

# Is South Asia Ready for Take Off?

## A Sustainable and Inclusive Growth Agenda

*Prepared by an IMF team led by Manuela Goretti,  
Daisaku Kihara, and Ranil Salgado,  
under the supervision of Anne-Marie Gulde-Wolf.*

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# **Is South Asia Ready for Take Off? A Sustainable and Inclusive Growth Agenda**

Prepared by an IMF staff team led by Manuela Goretti and comprising Faisal Ahmed, Patrick Blagrove, Pablo Morra, Katsiaryna Svirydzenka (chapter leads), Geert Almekinders, Andrew Hodge, Keiko Honjo, Jiri Jonas, Weicheng Lian, Fei Liu, Sudip Mohapatra, Racha Moussa, Dirk Muir, Sumiko Ogawa, Jay Peiris, Nimarjit Singh, Piyaporn Sodsriwiboon, and Biying Zhu, under the guidance of Ranil Salgado and Daisaku Kihara, with the supervision of Anne-Marie Gulde-Wolf; Kevin Rivas supported the production of the paper

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## Executive Summary

Since the mid-1980s, durable reforms coupled with prudent macroeconomic management have brought steady progress to the South Asia region, making it one of the world's fastest growing regions. Real GDP growth has steadily increased from an average of about 3 percent in the 1970s to 7 percent over the last decade. Although growth trajectories varied across countries, reforms supported strong per capita income growth in the region, lifting over 200 million people out of poverty in the last three decades. Today, South Asia accounts for one-fifth of the world's population and, thanks to India's increasing performance, contributes to over 15 percent of global growth.

Looking ahead, the authors find that South Asia is poised to play an even bigger role in the global economy, in both relative and absolute terms. India has overtaken China as the fastest growing large economy and South Asia's contribution to global growth is set to increase, while more mature economies decelerate. Greater economic diversification, with an expansion of the service sector, improvements in education, and a still sizable demographic dividend are among the key elements underpinning this performance.

Based on demographic trends, more than 150 million people in the region are expected to enter the labor market by 2030. This young and large workforce can be South Asia's strength, if supported by a successful high-quality and job-rich growth strategy. Amid a changing global economic landscape, the authors argue that South Asia will need to leverage on all sectors of the economy in a balanced way, supporting improvements in agricultural productivity and a sustainable expansion of manufacturing, while promoting higher-skill services, to achieve this goal.

To build on the strong performance to date and allow for growth to take off in earnest, the countries in the region will need to step up their policy and reform agenda. South Asian economies can further open up to trade and



foreign direct investment (FDI), improve governance and infrastructure, and foster financial development to enable more efficient allocation of resources to the private sector and reduce the still significant state footprint in the economy. The region will also need to prepare its workforce for the challenges of the twenty-first century to be able to fully reap the benefits of its demographic dividend. Investing in human capital and addressing the large informal sector—taking significant steps to strengthen women’s economic empowerment and labor force participation and support the youth—would bring sizable economic gains to the region.

Sustained structural reform efforts, including successfully harnessing its young and large workforce alongside substantial trade and FDI liberalization, could bring India’s real GDP per capita to nearly 50 percent that of the United States by 2040, with important spillovers to the region. Under a full liberalization scenario, South Asia could contribute about a third of global growth by 2040, with real GDP growth surpassing 6.5 percent, compared to nearly 6 percent under the current baseline and 5 percent in a downside scenario where the benefits of the demographic dividend cannot be secured.

The region’s robust economic performance and recent elections in most South Asian economies offer a propitious window of opportunity to accelerate this reform agenda. Clear communication on the benefits of the reforms and prioritization based on their expected macrostructural impact are key to building reform momentum. Stronger social safety nets are especially important to supporting the most difficult structural reforms, notably to labor markets, minimizing their distributional impact on the most vulnerable segments of the population, and promoting strong and inclusive growth. To ensure the region’s growth path remains as strong as sustainable, new policies and initiatives need to remain mindful of fiscal, financial, and environmental risks.

## Building on Success

South Asia shares similar institutional roots but economies of vastly diverse sizes and complexities.<sup>1</sup> India has the complexity of a continent and a population of 1.35 billion people; Maldives is an archipelago of 1,200 islands with less than half million people; Bhutan and Nepal are landlocked nations of 0.7 million and 29.4 million, respectively; Sri Lanka is an island nation of 21 million people; Bangladesh is the largest delta with over 700 rivers and 165 million people. South Asia, aside from being the most densely populated region in Asia, is also the youngest, with a median age of less than 27 years.

Over the last decades, South Asia's strong and steady growth has benefited one-fifth of the global population. Although growth trajectories have varied across countries, reflecting their unique local context and constraints, durable reforms coupled with prudent macroeconomic management have brought steady progress in the region: accelerated growth, increasingly diversified exports, lowered poverty, and lengthened life expectancy.

Looking ahead, South Asia needs to deliver high quality, job-rich growth to support a large and rising labor force, amid an increasing role for the region in the global economy. In an evolving global economic landscape, South Asia's growth strategy needs to follow a balanced multipronged approach—complementing a modernization of agriculture with a greater role in services and a strategic but sustainable expansion in manufacturing. Prudent policies and governance reforms are key prerequisites to avoiding the macroeconomic imbalances and environmental excesses experienced by other countries during their growth takeoffs. Investing in people—by upgrading human capital while empowering women and youth—can make growth more job-rich, inclusive, and sustainable. South Asia's economic transformation is important not only for South Asians—young and old—but for the global economy,

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<sup>1</sup>In this paper, South Asia includes Bangladesh, Bhutan, India, Maldives, Nepal, and Sri Lanka.

as the region increasingly becomes a global growth engine, benefiting from strong and steady growth, while more mature economies gradually decelerate.

The paper is organized as follows. The second chapter looks back at the region's reform process and growth paths over the last decades; Chapter 3 identifies the key growth challenges ahead to support South Asia's young and rising labor force; Chapter 4 presents key policy recommendations to enable private sector investment and growth, through further liberalization, investment in human capital, and prudent economic management; Chapter 5 summarizes the key elements of this reform scenario, modeling the expected growth impact and spillovers across the region; the last chapter draws concluding remarks on building reform momentum.

## South Asia's Growth History

Growth in South Asia has taken deeper roots in recent decades, supported by sustained reform efforts. Up to the 1970s, India and the rest of the region were characterized by a relatively low-growth trajectory of around 3 to 4 percent (Figure 1). Growth strategies tended to look inward, with a focus on self-sufficiency and import-substitution, which in turn resulted in a large footprint of the state across sectors and limited private sector entrepreneurship.<sup>1</sup> As India and other South Asian economies started to undertake reforms in the 1980s and 1990s (Annex 1), growth increased steadily—averaging 7 percent over the last decade—making South Asia one of the fastest growing regions in the world. Although the growth trajectories of India and Bangladesh, the largest economies in the region, have been comparable to those of most Association of Southeast Asian Nations (ASEAN) economies at a comparable development stage, they have not fully mirrored the dramatic takeoffs in Korea and China. Nevertheless, the region has maintained robust growth dynamics, thanks to ongoing reform efforts. As peer economies in Asia start decelerating, India has overtaken China as the fastest growing large economy and is set to play an increasing role in the world economy.

