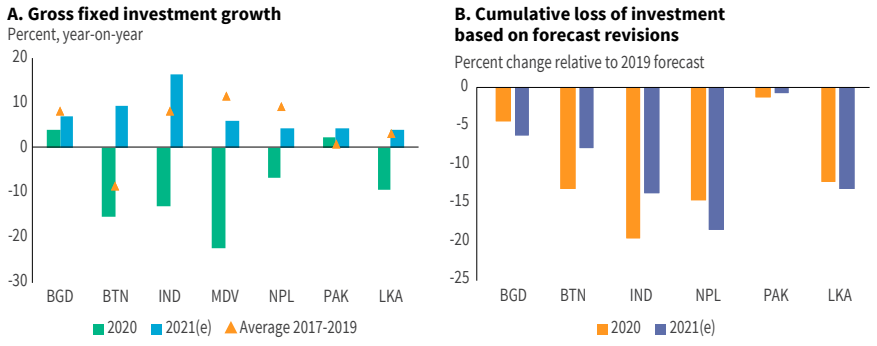
Figure 2.10 COVID-19 crisis led to losses in actual and potential GDP in South Asia



Note: Real GDP and potential output come from the MFMod. Cyclical components are calculated as a residual. South Asia aggregates shown are in calendar year. Afghanistan and Maldives are not included in the calculations.
Sources: World Bank Macro Poverty Outlook and staff calculations.

Gross fixed investment growth became negative in 2020 for most South Asian countries, considerably below pre-pandemic averages (Figure 2.11.A). The cumulative loss in investment is even more pronounced when compared to the pre-pandemic expected levels (Figure 2.11.B). A majority of countries had lost more than 10 percent of cumulative investment by 2020, and a few will have similar losses by the end of 2021. Although investment is expected to rebound eventually, this reduction may lead to lower production capacity in the medium term. Furthermore, since technology is often embedded in new capital equipment, the investment slowdown may reduce the adoption of new innovations.

Figure 2.11 Investment drops during the pandemic led to cumulative loss of investment in South Asia

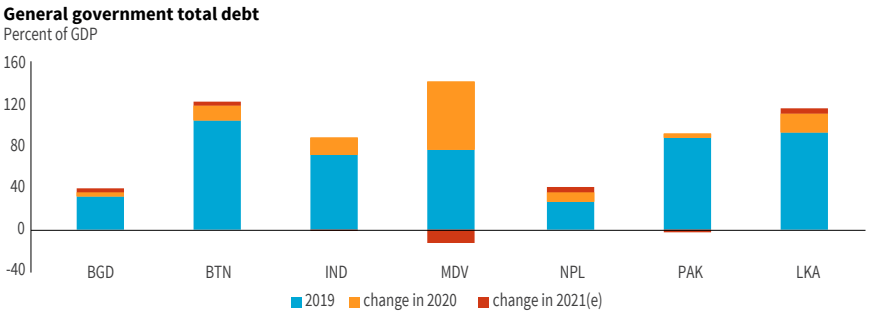


Note: Cumulative loss of investment is calculated relative to pre-pandemic forecast of gross fixed investment levels.
Sources: World Bank Macro Poverty Outlook and staff calculations.

The COVID-19 crisis also affects total factor productivity in several ways (Martin Fuentes and Moder 2020). First, the impact of COVID-19 could temporarily lock resources in unproductive sectors, and the reallocation of productive resources toward fast-growing industries is likely to take time. In addition, innovation could be impaired through lower spending on research and development, both in the public sector on account of consolidation needs and in the private sector owing to elevated uncertainty. Finally, temporary redirecting of global value chains in the immediate aftermath of the COVID-19 crisis could hamper innovation and knowledge spillovers across countries, though remote work has expanded possibilities in certain high-skilled sectors (Chapter 3). At the same time, the crisis may also have boosted innovation, especially digital innovations that support remote services. Moreover, weaker companies may not have survived the crisis, which results in a higher average productivity.

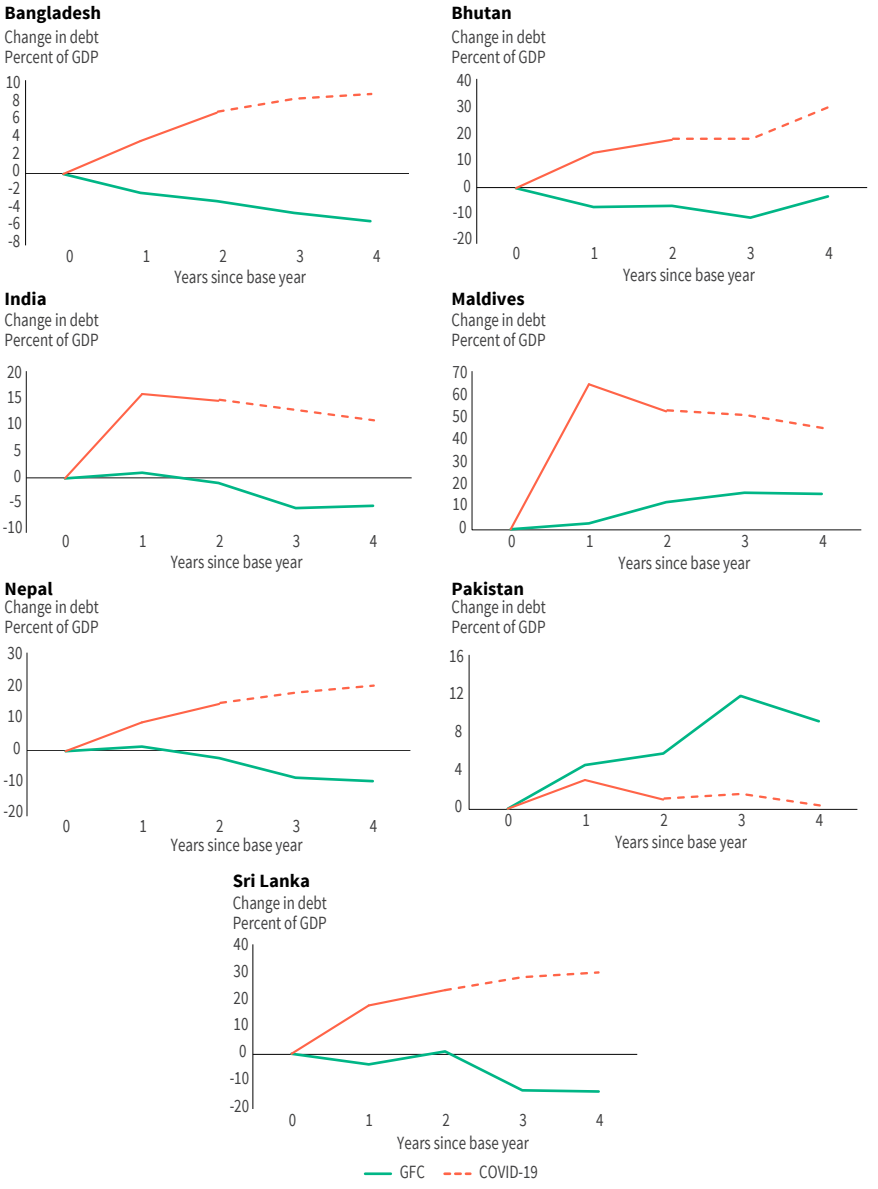
Increased government debt levels can further limit fiscal space. Over half of the South Asian countries have a government debt-to-GDP ratio above 80 percent, and many saw substantial increases in debt levels in 2020 (Figure 2.12). Observed increases in debt-to-GDP ratios are considerably larger compared to the increases in the Global Financial Crisis (Figure 2.13). Maldives and Sri Lanka are particularly vulnerable. Only Pakistan experienced smaller debt-to-GDP increases during the pandemic than in the previous crisis, with its value already decreasing, due to higher economic growth and currency appreciation against the U.S. dollar. Countries arguably have better access to finance now than during the last crisis. But high debt levels can still constrain fiscal policies and limit countries' ability to cushion future crises. Box 2.2 looks at the importance of fiscal space for recovery through past recovery from natural disasters in the region.

Figure 2.12 Compared to pre-pandemic, government debt increased drastically in 2020



Note: (e)=estimates. Values in fiscal years. General government debt includes guaranteed debt for Maldives. For Bhutan it includes central government loans and central government loans on-lent to state-owned enterprises (SOEs), debt directly contracted by SOEs, and Central Bank debt.
Sources: World Bank Macro Poverty Outlook and staff calculations.

Figure 2.13 Larger increase in government debt during COVID crisis than during the Global Financial Crisis



Note: Base year is 2007 for Global Financial Crisis (GFC) and 2019 for COVID-19 crisis. Dotted line shows estimates or forecasts. Values are in fiscal years.
Sources: World Bank Macro Poverty Outlook and staff calculations.

Box 2.2 Healthy fiscal balance for a swift recovery: lessons from natural disasters

South Asia is prone to weather-related natural disasters. In the past 40 years, the region has seen over 200 natural disasters of varying scales. Experience with recovery from natural disasters can provide lessons for the COVID recovery as well as for future large-scale crises. The COVID-19 shock is similar to many natural disaster shocks: both are large negative shocks, both are arguably unexpected, and both hit the supply side of the economy. These characteristics call for countries to improve disaster preparedness. At the same time, a larger fiscal space before the disaster can support post-disaster recovery efforts, including rebuilding damaged infrastructure, providing social assistance to people in need, and stimulating demand when needed.

To illustrate the importance of ample fiscal space for recovery, an estimation is performed to look at the marginal effect of a country's pre-disaster fiscal balances on its GDP growth for each of the three years after the disaster. Because of the unexpected nature of natural disasters (and the COVID-19 shock), the regression set-up avoids the endogeneity concern whereby governments anticipate the negative shock and increase fiscal buffers right before the shock hits.

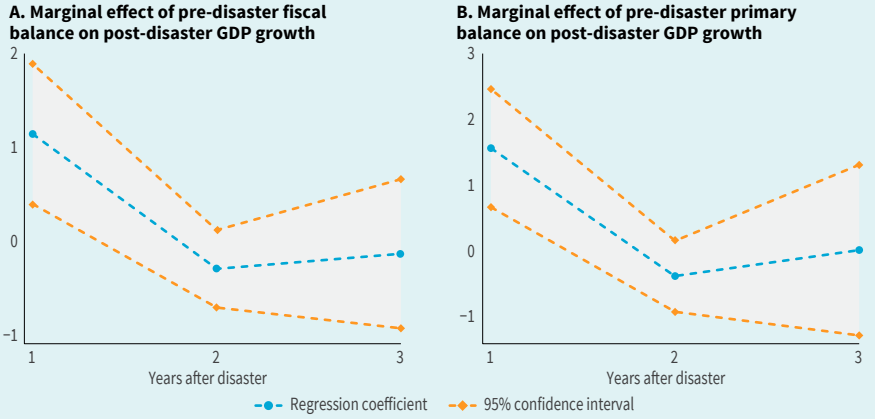
First, the Emergency Events Database (EM-DAT) is used to identify *extreme disasters* in the South Asia region from 1980 to 2019. An extreme disaster is defined as one where the damages from the disaster exceed 1 percent of GDP. For this definition, lagged real GDP is used, i.e., the GDP in the year before the disaster, to avoid artificially inflating the damage ratio by using the GDP in the disaster year. Real GDP and fiscal balances data come from the World Bank's WDI. The damages from disaster are deflated using the country's consumer price inflation for the same year. Out of the 207 natural disasters with damages data, 26 are classified as extreme disasters according to this definition, with an average damages-to-lagged GDP ratio of 4.9 percent. Because of data availability on the fiscal side, a total of 25 natural disasters are identified in the final sample. For this final sample of natural disasters, the average fiscal balance is -4.2 percent of GDP, and the average GDP growth rate for the year after a disaster is 6 percent.

The following equation specification is estimated using country fixed effects (δ_i):

$$G_{it+s} = \beta_0 + \beta_1 F_{it-1} + \beta_2 G_{it-1} + \beta_3 D_{it} + \delta_i + e_{it}$$

where t indexes the time of the disaster, G_{it+s} is country i's GDP growth rate for the years post-disaster, F_{it-1} stands for the country's fiscal balance in the year before the disaster, and D_{it} denotes the size of the disaster using the disaster damage-to-lagged GDP ratio. G_{it-1} is used to control for the economy's pre-disaster trend using pre-disaster GDP growth. Two measures of fiscal balance are used: fiscal balance as a percent of GDP, and primary balance as a percent of GDP. Of interest is the fiscal balance's effect on GDP growth rate for the first, second, and third years after the disaster ($s=1,2,3$). For robustness, the average GDP growth rate over two or three years before the disaster is used as well to control for the country's pre-trend.

Figure 2.14 Ample pre-disaster fiscal balance supports recovery from disasters, but effect fades after the first year



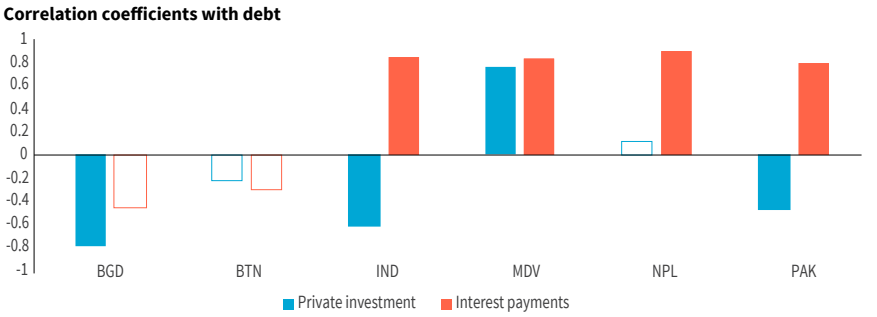
Note: Plots show regression results from OLS regressions of pre-natural disaster fiscal or primary balance (percent GDP) on GDP growth for the three years post-disaster. Sample includes 25 major disasters identified in South Asia during 1980-2019 using the disaster damage-to-lagged GDP ratio. Regressions control for the size of disaster using the disaster damage-to-lagged GDP ratio, and control for pre-trend using pre-disaster GDP growth.

The regression results as shown in Figure 2.14 suggest that having a larger fiscal space before the disaster helps boost GDP growth in the first year post-disaster. But the effect becomes insignificant in the second and third years after the disaster. The point estimate of the effect in the first year is

1.1 for fiscal balance and 1.5 for primary balance, and both are statistically significant at the 5 percent level. This implies that on average, a 1 percent increase in fiscal (primary) balance out of GDP is associated with a 1.1 (1.5) percentage point increase in GDP growth rate in the first year after a natural disaster. While one needs to be cautious when interpreting these point estimates, the exercise nevertheless illustrates the importance of fiscal space to support recovery. This lesson is drawn from past natural disasters but applies to the current recovery from the COVID-19 crisis as well as future large-scale negative shocks to the economy.

High government debt leads to rising gross financing needs in years to come, which can soak up available funds needed for private investment (Huang et al. 2018; Reinhart et al. 2012). In half of the countries in the region, interest payments as a share of GDP are positively correlated with public debt historically (orange bars in Figure 2.15), suggesting shrinking fiscal space as interest payments take up an increasing share of fiscal revenues. This may lead to an increase in the cost of capital for the private sector, too. As a result, the public sector may crowd out private sector activities. Empirically, public debt is negatively correlated with private investment, which appears to be the case across half of the regional economies (blue bars in Figure 2.15). As long as public goods are financed with public debt, these public investments can obviously reinforce private investment, offsetting the negative effects of public debt.

Figure 2.15 Interest payments positively correlated with public debt across South Asian countries

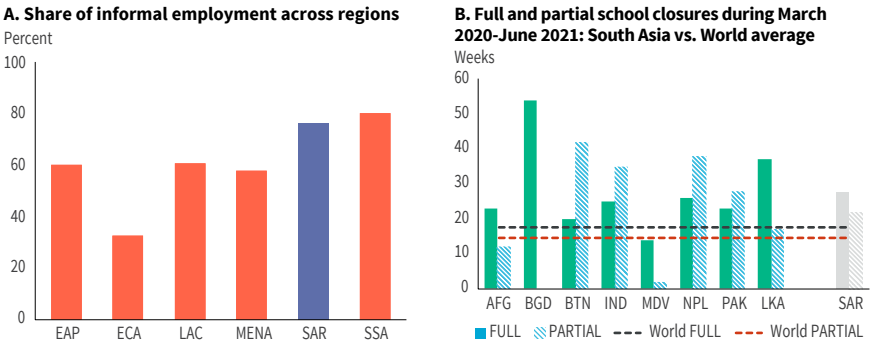


Note: Correlations are derived from public debt (percent of GDP), private fixed investment (percent of GDP), and interest payments (percent of GDP). Data are from 2000-2020 for most countries. Filled bars refer to values significant at 5 percent level.
Sources: World Bank Macro Poverty Outlook and staff calculations.

As markets perceive heightened risk from lending to high-debt countries, interest rates can start to rise and both governments and companies may come under pressure. Increasing financial fragility and higher debt are likely to increase the possibility of financial distress and reduce the availability of credit, FDI, research and development (R&D), as well as consumption. Expectations of lower future demand and productivity could further dampen new investment. All of these generate potential scarring effects and are likely to be relevant in the aftermath of the current crisis (Cerra et al. 2020).

Large exposure in the hard-hit services sector adversely affects employment and labor force participation. The protracted impact of the crisis on contact-intensive sectors, coupled with limited ability in the region to work from home, has substantially slowed down the recovery in employment (Figure 1.15). A slow reallocation of labor away from the most affected sectors could lead to low employment levels for several years. Discouraged workers could continue to move from the formal to the informal sector, reducing labor income. Moreover, the informal firms and workers were hit hardest by the lockdowns. This is particularly important given the estimated size of the informal sector in South Asia, the second largest after Sub-Saharan Africa (Figure 2.16.A). World Bank (2021a) documents in detail the channels through which informality globally has aggravated the effects of COVID-19—workers in the informal sector tend to be lower-skilled and lower-paid, with limited access to social safety nets and finance. Long episodes of unemployment and informality can lead to further skill losses, making the effects of the shock more acute (IMF 2020).

Figure 2.16 High informality pre-COVID and school closures during COVID-19 in South Asia



Note: Full school closures refer to situations where all schools were closed at the nationwide level due to COVID-19. Partial school closures refer to school closures in some regions or for some grades, or with reduced in-person instruction. EAP=East Asia and Pacific, ECA=Europe and Central Asia, LAC=Latin America and the Caribbean, MENA=Middle East and North Africa, SAR=South Asia region, SSA=Sub-Saharan Africa.
Sources: ILO, UNESCO.

Widespread school closures during COVID-19 are of particular concern, with evidence already suggesting the costs will continue into the long term. Across South Asia, countries had an average of 28 weeks of full closures between March 2020 and June 2021, ranging from 14 weeks in Maldives to 54 weeks in Bangladesh, and considerably higher than the world average of 18 weeks (Figure 2.16.B). Moreover, 5.5 million children in South Asia are expected to drop out of school due to COVID-related income losses—more than half of all global dropouts (Azevedo et al. 2021). All countries in the region had some form of distance learning. Many also implemented ways to facilitate distance learning, such as subsidized internet or device cost, or a free learning website (Table 2.4.A). But the effectiveness of distance learning varies across modes and countries. Survey reports highlight the challenges from a lack of internet, electricity, and TV at home, which became hurdles to providing equal opportunity learning for all (Table 2.4.B). The resulting long-term earnings losses for individuals and damages to aggregate productivity could be a key legacy of the COVID-19 crisis.

The aforementioned losses in years of schooling are expected to be costly for the region. The Long-term Growth Model (LTGM, more details in Appendix 2) is used to consider deviations in human capital growth from the pre-pandemic baseline and examine their economic implications. The model, which is calibrated for South Asia, uses the loss in years of schooling (LYS) as an input for the loss in human capital.[4] As the full extent of schooling loss is still unclear, a range of LYS is defined, based on different assumptions about the length of school closures in the region. Estimates produced in the third quarter of 2020 assumed that the region would see schools closed for three to seven months during the whole pandemic (World Bank 2020). More recent estimates assume that schools would be shut for nine months (Azevedo et al. 2021), which would lead to the loss of a full year of LYS for children in South Asia (World Bank 2021b). Given the uncertainty surrounding these estimates, three scenarios are considered: 12, 9, and 6 months of LYS lost. In each scenario, the effect of schooling losses on three cohorts of school-age children in 2020 is examined: the 5-9 year old cohort, the 10-14 year old cohort, and the 15-19 year old cohort (more details in Appendix 2).

4 LYS are years of schooling lost compared to the years that a child is expected to complete by age 18.

Table 2.4 Distance learning was available in many forms in South Asia, but effectiveness varied widely

A. Availability of distance learning platforms in South Asia (survey conducted May-June 2020)

	Availability of platforms (for at least one grade)				
	Radio	TV	Online	Take-home Package	Ways to facilitate distance learning
AFG	yes	yes	yes	yes	MoE website for online education
BGD	yes	yes	no	no	Radio, TV
BTN	yes	yes	yes	yes	Subsidized cost of internet
IND	yes	yes	yes	yes	Distance learning on mobile phones
MDV	no	yes	yes	yes	Access to internet at subsidized or zero cost
NPL	yes	yes	yes	yes	Subsidized/free devices for access
PAK	no	yes	no	no	Tele school - Taleem Ghar Ghar
LKA		yes		yes	Subsidized/free devices for access

B. Effectiveness of distance learning platforms in South Asia (survey conducted July-October 2020)

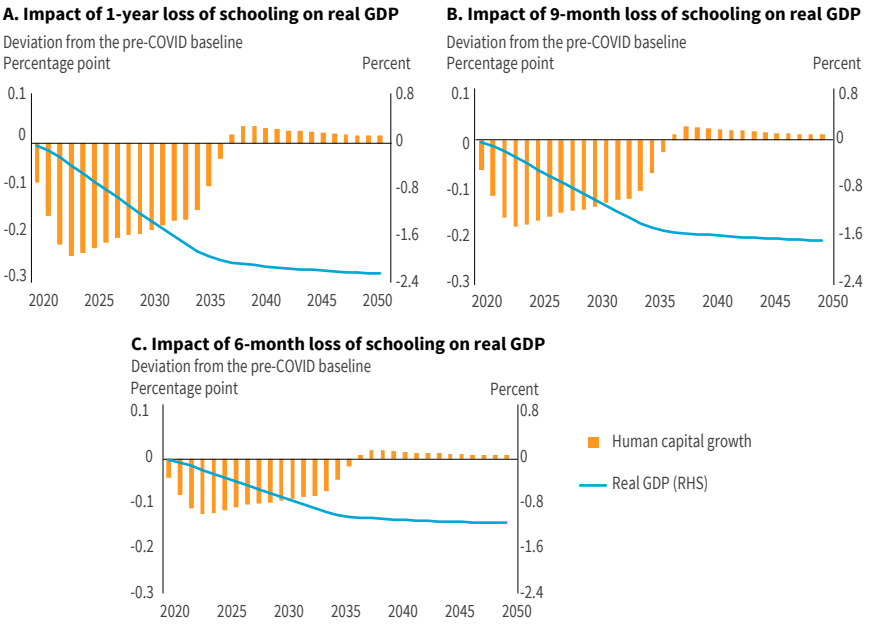
	Effectiveness of platforms				
	Radio	TV	Online	Take-home Package	Comments on effectiveness
AFG	Not	Not	Fairly		Lack of internet and electricity, and lack of capacity difficult to provide distance learning to all.
BTN	Fairly	Very	Very		
NPL	Fairly	Fairly	Not	Fairly	Low access to internet and TV in poor families, difficult to provide for all.
PAK		Fairly	Fairly		
LKA	Very	Very	Very	Very	Hotline where teachers answer students' subject questions is very effective.

Note: Survey responses are collected and submitted as one single response by the Ministry of Education in each country.
Source: Survey on National Education Responses to COVID-19 School Closures, Rounds 1 and 2.

The impact from the potential schooling loss can be long-lasting (Figure 2.17).[5] Human capital growth falls as the first cohorts with schooling losses join the workforce. The cohort that was 5-9 years old in 2020 will join the labor force by 2035 in the model, which will be the last year of slower human capital growth. Average annual deviations from the baseline GDP over the considered period are 1.5, 1.2, and 0.8 percent in the three cases respectively, with the effect getting stronger over the years as more cohorts with schooling losses enter the labor market.

5 The charts not only show the direct impact of human capital decline on GDP, but also the additional effect through the reduction in investments. The model assumes constant investment-to-GDP ratios. With a slowdown in human capital growth, GDP decreases relative to the baseline, which in turn reduces investments. That results in even lower GDP levels.

Figure 2.17 Loss of human capital can have sizeable long-term impacts on output



Sources: Output from World Bank's Long-Term Growth Model and staff calculations.

Despite the long-lasting damages from the COVID-19 crisis, past experiences with economic crises suggest that there is always a silver lining. After major recessions, there is often a spurt in growth. As less productive firms are placed through a creative destruction process, resources reallocate to more productive uses which increases total factor productivity. Disasters and crises are also times of great innovations, as evidenced by the recent burst of digital technologies being adopted in South Asia (Chapter 3). To unleash the growth potential and minimize the damages from COVID-19, policy makers need to strike a careful balance between preserving livelihoods, minimizing permanent damages from scarring, and promoting recovery in healthy sectors. Primarily, it will be necessary to: 1) reverse the setback to human capital accumulation by expanding social safety nets and allocating adequate resources to health care and education, 2) support productivity through policies to facilitate job mobility and promote competition and innovation, and 3) optimize public infra-structure investment, particularly in green infrastructure to help crowd-in private investment. Importantly, the increased use of digital technologies spurred by the COVID-19 crisis has the potential to accelerate the digital transformation of South Asia and therefore contribute positively to total factor productivity.

2.4 Green, resilient, and inclusive development post-COVID

The above discussion indicates that the challenges for policy makers during this recovery are difficult. With limited resources, the task is to mitigate the scarring effects of the crisis and to unleash the potential of the digital innovations triggered by the crisis. At the same time, to maintain social cohesion it is crucial to reduce inequalities that sharply increased during the pandemic. And one more lesson needs to be drawn from the crisis: the region is not prepared to absorb major disasters. With climate change, South Asia can anticipate more large-scale crises much like the current one, underlying the importance and urgency for the region to increase the ability to adapt and mitigate.

Already, more than half of all South Asians, or 750 million people, have been affected by one or more climate-related disasters in the last two decades, with the estimated damage worth more than $150 billion (World Bank 2021b). The changing climate is likely to trigger even larger disasters in the future. Mitigation and adaptation efforts are needed to better prepare the region for this future. To support countries as they take up these difficult challenges during the recovery, the World Bank has developed the *green, resilient, and inclusive development* (GRID) framework. To achieve a more sustainable and equitable recovery and long-term development paradigm, GRID involves reforms in several cross-cutting areas (Table 2.5). These reforms aim to address all forms of capital: human, physical, natural, and social, in a balanced and country-specific way. The following paragraphs discuss the potential for South Asia to adopt the GRID framework.

Climate change mitigation involves ex-ante actions that reduce greenhouse gas (GHG) emissions to prevent the planet from warming to more extreme temperatures. For instance, increased use of **renewable energy** can lower air pollution and improve health outcomes by reducing GHG emissions. Furthermore, it could generate demand for green jobs and increase growth prospects. As the world's second richest country in inland water resources, Nepal's hydropower potential can be harnessed not only to provide electricity to its residents, but also as a potential source of revenue (IFC 2014). Bhutan has hydropower potential that has already made it the only South Asian country to export energy (ADB 2014). Almost 80 percent of the population in Bangladesh, 60 percent in India, and 52 percent in Pakistan are exposed to pollution from the burning of solid fuels such as wood, coal, and dung (Mani and Yamada 2020). These practices generate both outdoor and indoor air pollution, which is one of top five leading causes of death in the region (Ritchie and Roser 2019). The **cookstove transition** can improve not only the environment, but also the health outcome of the most vulnerable. Medical waste incineration is sometimes the

safest option to protect the population from exposure to hazardous medical waste. Unfortunately, this practice often contributes to pollution, and improved **waste management** in the health care system can minimize harm to the environment.

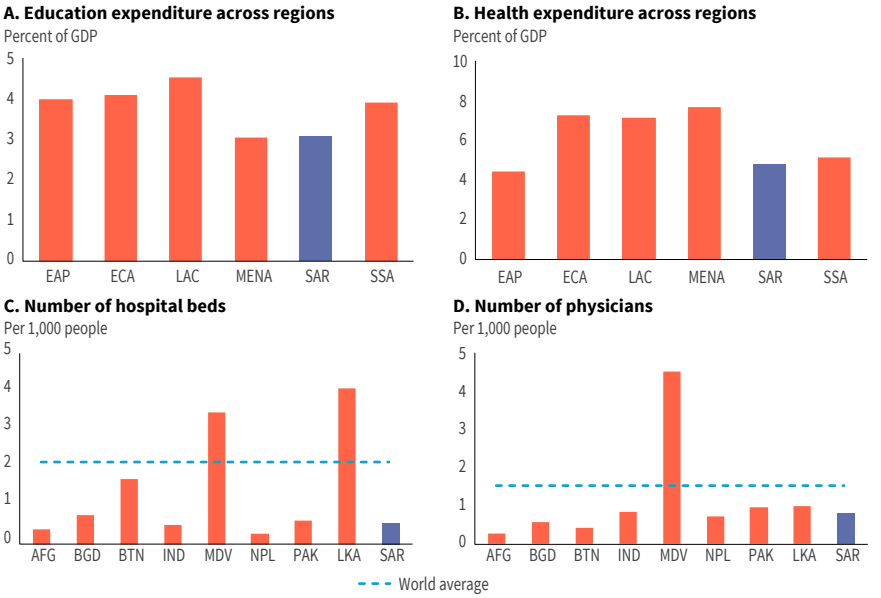
Climate change adaptation involves ex-post actions to adjust to actual or expected climate effects. Initiatives that promote **climate smart agriculture**, such as the integrated irrigation project in Odisha, India, can minimize the impact of agriculture on the environment and protect the livelihoods of rural households (World Bank 2021c), which are more likely to be poor. Plans to **strengthen disaster preparedness** will prepare schools to be used as emergency shelters in Bangladesh, and can meet the needs of poor communities (World Bank 2021d).

Investment in education improves human capital and resilience. Investment in education is one of the most effective ways to promote human capital accumulation. According to the latest statistics, South Asia only spends around 3 percent of GDP on education, which is the second lowest of the six developing regions (Figure 2.18.A). The opportunity to increase investment in education can prepare workers to meet future labor market demand in a greener economy, thereby delivering on growth and climate goals. For South Asia, this should go hand in hand with basic infrastructure. Specially, during the pandemic, the lack of effective distance learning in the region has exposed the deficiency in basic infrastructure (Section 2.3). To make education more resilient to future shocks, increasing education capacity necessitates investment in infrastructure.

Expanding the capacity of the public health system can also boost overall resilience. Similarly, South Asia's health expenditure is about 5 percent of GDP, which is the second lowest expenditure share in the world. The region's health care capacity, measured by hospital beds and physicians per 1,000 people, lags world averages, with only Maldives and Sri Lanka at levels above or close to the world averages (Figure 2.18.B-D). The relatively low capacity in the health system not only impacts health and other human capital outcomes during normal times, but it also makes countries vulnerable to large-scale health shocks, as demonstrated during the most recent COVID-19 waves.

Increasing the resilience of the region's health system also necessitates investment in supporting infrastructure. This includes water and sanitation and transport for a more inclusive access to the system. Additionally, adaptive social protection can build resilience and protect human capital by responding to shocks, including climate-related ones. A robust social protection system will allow countries to respond to emergency needs quickly. Selected states in India and Sri Lanka

Figure 2.18 South Asia lags in health and education spending and health care capacity



Note: Latest numbers of hospital beds are reported in 2017 for Afghanistan, India, Pakistan, Sri Lanka, South Asia aggregate, and the World; in 2016 for Bangladesh; 2012 for Bhutan and Nepal; 2019 for Maldives. Numbers for physicians are all reported in 2018, except for Afghanistan, which was reported in 2016; Maldives in 2019; and World and SAR in 2017. EAP=East Asia and Pacific, ECA=Europe and Central Asia, LAC=Latin America and the Caribbean, MENA=Middle East and North Africa, SAR=South Asia region, SSA=Sub-Saharan Africa.
Sources: World Development Indicators and Maldives Health Profile (2019).

are developing natural shock responsive social protection systems that will reach people, such as informal workers, who may not currently be registered in the social protection system (World Bank n.d.).

To safeguard the health of the financial sector, it is necessary to strengthen its resilience. The substantial fiscal policy interventions and accommodative monetary policy during the pandemic and recovery periods have helped households and companies survive and recoup. But these policies often mask and, in some cases, exacerbate underlying vulnerabilities in the financial sector. These include fast accumulation of debt in the private sector, rapid growth in asset prices and domestic credit, and artificially low non-performing loan ratios (Section 2.2). Going forward, policies that support credit and liquidity in the economy should become more targeted to help firms with healthy fundamentals that are lagging in recovery. Banks also need to re-examine balance sheets to identify bad loans and reduce banking sector systemic risk.

The expansion of efficient social protection is necessary to improve labor market outcomes and reduce inequality. South Asia has one of the highest shares of informality (Figure 2.16.A). The pandemic has further increased informality (Bussolo et al. 2021), which could amplify the existing poverty and inequality problems (Section 1.4). To address rising inequality and protect lives and livelihoods, social protection needs to be expanded and coupled with good governance.

Last but not least: to achieve green, resilient, and inclusive development, countries need to manage their fiscal space carefully. Countries in the region, like most developing countries in the world, face tighter constraints now than at the start of the pandemic. To support long-term growth and development, countries will need to clearly state the priorities, carefully design more efficient social protection policies, and generate new sources of income (Box 2.3).

Table 2.5 The GRID approach involves reforms in key cross cutting areas

Green	Resilient	Inclusive
Food & land use systems • One Health • Agricultural subsidy reform **Transport & urban infrastructure** • Air pollution, health, and jobs (Mass transit, Green logistics, E-mobility, Fleet renewal, and trade- in used vehicles) **Energy systems** • Access to clean and affordable energy • Fossil fuel subsidy reform and pricing and social protection • Coal transitions including cross-cutting social safety nets, with education and labor market programs	**Institutions** • Expand early warning systems • Risk-informed urban planning • Shock-responsive social safety net programs • Food & water security **Infrastructure** • Pandemic preparedness and rapid response (disease surveillance, registry system) • Ensure critical service delivery & access, especially in poor and informal communities • Education, skills, jobs to scale up nature-based solutions **Economies** • Disaster risk financing strategies • Sustainable financing, including counter cyclical response • Fiscal policy, debt restructuring, fiscal consolidation and reform, domestic resource mobilization, and green financing	**Green transition** • Retraining to facilitate the transition across sectors (including girls in STEM) • Labor market and stimulus programs for green transition **Gender** • Invest in women's leadership for a new economy • Increase female labor market participation and reduce barriers to their full participation in the economy (e.g., safety in transport, childcare) **Vulnerable and marginalized groups** • Community-driven approaches for service delivery • Inclusion of persons with disability • Closing the digital divide and ensuring access to infrastructure, including water, sanitation, transport, power, internet

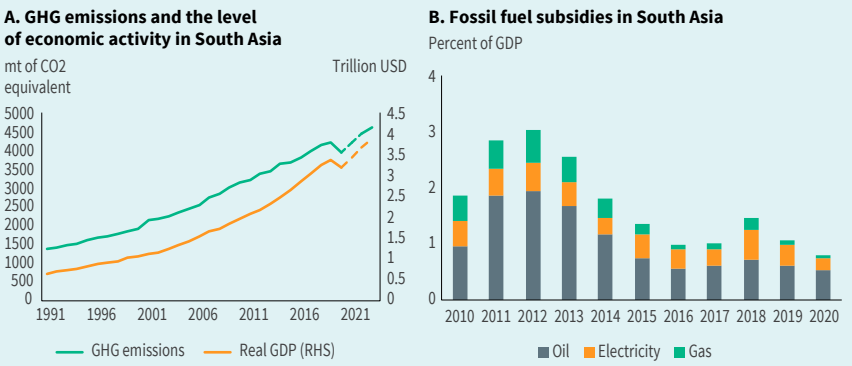
Note: Adapted from World Bank (2021e).