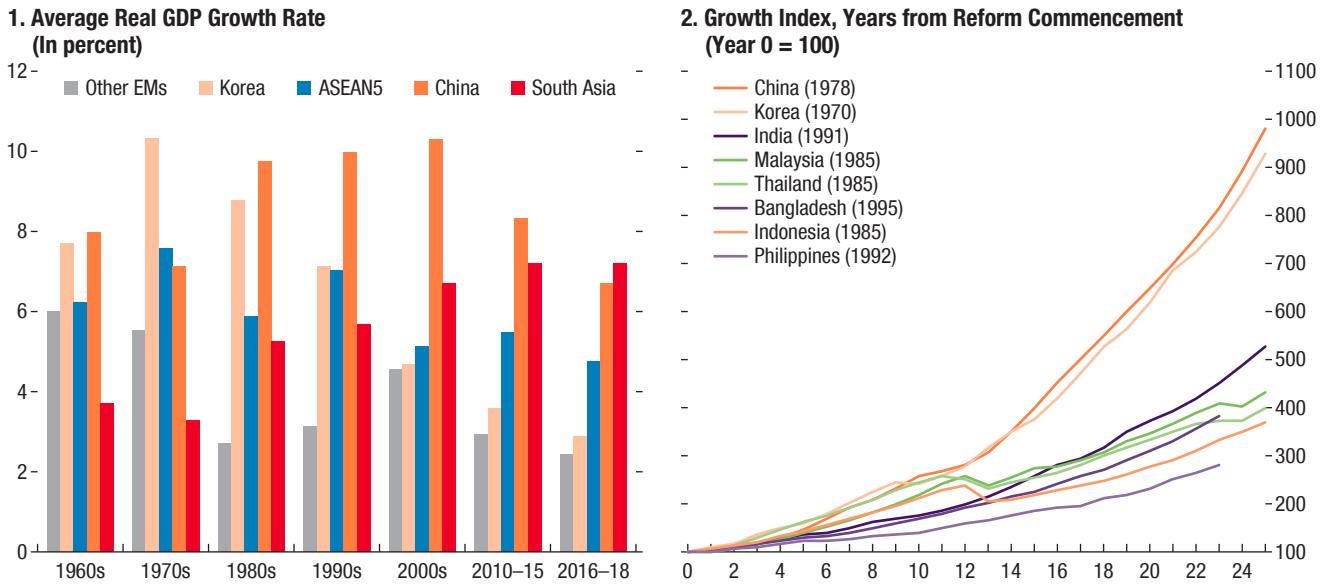
Reform efforts to create space for the private sector and leverage openness have been associated with durable export-led growth (Figure 2).<sup>2</sup> In Bangladesh, reforms and trade liberalization attracted FDIs in the ready-made garment sector, which in turn facilitated technology transfer to domestic entrepreneurs and catalyzed export-led growth. India's pro-business reforms in the late 1980s and early 1990s led to a significant reduction in tariffs—with the highest rate declining from 355 percent in 1990 to 25 percent by 2003—and eased controls on the domestic private sector. Together with the emphasis

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<sup>1</sup>See Kochhar and others (2006) and Panagariya (2004).

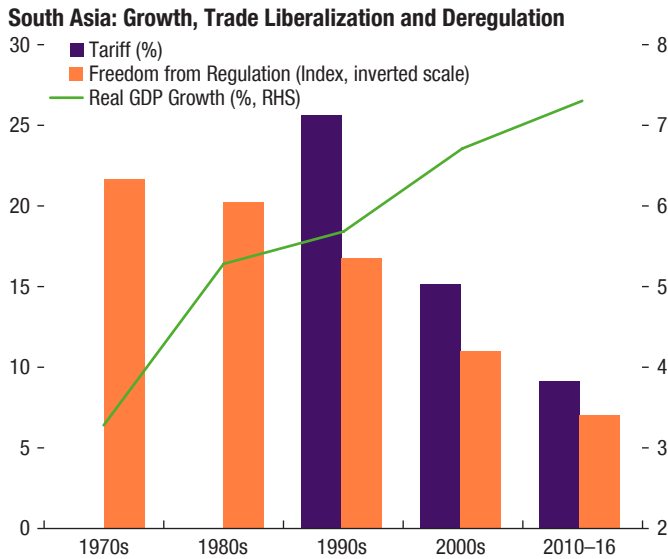
<sup>2</sup>The Fraser's Freedom from regulation index presented in Figure 2 is a perception-based indicator.

Figure 1. Growth Dynamics in South Asia and Peer Countries<sup>1</sup>



Sources: *World Economic Outlook* database; and IMF staff calculations.  
<sup>1</sup>The dates for the individual countries mark the starting point of their respective take-off phases following substantial domestic reforms.

Figure 2. South Asia: Growth and Reforms



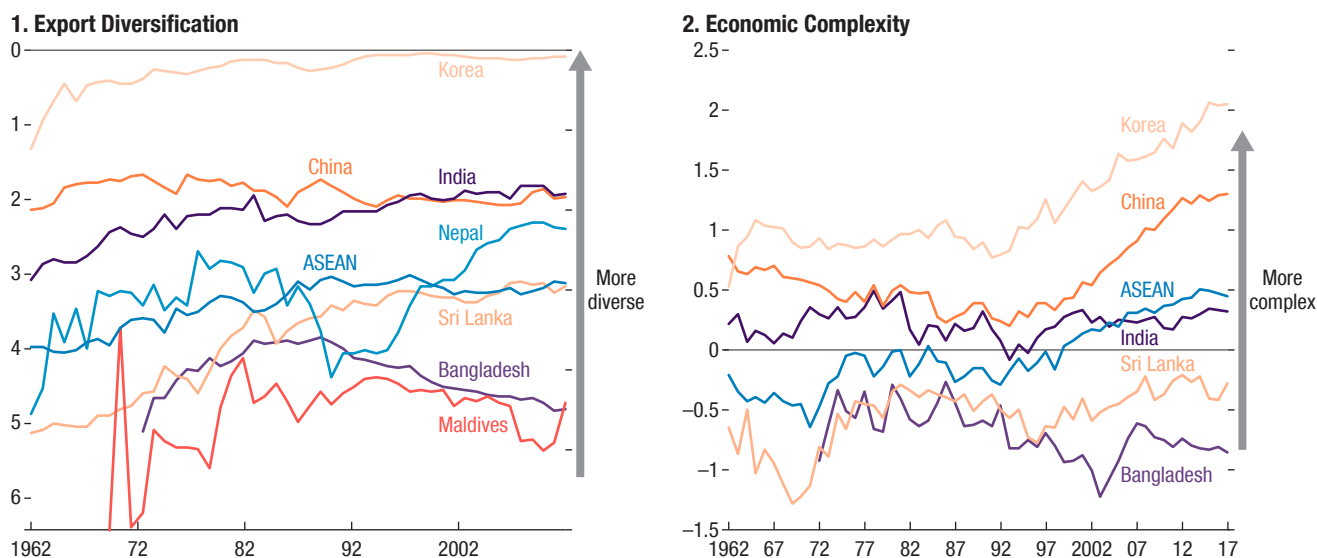
Sources: Fraser Institute, Human Freedom Index; World Integrated Trade Solution database; WEO, and IMF staff calculations.

on tertiary education, these reforms laid the foundation for India’s remarkable service sector–aided growth.<sup>3</sup>

South Asia’s liberalization path has been associated with greater diversification of exports—from raw products to services and garments. India managed to transition from exporting tea and fabrics to a more sophisticated export basket of services—car parts, capital goods, and pharmaceuticals—raising its export diversification to a level broadly comparable to that of regional peers, although still below China and more advanced countries in terms of complexity (Figures 3 and 4). The Maldives diversified from fish into tourism, while Nepal from raw food products to information and communications technology (ICT) and tourism.

<sup>3</sup>See Kochhar and others (2006), Rodrik and Subramanian (2005), and Virmani (2005).

Figure 3. Export Diversification and Complexity



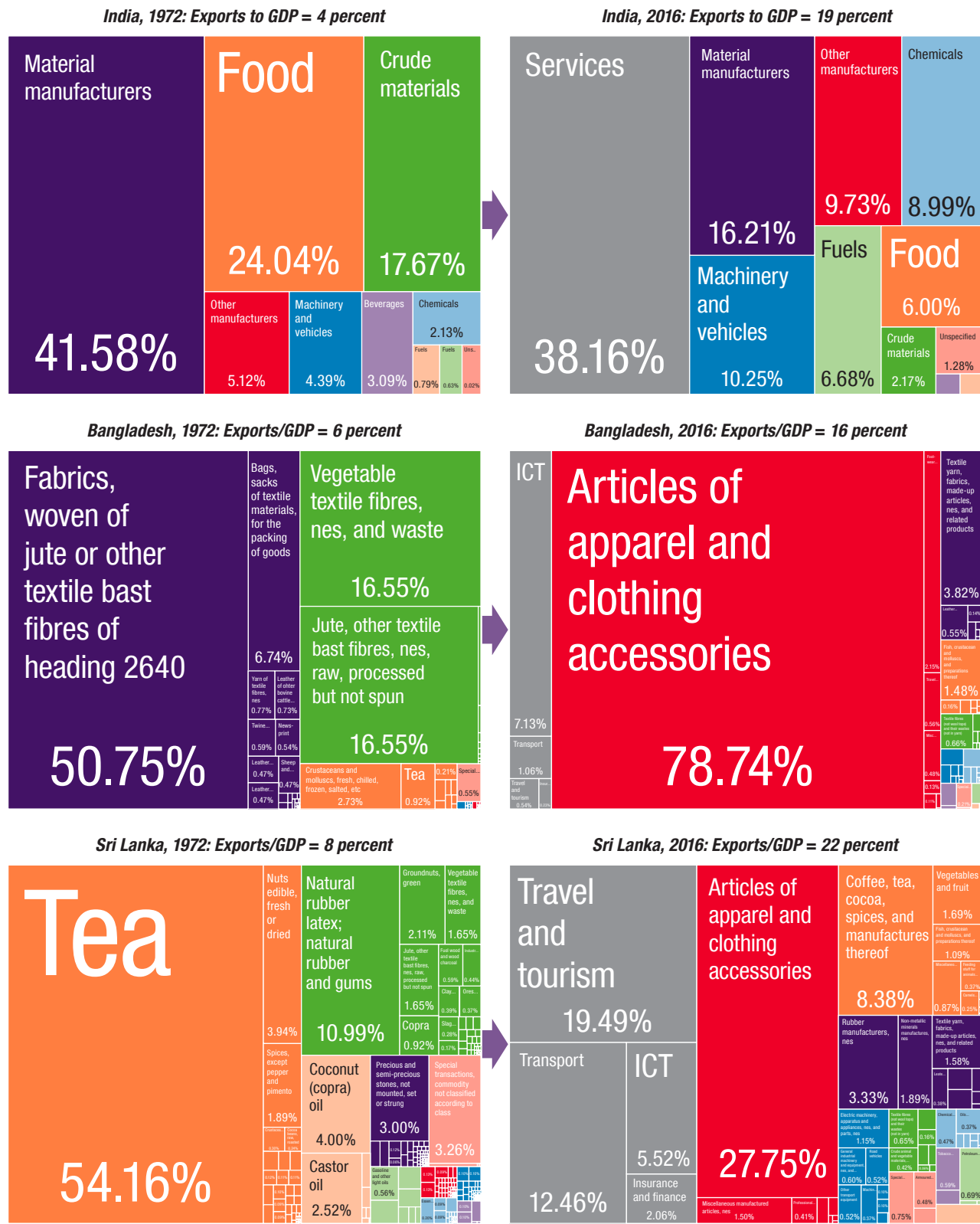
Sources: The Atlas of Economic Complexity; and IMF (2014).

Bhutan benefited from exporting hydropower electricity, which now accounts for 30 percent of its exports. Bangladesh moved from exporting jute and tea to labor-intensive garments, which now account for around 80 percent of exports.

India's success in the service sector has been especially remarkable. India's share of world service exports doubled to over 17 percent in a decade through 2010–14, recording the largest increase globally for the sector. Productivity estimates, based on the KLEMS database, show that high-skill services—business, financial, and ICT services—drove productivity growth since the early 2000s, followed closely by low-skill services—hotels and restaurants, trade and transportation, and storage services (Figure 5). India's remarkable performance in the service sector, notably ICT, is strongly associated with the emphasis on tertiary education and the low degree of regulation of the sector (see Annex 2). Services, notably tourism, continued to account for over 50 percent of value added in other South Asia economies, like the Maldives, Nepal, and Sri Lanka.

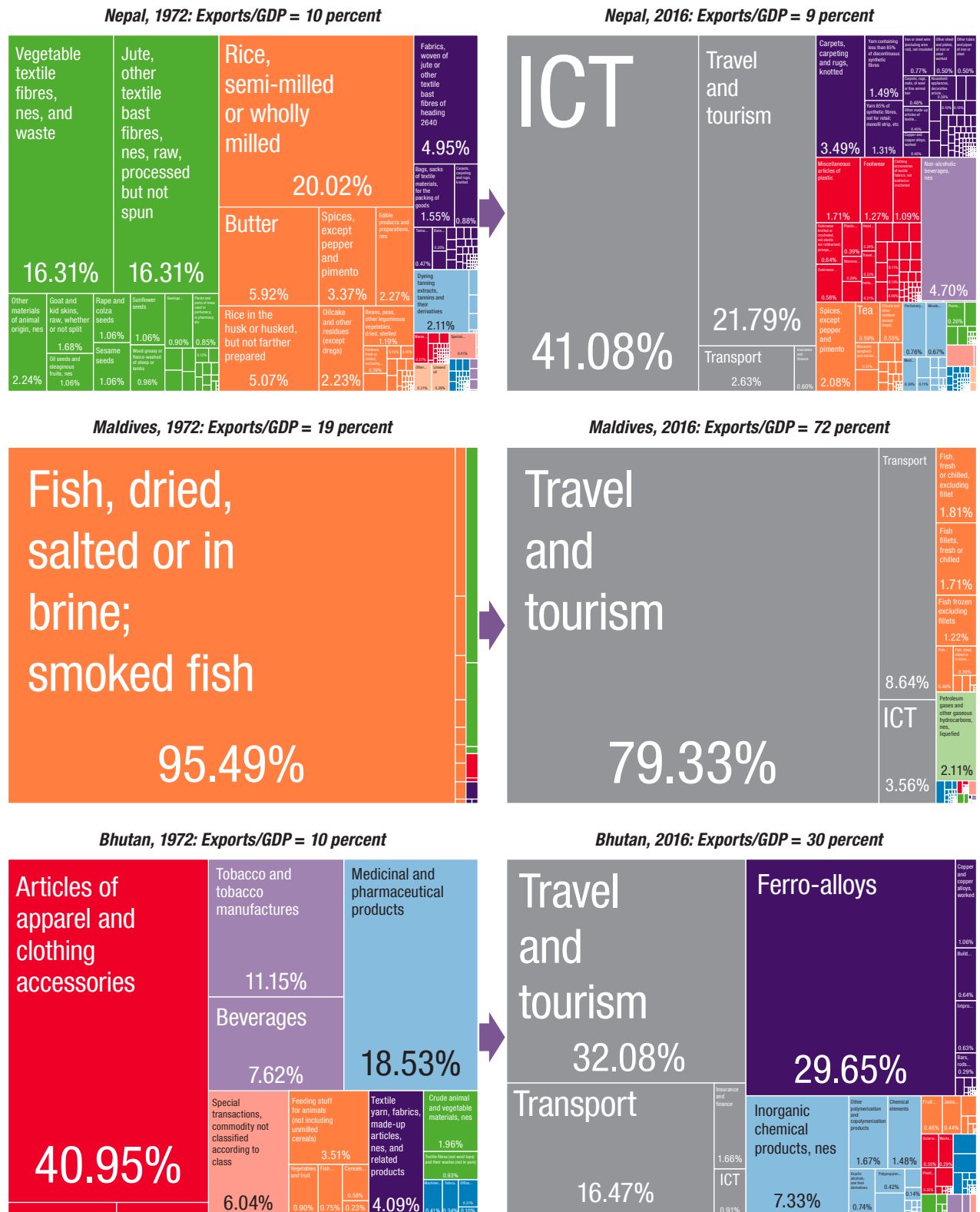
Higher growth and productivity reduced poverty and transformed the lives of millions of people in South Asia. Since the 1990s, there has been an impressive decline in poverty rates across the region (Figure 6). Over 200 million people were lifted out of poverty across South Asia while life expectancy rose by more than a decade to about 70 years. The reduction in poverty was most significant in Nepal, India, and Bangladesh, given the weaker starting point compared to Sri Lanka, the Maldives, and Bhutan, where the population already benefited from relatively higher living standards.

Figure 4. Diversification in South Asia, 1972–2016



Source: Atlas of Economic Complexity.

Figure 4. Diversification in South Asia, 1972–2016 (Continued)

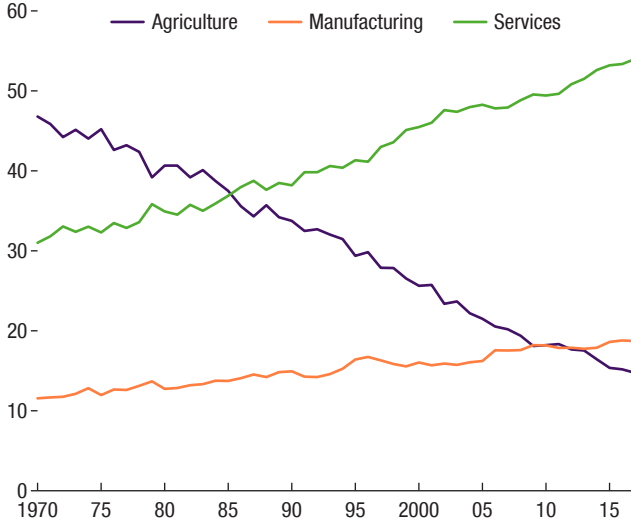


Source: Atlas of Economic Complexity.