Box 2.3 Toward a low carbon future in South Asia

Addressing climate challenges while simultaneously meeting South Asia's high economic growth ambitions may seem daunting. Historically, there has been a strong link between economic growth and rising emissions in the region (Figure 2.19.A). However, policy makers can rely on a combination of instruments that could lead to emissions reductions in the near term, while unlocking new sources of economic growth and job creation. That would signal an unwavering commitment to contribute to combatting climate change and help meet countries' obligations under the COP21 Paris Agreement to reduce climate harming emissions, while achieving multiple social, environmental, and economic objectives. Such policy options could comprise: (i) phasing out fossil fuel subsidies, (ii) implementing carbon taxes, and (iii) fostering green public investment in low carbon and resilient infrastructure.

Fossil fuel subsidies in South Asia have declined since 2010, yet about 1 percent of GDP is still allocated to oil, gas, and electricity subsidies (Figure 2.19.B). Although intended to ensure affordable energy, these subsidies tend to disproportionately benefit higher-income groups (Coady et al. 2015) and damage the environment because they discourage energy savings. Their phasing out would, therefore, improve both fiscal and environmental efficiency.

Figure 2.19 The emissions in the region are already projected to be above the pre-pandemic level in 2021, despite the temporary slowdown in 2020



Sources: World Bank Macro Poverty Outlook and International Energy Agency.

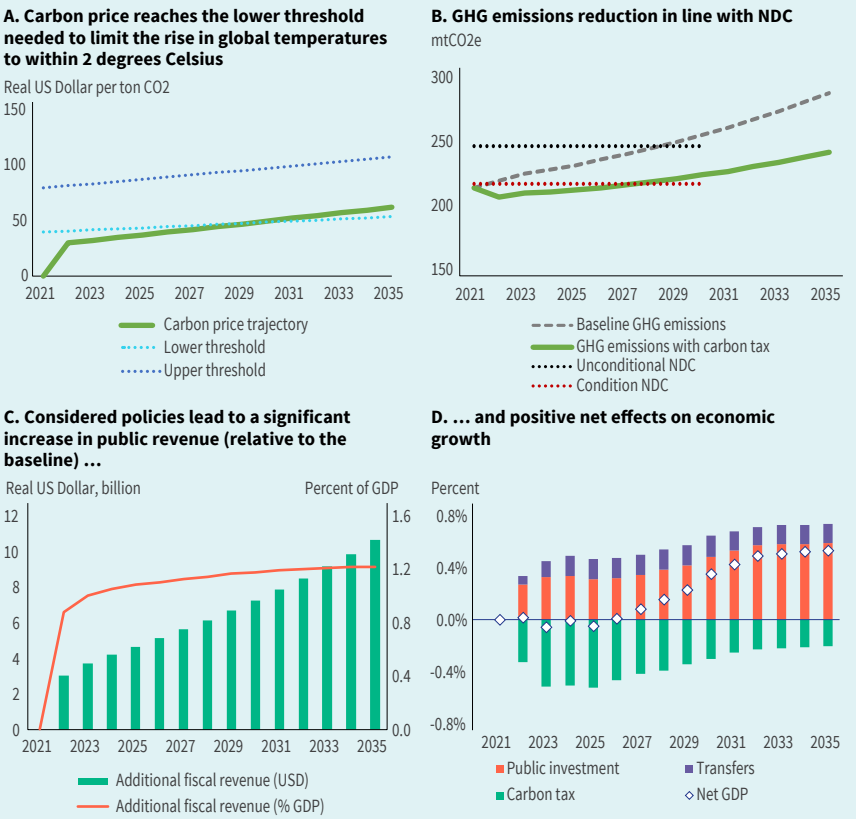
Adjusting carbon prices, based on the costs associated with using carbon-intensive goods and services, would incentivize less carbon-intensive behavior and stimulate innovation and green technology adoption. The green transition is particularly attainable due to the region's abundant renewable energy resources, including hydropower, solar, ocean, thermal, and wind power. One potential concern with the energy reform is its distributional impact. Carbon tax implementation would increase energy prices, and the most vulnerable segments of society may be disproportionately affected. For this reason, these policies should be accompanied by steps to ensure their costs and benefits are distributed fairly. Given the potential revenue generation, the reform would open fiscal space to expand public expenditure, build health care and social protection systems, and provide universal access to infrastructure services such as modern energy, water and sanitation, mobility, and access to information, internet, and communication.

To illustrate the potential impact of the energy reform in the region, the simulation uses the Carbon Pricing Assessment Tool (CPAT)[6] calibrated for Bangladesh. Bangladesh is one of the most vulnerable countries to climate change, with an estimated annual GDP loss of around 2 percent by 2050 (World Bank 2018). At the same time, it is an extremely resource-constrained country, with public revenue averaging only 10 percent of GDP over the last decade. Energy reform benefits, therefore, would not only lead to the reduction of GHG emissions according to the COP21 Paris Agreement, but also allow for an expenditure increase on targeted social protection, infrastructure, and investment in climate adaptation (including infrastructure). The 8th Five-Year Plan adopted by the Government of Bangladesh for 2020-2025 recognizes the importance of addressing economic progress together with environment, climate change, and disaster risk management in the planning and budgeting processes. Against that background, it is necessary to develop an analytical framework that would help to explore available policy options and their implications. Our analysis is an example of how it could be considered. The hypothetical reform introduces a carbon

6 The Carbon Pricing Assessment Tool (CPAT) is a spreadsheet-based tool developed by the World Bank and IMF that allows for rapid estimation of the effects of carbon pricing and fossil fuel subsidy reforms along several economic and non-economic dimensions. These include key macroeconomic variables, energy consumption, local and global pollutants, "development co-benefits," and distribution/equity and poverty.

charge of $30 per tCO2 in 2022, rising to $50 by 2030 (Figure 2.20.A) and an eight-year phasing out of fossil fuel subsidies. Generated revenues are split between public investment and lump-sum transfers. Lump-sum transfers could be used to address inequality as well as the political economy aspects of the reform.

Figure 2.20 Carbon charges in Bangladesh could induce significant emission reductions along with other benefits



Note: The 2015 nationally-determined contributions (NDC) target for Bangladesh is a 3.5 percent reduction and a 15 percent conditional reduction in emissions in 2030 against business-as-usual. Conditional NDC is conditional on climate finance.
Source: Carbon Pricing Assessment Tool (CPAT) simulations.

The simulated impact of the energy reform for Bangladesh shows that a proper policy mix could lower GHG emissions and help meet specific nationally-determined contributions (NDC) targets (Figure 2.20.B). Additionally, the reform could potentially raise substantial revenues of

almost 1.5 percent of GDP annually against a baseline of maintaining the existing excise regime (Figure 2.20.C). This is a significant amount, given Bangladesh's low public revenue. Recycling resources can mitigate negative impacts on the poor but also offset the adverse effects carbon taxation has on economic growth. The multiplier effect through increased public investment and transfers prevails in the medium term, leading to a positive net effect on growth (Figure 2.20.D). Finally, the simulation provides an estimate of the overall monetized welfare effect that in addition to economic costs considers the benefits that could come from reduced air pollution, transport improvements, and avoided climate damages. This estimate implies positive welfare implications over the whole period, equivalent to an average annual benefit of around 0.25 percent of GDP relative to the baseline.

Welfare effects are likely to be more positive in developing countries where air pollution may have a more disastrous impact and congestion in cities reduces the benefits from agglomeration externalities. Direct improvements in human health or reductions in congestion and accidents can be very large under such conditions (Gadepalli 2021). Last but not least, energy reform can help finance ministries raise much-needed domestic funds at a lower cost than some conventional sources of public revenues. In the second phase of the post-COVID recovery, when fiscal consolidation might become pressing in some countries, further discussion on the potential of carbon taxes will be essential.

Appendix 2 Long-term growth model

The Long-term Growth Model (Loayza and Pennings 2018) is based on Solow (1956), Swan (1956), and Hevia and Loayza (2012). The economy consists of a single sector that produces output using physical capital K_t and effective labor $h_t L_t$. A_t denotes total factor productivity (TFP), which determines the aggregate efficiency of the economy. The relationship between inputs and output is governed by the Cobb-Douglas production function given by:

$$Y_t = A_t K_t^{1-\beta} \left(h_t L_t\right)^{\beta}$$

where β is the aggregate labor share of income, while effective labor is decomposed into human capital per worker h_t and the number of workers L_t. The total number of workers can be written as:

$$L_t = \rho_t \omega_t N_t$$

where ρ_t is the participation rate, ω_t is the working age to total population ratio, and N_t is the total population.

Physical capital in the next period K_{t+1} is formed by undepreciated capital $(1 - \delta) K_t$ and new investment I_t:

$$K_{t+1} = (1 - \delta) K_t + I_t$$

Headline GDP growth $g_{y,\,t+1}$ could be decomposed using a log-linear approximation into different growth fundamentals, where $g_{x,\,t+1}$ is the growth rate of factor x from t to $t+1$:

$$g_{y,\,t+1} = g_{A,t+1} + \beta\left(g_{h,\,t+1} + g_{\omega,\,t+1} + g_{\rho,\,t+1}\right) + \left[\frac{1-\beta}{\frac{K_t}{Y_t}}\right]\frac{I_t}{Y_t} - (1-\beta)\delta + g_{N,t+1}$$

$(1 - \beta)/(K_t/Y_t)$ is the marginal product of capital (MPK), or the inverse of the marginal ICOR (mICOR), which determines the effectiveness of investment in boosting growth. An increase in K_t/Y_t, for example, from excessive investment, would decrease the MPK and increase the ICOR.

In order to solve the model, we need to input several exogenous variables:

- Parameters for β (the labor share), δ (the capital depreciation), and K_0/Y_0 (initial capital-to-output ratio)

- Assumption of paths for $\left\{g_{A,t}, g_{h,t}, g_{\omega,t}, g_{\rho,t}, g_{N,t}, I_t/Y_t\right\}_{t=1}^{T}$

The model is calibrated for South Asia, as a weighted average of parameter values for three countries (Bangladesh, India, and Pakistan) that comprise more than 95 percent of the regional GDP. Specific values come from a range of data sources (as single values or historical averages), including Penn World Tables version 10, Global Trade Assistance and Production Model (GTAP), the International Labour Organization, WDI, World Bank Health Nutrition and Population Statistics, or country authorities. When missing, parameters or initial values are interpolated based on income group averages (the labor share for Bangladesh).

Assumptions necessary for the scenario analyses are also data driven.

Calculation of human capital decrease as a result of years of schooling loss relies on a beta version of an in-house developed tool LTGM-HC. For each of Bangladesh, India, and Pakistan, we assume that kids lose one year of schooling in 2020. This only affects kids in school in 2020: the 5-9 year old cohort, the 10-14 year old cohort, and the 15-19 year old cohort (earlier and later cohorts are by assumption unaffected).

This causes human capital growth to fall in 2025 when the 15-19 year old cohort joins the workforce (they will be ages 20-24 then). The level of human capital will continue to be lower than the no-COVID-19 baseline until the age 5-9 cohort leaves the workforce—but that will be after 2050. However, the growth rate of human capital depends mostly on the human capital of those people entering relative to those leaving. The 5-9 year old cohort in 2020 will join the labor force in the model by 2035, which will be the last year of slower human capital growth. From 2040 onward the new cohorts entering the labor force (who were ages 0-4 in 2020), were mostly unaffected by school closures and so will have the same human capital as in the baseline. However, as the level of human capital is lower, the education of the

unaffected cohorts will be marginally higher in relative terms, leading to a slightly higher growth rate of human capital in the scenario with COVID-19.

The return to quality-adjusted education in the LTGM-HC is 12 percent. We assume a one-year fall in education of selected cohorts. However, in India, quality is 0.638, so the human capital of the affected cohort falls by $e^{0.12\times0.638} - 1$ = -7.4 percent. In 2025, the oldest cohort affected is about 14.5 percent of the working-age population, and so a rough estimate of the fall in human capital is -7.4 × −14.5 = - 1.07 percent. However, this happens over five years as that cohort joins the workforce, and so the annual change in human capital is closer to $(1 - 0.0107)^{\frac{1}{5}} - 1 = -0.2$ percent (very similar to the rates in the sheet). For the COVID-19 shock, this occurs for about 15 years, as the three affected cohorts join the working-age population. In Bangladesh, the education quality (scaled test scores) is 0.589, and the workforce share of the 20-24 year-old cohort in 2025 is also about 14.5 percent. Hence the effect on human capital growth is $e^{0.12\times0.589} - 1$ = -6.8 percent and scaling by the population share is 14.5 × −6.8 = −0.99 percent. And annual human capital growth will be $(1 - 0.0099)^{1/5} - 1 = -0.2$ percent—very similar to India. In Pakistan, the quality of education is marginally lower (0.542), yielding a slightly smaller five-year fall in human capital of the affected cohort (-6.3 percent). But that cohort in 2025 is a slightly larger fraction of the working age population (17 percent), and so the five-year average fall in human capital growth is a very similar -0.22 percent.

In the short run, the effect of a fall in human capital growth on GDP growth is $\beta\Delta g_h$, where β is the labor share of GDP. As above: $\Delta g_h = -0.22$ and in South Asia $\beta \approx 0.5$. This suggests that growth should fall by around 0.1-0.15 percentage points for 15 years.

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CHAPTER III

Shifting gears: digitization and services-led development

Introduction

The disruptive effects of COVID-19 have accelerated the digital transformation of service activities amid a shakeup of global economic activity. As South Asia adjusts to a new normal, policy makers in the region have an opportunity to rethink what type of development model to pursue. This chapter looks at recent evidence on changes in firms, sector links, technology, and employment in South Asia to consider whether services-led development is feasible. If services can, either directly or through their impact on other sectors, raise exports, boost productivity, and generate jobs with the appropriate types of skills, services-led growth may become a successful new development model for South Asia.

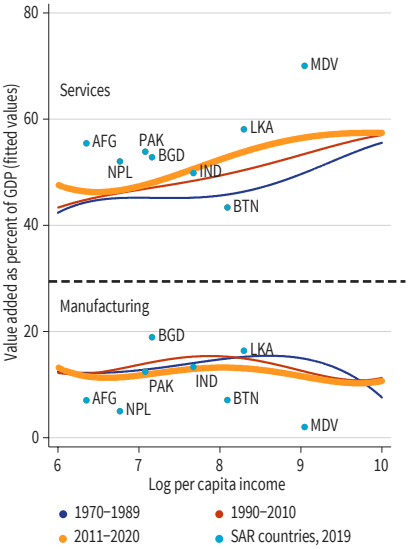
The chapter is divided as follows. Section 3.1 discusses the trends and conceptual framework under which a services-led growth model is feasible. Section 3.2 discusses the role of services exports and the insertion of services into global value chains. Section 3.3 looks at the indirect impact of services on productivity, either because services add value to manufacturing production or through the increasing adoption of digital platform technologies. Section 3.4 examines whether the changing structure of the labor force in South Asia is conducive to services-led growth. Section 3.5 considers some policy implications.

3.1 Services-led growth is now possible

Until recently, the dominant model of development for middle-income countries was having the manufacturing sector as the driver of growth. This model explains well the development path toward high-incomes in OECD countries over half a

century ago, as well as in Japan in the early 1970s and in East Asia and China more recently. Bangladesh is a poster child for a low-income country propelled to middle-income ranks by manufacturing exports that were driven by early development—with the additional benefit of major improvements in female labor force participation and thus better health and education outcomes.

Figure 3.1 Services are increasingly the dominant share of GDP globally, regardless of the level of development. Except for Bangladesh, manufacturing is less important in absolute and relative terms



Source: World Development Indicators and authors based on Eichengreen and Gupta (2011) methodology.

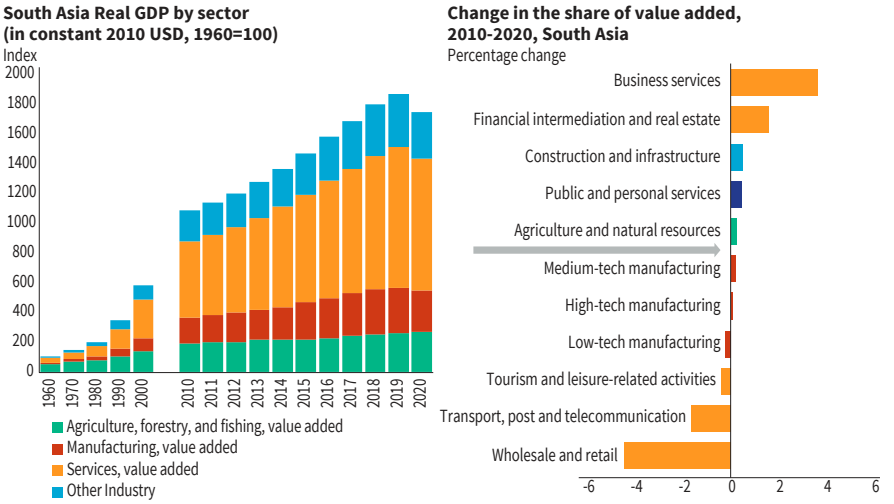
The services sector is increasingly dominant. In recent years, most high-income countries have been shedding employment in manufacturing due to automation. But even in developing countries, manufacturing's shares in GDP and total employment have not grown nearly as much as in countries at the same stage of development 30 years ago. Instead, both poor and rich countries' GDP comprises mostly, and increasingly, services (Figure 3.1). South Asian countries on average have an even larger share of services to GDP for their level of development, except for Bhutan.[1] The increasing share of the services sector in total GDP in the last 10 years has also been accompanied by a shift in employment from the agricultural sector into the services, construction, and infrastructure sectors. Manufacturing has been mostly bypassed.[2]

The rising prominence of services is even greater if its contribution to other sectors is properly considered. Several factors still obscure their real importance and their impact on manufacturing. First, there is an inherent problem in measuring services (Box 3.1). Second, services sectors are not monolithic: they consist of a diverse set of activities, with some strongly linked to manufacturing and others not (Figure 3.2). Finally, even the modern manufacturing sector has transformed in the last

1 Bhutan is a large electricity producer and is also large in agriculture and metals mining.

2 There has been a parallel debate regarding the growth prospects of small states, and whether the market is too small to allow these countries to diversify production. Many must necessarily bypass manufacturing and move into services. There are many successful cases of such countries "(Abu Dhabi, Panama, Mauritius; Nayyar et al. 2021). Maldives and Bhutan would clearly fall into this category.

Figure 3.2 Services are not monolithic: though services are the largest and fastest-growing sector in South Asia there has been a substantial shift within sectors in the last decade



Source: World Development Indicators (accessed September 5, 2021) and ADB MRIO. Details in Table A3.1.

few decades through task specialization and the formation of global value chains, meaning many of those who work in the manufacturing sector are engaged in providing services, not in manufacturing (see Section 3.4).

Box 3.1 Measurement issues in the services sector

If what gets measured gets studied, it is all the more important to expand the availability and quality of data on services. To understand the performance of the services sector, it is crucial to measure the output it produces, the inputs it uses, its productivity (the efficiency through which firms use their inputs to produce services), and the extent to which it is traded. While capturing these metrics is far from straightforward even for the manufacturing sector, the measurement challenge is significantly greater for the services sector.

- *Measuring output.* Services outputs often cannot be measured in tangible quantities and may be highly customized. Revenue-based measures of output capture both the market power of firms as well as the quality of the service, but data on prices and quality are often lacking or incomplete. Measuring the output of nonmarket services (such as education

and health) and financial services (where even sales are difficult to define) pose additional challenges.

- *Measuring inputs.* Physical capital plays a small role in most service sectors, unlike in manufacturing firms. Intangible forms of capital and human capital are more important in services—but both are also more difficult to measure.

- *Estimating productivity.* This requires combining inputs and outputs into one measure, most commonly either labor productivity (value added per worker) or total factor productivity (TFP), which controls for capital. The difficulty in separating prices and quantities often precludes the use of quantity-based productivity measures (such as quantity-adjusted TFP), meaning that productivity measures become intertwined with both market power and quality differences (Nayyar, Hallward-Driemeier, and Davies 2021).

- *Measuring trade in services.* Services do not cross borders as goods do and thus mostly go unnoticed in customs records. Services trade often relies on providers (such as through temporary migration) or consumers (as in the case of tourism) to cross a border or on firms to establish a foreign presence (in the case of FDI). This makes trade inherently harder to measure and requires the use of multiple data sources.

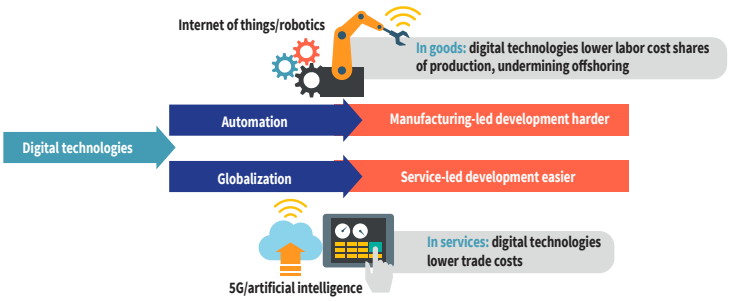
As a result, oftentimes the high value added per worker in the manufacturing sector is attributed to manufacturing, when much of that value is created by services. Adding to these measurement challenges is the fading border between manufacturing and services.

"Free" digital services pose yet another difficulty. Many digital services, such as search engines and social media, are provided for free (or at a low cost) and therefore lack an easily measured market price. Therefore, the value of these services either remains unmeasured, is difficult to attribute, or is measured through the value of advertising, which usually provides the vast share of revenue. The latter does not necessarily capture the unit value, in other words, the full benefits that consumers gain from using these services.

Globalization and digital technology have radically changed the role of services, which has major implications for trade in goods and services, and thus development (Figure 3.3). Due to technologies such as 5G, robotics, 3-D printing, virtual

reality, and digital electronic content, it is no longer necessary for people to move to provide services (Baldwin and Forslid 2020). For example, in the past a technical advisor for a sophisticated machine had to be physically present to maintain it, and this can now be done virtually. As travel is restricted during the pandemic, this is in many cases the only option. At the same time, robotics and automation have lowered the labor share in total production cost, thus reducing the labor savings from offshoring the fabrication process. Consequently, manufacturing-led development will become much harder in the future for countries at the middle-income stage. On the other hand, services-led development will become much easier, and possibly be the only option, particularly for countries already engaged in high-demand services. This is good news for South Asian countries which, except for Bangladesh and Pakistan, specialize in services exports. There is a growing sense among economic experts in the region that services-led growth is possible in South Asia, a trend that has accelerated post-COVID (Box 1.4). Though traditional views are still dominant: more than half of survey respondents still believe manufacturing-led growth is more likely, and a majority of that half were based in Bangladesh or Pakistan.

Figure 3.3 Digital technologies are changing the tradability of goods and services: services-led growth may be the only option for South Asia



Source: Baldwin and Forslid (2020).

What changing attributes now allow services to drive development?

Underlying the manufacturing-led growth model was the notion that inherent characteristics of manufacturing goods made them more amenable to production at scale and facilitated export growth, thus creating the right conditions for sustained growth. By contrast, services were largely non-tradable, required physical presence so were not scalable, and were non-uniform and not amenable to an organized structure (Baumol 1967). Digital technologies have made many services more tradable, scalable, and uniform, and reduced the importance of physical presence, though the skills requirements are very different, as will be discussed below. In Table 3.1, the second column summarizes the attributes that made manufacturing-led

growth the most viable pathway, while the third column shows why these traits are not only present, but increasingly salient in the production of services.

Table 3.1 Characteristics and traits of manufacturing-led and services-led growth

Characteristic	Arguments for why manufacturing-led growth is the most plausible	Counterarguments due to new possibilities: services-led growth has these...and more!
Tradability (depends on opportunities to export abroad and global value chain participation)	Goods are *tradable and do not require a physical presence to be consumed*—unlike many consumer services—meaning demand can expand beyond domestic frontier.	Services do not have to be directly traded if value added is *embodied or bundled* with goods. Moreover, remote work and digital technologies have broken down communication barriers globally.
Productivity (depends on size of production unit, organizational structure, and economies of scale)	Factory production requires a *well-organized production structure*, unlike the "disorganized" informal sector. Economies of scale are easily achieved through investment in physical capital.	Digital platforms automatically provide *access to the market* and to related logistics at low cost, while providing workers more *flexibility. Network externalities* in digital technologies and infinite divisibility in services supply provide economies of scale and scope.
Skills requirements (profile of jobs amenable to sustained growth)	Manufacturing had the ability to *absorb large amounts of low-skilled labor* and provide stable jobs that could raise incomes.	*Start-up costs are relatively low*, with no need for large physical capital sunk costs to complement labor. Through human capital accumulation, business networks and skills acquisition matter more.

There is increasing evidence of these characteristics in services production:

- **Tradability reduces proximity burden and trade opportunities beyond local markets** (Nayyar et al. 2021)**.** Digital platforms have reduced the need for physical proximity in matching demand and supply for many services once considered non-tradable. Take the example of travel apps such as Booking.com and MakeMyTrip, which have boosted the demand for accommodation and transportation services. The efficiency gains are evident. Booking.com helped its clients gain an average of 7 percent more revenue by helping them identify consumers across the world whose data indicate they would be willing to pay more (Li, Nirei, and Yamana 2019). There are similar possibilities to achieve scale in arts, entertainment, and recreation services, where streaming platforms such as Netflix and YouTube have a wide global reach and are fast enabling artists from South Asia to export their creative content to international markets at low costs. The emergence of digital platforms is also associated with a new form of online outsourcing for computer programming and other professional services, whereby low search costs enable clients to contract third–party individuals as freelancers. The Oxford Internet Institute's iLabour Project estimates that the number of

online gig workers in software development services who completed projects on the five largest English-language labor platforms increased fourfold, from 10 million to 40 million, between June 2017 and October 2020. This has expanded the places jobs can be done, with about half of all such freelancers based in Bangladesh, India, and Pakistan alone.

- **Productivity gains from ICT-based automation and business management improvements are significant, regardless of the size of the production unit.** There is increasing evidence of efficiency gains from the automation of general business functions and the use of new technologies. For example, small retail enterprises in Senegal that use software apps to facilitate inventory management, payments, accounting, and other business functions have higher labor productivity and total sales on average than those that do not use such apps (Atiyas and Dutz 2021). Using data from the hospitality industry in South Africa, Cohen and Olsen (2013) found that higher-performing establishments have better, more integrated IT systems in place. The scaling up and efficiency gains in services production are mostly based on increasing intangible capital. For example, improved management practices and branding associated with the diffusion of ICT have enabled firms to scale production by replicating establishments in multiple locations near consumers. Gawande (2012) cites the Cheesecake Factory, a restaurant chain that has invested in ICT technologies and management practices that determine the optimal staffing, daily food purchases for each restaurant, and create a well-oiled process for introducing new menu items. Importantly, services provision to manufacturing can also benefit from economies of scale. For example, a payroll processing or machine maintenance firm can replicate its service model for all its clients regardless of the manufacturing firm's specialization.

- **The part of services that can drive overall growth creates a diverse set of jobs.** Digital platforms increase productivity (e.g., ridesharing apps) and make hospitality services more tradable across borders. In the process, they create ample low-skilled jobs. On the other hand, business administration and ICT, core to service-led growth, require a critical mass of high-skilled workers. For example, India's business processing export sector is skill-intensive. The challenge is to continue to create incentives to upgrade skills. When that challenge is met, services-led growth will also be the catalyst for necessary human capital accumulation in South Asia.

To understand more closely the dynamics that are developing in the services production sectors in South Asia, the next sections of the chapter examine the three

components of services-led growth in more detail: (i) direct and indirect export of services; (ii) efficiency enhancement of manufacturing firms enabled by services, as well as increased productivity through digital platforms; and (iii) upgrading of skills and occupations.

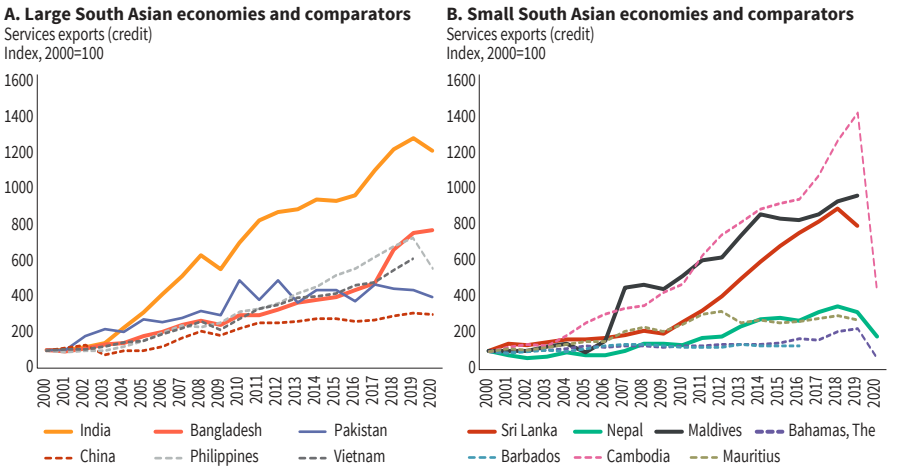
3.2 Services are tradable

Services can be exported directly, or indirectly through their contribution to manufacturing exports at home and abroad.

3.2.1 Direct exports of services

South Asia has a significant comparative advantage in exporting services, particularly business process outsourcing (India) and tourism (Maldives, Nepal, Sri Lanka, and, increasingly, Bhutan). While Bangladesh and Pakistan are traditionally manufacturing exporters, services exports are taking off there too.[3] Exports of services for India and Bangladesh have been growing faster than a set of comparator countries—Indonesia, the Philippines, and Vietnam—since 2000 (Figure 3.4.A), and for Nepal and Maldives against tourism exporters (Figure 3.4.B).

Figure 3.4 Services exports since 2000 have grown comparatively quickly in India, Maldives, Sri Lanka, and more recently in Bangladesh



Source: World Development Indicators and IMF Balance of Payments Statistics BPM6.

3 Note that Bangladesh, Sri Lanka, and Pakistan have some of the highest levels globally of revealed comparative advantage of exports measured in value-added terms for textiles and garments.

The ICT revolution in the 1990s changed the underlying characteristics of a range of IT-enabled business and professional services, and India took advantage of those changes to export services directly. Digital electronic content made these services more storable, codifiable, and transferable, and therefore more scalable. Similarly, innovation through R&D since the 1990s has been largely concentrated in ICT multinationals owing to software patents. Due to India's participation in this fast-growing sector the nation was the eighth largest exporter of software and other ICT services globally by 2017 (Branstetter, Glennon, and Jensen 2018). Among the other, most successful low- and middle-income countries (LMICs), business process outsourcing (BPO) services have been pivotal in the evolution of the Philippines from an agriculture-based economy where manufacturing has played only a limited role. Similarly, Costa Rica was a pioneer in attracting offshore BPO services to Latin America. This model could be dubbed "services-led export growth without a manufacturing core."

Despite the impressive growth of India's services exports, particularly in the decade ending in 2010, this growth is still significantly below potential, which could relate to internal barriers as well as international requirements on data privacy and licensing, among others, which act as barriers to trade in services (World Bank 2019a).

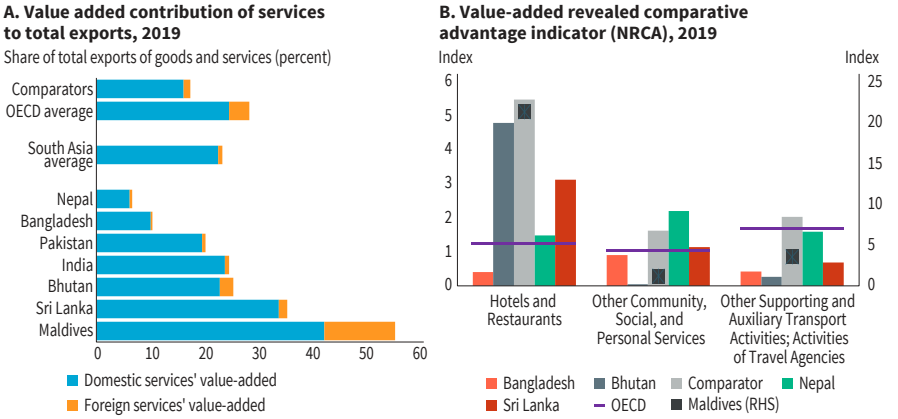
For the small South Asian states of Maldives, Bhutan, and Nepal, this pathway is the only option, given the limitations on diversifying production. In the services subsectors that comprise the tourism industry, Maldives is a clear leader globally. Not only are its gross exports in the sector very high, but also the value-addition within the country is significantly above average in three key tourism-related sectors shown in Figure 3.5.A. Importantly, most of the value-added contribution to exports originates domestically. The strength of the forward linkages and the ability of the production process to impact the rest of the domestic economy is important for a model of development based on services exports to work.[4] Maldives also has a large lead in terms of the revealed comparative advantage of the hotels and restaurants sector in value-added terms (Figure 3.5.B).[5] Nepal has the third-highest level globally of value-added revealed comparative advantage in "Other Community, Social, and Personal Services," which could include Sherpas/tour guides and other recreation activities. Bhutan does less favorably, even though the country had been gradually opening more to tourism before the pandemic, particularly from India. In all South Asian countries, the tourism industry straddles several economic sectors,

4 This contrasts to a situation in which tourism is an enclave sector with minimal production of employment links to the rest of the economy.

5 This indicator of revealed comparative advantage in value-added terms denotes the contribution of each sector to the value of gross exports (Wang et al. 2014). See ADB (2021) and Appendix 3.1 for a more detailed definition of the indicator.

including retail, entertainment, air transport, and personal services. Though tourism has been by far the most affected industry during the pandemic, it is projected to be one of the fastest-growing globally amid new remote work possibilities and the demographic transition (Box 3.2).

Figure 3.5 Services contribute significantly to the value added of all exports in South Asia. For small tourism economies, revealed comparative advantage in value-added terms is relatively high



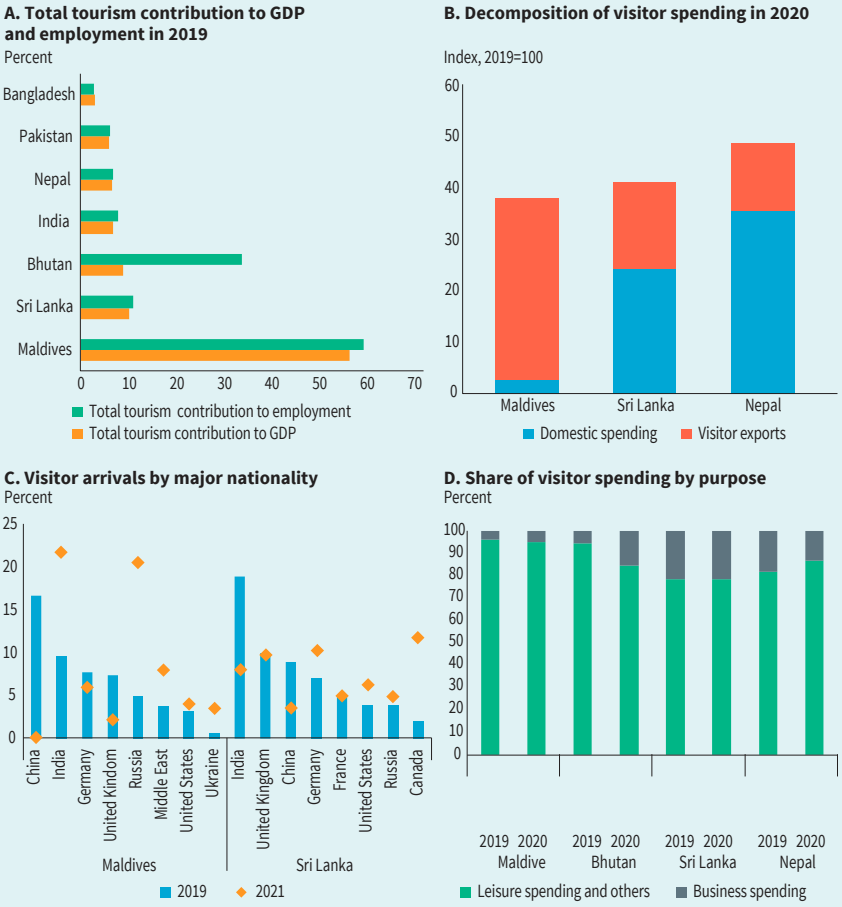
Note: Reveled comparative advantage is obtained by dividing the share of an economy-sector's value-added exports with the sector's value-added exports from all economies as a share of world total value-added exports. See Appendix 3.1 for more details. Comparators in Figure 3.5.A are Indonesia, the Philippines and Vietnam. Comparator in Figure 3.5.B is the average for Cambodia, Cyprus, and Fiji.
Source: ADB MRIO and authors' calculations.