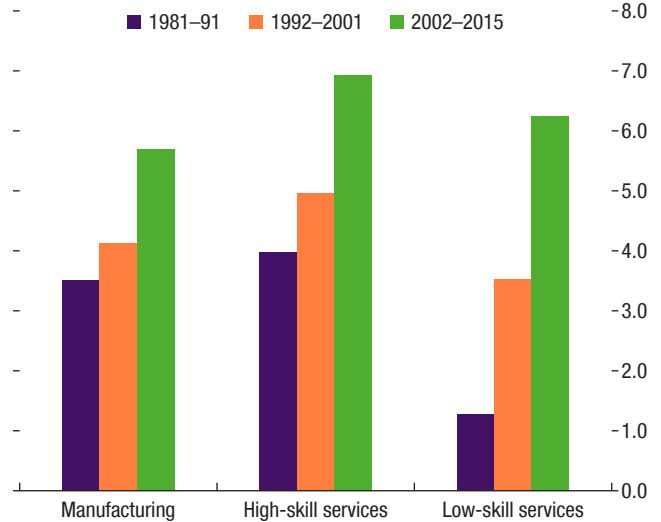


Figure 5. Service Sector Performance

1. South Asia: Sectoral Shares, Value Added (In percent of GDP)



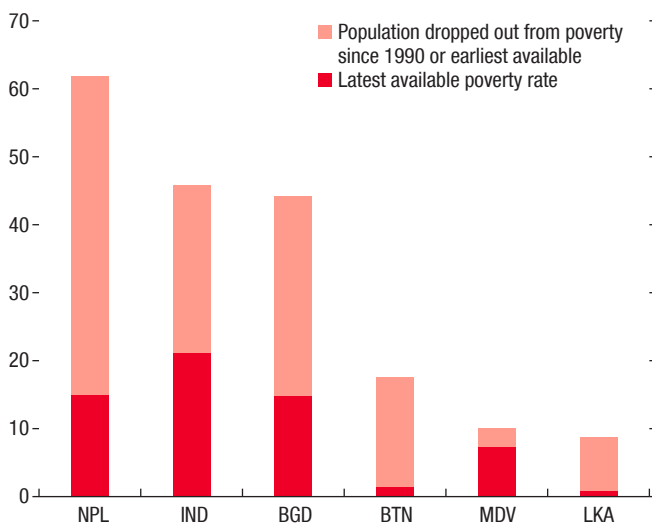
2. India: Productivity Growth across Sectors (In percent)



Sources: UN National Account Database; IMF, *World Economic Outlook* and IMF staff calculations; Reserve Bank of India; KLEMS database.  
 Note: The aggregation is weighted by PPP GDP.

Figure 6. Poverty

Share of Population below US\$1.90/day (2011, PPP) (Percent)



Source: World Bank World Development Indicators.

## Delivering Job-Rich Growth to One-Fifth of the Global Population

*One-fifth of the global population calls South Asia home. Looking ahead, the region needs to deliver high quality, job-rich growth to support its large and rising labor force. Amid a shifting global economic landscape, a successful growth strategy for South Asia would need to leverage all sectors of the economy in a balanced way, relying on the private sector to discover new growth opportunities.*

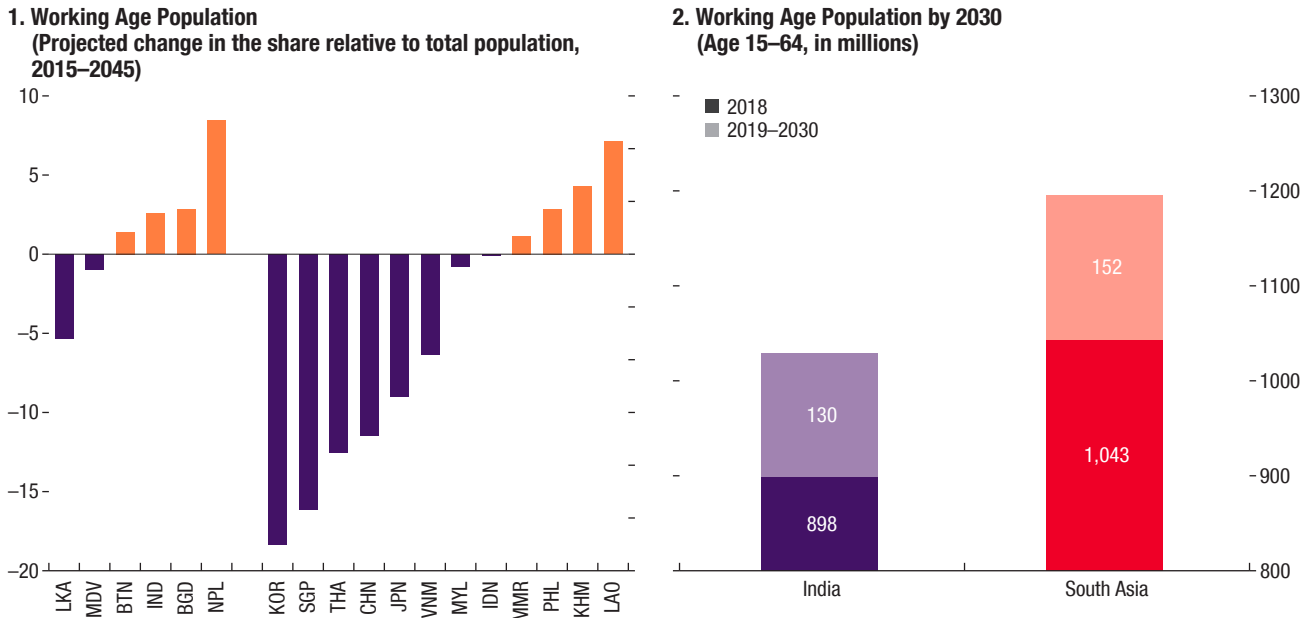
South Asia is the youngest and most densely populated region in Asia, with a median age of less than 27 years. In 2018, 1.5 billion people called South Asia home, of which 1.3 billion are in India and 165 million in Bangladesh, the second and the eighth most populous countries in the world, respectively. Working age population is projected to increase in the region over the next 20 years (Figure 7). The demographic dividend will be most enduring in India and Nepal, where the working age population is not expected to peak until around 2040, compared to Sri Lanka where it will start declining in 2020. Under the UN Population Prospects, more than 150 million people will enter the South Asian labor force by 2030—equivalent in size to the population of Russia or Mexico.

This young and large workforce can be South Asia's strength, if supported by a successful job-rich growth strategy. South Asia is poised to witness further improvements in living standards under the current baseline of strong and steady growth performance. Although at a slower pace than in the previous 20 years, per capita income could reach over 30 percent of the US level in Bhutan, India, the Maldives, and Sri Lanka by 2040, with Bangladesh and Nepal also catching up from their relatively lower initial income levels (Figure 8). However, such achievement relies on sustaining ongoing reform efforts and a steady improvement in productivity.<sup>1</sup> In particular, under a

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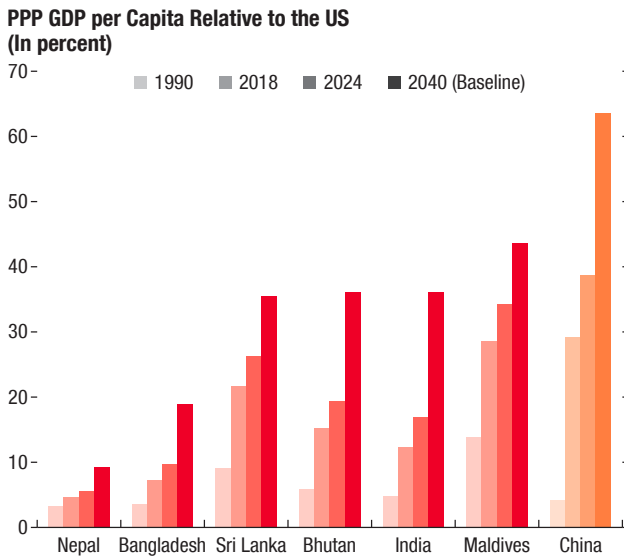
<sup>1</sup>Potential growth is estimated following a production-function approach, capital and labor growth based on the long-term demographic trends from the UN World Population Prospects database and IMF country teams'

Figure 7. Working Age Population



Sources: United Nations, Department of Economic and Social Affairs, Population Division (2017); IMF staff estimate.

Figure 8. South Asia: PPP GDP per Capita



Sources: IMF *WEO*, United Nations, and IMF staff calculations.