Box 3.2 Rethinking tourism: seizing on services links post-COVID

Tourism is by far the most important industry for small countries in South Asia but also the hardest hit by the COVID-19 impact. Before the pandemic, tourism was among the fastest-growing sectors, with a growth rate that outpaced GDP growth rates in Bhutan and Maldives. Tourism has significant indirect economic impacts as well, through its strong linkages with other sectors such as retail, real estate, travel, and personal services. According to World Travel and Tourism Council estimates, tourism's direct and indirect contributions in 2019 were equivalent to 57 percent of GDP and 60 percent of employment generation in Maldives (Figure 3.6.A). Tourism also plays an important role in Bhutan's economy by absorbing workers in the agriculture sector and generating new jobs. However, tourism suffered significantly in 2020 due to the adverse effect of COVID-19, which impacted

South Asia's tourism-dependent countries. In Maldives, total visitor spending (visitor exports and domestic visitor spending) dropped to 38 percent of pre-COVID levels mainly due to a sharp contraction in visitor exports (Figure 3.6.B), reflecting a decline in the share of value added in tourism. As restrictions ease and vaccines are rolled out, a tourism recovery since mid-2021 has gained momentum in Maldives and Sri Lanka. Fortunately, expectations that tourism will return soon are generally more optimistic (Figure 1.31). In other countries, tourism activities are still constrained by increasing numbers of COVID cases (Nepal) and strict travel restrictions (Bhutan).

Figure 3.6 Tourism has important economic impacts and links to other services, and the composition of visitors is changing rapidly



Source: World Travel and Tourism Council and Oxford Economics, Ministry of Tourism Maldives, Tourism Council of Bhutan, and Sri Lanka Tourism Development Authority.

Nonetheless, the global long-term prospects for niche tourism and eco-tourism are bright, which will pave the way for a new model of post-COVID tourism growth in South Asia. Already the origin of tourists has shifted significantly since 2019, as Maldives sees more visitors from India, the Russian Federation, and the Middle East, and tourists to Sri Lanka come from new markets such as Germany and Canada, reflecting in part targeted travel restrictions (Figure 3.6.C; World Bank 2021b). Though post-COVID travelers are still more cautious when it comes to travel plans, the desire for travel is twice as strong, according to surveys conducted in the United States (Caputo et al. 2020) and India (Mint 2020). This has been driven by the ability to work from home and accumulated household savings during the pandemic. Moreover, COVID-19 is changing tourists' attitudes and behaviors. According to recent online surveys by booking.com, over half of the global travelers, particularly younger travelers, started looking for travel plans that were more sensitive to the environment and local communities, including staying away from crowded tourist attractions and exploring lesser-known destinations (Booking.com 2021b).[6] South Asian countries already have a comparative advantage in developing niche tourism and ecotourism, as they are endowed with diverse natural and cultural resources. This creates opportunities to attract high-value tourists and boost post-COVID tourism growth in South Asia.

Remote work and digital technologies may propel tourism to a new level for many careers where people can work from anywhere. Digital technologies and the possibility of remote work enables people to perform tasks in different locations and be more mobile. As remote work modes become a long-term reality, over half of the global tourists have expressed interest in extending business trips or working remotely in tourism destinations while enjoying some leisure time[7] (Booking.com 2021a). The ravaging effects of COVID-19 on mental health may also increase the demand for wellness-oriented tourism (ADB 2020). If this demand continues post-COVID, it could benefit tourism locations that are able to meet tourists' needs for working remotely.

6 Among all respondents of the survey, travelers in India (70 percent), China (67 percent), and the United States (44 percent) have agreed to commit to sustainable travel.

7 According to the latest data from WFHresearch.com, 25 percent of fully-paid working days will be worked from home post-COVID in the United States relative to 4.8 percent on average pre-COVID.

There are some nascent signs that business services links with tourism are growing. In Maldives, there is evidence that the share of business spending slightly increased from 4 percent in 2019 to 5 percent in 2020 (Figure 3.6.D). The average duration of stay also increased in 2020 and 2021 (Nepal, Maldives).[8] The Multi-Regional Input-Output Tables (ADB MRIO) data suggest the hotels and restaurants sector has small but growing backward linkages with business services and real estate globally. For South Asian tourism-dependent countries, these backward linkages are still negligible but growing.[9] Moreover, the forward linkages between hotels and restaurant and business services are comparatively large in Maldives and Nepal.[10] Going forward, holding retreats and conferences in resorts or other tourist locations may become an increasingly important aspect of building team spirit in companies where workers are geographically spread out, especially if telecommuting becomes the norm (Ramani and Bloom 2021). The spillover effect on tourism will thus be increasingly important in a post-COVID world. However, internet connectivity will be crucial if this type of tourism is to develop.

Trade in services can be boosted by FDI. Most of the FDI in the region, originating both from India and abroad, goes to services sectors, not manufacturing. Growth in intra-regional FDI is not only important for integration but also could increase links across services sectors. Box 3.3 describes the trends and challenges in services FDI.

8 Nepal Tourism Statistics 2020 (World Bank 2019b; World Bank 2020b); Maldives Tourism Updates, September 9, 2021 (World Bank 2021a).

9 Every $1 increase in demand for hotels and restaurants in 2020 generated direct inputs of $0.04 from real estate services, $0.036 from retail trade, and $0.035 from business services. Inputs from other sectors were negligible. For Maldives, recent data suggests that the backward linkages of the tourism industry are particularly strong.

10 Every $1 demand for business services generated $0.015 and $0.011 on the hotel and restaurant services in Maldives and Nepal respectively, compared to an average of $0.007 globally.

Box 3.3 The unexplored potential of FDI into services in South Asia

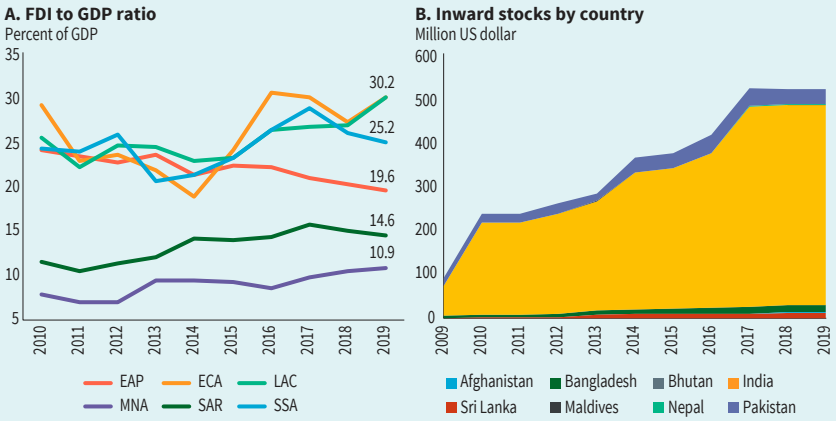
FDI could be key for diversification into services in South Asia. Two-thirds of global services trade flows are delivered through FDI, including establishing a commercial presence abroad, compared to only 30 percent through direct cross-border supply (Maurer et al. 2016).[11] Moreover, services are predominant sectors in FDI, accounting for almost two-thirds of global FDI stocks (UNCTAD 2021). A similar trend is observable in South Asia. For example, over the last two decades, FDI in India went largely to services with 16.5 percent of the cumulative inflows in financial, business, ICT, and R&D services, followed by computer software and hardware (13.3 percent), telecommunications (7.2 percent), trading (5.7 percent), and construction (5.0 percent) (Government of India 2021). In Bangladesh, banking and power were in the top four FDI sectors in FY2020, with 12.5 percent and 11.1 percent of FDI stocks, respectively (Bangladesh Bank 2020). In 2019, about 19.3 percent of FDI stocks in Pakistan were registered in financial services, 14.5 percent in power, and 8 percent in oil and gas (State Bank of Pakistan 2020). In FY2020, the main FDI sectors in Nepal included services sectors such as energy (39 percent), services (20 percent), and tourism (16 percent) (Nepal Ministry of Industry Commerce & Supplies, Department of Industry. 2020. Industrial Statistics). Policy measures that boost the attractiveness of FDI in South Asia could help countries in the region to diversify into services and upgrade into higher value-added manufacturing and services sectors.

Even before the COVID crisis, South Asia did not fully benefit from its full FDI potential. Overall, South Asia performs poorly on attracting FDI, with total inward FDI stocks amounting to only 14 percent of regional GDP (Figure 3.7.A). This is significantly lower than the global average of 41 percent of GDP (including advanced economies). A poor business environment, the dominant role of the state, little competition, and high informality hinder the development of a more dynamic private sector and the attraction of more investment. In addition, pronounced trade and investment barriers, combined with weak logistics and infrastructure systems, fragility, and insecurity hamper South Asia's investment potential.

11 The General Agreement on Trade in Services (GATS) defines trade in services in reference to four modes of supply: Mode 1 – cross-border supply; Mode 2 – consumption abroad (tourism); Mode 3 – commercial presence; and Mode 4 – through the temporary presence of a foreign natural person.

Although total inward FDI stocks in South Asia have more than doubled since 2010, their growth has tapered off recently. Total inward FDI in the region doubled from $239 million to $524 million between 2010 and 2019, benefitting from high growth, improvements in the business environment, and liberalizing measures (Figure 3.7.B). By contrast, global FDI stocks grew by only 60 percent over the same period, expanding from $22.8 trillion in 2010 to $36.4 trillion in 2019. Most of the growth in the region's inward FDI stocks occurred between 2013 and 2017; since 2017, FDI stocks have declined slightly.

Figure 3.7 The stock of inward FDI as a share of GDP is relatively low in South Asia, though there has been a significant increase in flows in the last decade, mostly to India



Source: Lakatos (2021). Forthcoming.

Intra-regional FDI is significantly below potential; thus, policy efforts could have a significant impact. Intra-regional FDI accounts for only 0.8 percent of the total inward FDI. Thus intra-regional investment ties are significantly weaker than trade ties at 5.9 percent. More than 96 percent of FDI in the region originates from high-income countries. Some of this relates to poor transport connectivity and uneven regulatory frameworks in the region. Despite the increase in the overall level of investment in the region, the share of intra-regional FDI has been hovering at less than 1 percent of the total over the last decade. Among South Asian countries, India is by far the largest investor in the region, accounting for three-quarters of regional inward FDI or $3 billion in 2019 (Table 3.2). Intra-regional FDI in South Asia is estimated to be at one-fifth of its potential, with an annual gap of $13.7 billion in 2019. In absolute terms, this gap has risen from $6.4 billion in

2010 (Lakatos 2021).[12] Policies to improve connectivity and promote global-value chain links within the region should be promoted, particularly through cross-border migration and harmonization of regulations.

Table 3.2 South Asia intra-regional FDI stocks, 2019 (US$ millions)

		FDI source country							
FDI recipient country		Afghanistan	Bangladesh	India	Sri Lanka	Maldives	Nepal	Pakistan	**Total**
	Afghanistan			3				57	**60**
	Bangladesh			715	313			211	**1,240**
	Bhutan			52			2		**53**
	India	8			82	19	2	0	**110**
	Sri Lanka		8	1,688		20		18	**1,733**
	Maldives		1	39	100			32	**172**
	Nepal		45	495	5			28	**573**
	Pakistan	2	0	26					**27**
	Total	**9**	**55**	**3017**	**500**	**39**	**4**	**345**	3,969

Source: IMF CDIS.

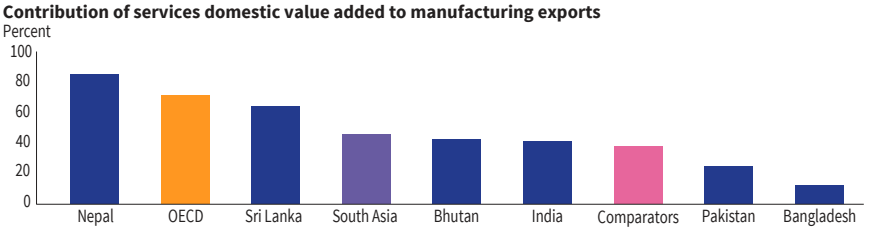
3.2.2 Indirect export of services and the role of global value chains

Though goods are 64 percent of South Asian total exports, a significant portion of the value added of those goods can be attributed to domestic services, even if they are not directly exported. Financial services, wholesale trade, and transportation, which have strong network relations with myriad economic activities, are examples of such services (Figure 3.8). Thus, services can participate in global value chains (GVCs), even if they are not directly exported, or if the services are inputs into local manufacturing goods that are later exported. Take, for example, the global automobile industry, which also happens to be one of the sectors with the highest GVC participation (World Bank 2020c). In 2019, for every $1 increase in its final demand globally, the industry required 50 cents of inputs from the services sectors. For every car built there is the research and design work of engineers, the programming of robots and shipping steel, in addition to the need for sophisticated electronics, including special chips that need to be designed for consoles. On the downstream part of the production process, there is quality control, logistics, retail and distribution, and possible financing or leasing options provided by dealers. GVC participation in the goods trade in South Asia is quite low, reducing opportunities

12 FDI potential is estimated using a standard gravity model literature (Bergstrand and Egger 2007) estimated using a Poisson Pseudo Maximum Likelihood (PPML) for a sample of 244 countries and 32,262 country pairs for the period 2009-2019.

for services used as inputs to expand (World Bank 2020c). The next section discusses how manufacturing can be more efficient when it has strong links to the services sector.

Figure 3.8 Services indirectly contribute to manufacturing exports



Note: Domestic services value added refers to value added that is contributed domestically to produce exports. Measure does not exclude imported inputs. Comparators include average for Indonesia, the Philippines, and Vietnam. Maldives is excluded given minimal goods exports.
Source: Authors using ADB MRIO.

3.3 Services can increase productivity

By ignoring the input and output links across sectors and countries, previous analyses of long-run growth were unable to value the contribution of services (Van Neuss 2019)**.** But services can contribute indirectly to the productivity of other sectors. It is thus possible for services to still drive growth in South Asia while keeping a domestic manufacturing core, providing services to foreign manufacturing, or by the scaled expansion afforded by digital technologies. In this section, we look at whether services can increase productivity indirectly through their contribution to manufacturing growth or by raising the productivity of firms that adopt digital technologies.

3.3.1 Services embodied in manufacturing

Recent evidence from advanced economies suggests that when services are bundled with goods in production or are part of the same network or global value chain, productivity in manufacturing increases. In contrast, the results below show that firms producing both goods and services are not as productive as "pure" services firms in South Asia, though large firms that specialize in services and are owned by a manufacturing firm are generally more productive. Services firms whose activities require engagement with manufacturing firms tend to be concentrated in high-skill sectors. Moreover, firms that indirectly offer business services to manufacturing through outsourcing (either at home or abroad) are not only increasingly important in South Asia, but also have significant positive spillovers to the rest of the economy, both in South Asia's large economies and globally. In other words, offering high-skilled inputs into manufacturing can significantly increase the productivity of other sectors in the economy, even if those services are not directly exported.

The links between goods and services in production can happen in four ways. Those channels are: (i) a manufacturing firm also produces services (servitization of manufacturing production); (ii) through ownership links (a South Asian firm producing services may be owned by a domestic or foreign manufacturing firm); (iii) through separate ownership but among networks and relationships within the domestic economy, and (iv) through the increasing use of business services that may be contracted out but become important inputs into manufacturing production. These channels are discussed below.

(i) In-house production of goods and services

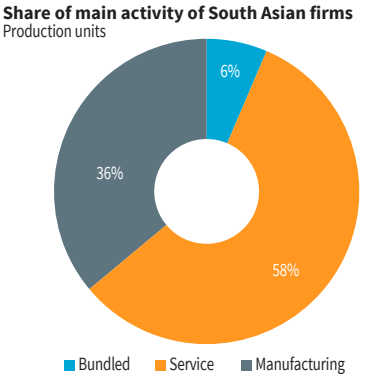
The increasing complementarity between services and manufacturing activity by firms globally would suggest that there are productivity gains from doing so (Nayyar, Hallward-Driemeier, and Davies 2021)**.**[13] An analysis of data across 23 countries in 2007, 2009, and 2011 found that 30 percent of manufacturing firms, on average, sold services too (Neely, Benedettini, and Visnjic 2011). The extent to which manufacturers sell services has also increased over time. For a sample of 31 economies—OECD countries as well as Brazil, Bulgaria, India, and Romania—Cadestin and Miroudot (2020) estimate that the share of services value added in manufacturing exports increases to 53 percent when the "in-house" services activities of manufacturing firms are added. In a new study on India, Grover and Mattoo (2021) find that the share of manufacturing firms offering services has increased threefold—from about 20 percent of manufacturing firms in 1994 to nearly 60 percent in 2013. Servitization through downstream complements can be driven by consumer preferences (demand-driven) or by post-production bundling (supply-driven, see Vandermerwe and Rada 1988). Grover and Mattoo (2021) find that, for India at least, most manufacturing firms that switch to services have a supply-driven motivation. In other words, this switch is a way to grab greater consumer surplus by offering warranties, maintenance plans, and/or future discounts.

A similar analysis of servitization is conducted using a sample of almost 122,000 South Asian firms listed in the Orbis dataset (Table A3.7)**.** Appendix 3.2 describes the data and methodology. Only 6 percent of South Asian firms in the sample are

13 Goods are also being bundled with services or sold as services almost to the point that there is no longer a clear distinction between whether one is consuming a good or a service (Miroudot 2019). This is known as servitization in consumption (or manuserve). Digital technologies are radically changing the way services can be delivered. Now firms offer "solutions," not products. We do not buy automobiles; we buy a stream of transportation and satisfaction services. Similarly, firms don't buy machines anymore, but "lease" machines, which means they consume a stream of services including maintenance, upgrades, and technical support bundled into the price. This section is mainly concerned with servitization in production, taking trends in consumption servitization as given.

bundled, that is, they report a service activity in addition to their manufacturing activities (Figure 3.9 and Table A3.4). The most frequent types of services offered by these bundled firms are wholesale and retail trade, in other words, consumer-related services.

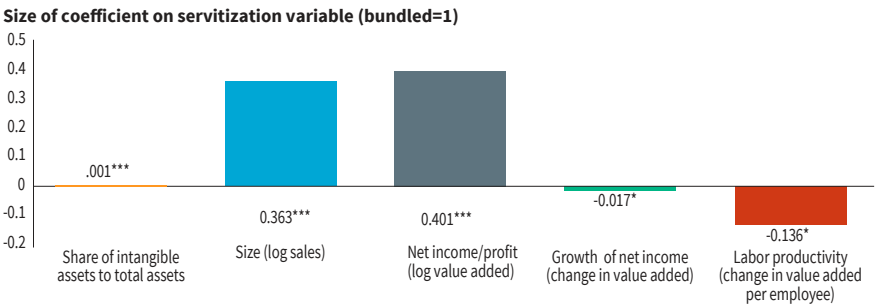
Figure 3.9. About 6 percent of South Asian firms report that they produce both goods and services "in-house" (servitization in production)



Source: Bureau van Dijk Orbis dataset and authors' calculations.

Compared to pure manufacturing firms, bundled firms are on average larger. In the sample, they are 36 percent larger if measured by sales and 40 percent larger if measured by net income. However, value-added growth is lower (Figure 3.10 and Table A3.5). This is not surprising, as one would expect older and more established firms to have the financial wherewithal to diversify into services. There is not enough data to capture the differences in terms of research and development spending to differentiate the extent of innovation activities between pure and bundled manufacturing firms. Nonetheless, the results show that bundled firms have a slightly larger share of intangible assets compared to pure manufacturing firms, which could include brand, goodwill, and patents. The same estimation for a larger set of countries in Cadestin and Miroudot (2020) show the same qualitative results (Table A3.5).

Figure 3.10 Servitized manufacturing firms (engaged in both goods and services) are larger and have more intangible assets but grow a bit more slowly and are 13.6 percent less productive than pure manufacturing firms



Note: Bundled or servitized (=1) as independent variable on the extensive margin from a panel fixed effects regression on annual data of South Asian firms. See equation specifications and detailed results in Table A3.5. Asterisk denotes level of statistical significance.
Source: Authors using ORBIS dataset.

However, servitized firms in South Asia are less productive compared to pure manufacturing firms. In terms of growth and value added per employee, Figure 3.10 reports that servitized manufacturing firms in South Asia have grown more slowly than pure manufacturing firms since 2010 and, more importantly, have tended to be less productive as measured by value added per worker. Servitized firms' labor productivity is 13.6 percent smaller than pure manufacturing firms.[14] These results for the region are also consistent with the results for India by Grover and Mattoo (2021). They find that of the firms in India that have servitized from the mid-1990s to 2013 (latest year), their total factor productivity was lower compared to manufacturing firms that did not move into services.

This contrasts with many of the findings in the OECD and advanced economies. Studies using firm-level data in France (Crozet and Milet 2017), Denmark (Bernard et al. 2017), Italy (Federico and Tosti 2017), and Sweden (Lodefalk 2010) find that manufacturing firms that produce services or switch to producing more services become more productive. Studies for other countries find that manufacturing firms that move toward upstream-related services activities ("upstream enabling") have seen important improvements in innovation (Nayyar et al. 2021). Grover and Mattoo (2021) do not find a statistically significant impact in India for these types of bundled firms—those that move into upstream services.

Overall, expanding the use of services through servitization of manufacturing does not seem to be a good strategy for increasing productivity in South Asia. However, arms-length or contractual relationships may be, as discussed below.

(ii) Servitization through ownership links

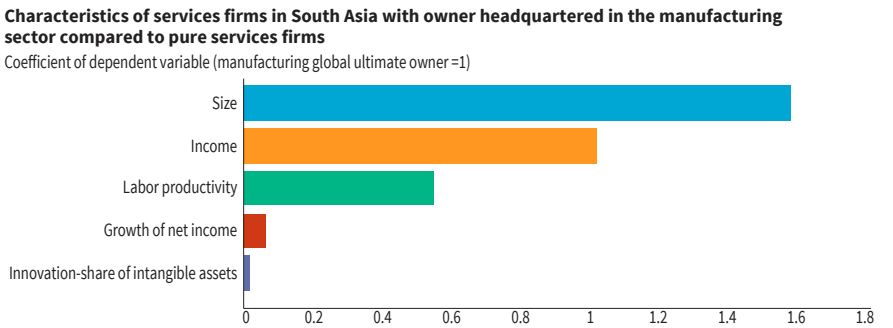
It is possible that stand-alone production units involved purely in services but owned by a head firm in the manufacturing sector may have a greater capacity to grow and be productive through specialization. The owner may be domestic or foreign but is in the manufacturing sector (i.e., not in services). This is a typical structure of large multinational corporations and holding companies.[15] About half of these manufacturing owners of services firms in South Asia are in high-tech manufacturing sectors such as metal processing, machinery, and electronics equipment, with value added in 2019 comprising 5.4 percent of South Asian GDP.

14 This result controls for year, sector, and country fixed effects.

15 An example is a business services firm called IWK India Private Limited registered in India. It is owned by a Canadian manufacturing firm, ATS Automation Tooling Systems Inc., with a principal activity of industrial, electric, and electronic machinery. For the set of Indian firms, 70 percent of the manufacturing firms that own services firms are in India, 9 percent are in Japan, and 6 percent are in the United States.

The evidence below suggests that servitization through ownership links with manufacturing can help make services more innovative and productive (Figure 3.11). Compared to pure services firms, those servitized through ownership links with manufacturing are likely to be significantly larger, produce more value added in any given year, and have a slightly higher share of intangible assets, making them possibly more innovative. Moreover, their revenue has grown faster in the last decade and they are more productive (measured in terms of value added per worker). This is consistent with recent evidence that firms in multinational enterprises, or firms in general that specialize but are vertically integrated, are more productive and have a higher level of global value chain participation than other firms (Mercer-Blackman et al. 2021; OECD 2021; Wang et al. 2021). It suggests that specialization is better than in-house bundling, but strong ownership links to manufacturing may also provide a demand pull through financing and the transfer of technology.

Figure 3.11 Services firms in South Asia that have an owner in the manufacturing sector are relatively more successful than stand-alone services firms, along with several traits



Note: Interpretation is that firms with an owner in the manufacturing sector are on average 55 percent larger than those that are not. Only 703 firms have data to measure labor productivity, though the result is significant. Details are in Appendix Table A3.6.
Source: Orbis database.

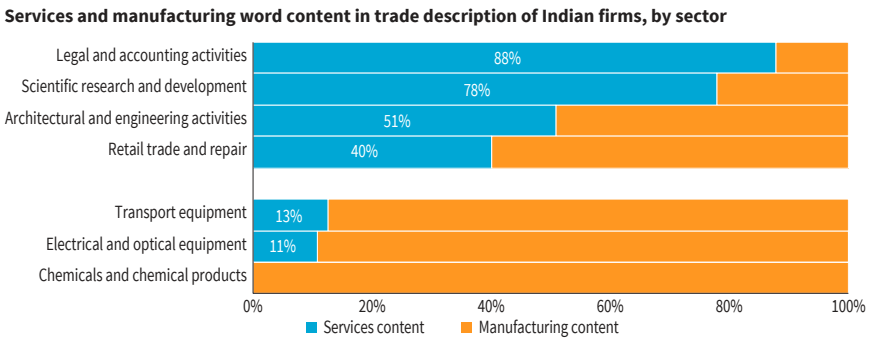
For high-technology manufacturing sectors—such as machinery and electronic equipment—ownership links with services and size no longer matter. For the very narrow group of South Asian firms engaged in service activities but owned by a firm in the electrical and electronic equipment sector, the firms are generally also larger, have more intangible assets, and have grown faster (Table A3.7). However, in contrast to all manufacturing firms in this sector, the smaller services affiliates are more productive. While this is somewhat contradictory, it could be related to the very high skills of services that would need to be provided for that industry, for which scale is not measured by revenues or numbers of employees but by skills.

All in all, pure service firms, or firms engaged solely in services but with an ownership link to manufacturing, are generally more productive than those where services are bundled with manufacturing in-house. This former type of firm would not necessarily sell its own product, but as with most services activities, provide a supporting role to the production of goods.

(iii) Crossover of activities through bundling or production relationships

High-skilled business and professional services have strong links to manufacturing activities. Though there is very little data regarding the relationship of goods and services production inside the firm, the Orbis data reports a "trade description" for most firms in South Asia, consisting of a paragraph describing the activities the firm engages in, and sometimes information about suppliers and clients. For example, an automobile company may say that it engages in the design, manufacturing, and marketing of specialized transport machines. By classifying keywords directly related to the activities into those associated with manufacturing and goods production (one group) and those associated with services provision (another group) regardless of the sector where the firm is classified, we can understand the nature of relationships and links across firms in different sectors. These "text mining" techniques have become increasingly common as a way to capture qualitative trends (see for example Baker et al. 2016). The methodology is described in Appendix 3.2. Figure 3.12 shows the results for large manufacturing sectors as well as three sub-sectors in business services specializing in high-skilled professional services in India. "Electrical and optical equipment" and "transport equipment" seem to be large users of services. Moreover, while about 40 percent of retail firms have production relations with manufacturing, the links are even higher for "legal and accounting services," "research and development," and "engineering" firms in India.

Figure 3.12 Based on trade description, business and professional services firms cross over to manufacturing activities all the time



Note: See Appendix 3.2 for methodology.
Source: Authors' calculations based on a modified method to Cadestin and Miroudot (2020).

This crossover of high-skill sectors means firms specialized in very different activities, through outreach, can forge relationships with firms in other sectors. This may explain the channel through which innovation and knowledge spillovers of high-skilled services firms can indirectly impact manufacturing productivity. This is akin to the growth in GVC trade, where the combination of task specialization and insertion into GVCs enhances overall growth and productivity (World Bank 2020c).

(iv) The role of services in indirectly increasing productivity through global input-output links

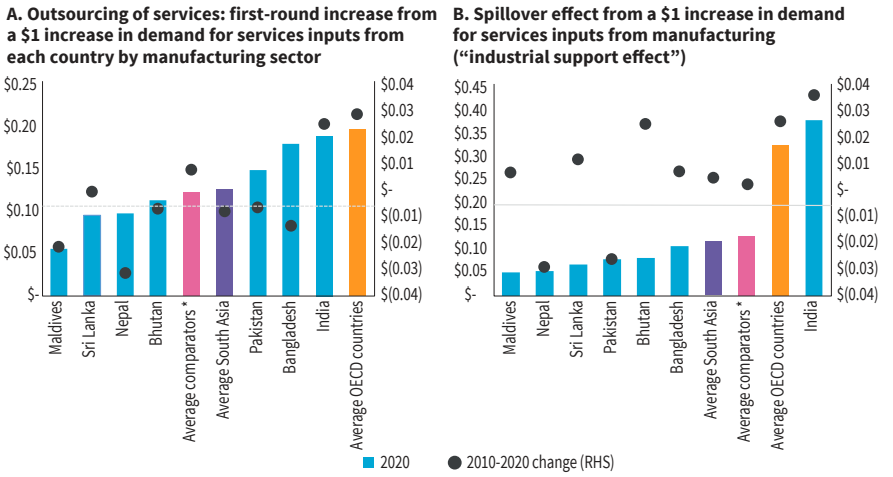
A broader picture of production links provides insight into a more geographically dispersed relationship between services and manufacturing goods production: the relationship may be more indirect and possibly contractual. It would include exports of services used as inputs in manufacturing directly or indirectly used abroad. An example may be a services firm that provides inputs to a domestic manufacturing firm that is part of a global value chain. Thus, the efficiency of the global value chain improves. The productivity of services can also increase if demand for services by the manufacturing sector—both at home and abroad—is increasing. The analysis below shows that direct and indirect inputs of services into manufacturing have been increasing in South Asia. Business services have the strongest direct links to manufacturing and spillover effects to the rest of the economy.

Services' value-added contribution in South Asia goes mostly to domestic manufacturing. Table A3.3 reports the contribution of services value added to manufacturing output derived from the ADB multi-regional input-output tables (ADB MRIO). This is an analogous approach to measure forward linkages of services—not to exports as in Figure 3.5—but to manufacturing output. The main takeaway is that most of the value-added contribution of services is to domestic manufacturing output, not foreign output. Most startling is the almost insignificant contribution of services value added to foreign manufacturing output in the region.[16] The exception is for India (14 percent in 2020), which has also seen an increase in its contribution in the last two decades, both in absolute terms and relative to countries outside the region. It suggests that India's services do not need a *domestic* manufacturing base to excel. This reflects in part the fact that Bangladesh, Pakistan, and to some extent, Sri Lanka are manufacturing exporters, and so have services sectors such as wholesale, retail, and transport catering to the manufacturing sector. It is an indication that services growth in these instances still needs a domestic manufacturing base.

16 The average contribution of services to foreign manufacturing for the comparator countries (Indonesia, the Philippines, and Vietnam) was about 2 percent in 2020.

To measure the capacity of services to increase output indirectly, it is necessary to look at the impact on services per unit of demand from manufacturing, whether domestic or foreign. Figure 3.13 shows that services in India, and to some extent, Bangladesh and Pakistan, have stronger forward links than do services in other countries in the region, and the spillover effect to other sectors of the economy is high. Figure 3.13.A shows the direct amount that is outsourced. A $1 increase in final demand from manufacturing—either domestic or export demand—will set in motion demand for inputs. As in the automobile example above, services inputs will come from many subsectors. In India, $0.19 is provided by the services sector, and $0.18 in Bangladesh, a figure only slightly lower than the average for OECD countries ($.20). This is also a higher direct contribution than comparator countries in 2020. This value has only increased for India since 2010 but has declined for South Asia as a whole.

Figure 3.13 Services in India, and to some extent Bangladesh and Pakistan have strong forward links, comparatively speaking. The spillover effect to other sectors in India is very high



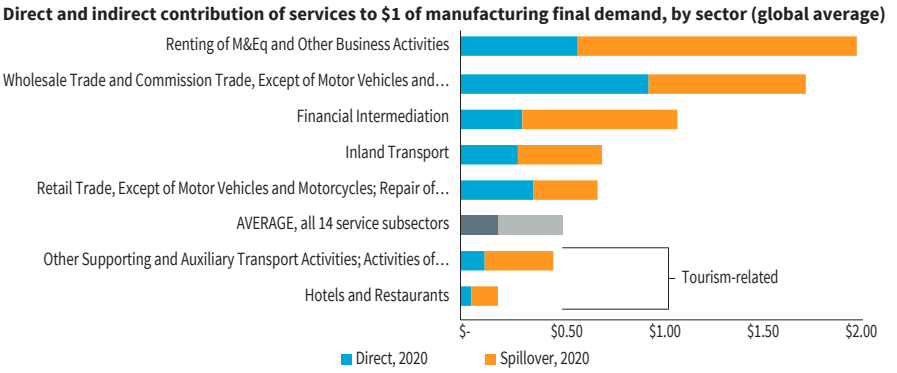
Note: Comparators are the Philippines, Vietnam, and Indonesia (simple average).
Source: Authors using the ADB MRIO.

The indirect contribution of services is higher than the first-round increase in demand for services inputs shown in Figure 3.13.A. To produce the $0.18 of services induced by the $1 increase in manufacturing demand, the services sector will need to hire other goods and services domestically or through imports. In the automobile example above, the retail sector may need to set up showrooms and food caterers for events, the designers may hire software consultants, the logistics sector may need to buy more freight capacity, etc. This additional demand, known as the *industrial support effect*, can be interpreted as the indirect spillover effect on the rest

of the economy coming from services in this relationship. Some sectors have higher spillover effects than others, though the chain is still first triggered by the demand for services inputs from manufacturing. For all services, the spillover effect was comparatively high in India in 2020, at $0.38, and has increased more than in any regional country since 2010 (see black marker in Figure 3.13.B). India's spillover effect is about 16 percent higher than the average of OECD countries and significantly above comparators. Bangladesh and Bhutan are a distant second in South Asia.

Globally, there is substantial heterogeneity in the size of these effects within the services sector. Figure 3.14 shows the global average total effect (direct and indirect). The sector "Renting of machinery, equipment, and other business activities" (henceforth "business services") has the highest total multiplier effect, primarily because the indirect spillover effect is very high. Wholesale trade has the strongest direct effect,[17] with financial intermediation a distant third. This provides motivation to look more closely at the business services sector.

Figure 3.14 Business services have the strongest forward linkage to manufacturing globally because of the large spillover effect on other sectors



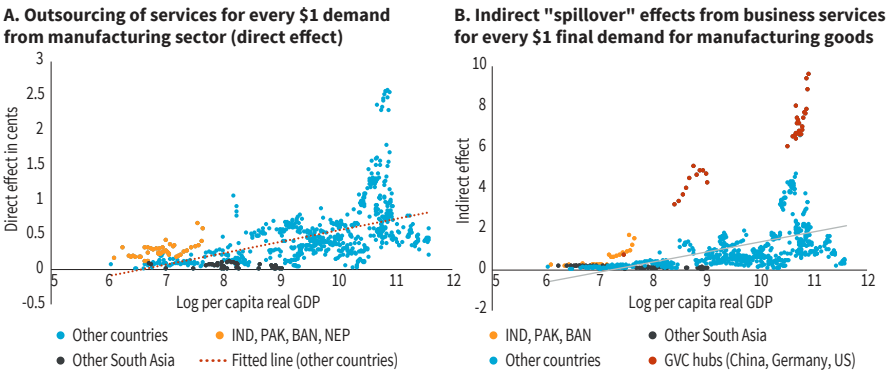
Note: Public services, health and education excluded. Green shows average including seven sub-sectors not shown individually. Lower two sectors are related primarily to tourism industry (Box 3.2).
Source: ADB MRIO.

The business services sector seems to have very strong links to manufacturing in all countries, particularly more advanced economies that have been considered manufacturing powerhouses. Figure 3.15 shows a plot of the value of the direct

17 Looking at the same indicator but disaggregating from the using sector perspective (manufacturing sector), the sector with the largest spillover effect and the largest growth in terms of use of services globally is "Transport equipment" since 2010. In other words, spillovers from services sectors that provide inputs to transport equipment are on average $0.45 per $1 of final demand (Franco-Bedoya et al. 2021).

effect of business services (Figure 3.15.A) and the indirect spillover effect (Figure 3.15.B) for $1 in final demand from manufacturing for various countries and years against a measure of development (log GDP per capita). In terms of direct effect, it shows that the outsourcing of business services is quite high and rises the higher the per-capita income. Still, India, Pakistan, Bangladesh, and Nepal have higher values than expected, given their level of development (orange dots). When looking just at the indirect (industrial support effect) contribution of services to manufacturing, the contrast is even starker at a global level: business services' contribution grew by almost 40 cents for every $1 of increased demand from manufacturing. In terms of spillover effects, India,[18] Pakistan, and Bangladesh have higher values than expected, given their level of per-capita income.

Figure 3.15 Business services contribute the most to manufacturing, and the links are stronger the wealthier the country



Note: Point estimates include various years for each country (2000, 2010-2020).
Source: Authors using ADB MRIO and WDI (accessed September 15, 2021).

The importance of this sector to manufacturing through forward linkages should not be overlooked. The relationship shown in Figure 3.15 is statistically significant even after controlling for other effects, including fixed effects for country, sector, and year (Table A3.3). A 1 percent improvement in per-capita GDP is associated with a 32 percent increase in the spillover effect. Moreover, this effect shows dynamic persistence: the higher the initial value, the more likely it is to be higher the next period. The interpretation is that rich countries are characterized by production structures where business services have a strong spillover effect on other sectors of the economy because of the strong forward linkages with manufacturing.

18 Compared to the sample of 62 countries in the ADB MRIO, the growth of this spillover indicator in India over the last decade ranks fourth, closely behind US, the Netherlands and China.

Recent papers indeed suggest that a growing and robust business services sector is a feature of advanced economies and a necessary condition for services-led growth. The literature on global value chains has emphasized how the United States, China, and Germany have become hubs that provide services to manufacturing at the downstream and upstream level (Meng et al. 2018; World Bank 2020c). Interestingly, these three global manufacturing powerhouses and GVC hubs are outliers even among their peers (Figure 3.13, red dots). A lot of the process may start as outsourcing of services. Berlingieri (2014) examined the structure of input-output links for the United States between 1947 and 2007 and showed that a significant share of the growth in the value added and employment share of services in the total economy was the result of business services formerly operating as units in manufacturing sector firms which then splintered out to the business services sector. Nayyar et al. (2021) and IMF (2018) also provide evidence that this is one of the most productive services sectors.

Taken together with the evidence from the links between high-skilled business services sectors and hi-tech manufacturing, this sector will be key to fostering productivity and potentially create spillovers. There is also great potential to develop this sector in South Asia, given early signs that it is already well developed in India. However, this may only be an option for established, high-skilled firms with some links to manufacturing, but not for micro-firms. The next section looks at a very different channel through which the services sector, particularly smaller firms, can now become more productive. Digital technologies enable services to thrive, as discussed below.

3.3.2 Digital Platforms: Generating productivity growth by connecting firms and workers to markets

Digital platforms that connect buyers and sellers of goods and services through the internet are an increasingly important channel of services-led productivity growth. The platforms themselves provide services, but many small firms that use the platforms also provide services. The region is host to a wide range of digital platforms involved in activities such as commerce, ride-hailing, the matching of demand and supply for business and household tasks, connecting firms to input providers, tourist accommodations, and the remote provision of education and health services. Many of these platforms are home grown and channel domestic entrepreneurial energies. Digital technologies are also increasingly helping the agricultural sector in South Asia become more productive (Box 3.4).

Box 3.4 Digital technologies can also aid agricultural production

Increased productivity gains for farmers, rural communities, and food-purchasing households are key to reducing the widespread poverty in rural areas in the South Asia region. Technology has long been recognized as a key driver of the increases in agricultural productivity, and digital innovations are no exception. By enabling improved price discovery, buyer-seller matching, and improved traceability and quality control, digital technologies drastically lower information asymmetries and transaction costs that plague the agri-food value chain. This is possible by the ability of digital technologies to collect, use and analyze massive amounts of machine-readable data about practically every aspect of the agri-food value chain and the emergence of digital platforms that are disrupting the existing business models. The investors are following the "digital opportunity." According to the newly released "Ag-Tech in India: Investment Landscape Report 2021," supply chain digitalization solutions dominate India's ag-tech sector, accounting for 85 percent of total invested capital in 2020 (ThinkAg 2021).

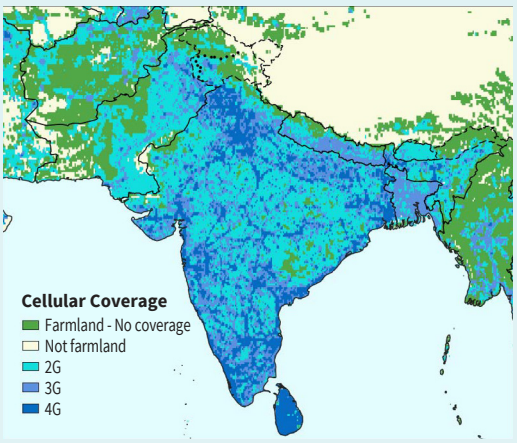
By facilitating matching in different agricultural markets, digital platforms reduce the need for intermediaries and enable farmers to cater directly to many customers. This helps deconcentrate and thicken the market. Lower search costs let more buyers and sellers use market platforms, enabling previously unprofitable transactions. And the use of standardized, automatic online processes and secure payments, in turn, reduce contracting and payment costs. For example, India's eChoupal, an integrated digital platform connected to a network of village kiosks, streamlines the procurement of soybeans and other agricultural products from dispersed smallholder producers, allowing them access to better markets and prices. Another example is a Collabrex digital platform in Pakistan aimed at more efficiently matching supply and demand. Overall, South Asia, particularly India, has some of the most successful agricultural e-commerce services in lower-middle-income countries (GSMA 2020).

Various digital platforms have also been emerging globally to make agricultural mechanization more accessible, including EM3 and Trringo in India. Such platforms match customers with machinery rental services that buy machines such as underused tractors. The platforms allow

customers to rent machines they previously had to buy or could not access at all because they could not borrow from banks. Because the marginal cost of matching buyers and sellers through digital platforms is extremely low, saved transaction and search costs reduce the unit costs of renting machinery.

Digital technologies can significantly reduce transaction costs associated with food safety and quality requirement compliance along the agri-food value chains. Sensors, data management software, and blockchain are all well suited to tracing systems, which are information-based, while digital platforms coordinate information flows along supply chains from farm to fork. For example, a blockchain-based tracing system, such as the one created by the Coffee Board of India in 2019, documents that a contracted shipment of coffee originating from a specific farm arrived at a specific warehouse and that final payments against the contract were issued.

Figure 3.16 Mobile coverage in rural areas in the South Asia region is uneven



Source: Schroeder et al. (2021).

Despite the promise that digital technologies offer, there are also risks. Lack of physical and digital infrastructure may lead to digital divides along the value chain. How much digital technologies benefit agricultural sectors and rural communities depends on their access to digital infrastructure. Poor smallholder farmers in remote rural areas face hurdles accessing phone and internet networks. In addition, access to roads, storage, and

cold chains still matter for accessing downstream markets, particularly for perishable products. As a result, farmers in areas with better physical infrastructure and network coverage are better positioned to take advantage of opportunities presented by digital technologies. The low literacy of farmers, particularly smallholders, can also create a digital divide. Farmers need basic skills that enable them to use digital tools such as digital platforms. Literacy is also required to critically assess the quality of the information provided. The recently developed Agriculture Digitalization index shows that countries in the South Asia region vary significantly in terms of the access and affordability of digital agriculture as well as physical infrastructure and skill levels (Figure 3.16).

E-commerce typifies the new digital platform economy in South Asia. Starting from a small base, it has grown rapidly in recent years, particularly after the onset of the COVID-19 crisis caused many transactions to shift online. The e-commerce sector remains comparatively small. For example, the share of online sales in retail sales was only 1.6 percent in India and 0.7 percent in Bangladesh in 2015 as compared to more than 15 percent in China and the United Kingdom (Kathuria et al. 2020). But reports in the business media and by industry associations suggest it is growing fast. For example, in 2019, total e-commerce revenue in India was expected to grow from $39 billion in 2017 to $120 billion in 2020, and there are more than 4,000 active e-commerce start-ups.[19] The COVID-19 crisis seems to have been pivotal to this rise, though it remains to be seen if the momentum will be sustained. According to the e-commerce association of Bangladesh, total e-commerce revenues increased by 70-80 percent in the space of a few months in 2020.[20]

New evidence on the impacts of e-commerce presented in this chapter suggests that digital platforms can help producers grow and become more productive by increasing market access. Reaching a wide market requires firms to invest in advertising and other forms of outreach to potential customers, both upfront and on an ongoing basis. This is why most firms sell through wholesale or retail partners, not directly to their customers. Digital platforms reduce these upfront and recurring costs of market access. However, the evidence on this hypothesis in the context of

19 Indian Ecommerce Industry Report, IBEF, 2019, see https://www.ibef.org/industry/ecommerce.aspx; Competition Commission of India, 2020.

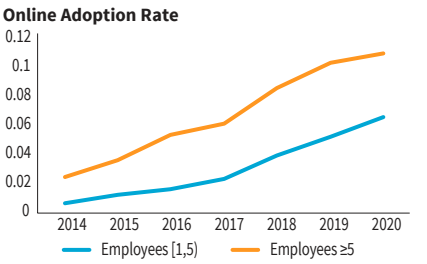
20 See https://www.newagebd.net/article/114200/the-growth-of-e-commerce-during-the-pandemic-in-bangladesh

South Asia is limited. This part of the chapter draws on two new datasets on e-commerce platforms to help fill in this evidence base. The findings are consistent with the hypothesis just put forward, but they also highlight that the impacts of digital platforms could be heterogenous and that a new approach to regulations and complementary policies will be important going forward.

E-commerce adoption is associated with higher business profits: New evidence from India

Even small family businesses are increasingly using the internet to sell their products, according to new data from India (Figure 3.17).[21] Among family-run Indian firms with five or more hired workers, the share of those who use e-commerce to sell their products increased from 2.5 percent to 11 percent in the short space of six years (between 2014 and 2020). The level of e-commerce adoption is lower among smaller family-run firms (those with only one to four hired workers), but its rate of increase is also high.

Figure 3.17 E-commerce adoption among family businesses in India



Source: World Bank e-commerce and MSME module, India CPHS Household Survey January-April 2021.

The adoption of e-commerce is associated with a significant increase in business income. Regression analysis that uses monthly business income data to compare the performance of e-commerce adopters and non-adopters suggests that the business income of e-commerce adopters increases by about 6 percent after adoption.[22]

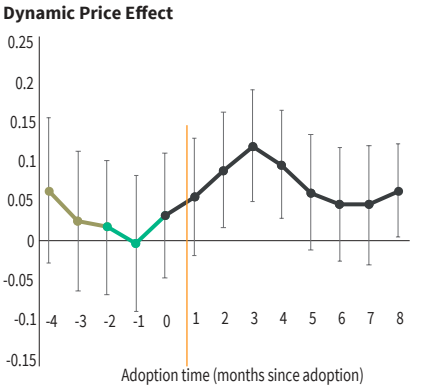
The rise in business income after e-commerce adoption is persistent but limited. Figure 3.18 depicts the estimated impact of e-commerce adoption by the number of

21 Figure 3.17 shows the evolution of e-commerce adoption among family-run businesses in India, based on a representative survey of family-run businesses conducted in January-April 2021. These data were collected as part of a collaboration between the World Bank and the Center for Monitoring the Indian Economy (CMIE) in the January-April 2021 wave of the CMIE's Consumer Pyramids Household Survey (CPHS). They are representative of family-run businesses in India. The details of the dataset are provided in Appendix 3.3. Note that most respondent enterprises are small. Only about 25 percent have hired workers (besides family workers) and their most common activities are retail (61 percent), personal services (10 percent), and travel/hospitality (10 percent).

22 The details of the method and the results of the analysis, which uses panel data difference-in-differences estimation technique, are presented in Appendix 3.3.

months since adoption.[23] The estimates suggest that income increases by about 7 percent within two months of e-commerce adoption. It stays at that new, higher level for eight months and more after adoption.[24] This suggests that the use of e-commerce increases the level of business income persistently but does not accelerate the trajectory of income growth for the typical adopter.

Figure 3.18 Adoption of e-commerce in India is associated with a persistent, stable increase in monthly business income levels



Source: Staff estimations using World Bank e-commerce and MSME module, India CPHS Household Survey Jan-April 2021.

Market access and technology upgradation underlie the positive link between e-commerce and business incomes: New evidence from Bangladesh

Digital platforms increase firms' market access by facilitating long-distance, anonymous transactions. They make it easier to match buyers to sellers by reducing search costs (Goldfarb and Tucker 2019). For example, a consumer looking for a particular book is no longer limited to searching local booksellers (or ordering through them). Digital platforms also increase the level of trust between buyers and sellers by reducing verification costs. For example, a buyer can better verify the quality of a seller on an online platform by looking at customer reviews. They also facilitate the flow of goods and payments, as most e-commerce platforms provide secure payment and delivery services.

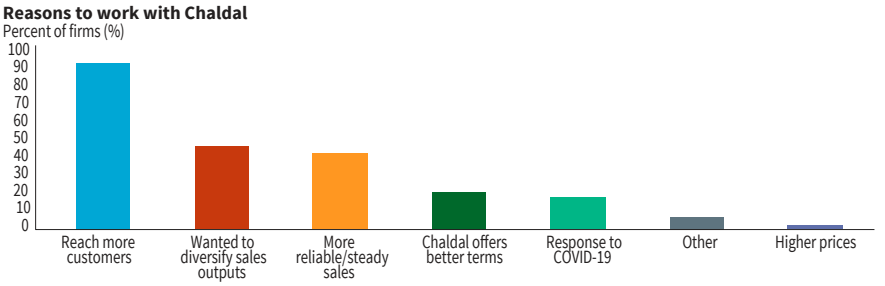
23 This estimation, described in Appendix 3.3, uses month-by-month information on which firm has adopted e-commerce and since when, which firm is about to adopt e-commerce and when, and which firm will not have adopted e-commerce by the end of the study period, April 2021. The last set of firms—the "never-adopters"—is the control group which proxies for the hypothetical outcome of the adopter firms in case they had not adopted e-commerce. Note that as seen in Figure 3.18, the income of e-commerce sellers relative to the control group starts to increase only after the adoption of e-commerce, and not before. While not conclusive due to concerns about selectivity in adoption, this strong correspondence between the timing of e-commerce adoption and the relative income growth of adopters suggests that adoption is the cause and not the effect of business income growth.

24 Each point on Figure 3.18 corresponds to a specific month relative to the month of adoption (which is set at zero for each adopter). However, the eight-month estimate depicted in Figure 3.18 corresponds to a period of eight months and more after adoption: that is, it pools together adopters who are observed eight, nine, 10 and more months post-adoption.

As seen in a new study of sellers on an online platform in Bangladesh, firms in South Asia join e-commerce platforms primarily in expectation of greater market access. To better understand how digital platforms could be improving firm performance in South Asia, the World Bank collaborated with Chaldal, an e-commerce firm in Bangladesh, to field a survey to the platforms' small- and medium-sized sellers. This platform specializes in selling groceries and other household items. The typical firm selling products through Chaldal is a grocery retailer or trader, or a manufacturer of processed food products or household items.[25]

When asked about their original motivation for joining Chaldal as sellers, 94 percent of the respondents stated it was to reach more customers (Figure 3.19). The next two top reasons for joining the platform also related to market reach: to "diversify sales outlets" (47 percent) and to get "more reliable or steady sales" (43 percent). Further, about 18 percent of the sellers on the platform joined in response to COVID-19. This motivation, too, is related to market access, as it may have been a response to lockdowns and reduced foot traffic of consumers during the COVID-19 crisis.

Figure 3.19 What made firms decide to work with the platform?



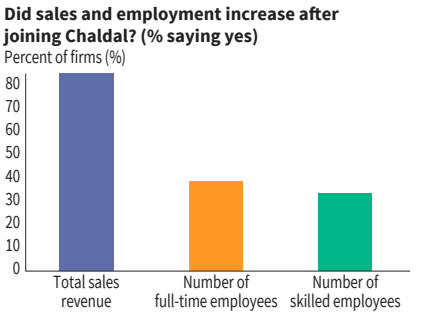
Source: World Bank-Chaldal Survey of Chaldal Supplier Firms, 2021.

Eighty-five percent of the firms selling on Chaldal report that their sales increased after joining it (Figure 3.20). In addition, 39 percent reported an increase in the number of full-time employees since joining the platform, while 34 percent reported an increase in their full-time skilled employees. This impact on full-time hiring suggests that firms expect the sales expansion experienced after joining the platform to last. Moreover, hiring skilled workers hints at organizational or technological shifts

25 The analysis in this section is based on Bussolo, Dixit, Golla, Lee, and Sharma (forthcoming). Owing to its specialization in the grocery market, Chaldal works with a relatively small number of sellers compared to more general-purpose e-commerce platforms. The survey used in this study was conducted by telephone and collected data from 127 firms that were actively selling on Chaldal during the first half of 2021.

being undertaken by some of these firms to take advantage of the e-commerce market. For instance, perhaps the firms want to hire more supervisors to expand their scale of operations or seek out more technical staff to improve their product quality.

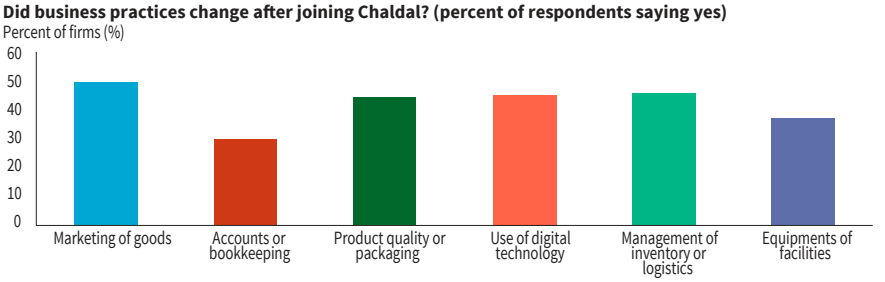
Figure 3.20 Most firms report an increase in sales since joining the platform



Source: World Bank-Chaldal Survey of Chaldal Supplier Firms, 2021.

Being on a digital platform could encourage technological upgrades in firms by facilitating access to information on technologies and consumer preferences, as hinted at by a prior body of evidence on the effects of access to international markets on technology in firms. For example, a randomized trial in a handmade carpet cluster in Egypt found that when provided with the opportunity to export, firms improved their carpet quality, partly through the flow of information from sophisticated international buyers (Atkin, Khandelwal, and Osman 2017). Similar impacts are seen when firms win orders for goods whose production requires new technologies (Hardy and McCasland 2021). Online competition, too, may spur technology adoption, with market competition cited as the top reason for the acquisition of new equipment or software by Bangladeshi manufacturing firms (Gu, Nayyar and Sharma 2021). Indeed, many of the firms selling on the Chaldal platform report having upgraded specific business practices and technologies since joining the platform. For example, about 46 percent of the sellers report increasing their product quality since joining the platform (Figure 3.21). About 51 percent of them state that they have improved how they market products since joining the platform, and 47 percent report having upgraded inventory and logistics management.

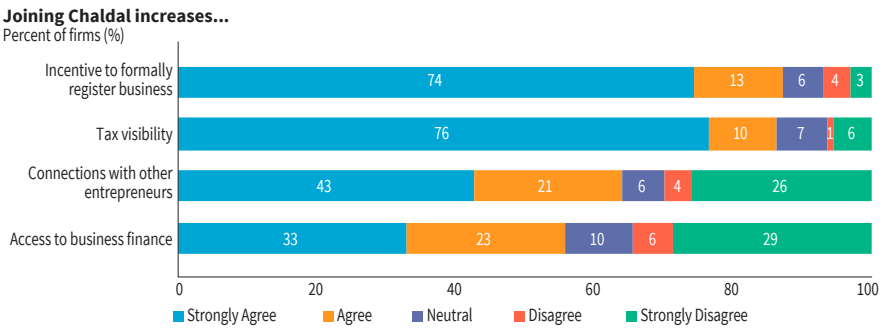
Figure 3.21 Many platform sellers report improvements in specific business practices after joining the platform



Source: World Bank-Chaldal Survey of Chaldal Supplier Firms, 2021.

Joining a digital platform could also strengthen a firm's relationships with the state and the formal sector by increasing its "visibility." More than 85 percent of the Chaldal survey respondents agree or strongly agree with the statements that joining a platform such as Chaldal increases the incentive to formally register the business, as well as the likelihood of being visible to tax authorities (Figure 3.22). The survey also suggests that this visibility has translated into greater formalization among *some* firms.[26] When asked if they have changed their legal structure or registration since joining Chaldal, 26 percent responded in the affirmative. Note that 92 percent of the survey respondents reported having a VAT number, suggesting that there was limited scope for formalization among Chaldal sellers at the outset.

Figure 3.22 Firms' perceptions about how joining the platform affects relationships—with the state, other firms, and the formal financial sector—are mixed



Source: World Bank-Chaldal Survey of Chaldal Supplier Firms, 2021.

Selling on a digital platform may help firms access finance by generating a verifiable sales performance record that proves credit worthiness to banks. There is some limited evidence on this channel in the case of Chaldal. Thirty-three percent of firms strongly agree with the statement that joining the platform has helped them get easier access to financing (Figure 3.22). Seventeen percent report that their use of bank loans has increased since joining the platform. This number may seem small in comparison to, say, the share of firms reporting an increase in sales after joining the platform. However, it may not be trivial in a context where access to finance is generally the most commonly cited obstacle to business growth by small- and medium-sized enterprises (Gu, Nayyar, and Sharma 2021).

26 Given the sensitive nature of the topic, the tax and registration-related questions were framed somewhat broadly in the survey and should be interpreted with caution. Furthermore, respondents may be exaggerating their compliance with registration requirements.

The possibility that the digital platform itself could be used to offer credit to sellers is also worth examining in future work. Many e-commerce platforms bundle their sales and delivery services with some form of payment and credit facility to buyers and sellers (World Bank 2020c).

Digital platforms could also help firms improve their performance by facilitating interfirm networks and information sharing among firms. About 64 percent of the platform's sellers strongly agree or agree with the statement that joining the platform has helped them connect with other entrepreneurs. This network expansion could positively impact firm performance. In China, organizing firms into small groups whose managers held monthly meetings during a year increased firm profits by 8.1 percent (Cai and Sziedel 2018). This occurred because the managers shared business information with each other, particularly if they were not in direct competition. Note that 30 percent of the platform's sellers disagree that their networks have grown since joining the platform, perhaps because many of them compete with each other in the grocery business.

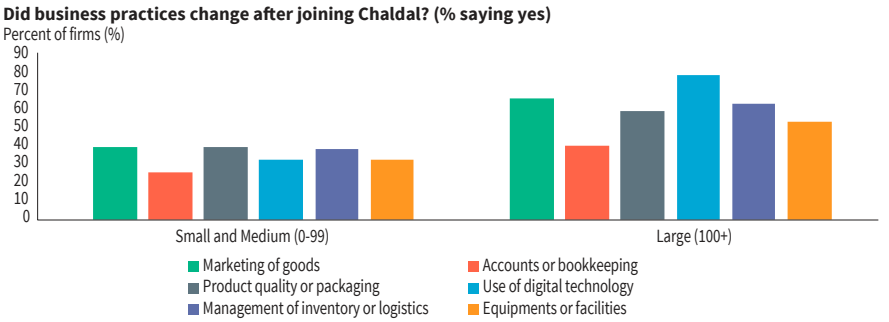
The impacts of digital platforms could vary across firms

Differences in the extent to which firms have upgraded their business practices after joining Chaldal suggest that the firm-level impacts of digital platforms are not going to be uniform. Larger firms, in particular, are more likely to upgrade business practices and technologies after joining Chaldal. For example, 60 percent of large-sized survey respondents (those with more than 100 employees) report an improvement in product quality or packaging after joining the platform, in contrast to 40 percent of small- and medium-sized survey respondents (those with fewer than 100 employees) (Figure 3.23). Similarly, 80 percent of large-sized survey respondents report an increase in the use of digital technology after joining the platform, in contrast to only 33 percent of small- and medium-sized ones.[27]

The heterogeneity in how firms upgrade business practices after joining a digital platform could reflect differences in firms' access to "complementary" factors such as finance or in their internal capabilities. As just discussed, nearly half of Chaldal sellers do not report an improvement in their access to credit after joining the platform, which could be a constraint on their technology upgradation. Another possibility is that the technical and managerial capabilities that would enable firms to take fuller advantage of online market access vary among Chaldal sellers.

27 The positive relationship between firm size and change in business practices remains statistically significant even after adjusting for other firm attributes such as sector, age, and the education level of managers.

Figure 3.23 Larger sellers are likely to change business practices and technologies after joining the platform



Source: World Bank-Chaldal Survey of Chaldal Supplier Firms, 2021.

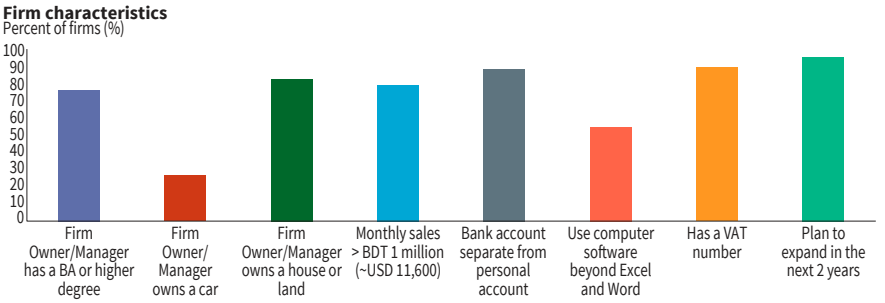
Among manufacturing firms in Bangladesh, having more workers with engineering or applied sciences degrees, having managers with MBAs or master's degrees and experience in a multinational enterprise are associated with higher technology levels (Gu, Nayyar, and Sharma, 2021). In general, more productive firms are more likely to adopt digital technologies (World Bank 2016).

Selective adoption of platforms by firms, too, suggests that platforms will have heterogenous impacts. South Asian entrepreneurs who have adopted e-commerce have above-average education and wealth levels and are highly growth-oriented. In India, 48 percent of family business owners who sell online have a Bachelor of Arts or higher degree, in contrast to only 25 percent of all family business owners with at least one hired employee.[28] In Bangladesh, 79 percent of owners/managers of businesses selling on Chaldal had a BA or higher degree (Figure 3.24). In comparison, on average, only about 55 percent of manufacturing firms in Bangladesh have an owner/manager with a college degree.[29] Fifty-seven percent of Chaldal sellers use specialized software for business processes. In comparison, on average, only 31 percent of Bangladeshi manufacturing firms use specialized software for business administration (Gu, Nayyar, and Sharma 2021). Strikingly, 98 percent of Chaldal sellers plan to expand in the next two years, revealing among them an extraordinarily high prevalence of a growth-orientated outlook.

28 See Table A1 in Appendix 3.3.

29 Based on a 2020 survey of firms that focused on the garments, leather goods, footwear, pharma and food processing sectors (Gu, Nayyar, and Sharma, 2021).

Figure 3.24 Platform sellers are a select group



Source: World Bank-Chaldal Survey of Chaldal Supplier Firms, 2021.

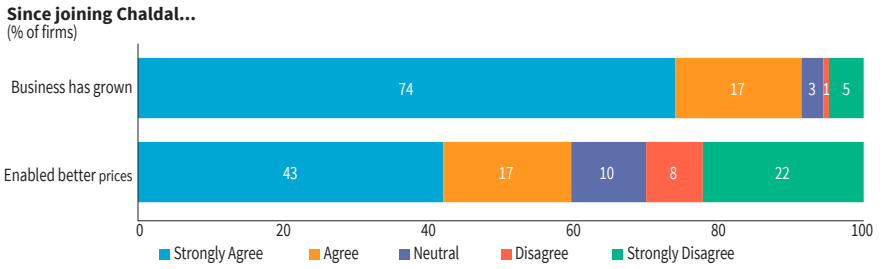
The pro-competitive effects of platforms could increase productivity and benefit consumers, but there is a risk that too much market power will accrue to dominant platforms.

Digital platforms and other digital communication technologies have the potential to increase competition between firms and reduce price dispersion, with the gains accruing disproportionately to more productive firms. Firms that sell in small, localized markets can charge high prices because their consumers have few alternatives and may be relatively price insensitive. When such firms move to an online market, they face a larger but more price-sensitive consumer base. The effects of this could be similar to those observed when economies open up to foreign trade: prices converge and more productive firms (that is, those with lower costs) gain a larger market share, raising overall efficiency.[30] While evidence of this effect in the context of digital platforms is limited, mobile phones have reduced commodity price dispersion in low- and middle-income countries (Aker 2010; Jensen 2007; Parker et al. 2016).

Consistent with the idea that digital platforms are increasing price competition between sellers in South Asia, it is observed that firms do not necessarily enjoy higher prices after joining Chaldal. In comparison to revenue gains, firms' perceptions of price gains after joining the platform are polarized. Fifty-nine percent agree with the statement that joining the platform has allowed them to charge a higher price, but 30 percent disagree (Figure 3.25).

30 See, for example, Melitz (2018).

Figure 3.25 Platform sellers' experience with price gains has been mixed

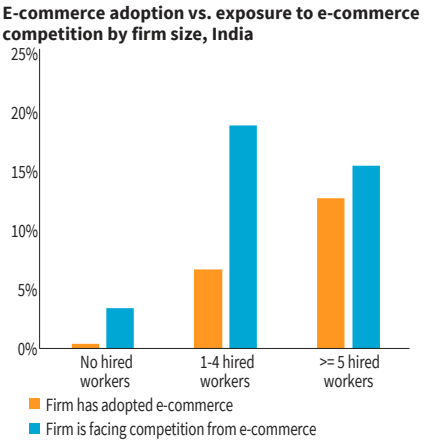


Source: World Bank-Chaldal Survey of Chaldal Supplier Firms, 2021.

The effects of digital platforms on prices also depend on how well sellers are able to improve product quality and better match consumer preferences, as suggested by studies from high-income countries (Goldfarb and Tucker 2019). It could be that only those Chaldal sellers who improved their product quality after joining the platform experienced significant price gains.

Competition from e-commerce sellers could soon become a major factor determining firms' choices and outcomes in South Asia. In India, for example, family-run businesses that say they face competition from e-commerce outnumber those that have adopted e-commerce (Figure 3.26). This gap between the exposure to e-commerce competition and e-commerce adoption is particularly large among smaller firms: among family-run businesses with one to four hired workers, 7 percent use e-commerce while 19 percent face competition from e-commerce. South Asian firms are responding to the pressure from online competition by changing their business models. For example, some grocery shops have started providing door-to-door delivery services to better compete with online grocery platforms.[31]

Figure 3.26 More firms face competition from e-commerce than use e-commerce



Source: World Bank E-commerce and MSME module, India CPHS Household Survey January-April 2021.

Even if not all firms can benefit from them, digital platforms will increase consumer welfare by reducing the cost of living. In China, improved access to

31 Competition Commission of India, 2020.

e-commerce in rural areas was found to have no significant impact on the revenue of rural firms. Still, it increased consumer welfare by 5 percent by reducing the cost of retail consumption (Couter et al. 2021). These gains accrue disproportionately to those who are younger, wealthier, and in more remote locations (where physical retail alternatives are more lacking). In a different but analogous context, the entry of foreign supermarkets in Mexico has been associated with significant welfare gains due to a lowering of the cost of living (Atkin et al. 2018).

The pro-competitive effects of digital platforms could, however, be undermined by the accrual of market power by dominant platforms. Digital platforms have strong economies of scale and low marginal costs. The higher the number of sellers and buyers on a platform, the more attractive that platform becomes for other potential sellers and buyers. These features tend to give early movers who scale up fast a strong advantage over newcomers and can lead to monopolistic situations.

Incumbent platforms also have many tools at their disposal to make it harder for their new competitors to attract consumers, potentially generating entry barriers. For example, they can leverage behavioral biases of consumers such as agreeing to the terms and conditions set by platforms without due consideration and "single-homing" on service providers. They have access to vast quantities of consumer data, giving them an edge over new platforms in understanding and manipulating consumer choices.[32]

Some of these monopolistic tendencies may already be emerging in South Asia. In India, for example, market shares in e-commerce and other types of digital platform markets are quite concentrated—a warning signal though not necessarily definitive evidence of monopoly power. E-commerce sellers have raised concerns about "platform non-neutrality"—the allegedly preferential treatment according to the platform's own brand or to certain preferred brands—and their limited ability to leave and find alternative online sales channels in case the contractual terms on a platform are not to their liking (Competition Commission of India 2020).

Besides e-commerce platforms, a range of online task platforms too could improve productivity in the services sector. Digital platform technologies are also enabling segments of the workforce traditionally consigned to domestic and even local markets—such as female domestic workers, caregivers of the elderly, and freelance workers—to sell their services in a larger market. For example, task platforms

32 See, for example, Scott Morton et al. (2019) for a review of such evidence on market power and competition in digital platforms.

are helping connect less-skilled domestic workers to employers in cities such as Dhaka, generating better job matches. Closer to the other end of the skills spectrum, many South Asians are using platforms to tap into foreign markets for online "gigs," where they could earn significantly more than they would in the local market. Contractors from Bangladesh, Sri Lanka, and India on the gig platform Odesk earn 10 to 20 times the local minimum wages (Agarwal et al. 2015).

Such task platforms could improve efficiency in the market for services by reducing informational asymmetries such as uncertainty about the suitability of unknown service providers. In a randomized field experiment, providing a rating and feedback to inexperienced contractors on the platform Odesk almost tripled their income and reduced their level of unemployment (Pallias 2016). This information seems to disproportionately benefit job applicants from less developed countries (Agarwal et al. 2016). Task platforms could also improve productivity by enabling more flexibility in the location and timing of work and by allowing a finer division of labor and specialization (Agarwal et al. 2015). Uber drivers benefit significantly from the flexibility in work hours that it enables, earning more than twice the surplus they would earn in less-flexible arrangements (Chen et al. 2020).

It is worth noting that much of this evidence on task platforms is from high-income country contexts, and there is relatively little evidence on platforms for domestic tasks and other less-skilled services. More evidence on potential risks and shortcomings too, would be useful. Just as with e-commerce platforms, undue market power can accrue to task platforms (Dube et al. 2020). As suggested by a survey of working conditions on task platforms across 75 countries, workers on these platforms still face issues related to limited career advancement prospects and a lack of social protection (Berg et al. 2018). The next section examines shifts in employment in the services sectors in South Asia and whether the changing structure of the labor force is conducive to services-led development.

3.4 Employment, agglomeration, and skills

Sustainable services-led development requires a small but critical mass of high-skilled workers and positive impacts on the rest of the labor force. These high-skilled workers should be in firms or key sectors where spillovers can occur, as well as an enabling environment for most of the labor force to benefit from these spillovers. Services-led development must also go hand in hand with skills upgrading, opportunities for re-training and re-tooling of skills as technologies change, and the ability of workers to respond well to abrupt changes.

Unlike with manufacturing-led growth, the strength and productivity of a firm in the services sector is based more on the quality of its employees than the efficiency of mass production. The unfettered acquisition of skills and capabilities and human capital will ultimately drive innovation and growth in services, regardless of the stock of physical capital. Workers without skills are much more susceptible to replacement through automation and artificial intelligence (Acemoglu and Restrepo 2017; Autor and Dorn 2013). The social skills required in hospitality and entertainment are less automatable and will increase demand for supportive services.