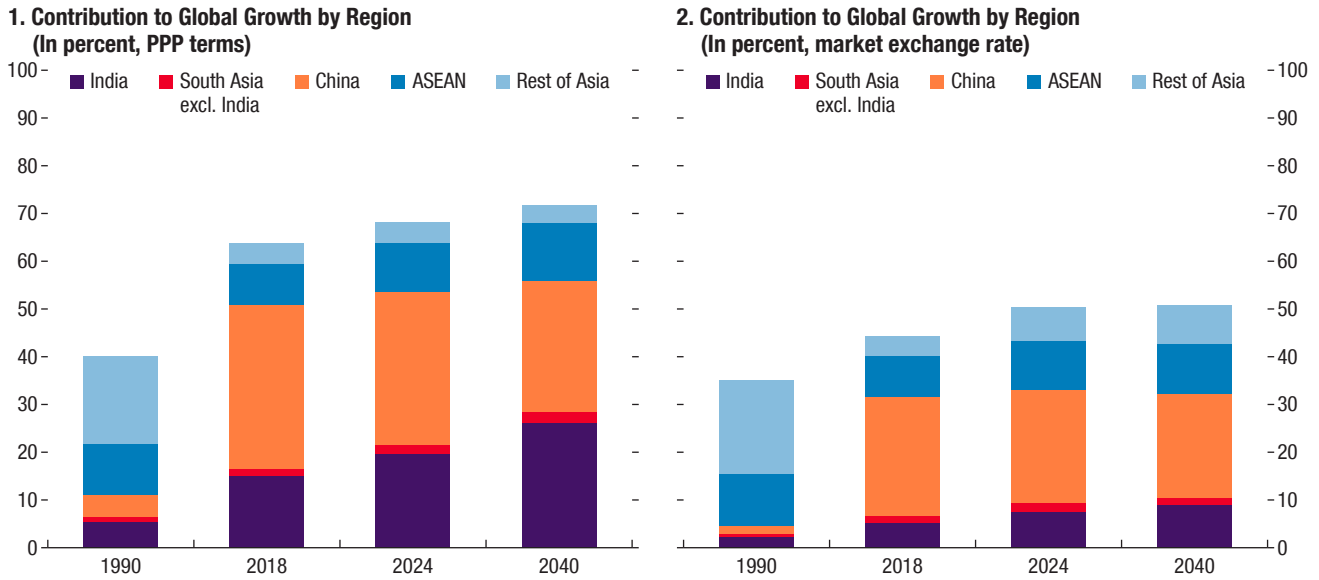
downside scenario in which South Asia is unable to tap on its demographic dividend to support growth,<sup>2</sup> the improvement in the region’s living standards would be slower, with the average per capita income in the region vis-à-vis the US level lower by about 4 percentage points compared to the baseline.

The region is also set to play an increasing role as an engine of growth

forecasts. Long-term projections for TFP growth are based on 5-year-ahead average estimates, implying gradual ongoing reform measures over the long term under the baseline scenario.

<sup>2</sup>The downside scenario assumes no growth contribution from the labor force via increases in working-age population, with proportional adjustments to the capital stocks.

Figure 9. South Asia: Long-term Contributions to Global Growth

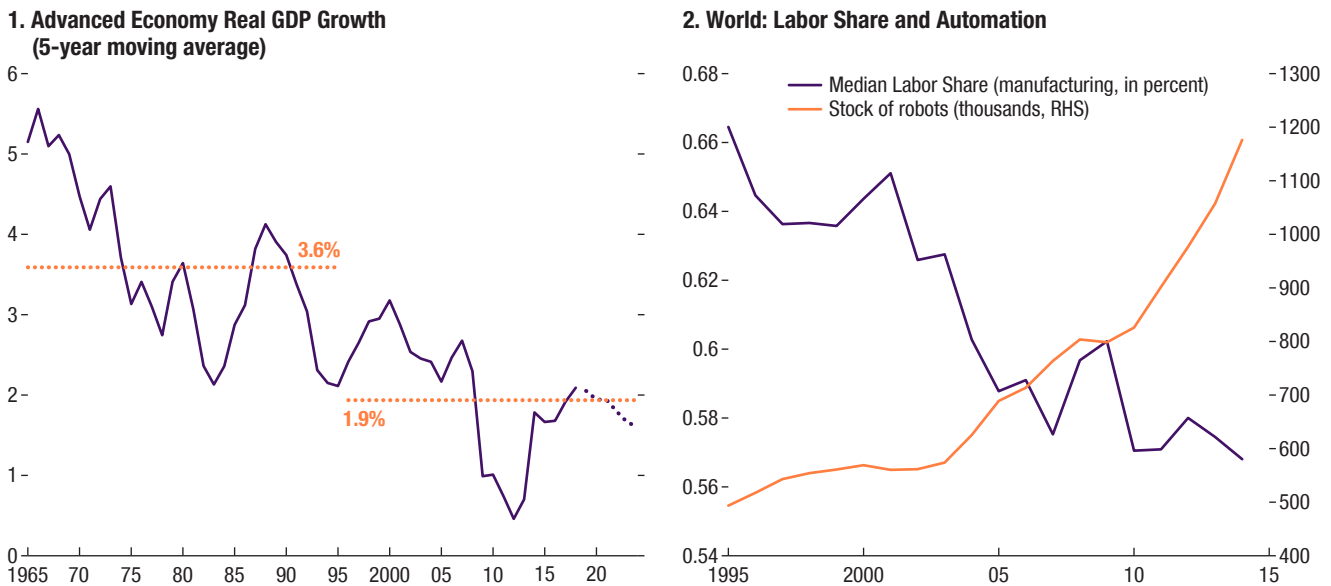


Sources: IMF, *World Economic Outlook*, and IMF staff estimates.  
 Note: Regional categories based on IMF classification, ASEAN = Association of Southeast Asian Nations.

in the global economy. India alone accounted for 15 percent of global growth in 2018 (in purchase power parity [PPP] terms). Building on the success achieved so far, the region is projected to contribute around 28 percent of global growth by 2040, under the current baseline, up from one-sixth in 2018 and one-tenth in 1990 (Figure 9). Even under a scenario where the demographic dividend does not yield the intended results (see Figure 33), the region would still account for about one-fourth of global growth, given the ongoing growth deceleration in more mature economies in Asia and globally.

In an evolving global environment, a successful growth strategy for South Asia would need to rely on a balanced, multipronged approach. Past success stories—in the Asian Tigers, South-East Asia, or China—relied on a combination of export-oriented and manufacturing-led growth to lift and diversify their economies. The shifting global landscape is leading even these countries to rethink their approaches. First, advanced economies are facing structurally weak growth of around 2 percent since the global financial crisis, from an average of 3.5 percent in the 1960s to the 1990s. As a result, South Asia will need to further diversify its trading partners and support domestic demand. Second, increasing automation while offering important opportunities also brings underlying risks in terms of labor force dislocation, making lower

Figure 10. Global Economic Landscape



Source: Spring 2019 WEO; World Input-Output database; International Federation of Robotics (2017).

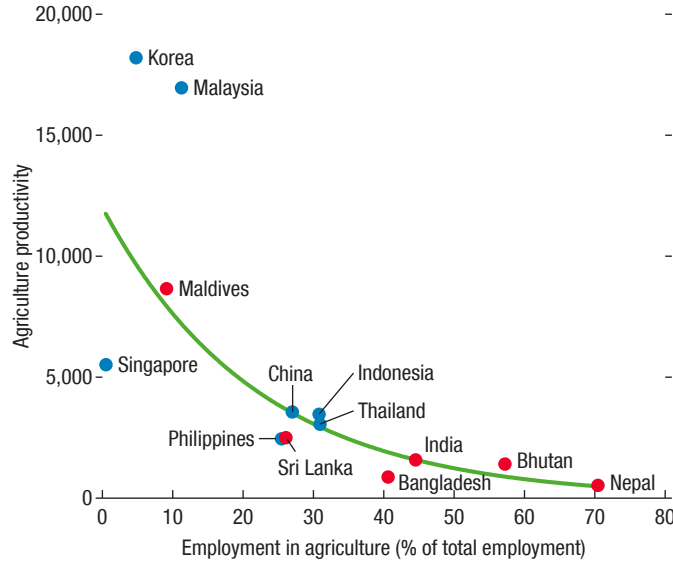
skilled jobs obsolete and depressing compensation of employees (Figure 10).<sup>3</sup> South Asia’s low-cost labor supply and relatively high cost of capital makes the move to highly automated capital-intensive processes less pressing and an approach solely focused on manufacturing is likely not to be enough to lift incomes in the region over the long term. A successful growth strategy would need to leverage on all sectors of the economy in a balanced way, upgrading the skills of the labor force and relying on the private sector to discover new growth opportunities.

First, improving agricultural productivity will be important to support the reallocation of labor resources to other more dynamic sectors while reducing rural distress. Since the 1990s, the region has witnessed some reduction in agricultural employment, as agricultural workers have been pulled away by better opportunities in other sectors, leading to improvements in agricultural productivity (Figure 11). Although this trend is expected to continue, a large share of the South Asian population is still employed in agriculture, mostly in the informal sector (see Chapter 4). In Bhutan and Nepal, up to 70 percent of workers are engaged in farming activities. In this context,

<sup>3</sup>The labor share, that is labor compensation divided by value-added in the manufacturing sector, is constructed using data for 43 advanced and emerging market economies from the World Input and Output database (WIOD). The global manufacturing employment share, defined based on the number of employees in the sector, also declined from 18 to 14 percent during 1995–2014, based on the WIOD.