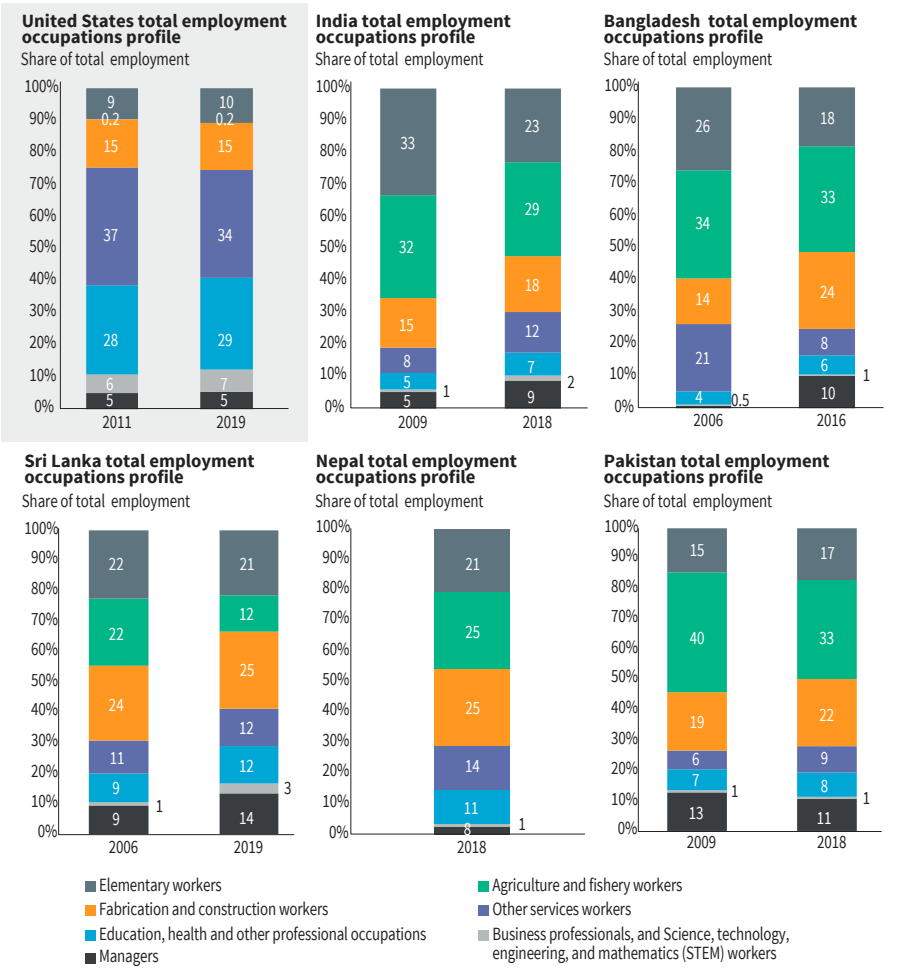
While the most recent trends in the last decade or so do not necessarily reflect future employment trend, some changes in the labor force structure toward more services should be salient[33]**.** If jobs in services occupations are increasing (overall and in the manufacturing sector), and there is a shift in the share of high-skilled workers into the business services sector—which increases employment opportunities for other workers and upgrades the overall skills set of the labor force— it will reinforce the viability and sustainability of the services-led model in South Asia. The analysis below compares the occupation profiles in South Asia to that of the United States, which is a highly servified mature economy with a very developed business services sector to which South Asia can aspire.

The occupational composition of jobs has shifted substantially toward services in South Asia in the span of a decade, reflecting the growing demand for services production (Figure 3.27). Most South Asian countries see a clear shift away from agriculture-related occupations toward services jobs, both low and high-skilled services. The share of workers engaged in fabrication, machine operation, and construction occupations has grown for all countries, particularly in Bangladesh, though most of these workers have moved to the growing construction sector, not manufacturing. All countries have seen a decline in workers involved in elementary jobs and toward jobs that require at least some skills (Appendix 3.4 defines occupations categories). Services and managerial occupations have increased their share in all economies but Bangladesh (though within the category of "managerial occupations" there is a lot of heterogeneity). Female labor force participation in services has also increased in recent years: from 20 to 25 percent in Bangladesh, 17 to 27 percent in India, 14 to 18 percent in Pakistan, and 40 to 46 percent in Sri Lanka between 2011 and 2019, respectively (World Development Indicators).

33 Most countries—including those in South Asia—conduct labor force surveys (LFS) every 3 to 5 years, so the initial and final years do not always coincide. We analyzed the surveys that corresponded as closely as possible to 2009 and 2019 to compare profiles across a decade. Appendix 3.4 provides details on the data.

In contrast, there was practically no change in occupation profiles in the United States between 2009 and 2019. Nonetheless, over three-quarters of American workers have jobs as service providers. Over a third of the U.S. labor force engage in non-professional service jobs. This bodes well for South Asian countries, as it suggests that if they follow the path to match the U.S. occupations profile in the future, not all workers will have to become high-skilled professionals for the region to reach a mature level of development. Just a small but critical mass may be necessary.

Figure 3.27 Services occupations are less important compared to the United States, though there is a shift to a greater variety of services-type occupations in the last decade

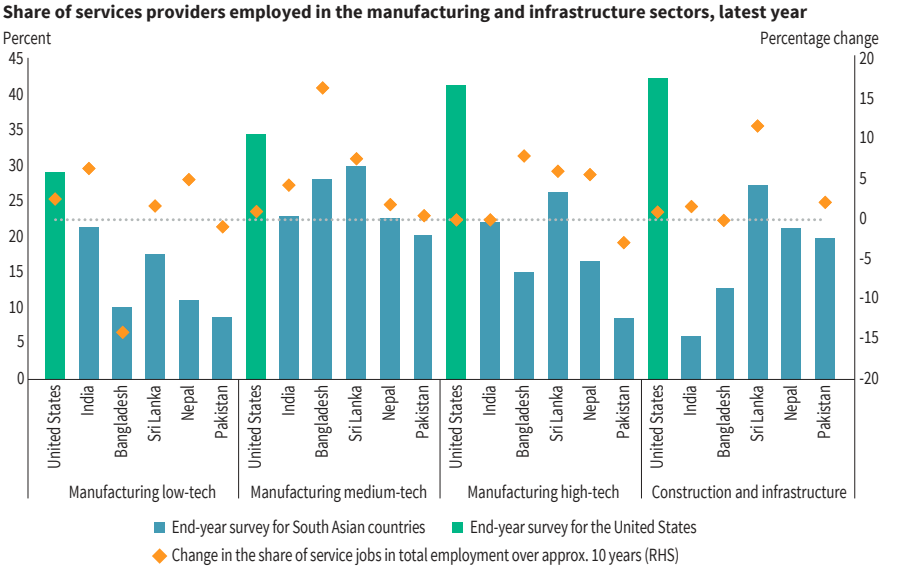


Note: Comparability for Nepal's LFS was not possible due to changes between national occupation classification codes.

Source: Various national labor force surveys and their equivalents for South Asian countries, the Occupational Employment and Wage Statistics (OEWS) for the United States. Occupations classified at the ISCO-88 one-digit code.

Another emerging trend is the large share of manufacturing sector workers who essentially provide services. Using the labor force surveys of countries in the region over the last decade, Figure 3.28 uses detailed occupations data to classify workers according to what they do. For example, a metal refinery may hire accountants, logistics experts, or researchers. Though refining is a manufacturing activity, many workers in the sector provide services. Likewise, a machine operator may be hired by a construction company or may be testing machines leased by an engineering service firm: the worker may perform a fabrication job but is not mapped to the manufacturing sector. Viewed through this lens, between 20 and 40 percent of workers in manufacturing in South Asia have service jobs. In the United States, the number of service jobs in manufacturing approached 50 percent in 2019. In other words, service workers are not just working in the services sector. Moreover, the share of service providers in manufacturing has increased significantly in the last decade, particularly in low-tech manufacturing such as food and beverages, and textiles, which are less automated than high-tech manufacturing (ADB 2018). If services jobs are not only shifting to services but also to manufacturing, this reinforces the sustainability of the services-led growth model in South Asia.

Figure 3.28 The servicification of the labor force: workers engaged in services jobs are increasingly found in all sectors of the economy—including manufacturing



Note: The sector classification refers to Table A3.1 and occupation classification to Table A3.14, and Appendix 3.4 on servitization of manufacturing through employment.
Source: Various national labor force surveys and their equivalents for South Asian countries, the Occupational Employment and Wage Statistics (OEWS) for the United States classified at the ISCO-88 codes. Excludes agricultural workers and elected officials.

There have also been major shifts within occupations. The four largest countries in South Asia saw a large shift of high-skilled workers—the technical professionals, STEM workers, and associate professionals and technicians (BPS)—move to the highly-productive business services sector (Figure 3.29).[34] For example, over 40 percent of all Indian BPS workers in 2019 were employed in the business sector, about the same share as in the United States, with a large shift occurring in the last 10 years. The United States has also seen an increasingly large concentration of high-skilled occupations moving into that subsector.

In principle, this concentration of skills within the business sector is not detrimental for sustaining services-led growth in South Asia as long as there is a critical mass of talent, and as long as there are sufficient spillovers from the clustered activities of that sector to others. The previous section does suggest high spillover effects of business services through production, while spillovers could also happen through higher demand for consumer services by high-skilled workers.[35] Between-sector changes in occupation have benefitted the public sector, particularly an influx of health and education workers in India and Bangladesh.[36]

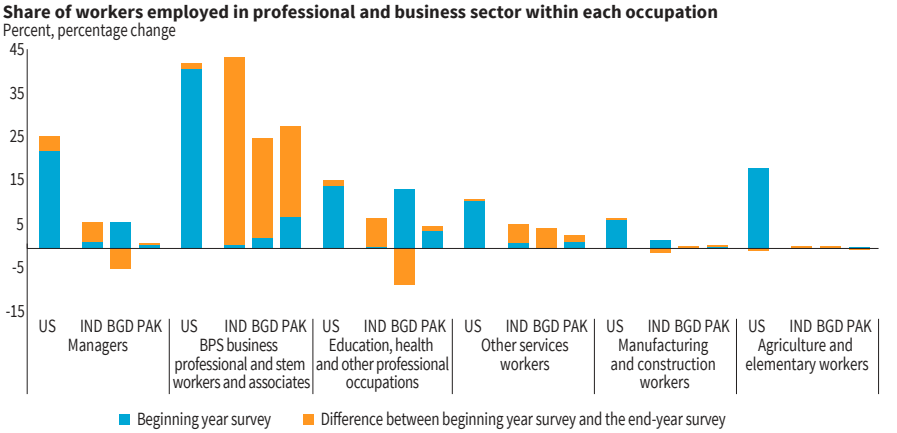
One possibility is that the economic benefits from those working on high-skilled jobs occur through agglomeration externalities. This can happen if service firms are in the same cities where major manufacturing activities are located. Cities are breeding grounds for innovation, networks, and thus productivity spillovers. Cities enjoy a substantial wage premium even after controlling for skill differences and sorting (Combes and Gobillon 2015). Productive people move to cities and make each other more productive—which means relationships matter. A recent study on Asian economies, including India, showed that firm innovation is highly concentrated in larger cities, where universities are also located: doubling city size would, on average, increase a firm's propensity to introduce a process innovation by 3.9 percentage points and product innovation by 4.8 percentage points (Chen, Hasan, and Jiang 2020). Moretti (2012) provides a clear summary and compelling research

34 These occupations comprise less than 2 percent of the total.

35 Though they do not control for firm location, Avdiu et al. (2020) show that the spillover effects from tradable, high-skilled services to consumer services in India happen mostly on the demand side, which would have positive distributional consequences for more informal services sectors.

36 An analysis of the movement of occupations across sectors of the most skilled workers (which include workers in education and health) shows that India and Bangladesh saw a major increase in the share of workers going into the public sector in the last decade (Franco-Bedoya et al. 2021). While an increase in the stock of these workers is a necessary condition for the accumulation of human capital, it may also reflect the fact that there are fewer opportunities for these workers to find jobs that use their skills in the market services sectors. The same exercise conducted for the United States showed high-skilled workers moving predominantly into market services sectors.

Figure 3.29 Business services employ a large and growing share of high-skilled professionals in all countries, though the United States also employs a variety of workers engaged in other occupations

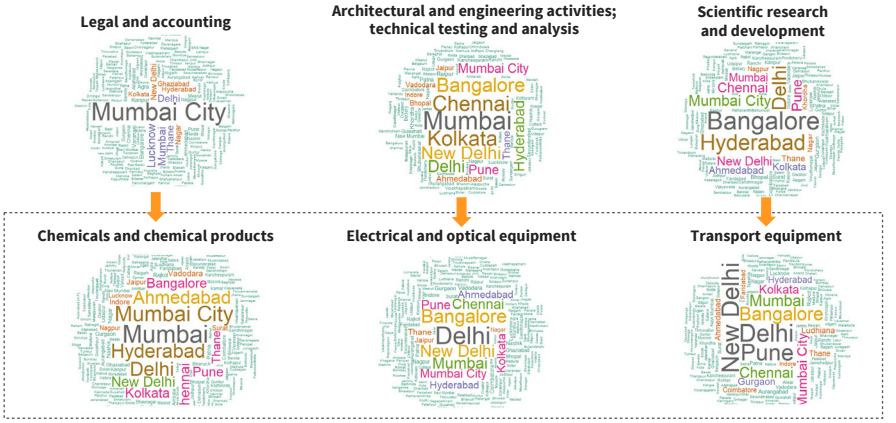


Source: Various national labor force surveys and their equivalents for South Asian countries, the Occupational Employment and Wage Statistics (OEWS) for the United States (US) classified at the ISCO-88 codes.
Note: Methodology based on Berlingieri (2014). The occupation classification refers to Table A3.15. It shows the share of workers employed in the professional and business sector within each occupation group. See Franco-Bedoya et al. (2021) for more details.

from U.S. cities on the benefits of urbanization for the acquisition and spillover of human capital, particularly from high-skilled to low-skilled services, especially in consumer services. If cities are productivity hubs, not just living quarters, it is no coincidence that specific clusters of manufacturing and services workers will be in the same urban areas.

Analysis of India's firm location suggests that agglomeration externalities may be taking place. Using the data on firm location, Figure 3.30 shows a word cluster for each subsector in India, where the size of the word represents the share of firms located in that urban center. Mumbai is a leading center for professional services that were shown to be important inputs into manufacturing, and it also is a major chemical and pharmaceutical hub. Bangalore is a major hub for scientific research and development firms, similar to the location of a significant number of firms in the electrical and transport equipment sectors. The synergies across these sectors would be reflected in people working side by side, creating innovation and spill-overs, but also generating jobs for lower-skilled urban workers. In other words, one channel through which high-skilled services workers can improve opportunities for other workers is through demand for services within urban areas.

Figure 3.30 Agglomeration of business services and high-tech manufacturing



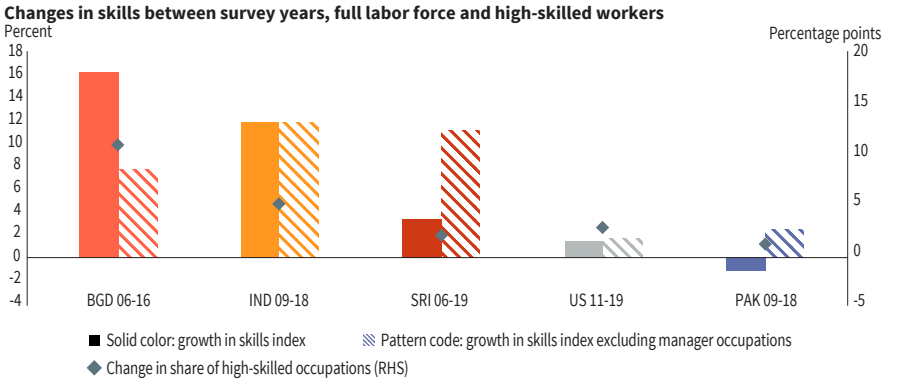
Note: Text mining is based on the location of firms in India to generate a word cloud that shows the agglomeration patterns of different industries. See Appendix 3.2.
Source: Orbis database.

Finally, these shifts in employment by occupation are only meaningful for services-led development if there is an upgrading of the skills set of the labor force. It will take many decades to see large changes. Even in advanced economies, many low-skilled workers are engaged in supportive roles and consumer services that can still be highly demanded. However, if the shift of employment to services is increasing the share of low-level, subsistence jobs, then the concerns by some (such as Rodrick 2016) that premature deindustrialization implies stagnant development would be valid.

On average, all South Asian countries have seen an upgrading of skills in the labor force, though less so in Pakistan, which saw a decline in semi-skilled workers. Figure 3.31 shows the changes in skills composition based on occupation. Excluding managers from the sample, Pakistan also sees an improvement (light-shaded bar of Figure 3.31). A much smaller share of workers is performing jobs that require no skills, while a higher share of the labor force in recent years is involved in high-skill jobs (black marker in Figure 3.31). This also speaks to the increasing importance of skills, not a diploma or certificate, in adopting and using digital technologies. New services jobs are more task-oriented than earlier, when specialized manufacturing large-scale production jobs dominated.[37] India and Bangladesh show the most positive change in terms of skills intensity.

37 For example, a high school graduate may be better at building a web page than an older mechanical engineer with more education because he or she is adept with new digital technologies. The services economy also requires flexibility, resilience, and adaptability of the workforce (Fink and Gentile 2019). Indeed, most of the jobs in highest demand globally did not even exist 10 years ago (McKinsey 2021).

Figure 3.31 All economies except Pakistan see an upgrading of skills in the last decade or so. India and Bangladesh see the largest improvements. Share of high-skilled workers in labor force also increases



Note: Index not comparable across countries due to different starting points. Skills classification based on job description mapping by International Labour Organization (see Appendix 3.4 on skills upgrading for more details).
Source: Labor force surveys, various years for South Asian countries; U.S. Occupational Employment and Wage Statistics (OEWS).

Moreover, there is evidence from India and other countries that export orientation is associated with job creation. For instance, the number of jobs (and wages) supported by the export of business services in 2015 exceeded that of manufactured goods in large emerging economies, such as Brazil, China, India, Russia, and South Africa. Furthermore, the growth of business services has raised incentives for workers in developing countries to obtain more education. For example, evidence from India shows that the expansion of business, telecommunications, and financial services has been associated with higher educational attainment (Jensen 2012; Nano et al. 2021; Oster and Steinberg 2013).

Though we cannot make conclusions about the appropriate pace of improvement of skills and education of the labor force going forward in each economy based on the trends in the past decade, workers should be provided with greater opportunities to use digital technologies in a way that improves their skills and make them more productive through learning by doing on the job.

3.5 Policy challenges

The rapid transformation of the services sectors described in this chapter requires new policies, rethinking of regulations, and perhaps even new institutions. The telecom sector provides an example of necessary institutional changes during recent decades. When new technologies opened the opportunity for competition

and telecom was no longer a natural monopoly, state-owned companies were privatized, new competitors could enter the market, and independent regulators became part of the institutional framework. This also happened in many countries in South Asia**.** Going forward, major institutional changes are needed for, among others, professional business services, financial services, and digital platforms. New opportunities in the services sectors cannot be fully unleashed if policy makers fail to change the institutional environment.

Many of the new, less traditional digital services and platforms may have emerged precisely because they are operating at the periphery of conventional regulation, and simply transposing conventional regulations to this industry could stifle innovation. But that does not mean that the new services economy should remain unregulated. The objective of the new regulations is to create a level playing field that allows competition and helps spread the benefits of new technologies broadly. Ride-hailing, online task marketplaces, and FinTech platforms could benefit from a regulatory sandbox approach that gives them room to innovate while ring-fencing their potentially disruptive effects.

Policy makers in South Asia are addressing the new realities in the services sectors, but there is still a large unfinished agenda and they face several challenges. First, existing regulations in many professional services, such as legal, accounting, and engineering services, have become entry barriers and have created vested interests that are difficult to overcome. The existing standards and regulations were imposed to assure quality of service provision, but they become an obstacle if technologies and market structures change. Second, in several countries in South Asia there is still an implicit preference to support manufacturing, as reflected in the ”Make in India” initiative and the goal of promoting labor-intensive, export-oriented manufacturing-led growth as a key strategy in Bangladesh’s Five-Year Plan 2020-2025. That makes it more difficult to find the political will to start major reforms in services sectors. Third, there are no good examples in other countries that can be easily followed. Globally, there is an ongoing and inconclusive debate on how to best regulate or deregulate the new service economy.

The changes caused by shifting the focus from manufacturing to services are well illustrated by policies aimed at boosting productivity. Enterprise productivity and innovation policies for manufacturing are not the best fit for ICT, business services, and other key services sectors. Compared to manufacturing, innovation in services firms relies less on formal R&D investment and more on knowledge acquisition, technical skills, and entrepreneurship (OECD 2005). The services sectors are less in need of support from existing firms than an elimination of barriers to entry.

Programs that facilitate national and international competition, support startups, and encourage mobility of skilled labor and adoption of ICT services in the rest of the economy will be conducive to the unleashing of potential for the new services economy. Therefore, three main areas can be distinguished in the new policy agenda:

- Pro-trade and pro-competition policies.
- Labor market policies that focus on mobility and on-the-job training.
- Policies that facilitate the adoption of new services by firms and consumers.

Devising pro-trade and pro-competition services sector reforms

South Asia is starting from a position in which business and professional services sectors are heavily regulated compared to other countries. On a scale of one to 100, where 100 means that a sector is completely closed to foreign services and service suppliers, India's professional services sector had a score of 79.5 in the 2016 WTO-World Bank Services Trade Restrictions Index (STRI) (Borchert et al. 2019). Sri Lanka (70) and Bangladesh (53.9) also have relatively restrictive policy regimes in the professional services sector. Pakistan's professional services sector, with an STRI of 43.6, is comparatively liberalized. In India, for example, policy restricts the entry of foreign auditing and accounting firms (Borchert et al. 2019). Such regulations often work as entry barriers and are therefore becoming an obstacle for the new services economy in which start-ups play a key role. In industries such as legal and accounting services, addressing informational asymmetries through licensing and qualification requirements is a major objective of regulatory policy. Restrictions on foreign providers typically arise because of the variability of qualifications across countries and the limited domestic capacity to assess those qualifications (Geloso et al. 2014). The question for policymakers is how to become more open, transparent, and non-arbitrary in the treatment of foreign service providers while still achieving the core objective of the regulatory policy.

Barriers to competition have been reduced in many backbone services industries, such as transportation, but not fully. In particular, the rail freight industry is still relatively closed in some South Asian countries. Bangladesh's rail freight sector, for example, is open to foreign service providers on a de jure basis, but not in practice (Borchert et al. 2019). In Sri Lanka, the government has a monopoly in the railway sector. Limited capacity to enforce competition policies in the face of the strong influence of dominant stakeholders may also be hindering productivity growth in these sectors in some South Asian countries. In Bangladesh's trucking sector, agents linked to unions and associations still have an undue influence on trucking rates, distorting trucking services markets (Herrera Dappe and Kunaka 2020).

South Asia's services sectors are not only heavily regulated but also relatively sheltered from foreign competition. A more welcoming environment for FDI in services is warranted. Our analysis of services firms shows that those headquartered elsewhere—FDI if headquartered abroad—tend to be relatively more productive. Recent analysis undertaken by the World Bank shows that tariffs and a weak business environment have a significant and negative impact on South Asia's inward FDI. A 1 percent reduction in import tariffs could increase FDI by up to 3.5 percent. Similarly, a 1 percent decline in the index that measures procedural and time delays could boost FDI by up to 0.3 percent (Lakatos 2021).

Increasing opportunities for FDI in services can also increase technology transfer. Knowledge transmission through skilled foreign professionals, a vehicle of innovation in the services sector, is not being fully tapped. A case in point is Nepal, where visa restrictions for skilled workers are reported as a key productivity constraint by ICT firms (World Bank 2018). Also, mounting evidence of FDI and migration complementarity suggests that developing countries, including in South Asia, could better leverage factor movements to support national and regional economic development. Leveraging complementarity to boost development requires reforms to FDI and migration policies individually and greater attention to their interaction. Reforms can be undertaken unilaterally or driven by regional integration efforts, with mutual understanding being particularly important to address the concerns of migrant and capital exporters (Nixon 2021).

To maintain competitive conditions after the emergence of digital platforms, which have characteristics of natural monopolies, new institutional capacity has to be developed. Given the unprecedented nature of the competition policy challenges posed by digital platforms, investment in the requisite analytical and regulatory capacity is a priority. In the United States, for example, there are suggestions to create a specialist regulator, a "Digital Authority," to be tasked with creating general conditions conducive to competition (Scott et al. 2019). Enacting regulations to address issues of consumer protection, data protection and privacy, e-transactions and e-signatures, and cybersecurity also will help support trust and competition in this market, provided such policies do not become protectionism in disguise. In general, South Asian countries lack clear and consistent policy frameworks on these issues (Kathuria et al. 2020).

The developmental impacts of digital platforms and other digital services will also depend on achieving the right balance in terms of data privacy. This is a

balance between using consumer data for greater market efficiency and protecting personal information. Policies governing digital data vary to a surprising degree within South Asia. Nepal and Pakistan have few restrictions on cross-border data transfer and lack a comprehensive framework for the protection of personal data in domestic data processing. Bangladesh allows open cross-border data transfer while India is less open in this regard, imposing ex-ante conditions on the transfer of data.[38] India imposes extensive and systematic control over domestic data processing (Ferracane and van der Marel 2020).

Regional cooperation to achieve greater integration of e-commerce markets in South Asia could help enhance the benefits from e-commerce and other digital platforms. Greater regional integration of e-commerce markets could substantially increase market access to local ecommerce sellers. This can be facilitated by harmonizing e-commerce regulations regarding electronic transactions, data privacy, consumer protection and cybersecurity across countries in South Asia, and by reducing regional policy barriers to the cross-border supply of transport and logistics services (Kathuria et al. 2020).

Preparing workers for jobs in the new services economy

Workers will need to be reskilled for the jobs generated directly and indirectly by export-oriented services, business and professional services, and digital platforms. The pillars of services-led growth—the ICT, business, and professional services industries—are skill-intensive. Khatiwada and Maceda Veloso (2019), for example, find that two-thirds of new occupations in India are in professional service sectors and that most of these new job titles are ICT-skills biased. Improving the quality of technical skills needed for these sectors is a matter of great importance for higher education policy in South Asia. The critical role investments play in expanding high-quality engineering skills in driving India's software revolution is a case in point. The key elements of this included a major expansion of engineering colleges, the establishment of research and training institutes for software development, and programs to leverage the technical expertise of the diaspora (Nayyar et al. 2021).

Creating opportunities for less educated workers to learn the skills needed for the jobs generated indirectly by business and professional services industries will be critical. Otherwise, growth driven by skill-intensive services sectors could leave low-skilled workers behind. High-skilled services generate demand for

38 For example, since 2018, all payment system operators in India have had to ensure that data related to payment systems operated by them are stored only inside the country (OECD 2020).

less-skilled jobs in other sectors through backward linkages (by demanding freelance back-office services, for example) and forward linkages (though demand for consumer services such as recreation and personal services). For example, when inputs into economy-wide production are considered, unskilled labor content in every thousand dollars of exports was around $150 for both business services in the Philippines and ready-made garments in Bangladesh (Nayyar et al. 2021). The growth of tradable services can also raise local income which, in turn, can raise the demand for other goods and services, including those that employ low skill labor. Through this channel, employment growth in internationally traded business services has had a positive impact on local employment growth in low-skill domestic services (Avdiu et al. 2020).

Concerns about inclusivity could be addressed through market-oriented technical and vocational training programs, as well as opportunities for on-the-job re-skilling and greater access to these digital technologies. A new approach could also help reduce the digital divide, for example, by creating "shared service centers" in key urban areas where workers can go online and receive assistance with starting a business or supplying tasks (Baldwin 2021). For consumer services, the importance of social skills that are difficult to replace by automation is key in a post-COVID world. For example, Bhutan has expanded training for high-skilled workers in tourism with a view to receiving more high-end clientele once tourism is open again, as hospitality requires high social and communication skills. Programs that encourage and assist in continuous retooling and sharpening of skills for all services workers can reinforce a culture of learning on the job, a trait that will become ever more important in a post-COVID world.

In the new services economy, the distinction between employees, gig workers, and entrepreneurs is becoming increasingly blurred. The skills agenda should include grant programs to support innovative startups. Due to informational asymmetries in financial markets, these startups often lack the funding, not only to develop new services but also to further develop the skills of the founders.

Connecting consumers, firms, and workers to the new services economy

Policies conducive to business entry, trade, and competition in key services sectors will also indirectly increase productivity growth in manufacturing and other linked sectors in South Asia. Reforms enacted in the 1990s in India enabled greater foreign and domestic competition and more effective regulation in services sectors such as finance, transportation, and telecommunications. These reforms, which lifted the domination of public sector enterprises in these sectors

and improved the access of firms to business services, increased the productivity of both domestic and foreign-owned firms in India's manufacturing sector (Arnold et al. 2016). For example, a one standard deviation improvement in the transport sector liberalization index led to a 19 percent increase in the productivity of manufacturing firms.

Emphasizing the positive effects of pro-competitive services industries reforms on downstream industries could help countries maintain reform momentum. The pace of reforms is largely being determined by political economy considerations, such as the cost of layoffs in incumbent public sector enterprises (Hoekman, Mattoo, and Sapir 2007). Evidence of the economy-wide job creation triggered by an unleashed new services economy can provide an important counterweight to political arguments that represent vested interests.

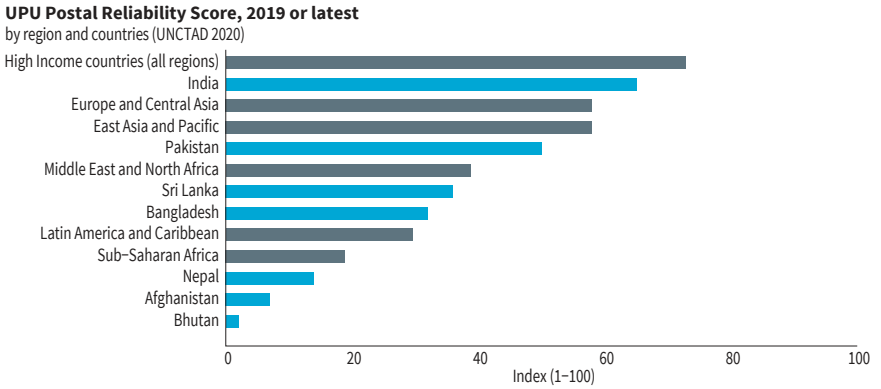
The impacts of services and digital platforms will be felt more widely when more consumers are connected to digital markets. More firms are capable of using skilled services inputs and more workers have skills matched to the needs of the new services economy.

(i) Connecting consumers

Policies to improve the last-mile connectivity of e-commerce platforms will help expand their benefits to households in non-urbanized areas. With the exception of India, South Asia's postal reliability is comparatively low (Figure 3.32). As a result, the high cost of delivering goods to the doorstep constrains the reach of e-commerce. Moreover, consumers with internet access may still hesitate to use e-commerce because, to them, it is a new technology. Perhaps for this reason, the share of internet users who buy online is strikingly low in South Asia (Figure 3.33).

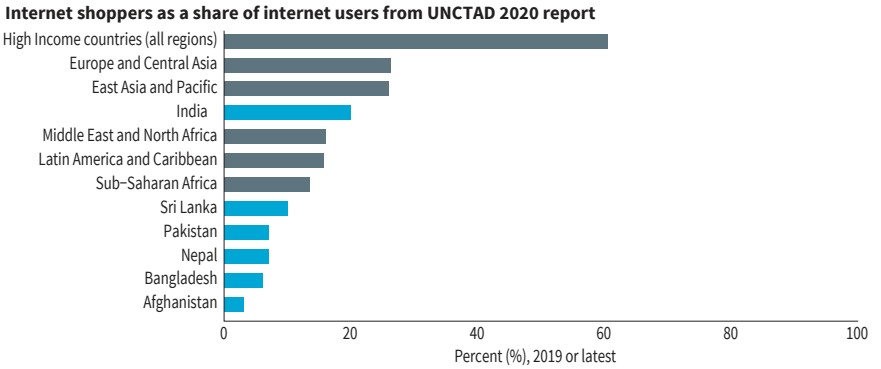
Governments in the region can draw on good examples from other parts of the world to develop last-mile connectivity initiatives in partnership with the private sector. For example, the Chinese government partnered with an e-commerce platform to invest in logistical facilities and user-friendly internet terminals in rural areas, significantly reducing the cost of living in villages (Couter et al. 2020). India's push to expand e-commerce in rural and semi-urban areas through a partnership between the postal service and e-commerce platforms (Government of India 2016) is similar in spirit. It would be useful to examine how well it worked.

Figure 3.32 Weak postal reliability impedes last-mile delivery in many South Asian countries



Source: UNCTAD (2019).

Figure 3.33 South Asia's internet users rarely shop online



Source: UNCTAD (2019).

(ii) Connecting firms

Public policy plays a similar role in addressing market failures that constrain firms from using business and professional services and digital platforms. Several studies have shown that the use of business advisory services can improve firm performance, but puzzlingly, most firms in the region do not use such services.[39] This could be due to informational failures in the market for business advisory services (Cirera and Maloney 2017). Likewise, the selective uptake of e-commerce by South Asian firms could be because firms are not capable of identifying and using the opportunities offered by e-commerce.

39 See, for example, Bloom et al. (2013); Bloom et al. (2020); Bruhn et al. (2018) for evidence of the impact of business advisory services on firms.

Government programs can support the extension of business advisory programs to firms in conjunction with broader policies to promote competition and quality in the market for business advisory services. Programs that combine general business management advice with advice on the use of digital platform technologies are especially promising and worth piloting more in the region. For example, existing advisory programs could incorporate modules related to the use and management of digital platforms.

Countries in South Asia should seize the opportunity to digitally transform the tourism sector. This would include partnering with the private sector to develop innovative applications such as travel apps or data hubs. A good example is Bhutan's tourism-specific government data hub called TCB Hub, which aims to address information mismatch for tourists, service providers, and government organizations (UNWTO 2021). Other examples of sectors that can greatly benefit from the adoption of ICT services are transportation and the agricultural sector (Box 3.4).

The change of policies to facilitate the new services economy remains an unfinished agenda that still requires a lot of experimentation and finetuning. But if policy makers get it right and are not constrained too much by vested interests, they can unleash high growth in key services sectors that will drive robust development in the broader economies of South Asia.

Appendices

The appendices summarize the data, methodologies, and results used for the analysis of the chapter. A more detailed description is given in Franco-Bedoya, Li, and Mercer-Blackman (2021).

Appendix 3.1 Using input-output analysis to tease out value added contribution of services

The analysis of sectoral changes and composition, calculations of value-added contributions, and direct and indirect effects comes from the ADB Multi-Regional Input-Output Tables (ADB MRIO) unless otherwise indicated (ADB 2021). Table A3.1 shows the totals for South Asia. All South Asian countries are featured individually in the MRIO for the years 2000, 2005, and 2010-2020 except Afghanistan. Production is disaggregated into 35 economic sectors based on the International Standard Industrial Classification (ISIC) Revision 3.1.

Table A3.1 Sector classification used in analysis and 2019 shares, South Asia excluding Afghanistan

MRIO No.	Sector name using MRIO classification	GDP share	Export share	Analytical sector classification (GDP share in parenthesis)	Broad sector	GDP share	Export share
1	Agriculture, Hunting, Forestry, and Fishing	18.1	2.4	Primary production (20.1)	Agriculture and natural resource extraction	20	3
2	Mining and Quarrying	2.0	1.1				
3	Food, Beverages, and Tobacco	2.0	4.5	Low-tech manufacturing (5.2)	Manufacturing	15	59
4	Textiles and Textile Products	2.4	15.5				
5	Leather, Leather, and Footwear	0.2	1.5				
6	Wood and Products of Wood and Cork	0.1	0.1				
7	Pulp, Paper, Paper, Printing, and Publishing	0.4	0.4				

MRIO No.	Sector name using MRIO classification	GDP share	Export share	Analytical sector classification (GDP share in parenthesis)	Broad sector	GDP share	Export share
8	Coke, Refined Petroleum, and Nuclear Fuel	0.6	5.3	Medium-tech manufacturing (6.9)			
9	Chemicals, Chemical Products and pharmaceuticals	2.2	8.4				
10	Rubber and Plastics	0.5	1.1				
11	Other Non-Metallic Mineral products	1.1	0.9				
12	Basic Metals and Fabricated Metal	1.7	5.7				
13	Machinery, Not elsewhere specified	0.8	2.8				
14	Electrical and Optical Equipment	0.7	2.6	High-tech manufacturing (2.9)			
15	Transport Equipment	1.8	3.8				
16	Manufacturing, other; Recycling	0.5	6.3				
17	Electricity, Gas, and Water Supply Utilities	2.4	0.1	Construction and infrastructure (9.5)	Construction and utilities	9	1
18	Construction Construction	7.1	0.7				
19	Sale, Maintenance, and Repair of Motor Vehicles and Motorcycles (MV&M); Sale of Fuel	0.5	0.2	Trade-related services (12.2)	Services	55	37
20	Wholesale Trade and Commission Trade except MV&M	4.3	1.5				
21	Retail Trade except MV&M; Repair of Household Goods	7.3	0.3				
22	Hotels and Restaurants Tourism	1.2	2.2	Other market services (15.7)			
23	Inland Transport	4.6	1.6	Transport, telecommunications and financial intermediation–enabling services (12.4)			
24	Water Transport	0.1	0.9				
25	Air Transport	0.2	2.3				
26	Other Supporting and Auxiliary Transport Activities; Activities of Travel Agencies	0.7	1.2				
27	Post and Telecommunications ICT services	1.5	3.9				
28	Financial Intermediation Finance and Insurance Services	5.3	1.6				
29	Real Estate Activities and property services	6.8	0.4	Other market services (15.7 - rept)			
30	Renting of Machinery and Equipment; Other Business Activities ("business services")	7.8	17.8				
31	Public Administration and Defense; Compulsory Social Security	6.1	0.4	Public services (12.1)			
32	Education	4.3	0.3				
33	Health and Social Work	1.8	0.3				

MRIO No.	Sector name using MRIO classification	GDP share	Export share	Analytical sector classification (GDP share in parenthesis)	Broad sector	GDP share	Export share
34	Other Community, Social, and Personal Services	2.7	2.0	Personal and community services (3.1)			
35	Private Households with Employed Persons	0.3	0.1				
	TOTAL	100.0	100.0			100.0	100.0

Source: ADB MRIO database (accessed September 22, 2021), using authors' classification.
Note: Sector number corresponds to MRIO ordering, following SITC Rev. 3.1 classification. All shares are based on data originally expressed in millions of 2019 current dollars. Export shares include intraregional exports. GDP is at factor cost (excludes taxes and subsidies).

The difference between the MRIO and regular input-output tables of an individual economy is that all countries are stacked and linked, which means that each element of the matrix refers to supply and use of one country-sector to another country-sector. This annual data has been updated to 2020—though most accurate to 2018—and is reported globally for 62 countries and Rest of the World (RoW), which denotes the sum of all other countries. Detailed methodology is in ADB (2015).

Measurement of value-added contribution

To compute the value-added contribution of services to exports, we use the VLE matrix, computed as follows: *VLE matrix* = $\hat{\boldsymbol{V}}\boldsymbol{L}\hat{\boldsymbol{E}}$, where:

$\hat{\boldsymbol{V}}$ is the diagonalized value added coefficient vector
$\boldsymbol{L}$ is the global Leontief inverse
$\hat{\boldsymbol{E}}$ is the diagonalized gross exports vector

Exactly the same method can be used to capture the value-added contribution of all services, or specific services, to manufacturing output. Except that the numerator would be *VLO matrix* = $\hat{\boldsymbol{V}}\boldsymbol{L}\hat{\boldsymbol{O}}$, where the matrix $\hat{\boldsymbol{O}}$ is the diagonalized gross output or production vector. Table A3.2 shows the results for South Asian countries, with their relative ranks and rank changes compared to 62 other countries in the ADB MRIO database.

Table A3.2 Change in value-added contribution of services

All services, by producing country	To domestic manufacturing output			To foreign manufacturing output		
	2020 value (percent)	2020 rank (out of 62 countries)	Rank change since 2010 1/	2020 value (percent)	2020 rank (out of 62 countries)	Rank change since 2010 1/
Manufacturing dependent countries: services inputs						
India	13	27	1	14.4	14	2
Pakistan	14	25	-10	0.4	51	-3
Sri Lanka	13	28	9	0.3	52	1
Bangladesh	10	37	-6	0.2	53	2
Services-dependent countries: services inputs						
Nepal	12	33	-14	0	56	
Bhutan	11	53	14	0	62	
Maldives	7	39	19	0	55	
Memo item: Global unweighted average, excluding South Asia	17			13		

1/ Positive change in rank denotes comparative improvement.
Source: ADB MRIO and author's calculations.
Note: Afghanistan is not included in ADB MRIO. Box 2.1 briefly discusses GDP composition in Afghanistan, where the services sector comprises 58 percent of GDP in 2020.

Revealed comparative advantage in value added (NRCA)

Figure 3.5.B uses a modified version of the revealed comparative advantage measure based on Balassa (1965). The underlying figures are explained and reported in ADB (2021). Using the forward-linkage based on domestic value-added in exports (*DVA_F*) instead of gross exports, Balassa's index is altered to better capture patterns of specialization. Here, new revealed comparative advantage of economy r in product i is obtained using the following formula:

$$NRCA_i^r = \frac{\left(\frac{DVA\_F_i^r}{\sum_{j=1}^{N} DVA\_F_j^r}\right)}{\left(\frac{\sum_{k=1}^{G} DVA\_F_i^k}{\sum_{l=1}^{N}\sum_{k=1}^{G} DVA\_F_l^k}\right)}$$

As in the interpretation of the traditional revealed comparative advantage indicator, the economy r is said to have a comparative advantage (with respect to the world) in the production of good i if $NRCA_i^r > 1$. Otherwise, it is said to have a comparative disadvantage in product i.

Direct and indirect spillover effects of services inputs

The indicators use the ADB MRIO to capture the effects from an increase in services production not just at home but abroad, using insights from input-output and GVC analysis. A detailed explanation of the methodology is in Franco et al., 2021.

Denote:

$$d_{ij}^{A} = \text{direct effect.}$$

This is the technical coefficient or element of the direct requirements matrix, *D*. It measures the first-round, or direct effect. In the analysis, we use it as a proxy for the level of outsourcing because sector *i*, services, in this case, is different from sector *j*.[40] From the global Leontief inverse matrix *L*, l_{ij}^{A} denotes the total multiplier effect from an increase in sector *J*'s demand in country *A* and sector *i*. Then

$$S_{ij}^{A} = l_{ij}^{A} - d_{ij}^{A} = \text{indirect effect.}$$

S_{ij}^{A} is defined as the industrial support effect, denoted as the indirect "spillover" impact on the rest of the economy from sector *j*'s demand for sector *i*'s inputs in country *A*. To measure the impact of all services sectors' output (forward linkages), the multiplier effect is the sum across all services sectors in the ADB MRIO. We can measure the changes in response to an increase in $1 of all domestic manufacturing demand or all foreign demand. To compare the same sectors across countries, we take a simple average multiplier of each country, as they are all responding to the same $1 demand across sub-sectors. Mercer-Blackman and Ablaza (2019) use this methodology to analyze global impacts with a focus on Asia.

Spillover effects and per-capita GDP

Figure 3.10 shows that indirect effects from business services links to manufacturing and GDP are related. To test the statistical significance of the relationship, Table A3.4 shows the results from a fixed effects panel regression.

$$BSMFG_{i,t,} = \beta_0 + \beta_1 lnGDPpc_{i,t-n} + \beta_2 BSMFG_{i,t-n} + \gamma T + u_{i,t}$$

$BSMFG_{i,t}$ is the indirect contribution of business services to manufacturing for each country *i*.

A set of vectors denoted $X_{i,t}$ represents the independent variables, where $lnGDPpc_{i,t}$ = ln per capita GDP in nominal US$ and $BS\_MFG_{i,t-1}$ is the 1-period lag of *BSMFG*. *T* refers to a vector of time dummies. $u_{i,t}$ is the error term.

In terms of the subscripts, *t* = 2010 to 2018, and *n* = lag from time 0 to 2.

40 Note that if we wanted to see the impact of a sector on itself, the element d_{ij}^{A}=1 if $i = j$ by definition, because $1 must be produced to satisfy the $1 additional demand.

Table A3.3 Panel regression results on business services indirect contribution to $1 demand for manufacturing

	(1)	(2)	(3)	(4)
Dependent variable: indirect ("industrial support") effect, business services.				
ln(GDPpc)	0.401* (0.204)	0.247* (0.128)	0.213** (0.0953)	0.327*** (0.0968)
BSMFG(-1) Lagged dependent variable			0.655*** (0.130)	0.666*** (0.135)
Constant	-2.697 (1.945)	-3.568 (2.243)	-1.671* (0.874)	-1.434 (0.897)
Observations	480	360	420	420
R-squared	0.114	0.117	0.423	0.425
Number of countries	60	60	60	60

Note: Year dummies, lagged GDPpc and institutional variables included but not shown (not always significant but of the right sign). Time dummies show 2014 and 2015 positive and statistically significant. Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

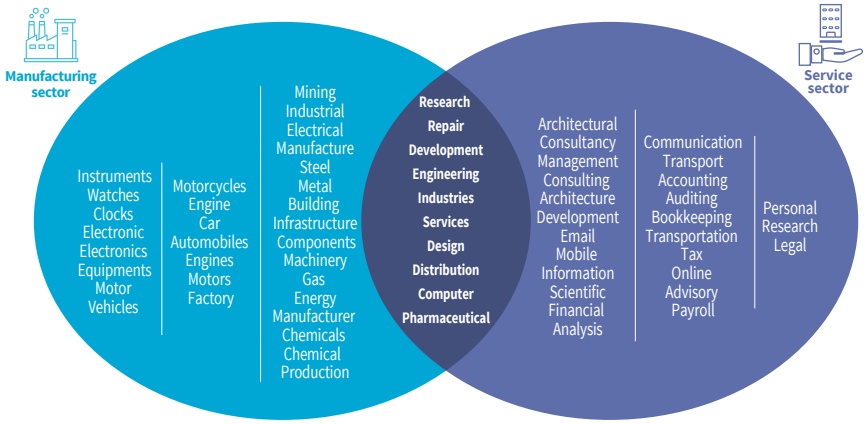
Appendix 3.2 Firm analysis

The firm-level analysis used the Orbis global database from Bureau van Dijk (BvD), a Moody's Analytics company, which is the largest cross-country firm-level database covering firms' financial statements and their production activity. It includes public and private firms' balance sheets and income statements. Representativity issues abound, as Orbis is likely to have larger and more formal firms than the average.

Text analysis

The trade description variable included in Orbis is used to determine the service and manufacturing content of different industries independent of whether they are service or manufacturing industries. Following Cadestin and Miroudot's (2020), a correlation for words in the trade description data in each industry is computed. In other words, by adding the frequency with which pairs of words tend to appear together in the trade description (Franco-Bedoya et al. 2021). Figure A3.1 shows the most frequent words as they appear in the trade description of firms in the services sector, manufacturing sector, or both.

Figure A3.1 South Asian firms in both sectors engage in activities or relate to other firms according to text analysis of firms' trade description



Source: Authors' analysis based on ORBIS database.
Text analysis is also used to match firms' locations. Figure 3.30 shows the size of the city name dependent on the number of firms that report being in that city. It is derived by using active firms' location information as of September 2021.

Results from firm regressions using ORBIS

Orbis contains comprehensive information on ownership linkages between firms. Out of the almost 122,000 firms in South Asia reported by ORBIS, the overwhelming majority are Indian firms, while 64 percent are services firms. Out of those services firms, 28 percent have an owner in the manufacturing sector (have a manufacturing Global Ultimate Owner—GUO); and 8.2 percent have a foreign GUO from any sector (Table A3.4). For the small sample of services firms with a GUO in the electrical equipment sector, more than half of the owners are foreign.

Table A3.4 Number and characteristics of South Asian firms in Orbis

Country	Total		Service Firms		
	Number of firms in ORBIS	service firm share	Share with GUO	Share with foreign GUO	Share of manufacturing GUO
Afghanistan	15	100	27	0	0
Bangladesh	324	48	37	1.9	0
Bhutan	22	50	27	9.1	0
India	119985	64	28	8.3	2.8
Sri Lanka	428	63	67	5.2	1.5
Maldives	6	100	50	33	0
Nepal	121	94	35	1.8	0
Pakistan	1098	41	34	6	2.2
South Asia	**121,999**	**64**	**28**	**8.2**	**2.8**

Table A3.5 reports results of determinants of servitization using the same methodology by Cadestin and Miroudot (2020), which looked at the likelihood of being servitized for a set of OECD and middle-income countries.

Table A3.5 Characteristics of servitized firms, South Asia and other countries

Regression of manufacturing servitization (bundled =1). Each coefficient can be read as the increase in probability that a manufacturing firm will be servitized due to a 1 percentage point change in each determinant.				
Dependent variable: servitization=1	**(a)**	**(b)**	**(c)**	**OECD and EMDEs**
Intangible share	0.423*** (0.151)			0.0044*** (0.001)
Log revenue		0.069*** (0.003)		0.0123*** (0.002)
Log sales			0.082*** (0.004)	0.0046** (0.002)
Constant	-0.521 (0.435)	-1.252*** (0.436)	-1.934*** (0.441)	[0.124-0.219]** range
Observations	108,464	104,374	95,895	454,773
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1
Note: Shaded right-hand column reports the results from the same specifications performed by Cadestin and Miroudot (2020) using ORBIS data, which find somewhat smaller coefficients. The countries covered are Australia, Chile, Colombia, Costa Rica, Czech Republic, Luxembourg, Norway, Portugal, Slovenia, South Africa, Sweden, United Kingdom, and United States.

Table A3.6 reports the results from a panel estimation over 2011-2020. The coefficients are shown in Figure 3.10

Table A3.6 Servitization determinants

Fixed effects panel estimation of servitized firms vs. pure manufacturing firms					
	intangible share	**log sales**	**log value added**	**Δlog value added**	**log (value added/ employees)**
Servitization (bundled firms=1)	0.001*** (0.000)	0.363*** (0.019)	0.401*** (0.023)	-0.017* (0.009)	-0.136* (0.078)
Constant	0.001 (0.001)	17.115*** (0.125)	8.708*** (0.074)	0.103 (0.198)	2.387*** (0.152)
Observations	108,732	96,147	69,200	52,052	1,782
R-squared	0.006	0.029	0.032	0.002	0.206
Country FE	Yes	Yes	Yes	Yes	Yes
Country-sector FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

Note: Servitized manufacturing firms are defined as those that also produce or are engaged in services. Robust standard errors in parentheses. FE=fixed effects. Time period 2011 to 2020, annual.
*** p<0.01, ** p<0.05, * p<0.1

Arms-length servitization of manufacturing through ownership

Services firms with an owner in the manufacturing sector have slightly more intangible assets, are more than 2 ½ times larger in terms of revenues (coefficient is 1.587), are more than twice as large in terms of net income or value added, have grown on average 6.4 percent faster, and are 55 percent more productive, though the sample size is significantly smaller when measuring labor productivity. The bottom part of the table reports results only for services firms with owners in the high-tech "Electrical and electronic equipment" sector. Though not reported, additional results show that services firms owned by electrical equipment GUOs tended to grow more slowly than pure service firms after controlling for size, implying a slight advantage for small pure services firms.

Table A3.7. Regression results from services firms with a manufacturing global owner (versus stand-alone services firms) for India

A. Characteristics of services firms in South Asia with owner headquartered in the manufacturing sector (vs. pure services firms).					
Test	**Dep. Variable**	**GUO_manuf=1**	**Constant**	**No. of Observations**	**R-squared**
Innovation/R&D	Share of intangible assets to total assets	0.007***	0.003**	111,407	0.021
Size	Log (revenues)	1.587***	17.087***	103,479	0.067
Income	Log (value added)	1.023***	13.792***	51,079	0.069
Growth of net income	Δlog (revenue)	0.064***	0.131***	81838	0.004
Productivity	log (value added/employees)	0.549*	3.402***	703	0.293
B. Characteristics of services firms in South Asia with owner headquartered in the electrical and electronics sector (vs. pure services firms).					
Test	**Dep. Variable**	**GUO_Elect=1**	**Constant**	**No. of Observations**	**R-squared**
Innovation/R&D	Share of intangible assets to total assets	0.013***	0.003**	107,324	0.021
Size	Log (revenues)	1.491***	17.082***	99,538	0.058
Income	Log (value added)	1.254***	23.796***	83,281	0.070
Growth of net income	Δlog (revenue)	0.849***	13.760***	48,623	0.064
Productivity	log (value added/employees)	-1.945***	3.412***	681	0.304

Note: Coefficients from regression results including country-sector; country; and year (2010-2020, annual) fixed effects. *** p<0.01, ** p<0.05, * p<0.1. The vast majority are Indian. Capital expenditures are not available for most firms. GUO=global ultimate owner's sector. *Elect* refers to sector 14: Electrical and optimal equipment (Table A3.1).
Source: Author calculations using ORBIS.

Appendix 3.3 Analysis of CPHS e-commerce data

The Consumer Pyramids Household Survey (CPHS) is a representative survey of Indian households conducted three times a year by the Center for Monitoring the Indian Economy (CMIE). It is a panel survey, with the full sample of about 170,000 households revisited in these three "waves" of the survey. The results presented in this chapter are based on the panel of households surveyed in Wave 22 of the CPHS, which was fielded during January-April 2021.

Wave 22 of the CPHS survey included a set of questions on the non-farm enterprises owned by household members. These questions were part of a special purpose "World Bank COVID-19 Module" fielded in collaboration with the World Bank. They collected information on the enterprise's activity, size, income, and use of online sales channels (that is, e-commerce). Since the CPHS is representative of Indian households, these data are representative of Indian non-farm enterprises that are owned by a single person or household (also known as "family enterprises").

Table A3.8 presents key summary statistics of the CPHS data on Indian non-farm family enterprises. These data are based on those CPHS sample households that report owning a non-farm family enterprise. Nearly three-quarter of family enterprises have no hired workers: they consist solely of one or more family members. Ninety-six percent of them are in the services sector, mainly in retail, hospitality, and personal services. Only 16 percent of the main owners have a college-level education (column 1). The average education level of the owner is significantly higher among family enterprises with at least one hired worker (column 2) and even higher among those that have adopted online selling (column 3). The sector profiles of these three groups of family enterprises are similar.

We conducted difference in differences regression analysis on the CPHS sample of family enterprises to examine the association between online sales adoption and business profits. The regressions are estimated using monthly panel data for the period 2014-2021 on the family enterprises surveyed in Wave 22. CPHS sample households are revisited every four months. Thus, the households visited in April 2021 (as part of Wave 22) were earlier visited in December 2020 (as part of Wave 21), August 2020 (as part of Wave 20 of the CPHS), and so on going back to 2014. In each revisit, the survey collected month-wise information on the income from the household's family enterprise in the current and last three months. Wave 22 also collected information on when (year and month) the enterprise started using e-commerce.

Table A3.8 Summary statistics of family enterprises sampled in Wave 22 of CPHS

	(1) All family enterprises	(2) Family enterprises with at least one hired worker	(3) Family enterprises that sell online
Female-owned	0.04 (0.20)	0.02 (0.14)	0.02 (0.14)
Age of owner	44.08 (9.77)	45.17 (9.09)	46.11 (8.96)
Education of owner			
Elementary school or less	0.16 (0.37)	0.08 (0.26)	0.05 (0.21)
Secondary	0.42 (0.49)	0.34 (0.48)	0.23 (0.42)
Senior secondary	0.25 (0.43)	0.33 (0.47)	0.24 (0.43)
University or more	0.16 (0.37)	0.25 (0.44)	0.48 (0.50)
Registered	0.43 (0.49)	0.75 (0.43)	0.92 (0.27)
Firm Size (hired workers)	0.75 (3.10)	3.32 (5.74)	3.05 (4.34)
Online Competition (Yes = 1)	0.05 (0.23)	0.19 (0.39)	0.92 (0.28)
Urban	0.84 (0.37)	0.93 (0.26)	0.94 (0.23)
Sector			
Agriculture	0.00 (0.02)	0.00 (0.34)	0.00
Manufacturing	0.04 (0.20)	0.06 (0.24)	0.04 (0.19)
Service	0.96 (0.20)	0.94 (0.24)	0.96 (0.19)
Observations	24924	6141	549

The regression specification is as follows:

$$\ln y_{ht} = \alpha + \beta I_{ht} + X\theta + \gamma_t + \psi_h + \in_{ht},$$

Here, y_{ht} is the measure of enterprise performance (such as total business income) of family enterprise h at time t, I_{ht} is a dummy variable that is equal to one if the enterprise has adopted e-commerce (it switches from 0 to 1 at time t if the enterprise h adopts the online platform), X is a vector of controls, γ_t are time fixed effects, ψ_η are enterprise fixed effects and ψ_{ht} is the i.i.d error term following a standard normal

distribution. The regression includes enterprises that have never sold online as of Wave 22: that is, the "never-adopters." The coefficient on the adoption measure, β, thus measures the mean change in enterprise income after the adoption of e-commerce, relative to non-adopters.

The results are presented in Table A3.9. In our preferred specification, which has month and enterprise fixed effects, the adoption of e-commerce is associated with a statistically significant 0.06 log points (approximately 6 percent) increase in business profits (column 2). Columns (2) and (3) add controls for location-specific shocks by using state-quarter or state-year fixed effects. The estimates are smaller but qualitatively similar. However, the estimates are not robust to including more spatially granular district-year fixed effects.

Table A3.9 Difference in differences estimate of the impact of e-commerce adoption

log (Business Profits)	(1)	(2)	(3)	(4)	(5)
e-Commerce	0.863***	0.061**	0.030	0.035	-0.028
	(0.009)	(0.026)	(0.026)	(0.027)	(0.027)
Constant	9.884***	9.719***	9.144***	9.271***	9.807***
	(0.001)	(0.007)	(0.042)	(0.033)	(0.133)
Observations	346,036	346,036	346,036	346,036	346,036
R-squared	0.030	0.171	0.216	0.202	0.292
Firm FE	No	Yes	Yes	Yes	Yes
Time	No	Yes	Yes	Yes	Yes
Number of Firm IDs		16,806	16,806	16,806	16,806
District-year					Yes
State-year				Yes	
State-quarter			Yes		

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

A key assumption behind the difference-in-differences approach is that adopter and non-adopters had comparable trends ("parallel trends") in the outcome of interest before adoption. We present placebo tests of this assumption in Table A3.10. The results show that the change in the monthly business income of adopters is not statistically different from that of non-adopters. The former are only one to three months ahead of the latter in the adoption of e-commerce. This result is supportive of the parallel trends assumption behind the difference-in-differences approach.

Table A3.10 Placebo tests

Log (Business Profits)	(1)	(2)
pre1month	-0.038 (0.040)	-0.005 (0.043)
pre2month	-0.017 (0.039)	0.016 (0.041)
pre3month	-0.008 (0.042)	0.023 (0.043)
e-Commerce		0.063** (0.027)
Constant	9.718*** (0.007)	9.719*** (0.007)
Observations	346,036	346,036
R-squared	0.171	0.171
Number of hh_id	16,806	16,806
HH FE	Yes	Yes
Time FE	Yes	Yes

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Dynamic difference-in-differences analysis is used to examine how the association between business incomes and the adoption of e-commerce evolves with respect to the time elapsed since adoption. The regression specification is as follows:

$$\ln y_{ht} = \alpha + \sum_{k=-5}^{8} \beta^k I_{ht}^k + X\theta + \gamma_t + \psi_h + \in_{ht}$$

Here, $I_{ht}^k = 1$ for an enterprise h in period t if, as of period t, it has been k months since that enterprise adopted e-commerce ($k < 0$ means it is k months prior to the adoption of e-commerce by that enterprise). k ranges from -5 to +8, and $k = 8$ denotes *eight or more months* after adoption. That is, when $I_{ht}^8 = 1$, the enterprise h has adopted e-commerce for eight or more months as of period t. $k = -5$ denotes five and more months before the adoption, and it is the benchmark group. Hence, the coefficient β^{t+k} reflects the business income k months after (or before) the adoption, relative to that five months and more prior to adoption.[41] The results are presented in Table A3.11.

41 We set $I_{ht}^{-5} = 1$ for all periods t for the never-adopters (that is, those enterprises that have never sold online as of Wave 22). This amounts to pooling together never-adopters and known future adopters who are at least 5 months away from their adoption in the benchmark group. *** p<0.01, ** p<0.05, * p<0.1

Table A3.11 Dynamic difference-in-differences results

Dependent variable: Log(business profits)													
k-period	Months preceding e-commerce adoption					Months after adopting e-commerce							
	4 months	3 months	2 months	1 month	0 month	1 month	2 months	3 months	4 months	5 months	6 months	7 months	≥8 months
Coefficient (*** p<0.01, ** p<0.05, * p<0.1)	0.064	0.026	0.018	-0.002	0.032	0.056	0.090**	0.120***	0.097***	0.062*	0.047	0.046	0.064**
Robust standard errors	0.047	0.045	0.043	0.044	0.04	0.038	0.037	0.036	0.035	0.037	0.037	0.038	0.03

Note: Estimation based on 16,806 households and 346,036 observations; controls for both household and time fixed effects. R-squared =017.

Appendix 3.4 Employment and occupations analysis

Analysis through occupations provides a very different view of the employment structure compared to the typical analysis, which looks at the number of workers in each sector, regardless of what they do (as in Table A3.12).

Table A3.12 Share of employment by sector. According to the latest labor force surveys, most workers still work in the agricultural sector

Countries	Afghanistan	Bangladesh	India	Maldives	Nepal	Pakistan	Sri Lanka
Survey name	Living conditions survey	Quarterly labor force survey	Periodic labor force survey	Household Income & Expenditure Survey	Labor force survey	Labor force survey	Labor force survey
Last survey year	2016-2017	2015-2016	2018-2019	2019	2017-2018	2017-2018	2019
Agriculture and primary products	44.5	43.0	40.6	7.6	22.5	37.7	26.1
Manufacturing	8.1	14.4	12.4	10.4	15.4	16.2	18.4
Construction and infrastructure	9.8	5.9	12.6	7.4	14.7	8.4	8.4
Market services	17.9	25.4	23.6	34.7	32.2	26.0	30.2
Public services	19.7	11.3	10.8	39.9	15.1	11.7	17.0
Total employed (million)	6.2	59.1	354.7	0.2	7.0	53.8	8.2

Classification of employed by occupations

The analysis in Section 3.4 on employment and skills is based on data from the labor force surveys and their equivalents for each South Asian country (Table A3.13). The surveys collect questions on the employment status, main occupation, and sector of economic activity. This allows us to classify each employed person by sector and occupation. To examine the changing occupation patterns, we use the earliest year around 2010. For the final period, the latest available pre-COVID survey year for each South Asian country is used.[42] The results for the United States are based on the estimates of employment from the Occupational Employment and Wage Statistics (OWES)[43] in 2011 and 2019.

Table A3.13 Labor force surveys used for analysis and occupation classifications

Survey name	Country	Survey year	Occupation code
NSSO (key indicators on employment and unemployment)	India	2009-2010	NCO 2004
Periodic Labor Force Survey (PLFS)		2018-2019	NCO 2004
Quarterly Labor Force Survey (QLFS)	Bangladesh	2005-06	BSCO following ISCO-88
		2015-2016	BSCO-2012 following ISCO-08
Labor Force Survey (LFS)	Pakistan	2008-2009	PSCO-94 following ISCO-88
		2017-2018	PSCO-15 following ISCO-08
Labor Force Survey (LFS)	Sri Lanka	2006	SLSCO following ISCO-88
		2019	SLSCO following ISCO-08
Labor Force Survey (LFS)	Nepal	2008	NSCO following ISCO-88
		2017-2018	NSCO following ISCO-08
Occupational Employment and Wage Statistics (OEWS)	United States	2011	Standard Occupational Classification (SOC)
		2019	

For each selected South Asian country except India, the national occupation code had changed between two surveys, reflecting the changes in international standard classifications of occupations from ISCO-88 to ISCO-08 (ILO 2012). The overall system at the 1-digit level in ISCO-88 has been retained in ISCO-08. However, ISCO-88 at 2-, 3- and 4-digit levels have been split, merged, or moved to reflect occupational

42 For India, both NSSO and PLFS are supposed to give representative estimates, however, there have been some changes in methodology in terms of employment, which has led to some differences in the estimation of total workers. (Kannan and Raveendran 2019).

43 The Occupational Employment and Wage Statistics (OEWS) program produces employment and wage estimates annually for nearly 800 occupations. These estimates are available for the nation as a whole, for individual states, and for metropolitan and nonmetropolitan areas; national occupational estimates for specific industries are also available.

and technological change in the labor market. Moreover, new categories in ISCO-08 have been created to adapt to the emerging occupational groups (Table A3.14). The variation in the detailed level of occupations between two occupational codes poses a challenge when constructing comparable time series across years for each country because of different national contexts and reclassification of professional occupations, in particular (Eurostat 2021). For specific occupations, ISCO-08 is mapped to ISCO-88 at the four-digit level to ensure harmonization. Given the discrepancy between ISCO-88 and ISCO-08 and the need to map to one classification system, an estimated 8 percent of workers could not be properly classified by code numbers or according to the description when shifting from ISCO-08 to ISCO-88 in Bangladesh, Pakistan, Sri Lanka, and Nepal. Data from three countries could not be used. Bhutan's 2017 survey data could not be used as it listed a significant number of sectors and occupations that were not mapped to either classification code. Maldives did not include resort workers in the labor force survey. Afghanistan's earliest Living Conditions Survey is 2014.

Table A3.14 Classification of employment occupations at ISCO-08 and changes from ISCO-08 to ISCO-88 classification systems, types of job, and corresponding skills levels

1-digit occupation code (ISCO-08, ISCO-88)	2-digit occupation code (ISCO-08) and type of activity	Substantial changes in classification from ISCO-88?	Broad skill level
1. Managers	11. Chief executives, senior officials and legislators (S)	Managers of small entities were grouped according to area in ISCO-88.	Skill level 4 (high), requires professional training and handling of complex tasks.
	12. Administrative and commercial managers (F and S)		
	13. & 14. Managers in services (S)		
2. Professionals	21. Science and engineering professionals (F and S)	Smaller diversity of jobs in ISCO-88. For example, computer professionals and associates were disaggregated into more specific job types according to task.	
	22. Health professionals (S)		
	23. Teaching professionals (S)		
	24.25.& 26. Business and other professionals (S)		
3. Technicians and associate professionals	31.& 35. Science and engineering associate professionals (F and S)		Skill level 3 (semi-high) requires some professional and technical training.
	32. Health associate professionals (S)		
	33. Business and administration associate professionals (S)		
	34. Legal, social, cultural and related associate professionals (S)		

1-digit occupation code (ISCO-08, ISCO-88)	2-digit occupation code (ISCO-08) and type of activity	Substantial changes in classification from ISCO-88?	Broad skill level
4. Clerical support workers	41.43.& 44. General office clerks (S)	No	Skill level 2 (medium) requires some trade skills to perform tasks.
	42. Customer services clerks (S)		
5. Service and sales workers	51.53.& 54. Personal, care & protective services (S)	No	
	52. Sales workers (S)		
6. Skilled agricultural and fishery workers	61.62.&63. Agricultural workers (A)	Some subsistence agricultural workers in ISCO-88 grouped as elementary workers in ISCO-08, while more skilled workers included elsewhere in ISCO-08.	
7. Craft and related trades workers	71. Building and related trades workers, excluding electricians (F)	No	
	72.&74. Metal, machinery and electrical trades (F)		
	73. Handicraft and printing workers (F)		
	75. Food processing, wood working, garment and other craft and related trades (F)		
8. Plant and machine operators, and assemblers	81. Stationary plant and machine operators (F)	No	
	82. Assemblers (F)		
	83. Drivers and mobile plant operators (F)		
9. Elementary occupations	91,94.95 & 96. Cleaners, refuse, street and related service workers (S)	No	Skill level 1 (low) requires minimal training or experience to perform tasks.
	92. Agricultural, forestry and fishery labourers (A)		
	93. Labourers in mining, construction, manufacturing and transport (F)		

Note: Table and analysis exclude government officials and political appointees as well as armed forces. A=agricultural jobs, F=fabrication jobs and S=service provision jobs.
Source: Authors based on ILO (2012).

Servitization of manufacturing through employment and business services

To look at the share of people employed in manufacturing who have services occupations (Figure 3.28), we classified occupations into three types of jobs: agricultural workers engaged, for example, in animal rearing, farming, and fisheries (A); fabrication workers or those directly engaged in the manufacturing process or operating machines (F); and service providers whose job it is to provide a service (S). Table A3.14, second column denotes—in parenthesis—the type of work for each

occupation according to this classification and abbreviation. To distinguish certain occupations at the 2-digit level that could be associated with either fabrication or service provision, we distributed the number of employments to each type of work by using a weight of share of workers in the manufacturing and services sector within each occupation for each country. The surveys also report the sector of economic activity where the survey respondent works, and this was standardized to match the ADB MRIO sectors used. See Franco et al. 2021 for more details.

To look at changes in occupations within business services (Figure 3.27), we aggregated two-digit occupation codes from seven occupation groups with the breakdown at ISCO-88 classification level aggregated (Table A3.15).

Table A3.15 Occupation classification groups used in analysis

Major occupation groups	ISCO-88 at the two-digit level
Managers	Legislators and Senior Officials; Corporate Managers; General Managers
Business professionals, and STEM workers	Physical, mathematical and engineering science professionals; Physical science and engineering associate professionals
Education, health and other professional occupations	Life science and health professionals; Teaching professionals; Other professionals; Life science and health associate professionals; Teaching associate professionals; Other associate professionals
Other services workers	Office clerks; Customer services clerks; Personal and protective services workers; Salespersons, demonstrators and models
Fabrication and construction workers	Extraction and building trades workers; Metal and machinery trades workers; Precision, handicraft, printing and related trades workers; Other craft and related workers; Industrial plant operators; Stationary machine operators and assemblers; Drivers and mobile machine operators
Agriculture and fishery workers	Market-oriented skilled agricultural and fishery workers; Subsistence agricultural, fishery and related workers
Elementary workers	Sales and services elementary occupations; Agricultural, fishery and related labourers; Labourers in mining, construction, manufacturing and transport

Skills upgrade

According to the definitions from ILO (2012), the skill level is defined as a function of the complexity and range of tasks and duties to be performed in an occupation, and it's usually measured in three ways: (i) the nature of the work performed in an occupation; (ii) the level of formal education; and (iii) the amount of information on-the-job training and/or previous experience in a related occupation. ILO provides four skill levels based on the job description concerning the characteristic tasks and duties defined for each ISCO-88 skill level (Table A3.14, last column).

Ideally, one would use average wage data per job as Autor and Dorn (2013) did for the United States to compare skills across occupations, but the level of informality

and variation in hours worked in South Asia made it impossible to make such comparisons. Therefore, it is assumed that if a worker is performing a job that fits the occupation description, the worker possesses the commensurate skills, education, and experience to carry it out. As a robustness check, we cross-referenced skills growth with changes in education levels for India and found that skills improvement went hand in hand with increased average years of schooling. Comparability is best made within countries across time. Table A3.14, last column reports the assigned skill level for each 1-digit occupation classification group.[44] To compute the skill index in Figure 3.31, we assign a score to each skill level: low-skilled=1; medium-skilled=2, semi-high-skilled=3; high-skilled=4 weighted by the share of occupation in each skill level. The calculation of skills index is as follow:

$$SkillsIndex_{i,t} = \sum_{j=1}^{4} (EmpShare_{i,t,j} \times SkillScore_{i,t,j})$$

Here $SkillsIndex_{i,t}$ is a measure of skills index for the country i in the survey year t. $EmpShare_{i,t,j}$ measures the share of the employment for the skill level j for each country i in the survey year t. $SkillScore_{i,t,j}$ is a skill score assigned to each skill level j in the country i and survey year t.

44 Note that "1. Managers" row in Table A3.14 is generally considered to be high-skilled by ILO, but not always. For example, a restaurant manager in a small village is unlikely to be as skilled as the Chief Executive Officer of a corporation.

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CHAPTER IV

South Asia country briefs

Afghanistan

In August the Taliban assumed power in Afghanistan, with immediate repercussions across an economy already facing daunting development challenges. Rapid reduction in international grant support, loss of access to offshore assets, and disruption to international financial linkages are expected to lead to a major economic contraction, increasing poverty and food insecurity, and macroeconomic instability.

Key conditions and challenges

The August political crisis has resulted in an abrupt cessation of most international aid and all international security assistance (security and civilian grant inflows were previously equivalent to 45 percent of GDP, financing 75 percent of public expenditure). Under international sanctions arrangements, Afghanistan has lost access to offshore central bank assets of around $9 billion (45 percent of GDP), while the capacity of commercial banks to transact internationally has been substantially curtailed. The financial sector has been hobbled by a shortage of both foreign and domestic currency notes. The combined impacts of rapidly declining grants, loss of access to offshore assets, and financial sector dysfunction are likely to include a sharp contraction of economic activity, inflation or shortages of imported goods, and a severe increase in poverty and hardship.

Beginning in April 2021, Afghanistan experienced a third COVID-19 wave. Infection rates have reached record highs, with less than five percent of the population fully vaccinated. At the same time, severe drought conditions are driving a mounting food security crisis. The UN is now estimating that the total number facing acute food insecurity could increase to 14 million (or more than one-third of the total population). As a result of recent conflict, an estimated 3.5 million internally displaced persons, 80 percent of whom are women and children, will need humanitarian assistance.

Recent developments

Afghanistan's economic growth was slow up to August 2021, reflecting weak confidence amid a rapidly worsening security situation. In addition, drought conditions negatively affected agricultural production. Output is expected to have contracted sharply since the Taliban takeover due to the combined impacts of

a sudden stop in donor and government expenditure, disruptions to trade, and dysfunction of the banking sector.