Figure 11. Agriculture, 2017

Employment and Productivity of Agriculture



Source: World Bank Development Indicators.

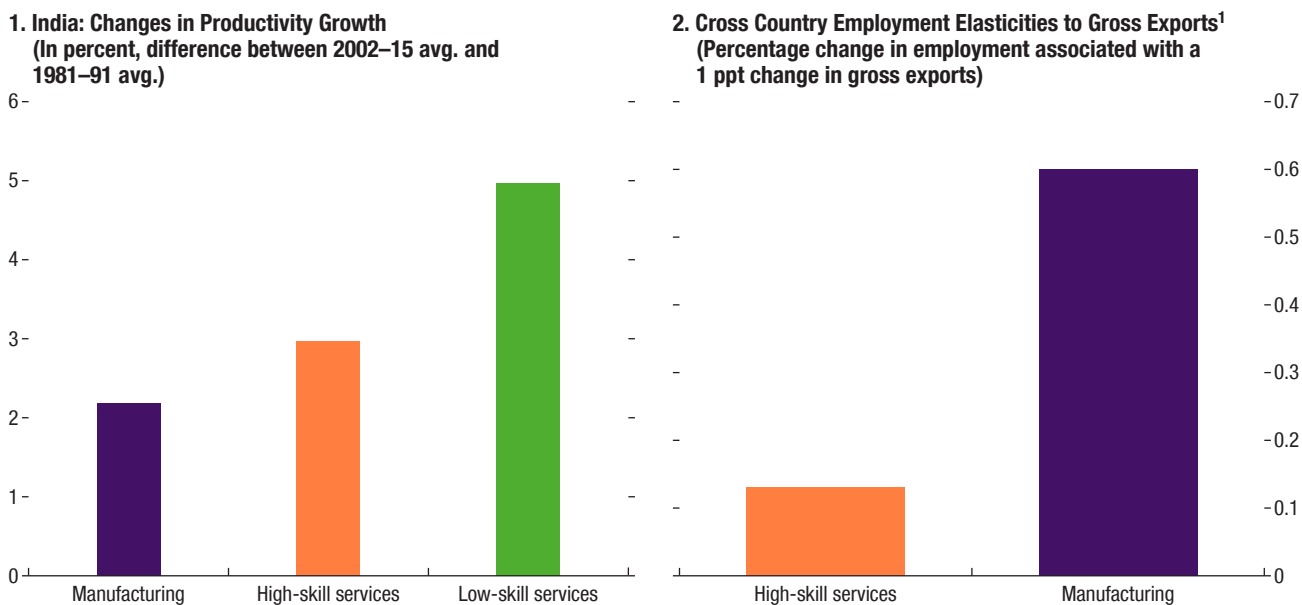
there is significant scope to further improve agricultural productivity to help reallocate resources to more dynamic sectors. For example, although India has made efforts to improve price discovery with the start of online marketplaces (e-NAM platform), more can be done to improve irrigation, storage facilities, and the functioning of the agricultural markets (*mandis*).<sup>4</sup> Land and water reforms would also be essential. These productivity enhancements would need to be accompanied by active labor market policies to facilitate retraining and lower search frictions. Better-quality jobs and higher living standards in rural areas would in turn further support productivity gains in agriculture.<sup>5</sup> The *Skill India* initiative is a step in this direction.

Second, the service sector should continue to be a key driver of growth, despite its lower contribution to employment growth. As discussed, services provided a large boost to export growth as South Asia diversified. In India, the ICT sector witnessed remarkable productivity increases, measured as real value added per worker (Figure 12). In Bhutan, the Maldives, Nepal,

<sup>4</sup>See Moussa and Sodsriwiboon (2018) and World Bank, *Enabling the Business of Agriculture* (<https://eba.worldbank.org/>), on best practices in regulations to support agriculture and agribusiness.

<sup>5</sup>Extreme poverty in rural India stands at 15 percent compared to 9 percent for urban areas, according to the WB Global Monitoring Database. Based on the NAFIS Financial Inclusion Survey, farm households with outstanding debt increased from 23 percent in 1992 to 52 percent in 2016, with average debt roughly equal to annual income.

Figure 12. Productivity and Employment Elasticities Across Sectors

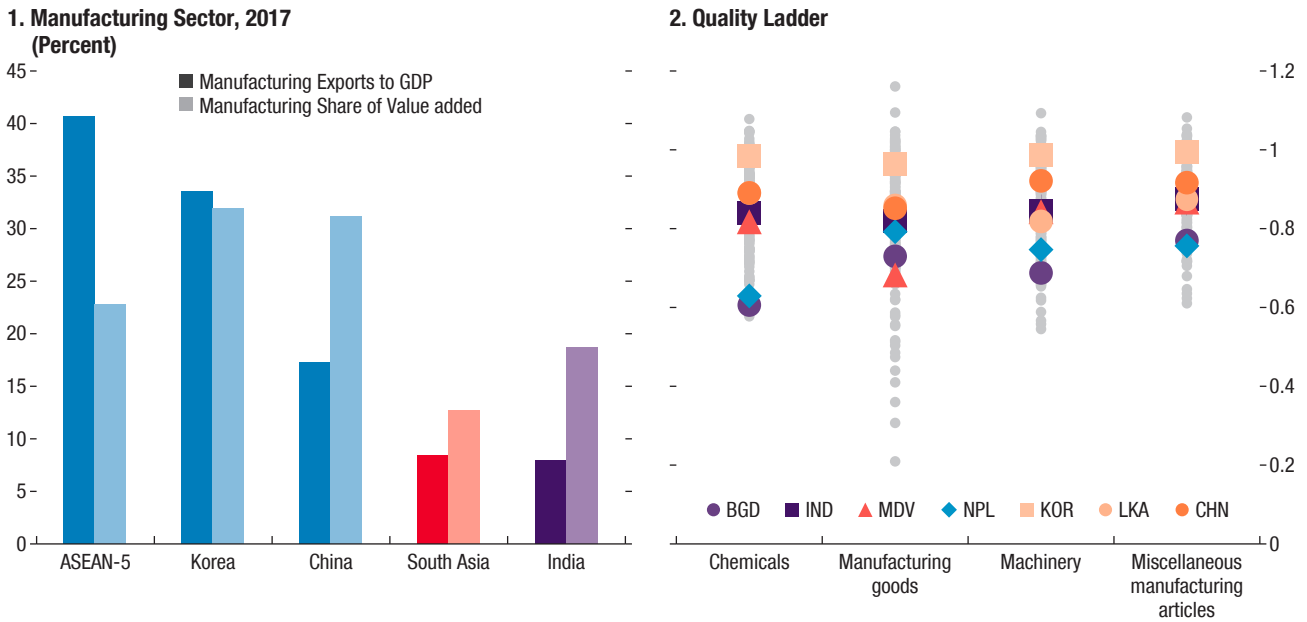


Sources: Reserve Bank of India, KLEMS database; IMF staff estimates.  
 ¹Employment elasticities are derived from ARDL estimates, controlled for GDP growth and other labor market characteristics. Exports data are from TiVA, and employment data are from WIOD. Panel data include 43 countries from 2000 to 2016.

and Sri Lanka, export growth was primarily driven by tourism, with some ICT. That said, the high-skill service sector alone cannot create enough jobs while low-skill service jobs are concentrated in low-paid informal work. In India, services’ contribution to employment growth was 0.3 percentage points in FY2016, for a contribution to GDP growth of about 60 percent. This is consistent with estimates in Misra and Suresh (2014), which find that India’s employment elasticity to service sector output is not significant. Cross-country estimates of employment elasticities to gross exports suggest that a more substantial boost to employment could come from increasing manufacturing exports.

Finally, manufacturing, if expanded sustainably, could complement services in creating job-rich growth. There is substantial scope to expand manufacturing in South Asia, where exports account for only 8 percent of GDP on average, lifted by Bangladesh where they reach 14 percent. New manufacturing production could come from quality upgrades within existing product baskets, together with efforts to improve skilled labor and facilitate labor mobility. Figure 13 shows that South Asia has a lot of room to climb up the global quality ladder, calculated as the unit value of exported goods adjusted for differences in production costs and for selection bias stemming from relative distance (Henn, Papageorgiou, and Spatafora 2013). Producing higher

Figure 13. Role and Quality of Manufacturing Products



Sources: World Development Indicators; and IMF staff calculations; IMF (2014).

quality varieties of existing products, building on comparative advantage, is easier than diversifying into completely new areas (Annex 3). For example, in Bangladesh, the complexity of the ready-made garment industry, which accounts for over 80 percent of total exports, remains relatively low. In India, there is scope to further close the technology gap in the auto component industry (see Annex 2).