Inflation accelerated gradually over the first half of 2021. Energy prices increased by 12 percent in the first half of the year in line with global trends. Prices for basic household goods, including food and fuel, increased substantially as the Taliban captured border posts and key transit hubs, disrupting supply chains. Inflation further accelerated following the Taliban takeover, reflecting depreciation, hoarding, and disruptions to international trade.

Government revenues fell short of budgeted levels throughout 2021, reflecting excessively optimistic revenue targets. Since mid-July, revenue performance worsened as the Taliban captured major border crossings. Budget execution faltered in the context of deteriorating security conditions for project implementation (the development budget execution rate was 28.4 percent at end-July, compared to 32.1 percent in 2020, and slowed sharply thereafter). By early August, the Taliban had gained control of customs points accounting for around 57 percent of total customs collections, equivalent to roughly 27 percent of total government revenue collection. In the Mid-Year Budget Review, government revised down revenue targets by 26 percent and slashed allocations to development projects and other discretionary expenditures by 45 percent (or $0.5 billion). Limited information is available regarding fiscal performance since the Taliban takeover. The interim Taliban government has resumed centralized customs collections, with daily collections equal to around 50-60 percent of the 2020 average.

The financial sector, already facing important constraints, has been pushed into crisis. Liquidity of both commercial banks and the central bank were substantially eroded in the lead-up to August 15, due to a high volume of cash withdrawals from commercial banks and intensified USD auctions. Banks ceased operating immediately following the Taliban takeover, and since reopening have faced major difficulties in processing international transactions due to central bank regulatory measures to control capital outflows and offshore corresponding banks' reluctance to engage in transactions given sanctions concerns. Firms and households have been unable to access bank deposits, with strict limits imposed by the central bank on the withdrawal of USD and local currency. Constrained ability to process international transactions has undermined formal sector international trade, with firms unable to transfer funds overseas to pay for imports.

Severe uncertainty and anticipated lower donor inflows placed pressure on the exchange rate through the first half of 2021 with the Afghani depreciating

by around four percent against the USD. The central bank responded through increased USD interventions (totaling $1.2 billion, or around 15 percent over 2020 levels) leading to a slight depletion of international reserves. Money market fragmentation and sporadic Taliban efforts to control rates offered by traders preclude any accurate assessment of exchange rate movements since the Taliban takeover.

The poverty rate for the April-September 2020 period was estimated at 49.5 percent. Poverty is expected to have remained at similar levels over the first half of 2021, with recovery from the COVID-19 crisis impeded by political developments and drought conditions.

Outlook

The economic and development outlook is stark. Sharp reductions in international aid are driving a collapse in basic health and education services. The sudden loss of public sector activity will have impacts throughout the economy, especially in the service and construction sectors (which account for 58 percent of GDP). Declining grants combined with a loss of access to foreign exchange is expected to result in a balance of payments crisis, with Afghanistan historically reliant on grant inflows to finance its very large trade deficit (28 percent of GDP in 2020). On the current trajectory, Afghanistan is likely to face depreciation of the Afghani, inflation, and shortages of critical household goods, including food and fuel (around 80 percent of electricity, between 20-40 percent of wheat, and nearly all fuel oil is imported).

A substantial share of the population is expected to move below the poverty line, reflecting negative impacts through employment and price channels. Ten million Afghans are vulnerable to falling into poverty, living with incomes between one and 1.5 times the poverty line ($0.94 per person per day). The food security situation will also deteriorate, with potential long-term negative impacts given Afghanistan's young population.

Note: *The World Bank has paused disbursements in our operations in Afghanistan and does not have the authorizing environment to engage in financing. We are closely monitoring and assessing the situation in line with our internal policies and procedures. As we do so, we will continue to consult closely with our Board of Directors, the international community, and development partners.*

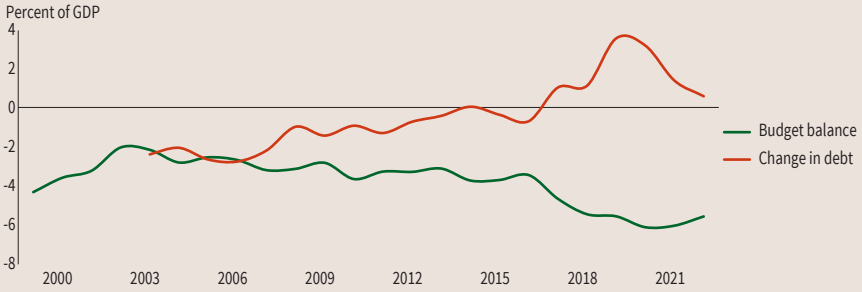
Bangladesh

	2020
Population, million	164.7
GDP, current $ billion	323.1
GDP per capita, current $	1961.7
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]	72.6
Total GHG Emissions (mtCO2e)	234.8

Source: WDI, Macro Poverty Outlook, and official data. (a) Most recent value (2016), 2011 PPPs. (b) WDI for School enrollment (2018); Life expectancy (2019).

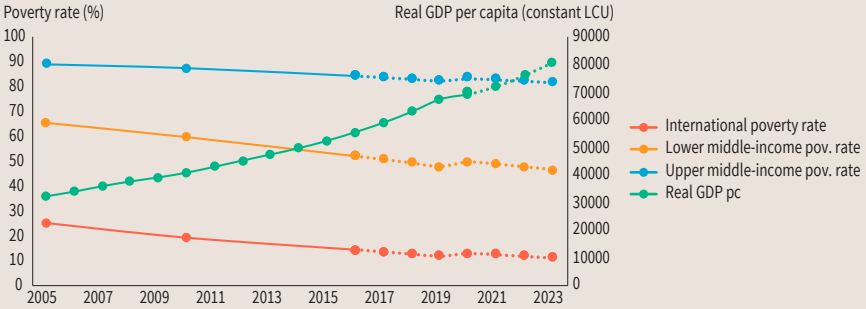
A modest recovery in GDP growth was sustained in the second half of FY21, despite ongoing movement restrictions to control the COVID-19 pandemic. The recovery is expected to gradually accelerate, particularly if the supply of vaccines rises and if the economic scarring effects of the pandemic can be contained. Downside risks include new waves of COVID-19 that could dampen external demand for Bangladesh's exports and overseas labor force. The poverty rate is expected to marginally reduce to 12.5 percent in FY21, using the international poverty rate ($1.9 in 2011 PPP).

Figure 1: Budget balance and change in debt



Source: World Bank staff estimates.

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



Source: World Bank. **Note:** 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. Growth was supported by a demographic dividend, sound macroeconomic policies, and an acceleration in readymade garment (RMG) exports, while job creation and 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. Bangladesh's expected graduation from the UN's Least Developed Country status in 2026 will present opportunities but also challenges, including the eventual loss of preferential access to advanced economy markets.

The COVID-19 pandemic continued to weigh on economic growth and poverty reduction in FY21, as movement restrictions hampered industrial and service sector activity. On the demand side, losses in employment income dampened consumption growth, although robust remittance inflows provided some buffer. Exports and imports bounced back, but investment remained muted due to lingering uncertainties and pre-existing structural weaknesses. The government's COVID-19 stimulus program provided firms with access to working capital and low-cost loans to sustain operations and retain employees, although lending to smaller firms and the informal sector has been limited. After initial delays in the delivery of vaccine doses, the immunization campaign picked up in July and August 2021.

Downside risks to the outlook persist. New waves of COVID-19 could necessitate additional movement restrictions, dampen demand for RMG, and/or limit the outflow of migrant workers. Vulnerabilities in the financial sector and realization of contingent liabilities stemming from non-performing loans could pose a fiscal burden and may impair investment, limiting the pace of the economic recovery.

Recent developments

After decelerating in FY20, economic growth accelerated modestly to 5.0 percent in FY21. Merchandise exports grew by 15.4 percent as RMG export orders were reinstated and factories remained open despite recurrent lockdowns. On the demand side, growth was primarily supported by private consumption, underpinned by a

recovery in labor income and robust remittance inflows. Growth in imports of consumer goods and capital goods point toward a broad-based recovery.

Inflation remained stable at 5.6 percent in FY21, marginally above the Bangladesh Bank's (BB) target of 5.5 percent. BB continued its expansionary monetary policy despite ample liquidity. Growing risk aversion among commercial banks, a cap on lending rates, and rising non-performing loans limited the transmission of monetary policy to lending volumes. 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 FY21.

The balance of payments surplus rose in FY21. The current account deficit contracted as official remittance inflows surged by 36.1 percent (y-o-y), while the trade deficit widened. Official remittance flows likely reflect increased use of formal payment systems, as the traditional hundi system was disrupted by travel restrictions. The financial account surplus rose with higher external short and long-term loans. Foreign exchange reserves remained adequate at 7.6 months of goods and non-factor services imports at the end of FY21.

The fiscal deficit is estimated to have widened marginally to 6.1 percent of GDP in FY21. Expenditure growth remained modest as the rising costs of COVID-19 related social protection programs and stimulus packages were partially offset by deferral of low priority development projects. Real revenue collection is estimated to have increased in FY21 with the recovery in trade and domestic economic activities despite the disruptions caused by the pandemic. Borrowing has increased to finance a growing deficit and debt-to-GDP was estimated at 40.0 percent by the end of FY21.

The COVID-19 pandemic has put the substantial poverty reduction gains of the past decade at risk. Poverty increased from 11.9 percent in FY19 to an estimated 12.9 in FY20, using the international poverty rate ($1.9 in 2011 PPP). A nationally representative phone survey showed income losses and high levels of self-reported food insecurity in FY20. In poor areas of Dhaka and Chittagong, surveys showed that adults who stopped working due to COVID-19 were 11 percent more likely to report food insecurity. As growth strengthened in FY21, household surveys point to a gradual recovery in employment and earnings. Estimated poverty remained flat, although food security improved across the country, with the greatest increase in Chittagong.

Outlook

A gradual recovery is expected as Bangladesh navigates the persistent effects of COVID-19. GDP growth is forecast to reach 6.4 percent in FY22, before accelerating to 6.9 percent in FY23 as exports and consumption continue to recover. The surge in official remittance inflows is unlikely to persist if the net outflow of migrant workers slows in FY22 and use of formal payment channels declines as travel restrictions are eased. The fiscal deficit is projected to remain above 5.5 percent of GDP over the medium term. Revenue mobilization will be supported by ongoing policy and administrative reforms to VAT and income tax, while higher capital expenditure on infrastructure megaprojects is expended to increase public expenditure. Sustaining the economic recovery and further reducing poverty will depend in part on mitigating economic scarring through targeted support to vulnerable households and businesses.

Downside risks to the outlook persist. Fiscal risks include weak domestic revenue growth (if tax reforms are delayed) and higher COVID-19 related expenditure. In the financial sector, contingent liabilities from non-performing loans combined with weak capital buffers could necessitate recapitalizations of state-owned banks and depress credit growth. External risks remain elevated. While demand for RMGs appears to be stabilizing, the recovery is fragile. Demand for Bangladesh's overseas workforce in the Persian 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	2020/21 e	2021/22 f	2022/23 f
Real GDP growth, at constant market prices	7.9	8.2	3.5	5.0	6.4	6.9
Private Consumption	11.0	3.9	5.2	5.3	5.5	5.7
Government Consumption	15.4	9.0	6.0	9.5	8.7	8.2
Gross Fixed Capital Investment	10.5	8.4	1.9	6.2	7.4	8.4
Exports, Goods and Services	8.1	10.9	-18.2	10.5	9.4	9.9
Imports, Goods and Services	27.0	-2.0	-10.4	13.8	7.7	8.1
Real GDP growth, at constant factor prices	7.9	8.4	3.9	4.8	6.3	6.6
Agriculture	4.2	3.9	4.6	3.9	4.1	4.6
Industry	12.1	12.7	3.2	6.8	8.1	8.5
Services	6.4	6.8	4.2	3.6	5.6	5.9
Inflation (Consumer Price Index)	5.8	5.5	5.6	5.6	5.6	5.8
Current Account Balance (% of GDP)	-3.5	-1.5	-1.5	-1.1	-2.3	-2.6
Net Foreign Direct Investment (% of GDP)	0.6	0.9	0.4	0.5	0.6	0.6
Fiscal Balance (% of GDP)	-4.6	-5.4	-5.5	-6.1	-6.0	-5.5
Debt (% of GDP)	31.9	33.1	36.7	39.9	41.4	41.9
Primary Balance (% of GDP)	-2.8	-3.5	-3.4	-3.9	-3.7	-3.1
International poverty rate ($1.9 in 2011 PPP)[a,b]	12.7	11.9	12.9	12.5	11.9	11.2
Lower middle-income poverty rate ($3.2 in 2011 PPP)[a,b]	49.4	47.9	49.8	48.9	47.8	46.6
Upper middle-income poverty rate ($5.5 in 2011 PPP)[a,b]	82.9	82.2	83.1	82.7	82.1	81.5
GHG emissions growth (mtCO2e)	3.1	3.8	2.4	1.9	3.1	3.4
Energy related GHG emissions (% of total)	38.2	39.4	40.3	41.4	42.5	43.8

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices. Emissions data sourced from CAIT and OECD. Note: e = estimate, f = forecast. (a) Calculations based on South Asia Poverty Group (SAR-POV) harmonization, using the 2010 Household Income and Expenditure Survey (HIES) and 2016-HIES. Actual data: 2016. Nowcast: 2017-2020. Forecasts are from 2021 to 2023. (b) Projection using annualized elasticity (2010-2016) with pass-through = 1 based on GDP per capita in constant LCU.

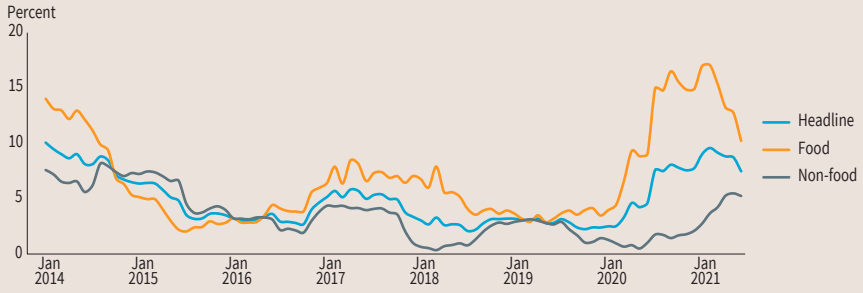
Bhutan

	2020
Population, million	0.8
GDP, current $ billion	2.5
GDP per capita, current $	3125.0
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]	71.8
Total GHG Emissions (mtCO2e)	-5.3

Source: WDI, Macro Poverty Outlook, and official data. (a) Most recent value (2017), 2011 PPPs. (b) WDI for School enrollment (2020); Life expectancy (2019).

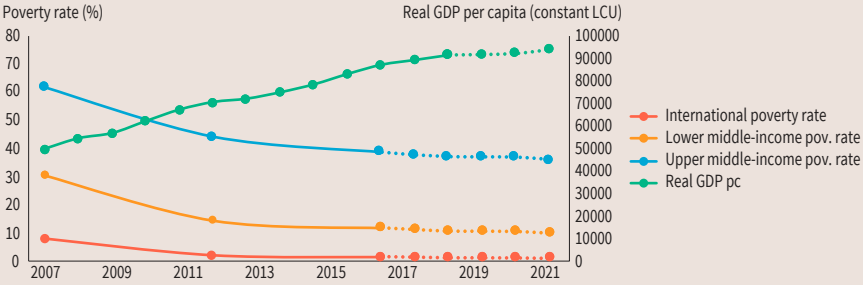
Output is estimated to contract by 1.2 percent in FY20/21, reflecting the standstill in the tourism industry and COVID-19 related disruptions in the non-hydro industrial sector. While the country has been highly successful in fighting the pandemic, strict COVID-19 containment measures and resulting delays in hydro projects are expected to constrain the economic rebound in the short to medium term. Poverty is expected to slightly increase due to high food price inflation and continued disruption in economic activities.

Figure 1: Inflation (y/y)



Source: Government of Bhutan and World Bank staff calculations.

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



Source: World Bank. **Note:** see Table 2.

Key conditions and challenges

Annual real GDP growth has averaged 7.5 percent since the 1980s, fueled by a rapid expansion of the public sector-led hydropower production. Significant hydro rents have helped the country to substantially reduce poverty. From 2007 through 2017, the poverty rate dropped from 36 percent to 12 percent, based on the $3.20/day poverty line. While hydropower has provided a reliable source of growth, non-hydro sectors, facing constraints related to the country's challenging investment climate including high trade costs and a small domestic market, remain less competitive. As a result, job creation outside of the public sector and agriculture has been limited.

Bhutan has been successful in fighting the COVID-19 pandemic, thanks to stringent containment measures. But it came with high economic costs as well. The border remained closed in FY20/21 (July 2020 to June 2021), despite fast vaccination progress with over 90 percent of the eligible population fully vaccinated by August 2021. Tourism activities did not resume in FY20/21, and non-hydro industrial activities were adversely impacted by foreign labor shortages and trade disruptions with India, Bhutan's largest trading partner. As a result, the unemployment rate rose to 5 percent in 2020, from 2.7 percent in 2019, whereby the rate of job losses was highest in urban areas and among the youth.

While COVID-19 relief measures have helped businesses to maintain operations in the short term, especially SMEs, financial sector vulnerabilities are expected to reemerge with elevated levels of non-performing assets once forbearance measures are phased out. A delay in large hydro projects and spending pressures, including sizable COVID-19 relief measures, have exacerbated fiscal risks. As the threat of a domestic outbreak subsides, the government will need to shift its attention from relief efforts, which include income support measures and a partial interest rate waiver, to supporting the economic recovery and resilience, including reforms to strengthen financial sector stability. The pace of the recovery will also depend on the vaccination progress globally, and specifically in India given significant tourism and trade linkages between the two countries.

Recent developments

The economy contracted by 1.2 percent in FY20/21. Services sector output fell by 3.6 percent, as the tourism industry remained at a standstill. While the hydro sector supported industry sector growth, construction and manufacturing were

adversely affected by labor shortages and high input prices. On the demand side, private consumption contracted due to domestic COVID-19 containment measures and lower incomes.

Average inflation increased from 3.0 percent in FY19/20 to 8.2 percent in FY20/21. While food inflation eased to 10.1 percent in June 2021, from a peak of 17.0 percent in February 2021, non-food inflation accelerated in FY20/21, in line with price development in India and higher fuel prices. High food inflation 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 10.3 in FY18/19 to 11.0 percent in FY19/20.

The current account deficit has further narrowed to 11.5 percent of GDP in FY20/21, driven by a smaller trade deficit than in FY19/20. Goods exports (as a share of GDP) remained resilient, supported by an increase in hydro exports from Mangdechhu and trade facilitation measures for non-hydro goods, mainly minerals and metals. Goods imports declined further compared to FY19/20. Gross international reserves increased by 16 percent (y-o-y) to $1.6 billion in May 2021, equivalent to 15.8 months of goods and services imports.

The fiscal deficit widened to 8.1 percent of GDP in FY20/21. Total revenues declined sharply because of weak economic activity, despite a one-off increase in hydro profit transfers from the on-streaming of Mangdechhu. Total expenditures increased, driven by an increase in capital expenditures (largely covered by external grants) and COVID-19 relief measures (projections include expenses from the Druk Gyalpo's Relief Kidu program, which includes temporary income support and a partial interest rate waiver). Public debt stands at 124.7 percent of GDP as of June 2021 (up from 119.9 percent in FY19/20). 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) with low refinancing and exchange rate risks.

Outlook

The growth rebound in the short to medium term will be constrained by continued COVID-19 related restrictions and lower hydro outputs due to maintenance works and further delays in the Puna II hydro project, which will affect hydro exports and government revenues. The economy is expected to gradually recover in FY21/22, with output returning to pre-pandemic levels in real terms. Construction activity is expected to normalize, with improved availability of migrant labor from India and

an expansion of public infrastructure projects. Non-hydro exporting industries will be supported by improved external demand from India. With tourism likely to recover gradually, services sector growth is expected to pick up in FY22/23.

Inflation is projected to remain elevated in the short term, in line with price developments in India and higher fuel prices. The current account deficit is expected to remain low relative to pre-COVID levels. Non-hydro exports, including tourism services, are projected to recover gradually, offsetting the temporary reduction in hydro exports due to maintenance works. Imports are expected to increase from FY21/22 on the back of higher capital imports related to infrastructure and hydro construction.

The fiscal deficit is expected to remain elevated at 6.6 percent in FY21/22. The increase in tax revenues, reflecting the recovery in the non-hydro sectors, will be more than offset by a decline in hydro profit transfers from Mangdechhu. Spending pressures also remain high, as the government plans to frontload capital expenditure under the 12th Five-Year Plan to support the economic recovery. The deficit is expected to narrow from FY22/23 onward as revenues from the tourism sector recover. Public debt is projected to remain elevated as a share of GDP due to low economic growth and high fiscal deficits, and to increase further in FY22/23 with an increase in hydropower investments.

The $3.20 poverty rate is projected to rise further to 11.6 percent in FY20/21, given continued disruptions in economic activities.

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

	2017/18	2018/19	2019/20	2020/21 e	2021/22 f	2022/23 f
Real GDP growth, at constant market prices	3.8	4.3	-0.6	-1.2	3.6	4.3
Private Consumption	10.0	10.1	1.0	-4.0	3.5	4.5
Government Consumption	3.7	7.0	30.2	0.3	-15.7	-1.0
Gross Fixed Capital Investment	-3.6	-11.4	-27.2	1.0	17.6	-1.6
Exports, Goods and Services	5.5	9.6	6.3	-10.5	6.4	16.7
Imports, Goods and Services	3.6	0.5	-6.1	-9.1	5.3	6.3
Real GDP growth, at constant factor prices	3.2	4.5	0.5	-1.2	3.6	4.3
Agriculture	3.6	2.7	1.9	3.5	3.5	3.5
Industry	-1.3	-1.6	-1.3	0.2	3.5	3.6
Services	7.8	10.8	1.7	-3.6	3.8	5.0
Inflation (Consumer Price Index)	3.7	2.8	3.0	8.2	4.9	4.2
Current Account Balance (% of GDP)	-18.4	-20.5	-12.1	-11.5	-11.4	-8.9
Fiscal Balance (% of GDP)	-1.6	-1.6	-1.9	-8.1	-6.6	-5.4
Debt (% of GDP)	113.4	106.6	119.9	124.7	125.0	136.6
Primary Balance (% of GDP)	-0.3	-0.7	-1.4	-7.1	-5.0	-4.0
International poverty rate ($1.9 in 2011 PPP)[a,b]	1.4	1.2	1.3	1.4	1.3	1.1
Lower middle-income poverty rate ($3.2 in 2011 PPP)[a,b]	11.3	10.3	11.0	11.6	10.9	9.8
Upper middle-income poverty rate ($5.5 in 2011 PPP)[a,b]	37.6	36.3	37.1	38.0	37.0	35.3
GHG emissions growth (mtCO2e)	-0.2	-0.2	0.3	0.1	-1.3	-1.5
Energy related GHG emissions (% of total)	-15.1	-15.6	-15.5	-15.3	-15.9	-16.7

Note: e = estimate, f = forecast. (a) Calculations based on SAR-POV harmonization, using 2017-BLSS. Actual data: 2017. Nowcast: 2018-2020. Forecasts are from 2021 to 2023. (b) Projection using neutral distribution (2017) with pass-through = 0.87 based on GDP per capita in constant LCU. Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices.

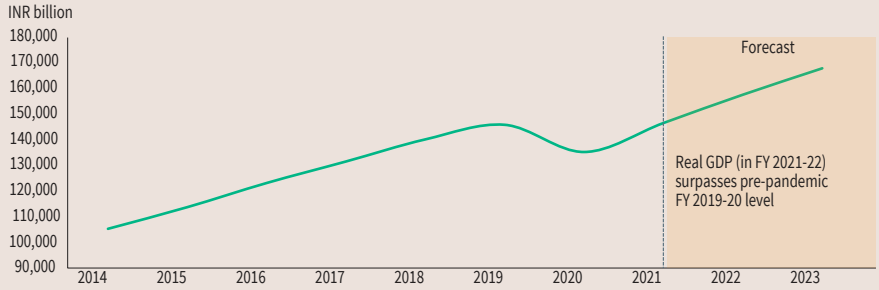
India

	2020
Population, million	1380.0
GDP, current $ billion	2661.1
GDP per capita, current $	1928.3
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]	69.7
Total GHG Emissions (mtCO2e)	3141.7

Source: WDI, Macro Poverty Outlook, and official data. (a) Most recent value (2011/2), 2011 PPPs. (b) Most recent WDI value (2019).

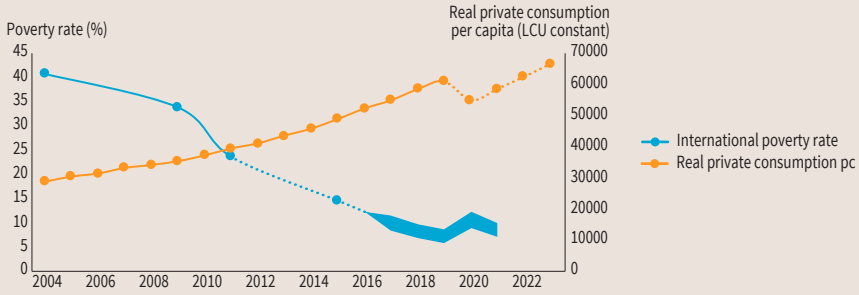
The COVID-19 pandemic led India's economy into a deep contraction in FY21 despite well-crafted fiscal and monetary policy support. Following the deadly second wave, growth in FY22 is expected to be closer to the lower bound of the range of 7.5 to 12.5 percent. The pace of vaccination, which is increasing, will determine economic prospects this year and beyond. Successful implementation of agriculture and labor reforms would boost medium-term growth, while weakened household and firm balance sheets may constrain it.

Figure 1: Real GDP



Source: 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 private consumption per capita



Source: World Bank. **Note:** see Table 2.

Key conditions and challenges

Growth recovered during the second half of FY21, driven primarily by investment and supported by 'unlocking' the economy and targeted fiscal, monetary, and regulatory measures. Manufacturing and construction growth recovered steadily. Amid spending hesitancy due to health and economic uncertainty, private consumption contracted over the first three quarters of FY21 and expanded by 2.7 percent in year-on-year terms only in Q4 (January to March 2021). This gradual pace of recovery was impeded by the second wave of COVID-19 at the beginning of FY22, with daily infections peaking above 400,000 in May 2021—more than four times the caseload at the peak of the 'first wave' (September 2020). While the loss of human lives during the second wave was significantly higher than during the first one, economic disruption was limited since restrictions were localized, with GDP growing by 20.1 percent year-on-year in FY22Q1. This was driven by a significant base effect, strong export growth and limited damage to domestic demand.

The toll of the crisis has not been equal, and the recovery so far is uneven, leaving behind the most vulnerable sections of the society—low-skilled, women, self-employed and small firms. To address these gaps, the government has undertaken steps to strengthen social safety nets and ease structural supply constraints through agricultural and labor reforms. In parallel, the government continued investing in health programs. These measures have started to address the weaknesses in health infrastructure and social safety nets (especially in the urban areas and the informal sector) exposed by the pandemic.

The extent of recovery in FY22 will depend on how quickly household incomes recover and activity in the informal sector and smaller firms normalizes. Downside risks include a worsening of financial sector stress, higher-than-expected inflation constraining monetary-policy support, and a slowdown in vaccination.

Recent developments

The economy shrank by 7.3 percent in FY21 as both private consumption and investment contracted by 9.1 and 10.8 percent, respectively. On the supply side, services contracted more than industry, due to the contact-intensive nature of the former, whereas agriculture growth remained steady.

Headline inflation averaged 6.2 percent in FY21, exceeding the RBI's target range, driven up by higher international food and fuel prices, and domestic supply

disruptions. Additionally, urban inflation expectations, over the 3 month and one-year horizons, have risen by nearly 3 percentage points in July 2021 compared to the pre-pandemic level. Notwithstanding these pressures, the RBI has maintained an accommodative stance. Given the extended forbearance measures, the RBI has assessed the current outlook of the financial sector to be stable while highlighting the need to monitor asset quality in the small firms and non-banking segments.

The current account balance turned into a small surplus in FY21 due to a sharp fall in the trade deficit. Coupled with robust foreign investment inflows and exchange rate intervention by the RBI to reduce volatility, foreign exchange reserves increased to an all-time high of USD 633.6 billion (end-August) or 15 months of FY20 imports.

The general government fiscal deficit in FY21 climbed to above 13 percent of GDP (from 7.0 percent of GDP in FY20) due to lower revenues and higher expenditures. A discretionary fiscal stimulus to mitigate the pandemic's economic impact was well targeted while part of the spending increase (around 1.5 percent of GDP) reflected bringing off-budget subsidies into the books. Public debt increased to 89 percent of GDP from 72.7 percent in FY20. The rebound in tax revenues supported central government's capital expenditure (that increased by 26 percent y-o-y in FY22Q1).

Before the second wave, earnings of urban high-skilled workers had rebounded to pre-pandemic levels. However, with the exacerbation of the pandemic in the first half of 2021, lockdowns and preventive measures returned in some localities. Low-skilled and urban workers faced the brunt of employment shocks due to the second wave. Their earnings have yet to return to 2019 levels. While poverty rates are estimated to have fallen from their peak in the 2020 lockdown, they are still well above pre-pandemic levels (ranging from 7 to 10 percent at the $1.90 line) as labor markets have yet to fully recover.[1]

Outlook

With continued uncertainty related to the COVID-19 pandemic and weakened household and firm balance sheets, real GDP growth is expected to be closer to the lower bound of the range of 7.5 to 12.5 percent in FY22. The Production-Linked Incentives scheme to boost manufacturing, and a planned increase in public investment, should support domestic demand. The trajectory of the pandemic will cloud the outlook in the near term until herd immunity is achieved. Growth is projected to stabilize around 7 percent FY23 onward, helped by recent structural reforms to ease supply-side constraints and increased infrastructure investment.

However, the degree of asset-quality deterioration from the pandemic-shock is unclear and may pose downside risks to the outlook. The main risks to consumer spending include higher than expected inflation and a slow recovery of the informal sector. Persistently high inflation can also put pressure on the RBI's accommodative monetary policy stance.

The current account is expected to turn into a deficit in FY22, albeit less than in the years prior to the pandemic. The deficit is expected to be adequately financed by capital inflows amid sufficient international liquidity.

The fiscal deficit is projected to shrink in FY22 as revenues recover and pandemic-related support winds down. Still, it will remain above 10 percent of GDP in FY22, driven by a rise in capital spending. Public debt is expected to decline gradually in the medium-run driven by lower deficits and a favorable growth-interest rate dynamic.

As labor markets continue to improve, poverty reduction is expected to slowly resume its pre-pandemic trajectory. However, employment rates are still lingering well below pre-pandemic levels despite improvements after the 2020 lockdown. As earnings of low skill workers remain well below 2019 levels, it might take longer than previously expected for India to achieve the goal of reducing extreme poverty to below 3 percent.

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

	2018/19	2019/20	2020/21	2021/22 e	2022/23 f	2023/24 f
Real GDP growth, at constant market prices	6.5	4.0	-7.3	8.3	7.5	6.5
Private Consumption	7.6	5.5	-9.1	7.5	8.0	7.5
Government Consumption	6.3	7.9	2.9	7.3	8.3	9.3
Gross Fixed Capital Investment	9.9	5.4	-10.8	12.4	7.3	7.2
Exports, Goods and Services	12.3	-3.3	-4.7	21.9	8.1	9.5
Imports, Goods and Services	8.6	-0.8	-13.6	24.3	9.7	13.2
Real GDP growth, at constant factor prices	5.9	4.1	-6.2	7.9	7.3	6.4
Agriculture	2.6	4.3	3.6	4.0	3.4	3.5
Industry	5.3	-1.2	-7.0	11.2	6.2	6.0
Services	7.2	7.2	-8.4	7.2	9.0	7.3
Inflation (Consumer Price Index)	3.4	4.8	6.2	5.5	4.6	4.0
Current Account Balance (% of GDP)	-2.1	-0.9	0.9	-1.2	-1.3	-1.5
Net Foreign Direct Investment (% of GDP)	1.1	1.5	1.7	1.7	1.6	1.6
Fiscal Balance (% of GDP)	-5.8	-7.0	-13.5	-10.5	-8.5	-7.5
Debt (% of GDP)	68.6	72.7	88.9	87.6	85.6	83.8
Primary Balance (% of GDP)	-1.1	-2.5	-8.1	-4.8	-2.3	-1.6
International poverty rate ($1.9 in 2011 PPP)[a,b]	6.9-9.8	5.9-8.7	9-12.3	7.0-10.0		
GHG emissions growth (mtCO2e)	4.5	1.5	-7.6	6.2	5.5	3.5
Energy related GHG emissions (% of total)	70.8	70.4	68.1	68.6	69.7	70.3

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices. **Note:** e = estimate, f = forecast. (a) Calculations based on SARMD harmonization, using 2011 National Sample Survey (NSS) - schedule 1. Nowcast: 2018-2020. 2021 is a forecast. (b) Projection using neutral distribution (2011) base on Household Final Consumption Expenditure (HFCE) and equivalent pass-through that estimate 2015 poverty and 2017 poverty range presented in the World Bank Poverty and Shared Prosperity Report, 2020. Pass-through = .67 for 2018-19 and pass-through = 0.85 after 2020.

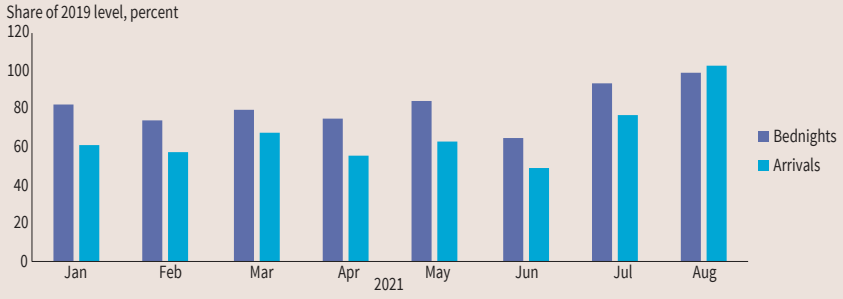
Maldives

	2020
Population, million	0.5
GDP, current $ billion	3.8
GDP per capita, current $	7600.0
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]	78.9
Total GHG Emissions (mtCO2e)	1.8

Source: WDI, Macro Poverty Outlook, and official data. (a) Most recent value (2016), 2011 PPPs. (b) Most recent WDI value (2019).

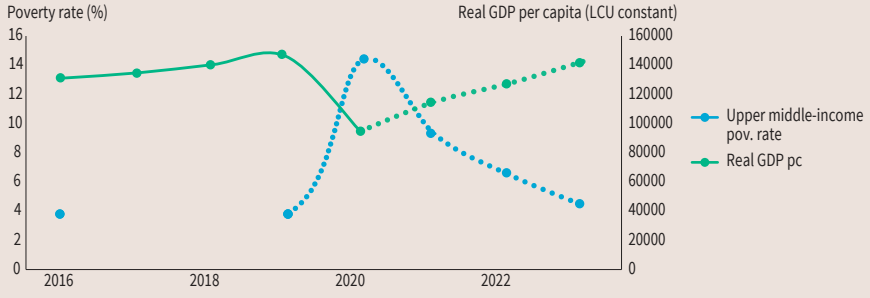
The tourism rebound has gained momentum. Visitor arrivals are at 67 percent of 2019 levels, leading to a strong recovery in growth, revenues, and exports. Although public spending growth has been subdued due to slower execution of the capital budget, the need to deliver electoral pledges, especially on mega infrastructure projects and housing, will continue to place upward pressure on spending. Maldives remains at high risk of overall and external debt distress and is highly vulnerable to external shocks.

Figure 1: Visitor bednights and arrivals as a share of 2019 levels



Source: Ministry of Tourism, World Bank calculations.

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



Source: HIES 2019/20 and World Bank Poverty Model (POVMOD) projections. **Note:** Estimates do not take into account the impact of government policies.

Key conditions and challenges

High-end tourism has been the key driver of growth and poverty reduction. Annual real GDP growth averaged 6.3 percent from 2015 to 2019, faster than other small island and upper middle-income economies. Only 3.6 percent of the population lived below the poverty line ($5.50/person/day in PPP) in 2016. Inequality, as measured by the Gini coefficient, is relatively low at 31.3, but there are wide disparities in welfare between Malé and the other atolls. Creating more good jobs is a challenge: while tourism and construction drive growth, many Maldivians are unwilling and/or unable to fill vacancies in these sectors, partly due to societal norms and skills mismatches.

To close development gaps and boost growth, the government has ramped up public infrastructure investment since 2016. While these projects have boosted construction activity, their high import content and reliance on external non-concessional financing have worsened external and fiscal vulnerabilities. The government intends to continue increasing capital spending as it strives to complete mega projects ahead of the 2023 presidential elections.

Maldives' solid reputation for luxury tourism and the ongoing expansion of tourist infrastructure bodes well for medium-term growth. Nonetheless, high dependence on tourism and limited near-term prospects for diversification mean that the economy remains highly vulnerable to external shocks. A more prudent fiscal policy, including through better planning and prioritization of public infrastructure projects, would improve Maldives' ability to cope with such shocks. Addressing skills mismatches in the labor market can enable more Maldivians to reap the benefits from growth.

Recent developments

Real GDP contracted by 8.6 percent year-on-year (y-o-y) in 2021Q1, a marked improvement from larger contractions in preceding quarters. Tourism rebounded (though still -11.4 percent y-o-y) as resilient demand from India and Russia compensated for the absence of tourists from China. Construction activity contracted by 39.5 percent y-o-y due to delays in public investment projects.

The momentum in tourism has continued despite the COVID-19 pandemic. From January to August 2021, Maldives received 755,966 visitors or 67 percent of the number of tourists over the same period in 2019. With tourists staying longer on

average, bednights have reached an estimated 82 percent of 2019 levels over the same period. Relatively straightforward entry requirements and the unique 'one island, one resort' concept have boosted Maldives' appeal. Moreover, 93 percent of all resort workers and about 60 percent of the population are fully vaccinated.

The pickup in activity and low base effects led prices to rise by 2.3 percent y-o-y on average in Q2 2021. Prices rose faster in the atolls (2.6 percent) compared to Malé (2.1 percent). Higher global oil prices, which prompted three hikes in domestic retail fuel prices in 2021, drove these increases.

Travel receipts, which account for 80 percent of services exports, amounted to $1.5 billion in H1 2021, only 9 percent below the same period in 2019. Nonetheless, tourism-linked services imports also likely increased, offsetting the effect on the trade balance. Growth in merchandise imports (14.9 percent y-o-y) outpaced that of exports (4.3 percent y-o-y), as food and fuel imports rose to keep up with tourist demand. The nominal exchange rate remained stable under the de facto stabilized arrangement. Gross official reserves stood at $874.3 million as at end-August 2021, equivalent to 3.1 months of estimated 2021 imports. Usable reserves (netting out short-term foreign currency liabilities to domestic banks), however, are estimated at a quarter of that amount.

Thanks to higher collections of the tourism goods and services tax, total revenues and grants amounted to $632 million in H1 2021, 34 percent higher y-o-y and only 16 percent below 2019 levels. Expenditure growth was relatively contained, growing 3.2 percent y-o-y, as capital expenditures slowed. As at end-August, the government has only spent a third of its annual capital budget.

Total public and publicly guaranteed debt stood at $5.6 billion as at end-March 2021, about 125 percent of estimated 2021 GDP. The issuance of a $300 million sukuk in April helped to reduce rollover risks by extending the maturity of most of the $250 million Eurobond due in June 2022. However, the cost of refinancing was high, and Maldives remains at high risk of overall and external debt distress.

Updated poverty rate estimates based on the 2019 household survey indicate that the poverty increased temporarily from 3.8 percent in 2019 to 14.3 percent in 2020. The estimates do not consider the impact of government stimulus measures, which likely helped to soften the blow.

Outlook

Recovery prospects have improved. Assuming borders remain fully open, Maldives is expected to welcome at least 1.1 million tourists in 2021, double the amount recorded last year and 65 percent of 2019 levels. Real GDP is therefore projected to grow by 22.3 percent in 2021, largely reflecting base effects. Arrivals are expected to pick up steadily as global travel normalizes, driving real GDP to recover to 2019 levels by 2023. The poverty rate is expected to decline to 9.1 percent in 2021 and subsequently to 4.3 percent by 2023.

The current account deficit is expected to remain in double-digit shares of GDP as imports linked to tourism and construction increase. The fiscal deficit is expected to moderate as revenues recover. Delayed collections of resort rent from 2020 and higher airport departure taxes starting January 2022 will support revenue growth. The deficit is expected to remain elevated due to spending pressures to deliver infrastructure projects, especially public housing, and the expected implementation of a minimum wage in 2022. The debt ratio is expected to moderate as growth picks up, but remain above 120 percent of GDP for the forecast period.

There are risks to the upside and downside. Resilient tourism demand and a more rapid normalization of international travel could boost arrivals, but the gains may be limited by increased competition as other destinations begin to reopen. Future COVID-19 outbreaks, both locally and in major tourist markets, could slow the pace of the recovery. 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	2021 e	2022 f	2023 f
Real GDP growth, at constant market prices	8.1	7.0	-33.6	22.3	11.0	12.0
Private Consumption	10.6	5.5	-30.0	18.0	14.6	11.4
Government Consumption	9.0	-4.2	-7.2	3.6	4.0	4.3
Gross Fixed Capital Investment	29.1	-2.7	-22.4	5.8	13.0	13.4
Exports, Goods and Services	10.1	6.1	-55.0	42.7	21.8	16.0
Imports, Goods and Services	12.8	0.3	-42.0	25.8	22.8	16.5
Real GDP growth, at constant factor prices	8.1	7.1	-30.8	22.3	11.0	12.0
Agriculture	4.8	5.0	6.4	4.2	3.7	3.3
Industry	15.6	1.5	-26.0	2.1	7.8	6.2
Services	7.3	8.0	-33.8	27.3	12.0	13.4
Inflation (Consumer Price Index)	-0.1	0.2	-1.4	2.5	1.3	1.2
Current Account Balance (% of GDP)	-28.3	-26.4	-29.6	-26.0	-27.7	-28.6
Net Foreign Direct Investment (% of GDP)	10.9	17.0	8.4	10.6	12.9	13.5
Fiscal Balance (% of GDP)	-5.3	-6.6	-22.4	-16.2	-14.1	-10.2
Debt (% of GDP)	73.9	78.3	144.0	131.6	129.4	123.5
Primary Balance (% of GDP)	-3.5	-4.9	-19.6	-12.5	-10.7	-7.3
Upper middle-income poverty rate ($5.5 in 2011 PPP)[a,b]		3.8	14.3	8.2	5.6	3.4
GHG emissions growth (mtCO2e)	6.5	6.3	-27.0	37.6	11.1	11.7
Energy related GHG emissions (% of total)	81.5	82.0	80.8	81.7	82.2	82.7

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices. Emissions data sourced from CAIT and OECD. **Note:** e = estimate, f = forecast. (a) Calculations based on SAR-POV harmonization, using 2016 and 2019 HIES. Actual data: 2019. Nowcast: 2020. Forecasts are from 2021 to 2023. (b) Projection using neutral distribution (2019) with pass-through = 0.87 based on GDP per capita in constant LCU.

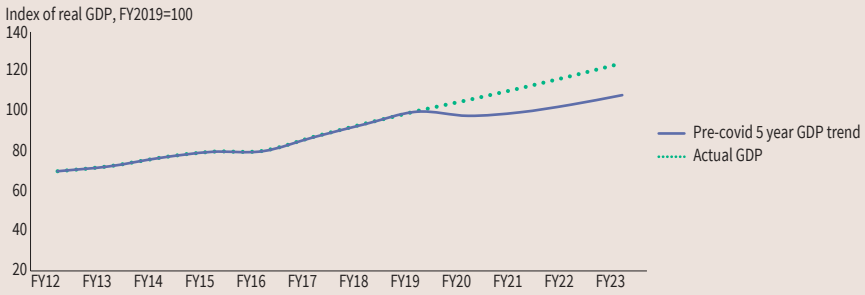
Nepal

	2020
Population, million	29.1
GDP, current $ billion	33.7
GDP per capita, current $	1158.1
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]	70.8
Total GHG Emissions (mtCO2e)	58.3

Source: WDI, Macro Poverty Outlook, and official data. (a) Most recent value (2010), 2011 PPPs. (b) Most recent WDI value (2019).

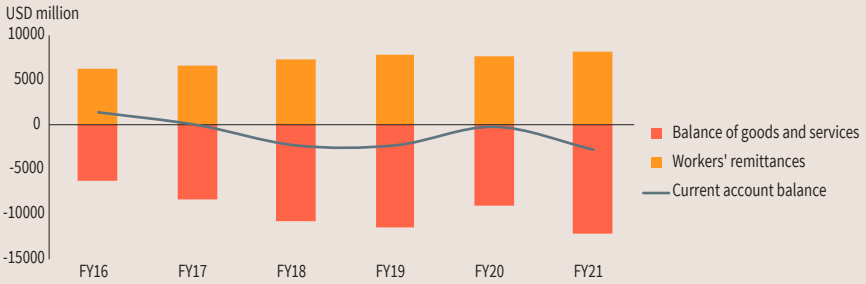
A second wave of COVID-19 infections beginning April 2021 has led to renewed containment measures. Economic growth is now estimated at 1.8 percent in FY21, below previous expectations, and is projected to rise to 3.9 percent in FY22. Poverty is expected to increase, despite increased coverage of social protection in FY22 (from a low base). Downside risks to the outlook include delays in vaccine deployment, new COVID-19 variants, higher public debt burdens, and longer-term scarring of the economy.

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



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

Figure 2: The current account deficit has widened



Source: World Bank staff calculations and Nepal Rastra Bank.

Key conditions and challenges

While Nepal has achieved respectable growth in the past, averaging 4.9 percent over FY09-FY19, the country faces significant vulnerabilities to achieve inclusive and sustainable growth going forward. The ongoing disruptions by the pandemic are compounded by structural constraints such as slow domestic job creation, high vulnerability to natural disasters (including climate change and environmental degradation), and large infrastructure gaps. Furthermore, the pandemic has recently triggered a surge in debt levels that needs to be addressed.

Recent developments

Following a GDP contraction of 2.1 percent in FY20, the economy is estimated to have grown by 1.8 percent in FY21 even with renewed containment measures imposed in the fourth quarter of the fiscal year. Agriculture, contributing over one-fifth of nominal GDP, has been a bright spot, registering 2.2 and 2.7 percent growth in FY20 and FY21, respectively, on the back of favorable summer monsoons. Industry and the services sectors were more severely impacted by the renewed containment measures. After contracting during FY20, the industry and service sectors are estimated to have grown by only 0.9 and 1.6 percent in FY21, respectively.

Consumer price inflation cooled from 6.1 percent in FY20 to 3.6 percent in FY21, considerably below the central bank's ceiling of 7 percent, with food inflation (5.0 percent) outstripping non-food inflation (2.5 percent). Monetary policy remained accommodative to ensure the continuous flow of credit amid COVID-19. As a result, private sector credit expanded by 26.6 percent in FY21.

The current account deficit widened from 0.9 percent to 8.1 percent of GDP between FY20 and FY21. Surging imports, helped in part by a stronger recovery in industrial supplies, and lower exports in FY21 widened the goods and services trade deficit from 27.1 percent to 34.5 percent of GDP from FY20 to FY21. Service exports remained low as tourist arrivals contracted by more than 90 percent in FY21. Remittance inflows have remained robust throughout the pandemic, dipping only slightly during FY20 and strengthening during FY21 to 23.2 percent of GDP. In the absence of significant FDI inflows, the current account deficit was financed by external debt. The central bank's foreign exchange reserves remain robust at $10.5 billion by mid-July 2021, equivalent to 9 months of imports.

The World Bank's 2020 SAR COVID-19 phone monitoring survey reports significant labor income shocks from the crisis in the latter half of 2020. Six months into the first national lockdown beginning March 2020, 25 percent of workers reported permanent job loss and 19 percent reported a prolonged work absence of 4.4 months on average (with a gap of 4 months since the last pay). In addition, 46 percent of employed workers reported earnings losses. With a negligible scaleup (2 percent) of social assistance in response to these shocks in 2020, the risks of increased poverty and longer-term inequality remain high.

The fiscal deficit narrowed from 5.3 percent of GDP in FY20 to 4.6 percent of GDP in FY21. A recovery in VAT and customs revenue collections associated with the pickup in imports was partially offset by lower non-tax revenue reflecting decreased tourism-related royalties and visa fee collections. Concurrently, government spending picked up with ongoing COVID-19 relief and a resumption of capital spending. Public debt increased by around 6 percentage points of GDP to 41.8 percent of GDP in FY21.

Outlook

The new wave of localized lockdowns beginning in April 2021 have stalled the nascent recovery. The forecast assumes (i) no return to nationwide lockdowns despite the rise in new COVID-19 cases, (ii) an effective vaccination rollout to the entire eligible population by mid-April 2022, (iii) a gradual increase in international migration and tourist arrivals as global vaccination rates rise thereby reaching pre-pandemic levels in FY24, and iv) the gradual resumption of economic activities alongside social distancing and public-health measures.

Under the baseline scenario, the economy is expected to gradually recover to 3.9 percent and 4.7 percent growth in FY22 and FY23, respectively. Above-normal rainfall during summer monsoons and the availability of chemical fertilizers should boost agricultural output in FY22. Industrial and service sector activities are expected to expand with the vaccination rollout and are likely to reach pre-pandemic levels by FY22.

The current account deficit is expected to widen to 9.0 percent of GDP in FY22 and to remain elevated in FY23 even as remittances stabilize at a high 22.5 percent of GDP. Import growth will likely remain strong reflecting ongoing COVID-related medical purchases and the construction of health and local infrastructure. Service

exports, equivalent to 4.8 percent of GDP in FY19, are expected to remain below their pre-pandemic level at less than 3.0 percent of GDP through FY23.

The fiscal deficit is projected to increase to 5.8 percent of GDP in FY22 as expenditure growth continues to outstrip revenue growth and remain elevated at 5.0 percent of GDP in FY23. Revenues will remain moderately high at 24.2 percent of GDP in FY22 and rise to 24.9 percent of GDP by FY23 on the back of an expected continued recovery of imports. Expenditures are expected to continue rising at a faster rate, reaching 30 percent of GDP in both years. As a result, public debt is projected to reach 45.4 percent of GDP in FY22 and 47.7 percent of GDP by FY23, a significant increase and 20.5 percentage points of GDP higher than the pre-pandemic level.

The economic outlook is subject to downside risks. A slower than expected vaccine rollout or a new COVID-19 variant reducing vaccine effectiveness could derail the nascent economic recovery. Financial risks could increase as borrowers face repayment difficulties, which could be triggered by a slowdown in remittance growth. These factors combined with unproductive public spending and recurring climate-related natural disasters are likely to result in increased risks to government finances. The lack of pre-existing policy mechanisms that can be scaled up to reach poor and vulnerable groups is likely to increase the downside risk to poverty, especially given the severity of the second wave. On the upside, effective vaccination campaigns could help decouple economic trends from future pandemic waves.

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

	2018	2019	2020	2021 e	2022 f	2023 f
Real GDP growth, at constant market prices	7.6	6.7	-2.1	1.8	3.9	4.7
Private Consumption	6.2	8.1	3.6	2.4	2.5	2.6
Government Consumption	2.1	9.8	3.8	2.0	20.8	2.0
Gross Fixed Capital Investment	11.8	11.3	-12.4	-0.5	9.3	12.9
Exports, Goods and Services	7.7	5.5	-15.9	-19.8	11.2	13.4
Imports, Goods and Services	19.0	5.8	-15.2	16.9	9.0	7.5
Real GDP growth, at constant factor prices	7.4	6.4	-2.1	1.8	3.9	4.7
Agriculture	2.6	5.2	2.2	2.7	2.8	3.0
Industry	10.4	7.4	-3.7	0.9	3.3	5.8
Services	9.3	6.8	-4.0	1.6	4.7	5.3
Inflation (Consumer Price Index)	4.1	4.6	6.1	3.6	4.3	4.7
Current Account Balance (% of GDP)	-7.1	-6.9	-0.9	-8.1	-9.0	-8.5
Fiscal Balance (% of GDP)	-5.8	-5.0	-5.3	-4.6	-5.8	-5.0
Debt (% of GDP)	26.5	27.2	36.3	41.8	45.4	47.7
Primary Balance (% of GDP)	-5.4	-4.5	-4.7	-3.7	-4.8	-4.0
GHG emissions growth (mtCO2e)	2.8	5.1	1.7	3.7	3.2	3.8
Energy related GHG emissions (% of total)	43.2	43.5	43.5	46.3	47.2	48.2

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices. Emissions data sourced from CAIT and OECD. **Note:** e = estimate, f = forecast.

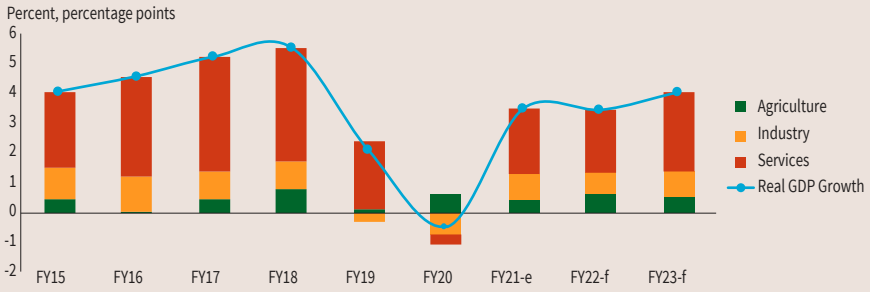
Pakistan

	2020
Population, million	220.9
GDP, current $ billion	262.6
GDP per capita, current $	1188.8
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]	67.3
Total GHG Emissions (mtCO2e)	435.8

Source: WDI, Macro Poverty Outlook, and official data. (a) Most recent value (2010), 2011 PPPs. (b) Most recent WDI value (2019).

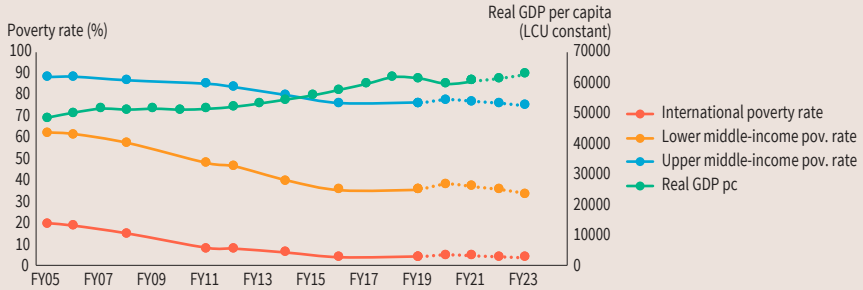
Despite repeated COVID-19 waves, Pakistan's economy recovered in FY21 amid effective targeted lockdowns and an accommodative monetary policy stance. Economic growth is expected to ease in FY22 before strengthening again in FY23. However, potential delays in the IMF program, high demand-side pressures, potential negative spillovers from the evolving situation in Afghanistan and more severe and contagious COVID-19 waves pose downside risks to the outlook.

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



Source: Pakistan Bureau of Statistics 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



Source: World Bank. **Note:** see Table 2.

Key conditions and challenges

With the pandemic, the government has been focused on managing the repeated COVID-19 infection waves, implementing a mass vaccination campaign, expanding its cash transfer program, and providing accommodative monetary conditions to sustain economic growth. Grappling with the fourth COVID-19 wave, the government, as before, implemented micro-lockdowns that successfully limited the infection spread, while permitting economic activity to continue and thereby mitigating the economic fallout. While they have been accelerating, vaccination rates remain low. As of September 15, only around 10 percent of the total population has been fully vaccinated.

The 39-month IMF-Extended Fund Facility (IMF-EFF) is likely to resume in FY22 with the 6th Review mission expected in October 2021. Key reforms include domestic revenue mobilization, the reduction of power sector arrears, electricity subsidy reform and more central bank operational autonomy, all of which are expected to strengthen long-term growth.

Major downside risks include delays and stalling of the IMF-EFF program and the consequent external financing difficulties, exceedingly high domestic demand leading to unsustainable external pressures, more contagious COVID-19 strains requiring widespread lockdowns, and a worsening of regional and domestic security conditions, including those stemming from the Afghanistan situation. All these could delay critical structural reforms.

Recent developments

Due to low-base effects and recovering domestic demand, real GDP growth (at factor cost) is estimated to have rebounded to 3.5 percent in FY21 from a contraction of 0.5 percent in FY20 (Figure 1). Buttressed with record-high official remittance inflows, received through formal banking channels, and an accommodative monetary policy, private consumption and investment are both estimated to have strengthened during the fiscal year. Government consumption is also estimated to have risen, but at a slower pace than in FY20 when the COVID-19 fiscal stimulus package was rolled out. In contrast, net exports are estimated to have contracted in FY21, as imports growth almost doubled that of exports due to strong domestic demand.

On the production side, supported by strong large-scale manufacturing, industrial activity is projected to have rebounded after contracting for two consecutive years.

Similarly, the services sector that accounts for 60 percent of GDP is estimated to have expanded, as generalized lockdown measures were increasingly lifted. In contrast, agriculture sector growth is expected to have slowed, partly due to a near 30 percent decline in cotton production on adverse weather conditions.

Despite slowing to 8.9 percent in FY21 from 10.7 percent in FY20, headline consumer price inflation remained elevated—mostly because of high food inflation, which is likely to disproportionately impact poorer households that spend a larger share of their income on food items compared to non-food items. With the policy rate being held at 7.0 percent throughout FY21, real interest rates were negative, supporting the recovery.

The current account deficit narrowed from 1.7 percent of GDP in FY20 to 0.6 percent in FY21 as robust remittance inflows offset a wider trade deficit. Foreign direct investment decreased, while portfolio inflows increased with the issuance of $2.5 billion Eurobonds. Overall, the balance of payments surplus was 1.9 percent of GDP in FY21, and the official foreign exchange reserves rose to $18.7 billion at end-FY21, the highest since January 2017 and equivalent to 3.4 months of total imports. Accordingly, the Rupee appreciated by 5.8 percent against the U.S. dollar over the fiscal year, while the real effective exchange rate rose by 10.4 percent.

In FY21, the fiscal deficit narrowed to 7.2 percent of GDP from 8.0 percent in FY20, as revenue growth, underpinned by stronger domestic activity, outpaced higher expenditures. Public debt, including guaranteed debt, ticked down to 90.7 percent of GDP at end-June FY21 from 92.7 percent of GDP at end-June FY20.

Bolstered by the recovery in the industry and services sectors and resultant off-farm employment opportunities, poverty incidence, measured at the international poverty line of $1.90 PPP 2011 per day, is expected to have declined to 4.8 percent in FY21 from 5.3 percent in FY20 (Figure 2). However, this change is not statistically significant, and downside risks arising from lockdown-induced disruptions to employment and high food inflation remain.

Outlook

In line with the 25-basis point policy rate hike in September 2021, fiscal and monetary tightening are expected resume in FY22, as the government refocuses on mitigating emerging external pressures and managing long-standing fiscal challenges. Output growth is therefore projected to ease to 3.4 percent in FY22, but strengthen

thereafter to 4.0 percent in FY23 with the implementation of key structural reforms, particularly those aimed at sustaining macroeconomic stability, increasing competitiveness and improving financial viability of the energy sector. Inflation is projected to edge up in FY22 with expected domestic energy tariff hikes and higher oil and commodity prices before moderating in FY23. Poverty is expected to continue declining, reaching 4.0 percent by FY23.

The current account deficit is projected to widen to 2.5 percent of GDP in FY23 as imports expand with higher economic growth and oil prices. Exports are also expected to grow strongly after initially tapering in FY22, as tariff reform measures gain traction supporting export competitiveness. In addition, the growth of official remittance inflows is expected to moderate after benefiting from a COVID-19 induced transition to formal channels in FY21.

Despite fiscal consolidation efforts, the deficit is projected to remain high at 7.0 percent of GDP in FY22 and widen to 7.1 percent in FY23 due to pre-election spending. Implementation of critical revenue-enhancing reforms, particularly the General Sales Tax harmonization, will support a narrowing of the fiscal deficit over time. Public debt will remain elevated in the medium-term, as will Pakistan's exposure to debt-related shocks. This outlook assumes that the IMF-EFF program will remain on track.

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

	2017/18	2018/19	2019/20	2020/21 e	2021/22 f	2022/23 f
Real GDP growth, at constant market prices	5.8	1.1	-0.9	3.5	3.4	4.0
Private Consumption	6.2	3.1	-4.1	4.2	3.9	4.1
Government Consumption	8.6	0.8	6.8	2.2	2.7	5.8
Gross Fixed Capital Investment	11.2	-12.5	-1.0	5.7	4.5	4.7
Exports, Goods and Services	12.7	14.5	2.5	4.8	3.7	4.2
Imports, Goods and Services	17.6	4.3	-7.9	8.1	6.0	5.7
Real GDP growth, at constant factor pricesa	5.5	2.1	-0.5	3.5	3.4	4.0
Agriculture	4.0	0.6	3.3	2.2	3.2	2.7
Industry	4.6	-1.6	-3.8	4.6	3.8	4.3
Services	6.3	3.8	-0.6	3.5	3.4	4.4
Inflation (Consumer Price Index)	4.7	6.8	10.7	8.9	9.0	7.5
Current Account Balance (% of GDP)	-6.1	-4.8	-1.7	-0.6	-1.9	-2.5
Net Foreign Direct Investment (% of GDP)	0.9	0.5	1.0	0.6	0.8	0.9
Fiscal Balance (% of GDP)	-6.4	-9.0	-8.0	-7.2	-7.0	-7.1
Debt (% of GDP)	75.9	89.7	92.7	90.7	90.6	89.3
Primary Balance (% of GDP)	-2.1	-3.5	-1.7	-1.3	-1.2	-1.5
International poverty rate ($1.9 in 2011 PPP)[b,c]		4.4	5.3	4.8	4.4	4.0
Lower middle-income poverty rate ($3.2 in 2011 PPP)[b,c]		35.7	38.3	37.0	35.7	33.8
Upper middle-income poverty rate ($5.5 in 2011 PPP)[b,c]		76.2	77.8	77.0	76.2	75.0
GHG emissions growth (mtCO2e)	3.9	0.2	-0.7	2.8	2.0	2.9
Energy related GHG emissions (% of total)	45.0	44.4	43.4	43.3	43.1	43.3

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices. Emissions data sourced from CAIT and OECD. **Note:** e = estimate, f = forecast. (a) The government's preliminary growth estimate for FY21 is 3.9 percent. (b) Calculations based on SAR-POV harmonization, using 2018-PSLM. Actual data: 2018. Nowcast: 2019-2020. Forecasts are from 2021 to 2023. (c) Projection using neutral distribution (2018) with pass-through = 1 based on GDP per capita in constant LCU.

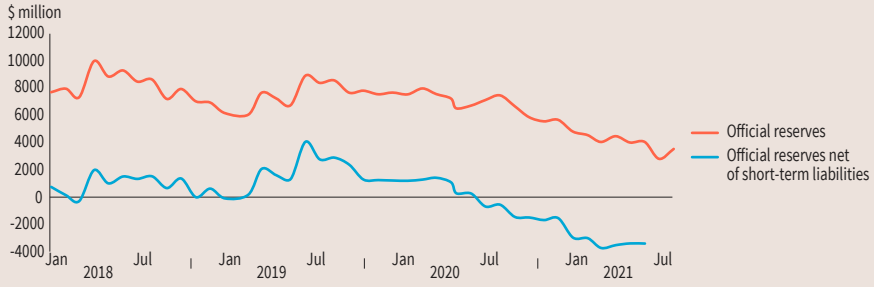
Sri Lanka

	2020
Population, million	21.9
GDP, current $ billion	80.7
GDP per capita, current $	3684.9
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]	77.0
Total GHG Emissions (mtCO2e)	34.4

Source: WDI, Macro Poverty Outlook, and official data. (a) Most recent value (2016), 2011 PPPs. (b) WDI for School enrollment (2018); Life expectancy (2019).

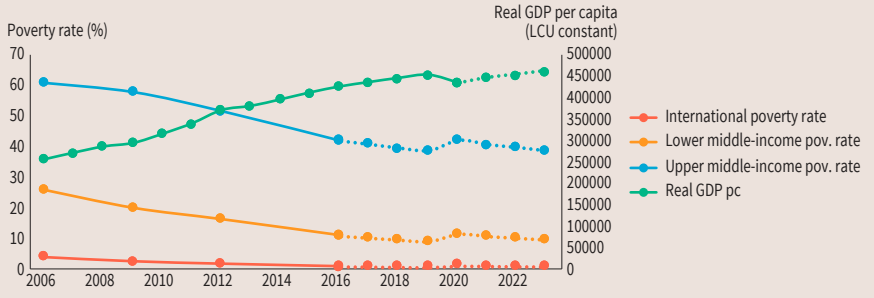
Growth is expected to recover to 3.3 percent in 2021, but the medium-term outlook is clouded by pre-existing macroeconomic weaknesses and the economic scarring from the COVID-19 pandemic. With jobs and earnings lost, poverty is projected to remain above pre-pandemic levels in 2021. Official reserves remain low relative to short-term liabilities amid constrained market access. A severe foreign exchange shortage is exerting pressure on the exchange rate. Urgent policy measures are needed to address risks to debt sustainability and external stability.

Figure 1: Official reserves vs. short-term foreign exchange liabilities



Source: Central Bank of Sri Lanka and World Bank staff calculations.

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



Source: World Bank. **Note:** see Table 2.

Key conditions and challenges

The COVID-19 crisis is exerting a profound, long-lasting impact on output and welfare. The economy contracted by 3.6 percent in 2020 amid stringent measures to control the spread of the virus. Low revenue collections, due to a pre-pandemic fiscal stimulus and the post-pandemic impact on economic activity, and rising expenditures widened the fiscal deficit and increased debt. Market access has been constrained by sovereign rating downgrades.

The country has been struggling to contain the spread of the virus in 2021 and the Delta variant has been spreading fast since June. The government focused on an expeditious vaccination process and approximately 50 percent of the population has been fully vaccinated by mid-September.

The economy showed signs of weakness already before the COVID-19 pandemic. Growth averaged only 3.1 percent between 2017 and 2019. Structural reforms to shift the growth model toward wider private sector participation, export-orientation, and integration into global value chains progressed slowly and some reforms have been reversed. In addition, economic activity has been disrupted by frequent macroeconomic shocks, including from a political crisis in 2018 and the Easter Sunday attacks in 2019. Sri Lanka is highly exposed to global financial market sentiments as its debt repayment profile requires frequent access to financial markets.

Recent developments

Real GDP grew by 8.0 percent, year-on-year, in the first half of 2021 from a low base with significant contributions from manufacturing, trade, financial services, and real estate activity. The subsequent pick-up of COVID-19 infections likely weakened the pace of recovery in the second half of 2021. The crisis precipitated widespread losses in livelihoods, which are expected to have increased the $3.20 poverty rate from 9.2 percent in 2019 to 11.7 percent in 2020.

Year-on-year inflation (measured by the Colombo Consumer Price Index) increased to 6.0 percent in August 2021 due to high food inflation (at 11.5 percent) and a fuel price hike in June (the first in 21 months). Food insecurity has been acute throughout the pandemic—a phone monitoring survey previously showed that 44 percent of households were concerned about running out of food, while weak safety nets heightened vulnerability. The government invoked emergency regulations to curb speculative practices of traders amid high food prices and shortages of some essential commodities. To curb rising inflationary pressures, the Central Bank increased

policy rates by 50 basis points (Standing Deposit Facility to 5.0 percent and Standing Lending Facility to 6.0 percent) and the reserve ratio by 200 basis points.

External vulnerabilities have further elevated in the first half of 2021. The trade deficit widened as a rising import bill (despite restrictions on non-essential goods) driven by intermediate and investment goods, offset the increase in earnings from exports. Remittances declined and weak tourism receipts widened the current account deficit. Official reserves declined to $3.6 billion in August (equivalent to 2.0 months of imports, estimated as of August), as the government continued to use reserves for debt service. Reserves include the proceeds from the SDR allocation equivalent to $787 million and excludes a currency swap of RMB 10 billion (equivalent to approximately $1.5 billion) with the People's Bank of China. The LKR depreciated by 7.4 percent against the U.S. dollar in the first eight months according to the official exchange rate. However, the parallel market premia have been rising. Depleted net foreign assets in the banking system, at -$3.5 billion by July, suggests increasing challenges in meeting foreign exchange demand.

Fiscal accounts deteriorated in the first four months of 2021. An increase in expenditures (due to higher interest payments and a higher salary bill) offset a marginal improvement in revenue collection, compared to the corresponding period of the previous year. The Central Bank and the banking sector financed 38.7 percent and 41.4 percent of the budget deficit, respectively.

Outlook

The pandemic continues to cloud an already challenging outlook. While the economy is expected to grow by 3.3 percent in 2021 from a low base, output will remain 0.4 percent below its pre-COVID level. Poverty at $3.20 per day is projected to fall to 10.9 percent in 2021, which is still significantly above the 2019 level. Continued macroeconomic challenges, particularly the high debt burden, large gross financing needs and weak external buffers, will adversely affect growth and poverty reduction over the medium-term. Despite increased policy rates and price controls, inflationary pressure is expected to remain strong amid partial monetization of the fiscal deficit, currency depreciation, and rising global commodity prices. Food insecurity could worsen and poverty reduction slow if food prices remain elevated and shortages prevail. The current account deficit is expected to gradually increase toward pre-pandemic level. 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 $4.0 billion in 2022 and 2023. Continued drawdown on reserves for debt service could erode external buffers further.

The fiscal deficit is projected to stay high in the forecast period, with weak revenue collection and rigid expenditures. Public and publicly guaranteed debt is expected to reach 116.5 percent of GDP in 2021 and to rise further between 2022-2023.

Sri Lanka needs to continue its successful vaccination process and implement targeted measures to prevent new COVID-19 waves. Financial sector vulnerabilities, which may emerge once the regulatory relaxation is phased out, should be carefully monitored. Measures to reducing debt vulnerabilities and restoring fiscal and external buffers remain front and center. Supporting students recovering from learning losses, with a focus on reducing equity gaps, will be important to uphold Sri Lanka's human capital achievements and long-term growth prospects.

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

	2018	2019	2020	2021 e	2022 f	2023 f
Real GDP growth, at constant market prices	3.3	2.3	-3.6	3.3	2.1	2.2
Private Consumption	4.0	3.0	-3.0	3.4	2.0	2.2
Government Consumption	-5.1	13.0	4.4	3.8	1.6	1.6
Gross Fixed Capital Investment	1.8	1.0	-9.5	4.3	2.1	2.7
Exports, Goods and Services	0.5	7.2	-9.6	7.9	5.6	4.4
Imports, Goods and Services	1.8	-5.8	-11.4	7.3	3.7	3.7
Real GDP growth, at constant factor prices	3.7	2.2	-3.1	3.3	2.1	2.2
Agriculture	5.8	1.0	-2.4	1.0	1.5	1.5
Industry	1.3	2.6	-6.9	4.0	2.0	2.2
Services	4.6	2.2	-1.5	3.2	2.2	2.3
Inflation (Consumer Price Index)	4.3	4.3	4.6	5.1	6.0	6.3
Current Account Balance (% of GDP)	-3.2	-2.2	-1.3	-2.1	-2.6	-2.8
Net Foreign Direct Investment (% of GDP)	1.8	0.7	0.6	0.9	1.0	1.2
Fiscal Balance (% of GDP)[a]	-5.3	-6.8	-14.0	-10.5	-10.1	-9.1
Debt (% of GDP)[a]	92.2	94.3	109.7	116.5	121.9	124.9
Primary Balance (% of GDP)[a]	0.6	-0.8	-7.4	-4.0	-3.3	-2.3
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]	9.7	9.2	11.7	10.9	10.3	9.7
Upper middle-income poverty rate ($5.5 in 2011 PPP)[b,c]	39.5	38.6	42.3	40.7	39.7	38.5
GHG emissions growth (mtCO2e)	-1.8	-2.3	-5.1	4.0	-1.7	-0.2
Energy related GHG emissions (% of total)	63.6	62.7	62.3	66.1	65.9	66.2

Source: World Bank, Poverty & Equity and Macroeconomics, Trade & Investment Global Practices. Emissions data sourced from CAIT and OECD. **Note:** 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. Forecasts are from 2021 to 2023. (c) Projection using neutral distribution (2016) with pass-through = 0.87 based on GDP per capita in constant LCU.