To sum up, a high-quality, job-rich growth strategy is needed in South Asia, leveraging on its demographic dividend and comparative advantages. To create more and better jobs, South Asia needs to invest in people and continue the reform efforts to support private sector-led investment and a more efficient allocation of resources. The next chapter covers the key elements of a reform agenda to achieve these goals.



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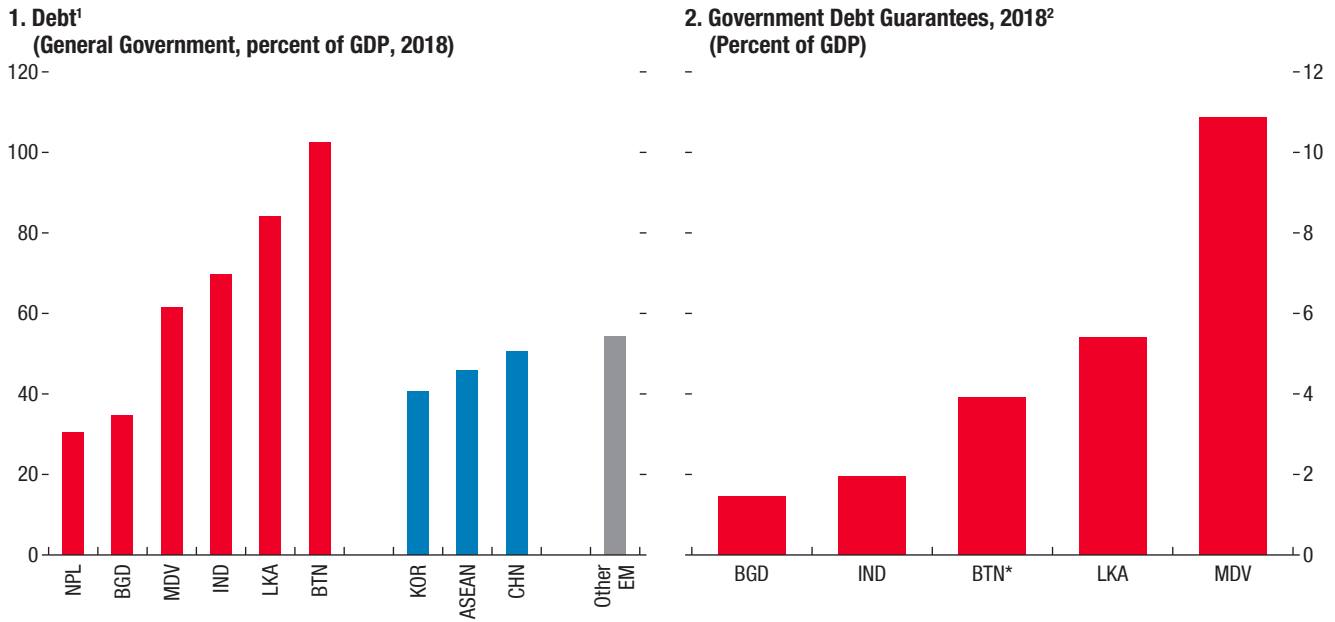
## Fostering Sustainable and Inclusive Growth

### Making Policy Space for Reform

*Securing macroeconomic and financial stability is a key prerequisite to maintaining a stable and predictable economic environment that generates investment opportunities, jobs, and sustainable income gains across the population. There is a pressing need to advance revenue-based fiscal consolidation in the region to lower high public debt and make space for critical spending, while easing the footprint of the state and supporting private sector credit and capital market development.*

Fiscal consolidation needs to advance to lower the high public debt levels and allow for an easing of fiscal dominance and financial repression in most South Asian economies. Fiscal deficits and public debt levels are elevated, and well-above ASEAN and emerging market peers, notably in Bhutan, Sri Lanka, India, and the Maldives, calling for sustained fiscal consolidation efforts to reduce them to safer and sustainable levels over the medium term (Figures 14 and 15). Fiscal consolidation is also critical to enable a gradual phasing-out of financial repression in some of the main economies. In India, banks are required, under the Statutory Liquidity Requirement, to hold a substantial portion of their assets (19 percent at present) in cash, gold, government securities, and state development loans to finance the fiscal deficit. In Bangladesh, reliance on national saving certificates to finance a large share of the fiscal deficit poses an important obstacle to capital market development. Lower reliance on these instruments, which can safely proceed only if the debt burden is reduced, would help price stability and lower the cost of credit for the private sector. Transparent and prudent management of contingent liabilities stemming from public investment projects, public–private partnerships, state-owned enterprises, and other off-budget expenditures is also critical to ensuring public debt sustainability, especially in Sri Lanka and the Maldives.

Figure 14. Public Debt

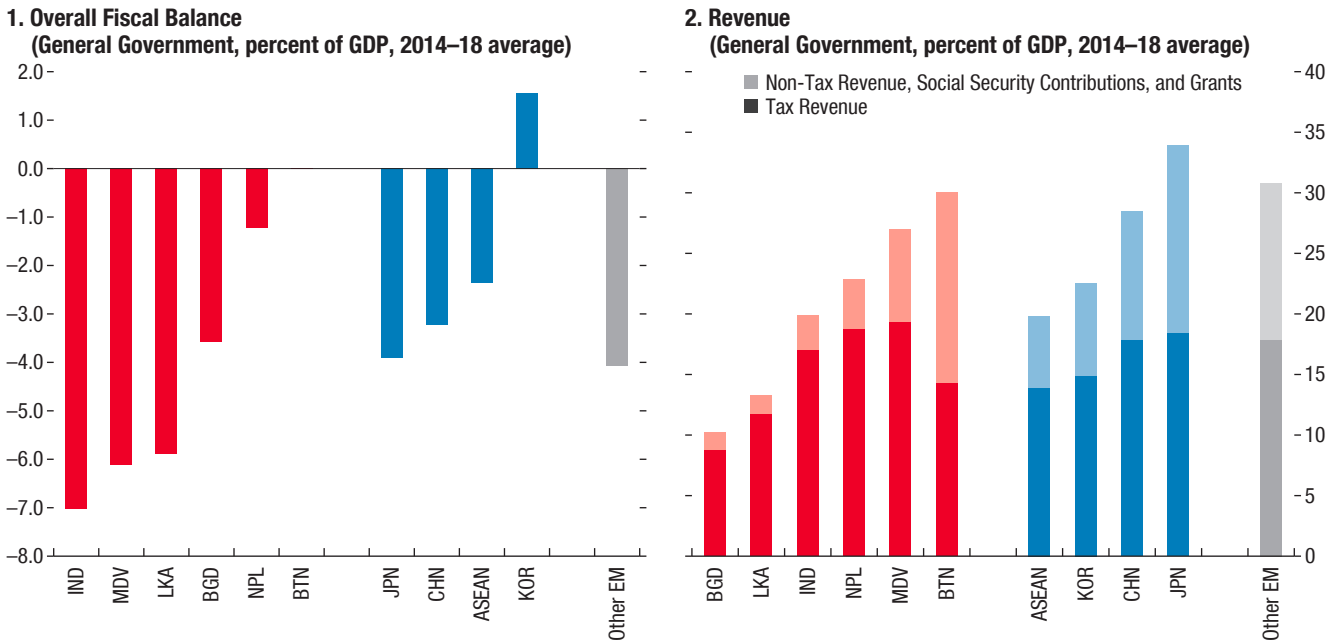


Source: IMF, *World Economic Outlook*; CEIC; Authorities' data; and IMF staff estimates.

<sup>1</sup>Public debt excludes guarantees.

<sup>2</sup>The data for BTN includes Druk Holding.

Figure 15. Fiscal Position



Source: IMF World Economic Outlook.

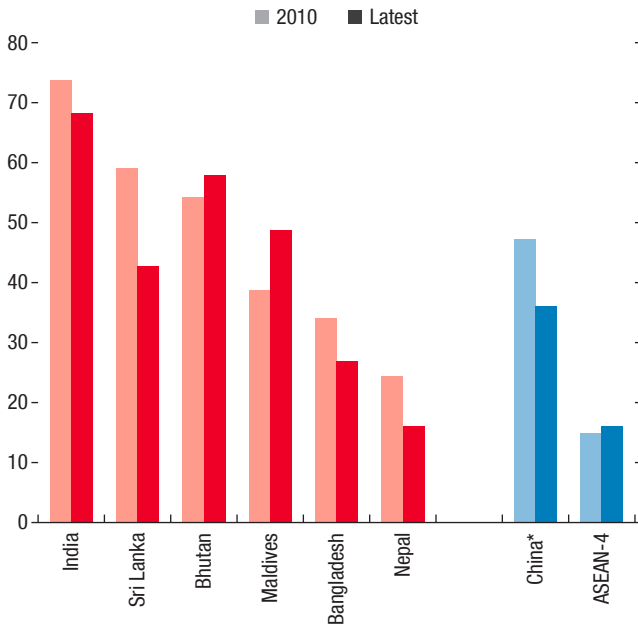
Greater revenue mobilization can support fiscal consolidation efforts while making space for critical social and investment spending to ease the adjustment process. Tax revenues in some South Asian economies remain low by international standards, notably in Bangladesh and Sri Lanka, with scope to broaden the tax base, improve tax efficiency, streamline tax exemptions, and strengthen tax administration (Figure 15). Recent important steps to improve the tax system include the introduction of the goods and services tax (GST) in India in 2017, and the value-added tax reform and overhaul of the income tax regime in Sri Lanka in 2016–18. In addition, Bangladesh is modernizing its value-added tax in 2019 while Maldives plans to introduce a personal income tax in 2020. Revenue mobilization and rationalization of nonessential expenditure can help reduce high fiscal deficits and public debt levels in some South Asian economies while making space for critical social and investment spending. This is essential to smooth the adjustment costs of the structural transformation process, especially on the most vulnerable segments of the population and make growth more inclusive. It can also provide alternative revenue sources to reduce still elevated tariffs and paratariffs in many countries while preserving debt sustainability (Chapter 5).

Excessive reliance on state-owned bank lending to finance investment can lead to inefficiency and resource misallocation. State-owned banks play an important role in financing private and public investment in South Asia, also compared to peers (Figure 16). Empirical work suggests that high reliance on state banks' lending is often associated with a deterioration in the quality and efficiency of financial intermediation and resource misallocation (World Bank 2013), higher credit to the public sector, and weaker fiscal discipline (Gonzalez-Garcia and Grigoli 2013). State-owned banks also tend to have weaker performance compared to private and foreign banks (Cull and others 2017). These dynamics seem to be at play in South Asia, notably in Bangladesh and India, where capitalization levels and profitability are significantly lower in state-owned banks relative to private financial institutions. This has in turn impacted credit provision to the economy leading to excessive reliance on nonbank financial institutions, with new regulatory and supervisory challenges.

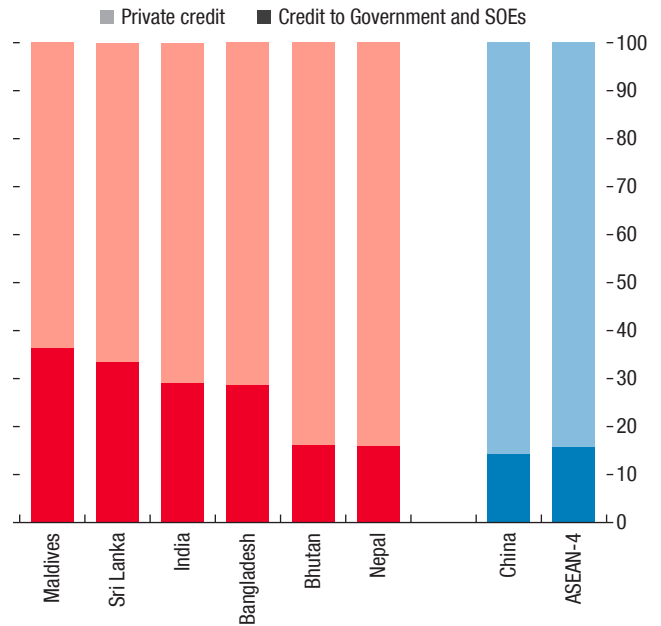
Addressing financial system weaknesses is key to ensuring efficient credit provision and safeguarding financial stability. Credit in the region has grown at a median pace of about 15 percent in recent years (Figure 17). Rapid credit growth can result in a buildup of risks in the financial system and lead to fiscally costly bank and corporate restructurings as was the case for example during the Asian crisis in the 1990s. At the same time, credit to the private sector accounts for about 50 percent of GDP on average in South Asia, well below regional peers, suggesting scope for further financial deepening. South Asia can prevent financial risks and ensure a sustainable credit provision by

Figure 16. Footprint of the State in the Financial System

1. South Asia: Share of Public Sector Bank Assets (In percent of total bank assets)



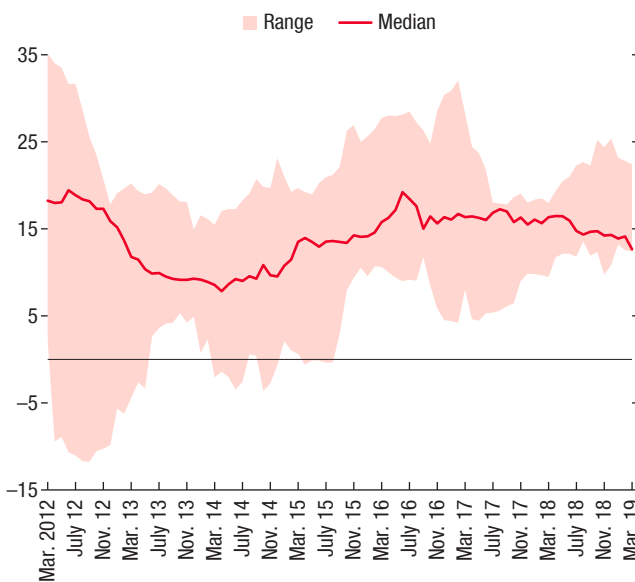
2. Composition of Credit (In percent, 2017)



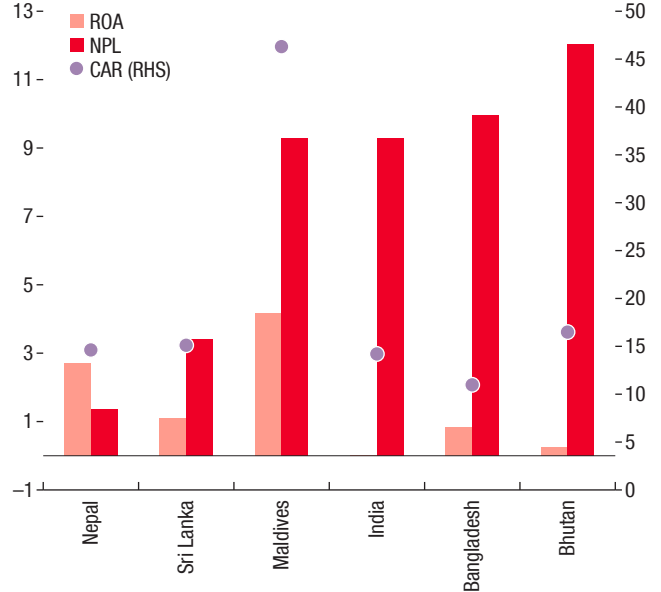
Sources: Banking Regulation and Supervision Survey; India 2017 FSAP report; Bangladesh Bank; Nepal Rastra Bank; Royal Monetary Authority of Bhutan; IMF *World Economic Outlook*; IFS; and Finstat.  
\*The share of the large four SOBs.

Figure 17. Financial Sector Indicators

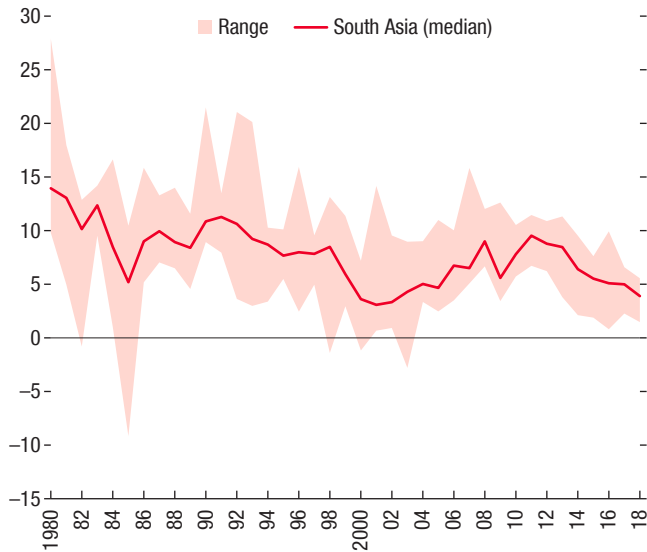
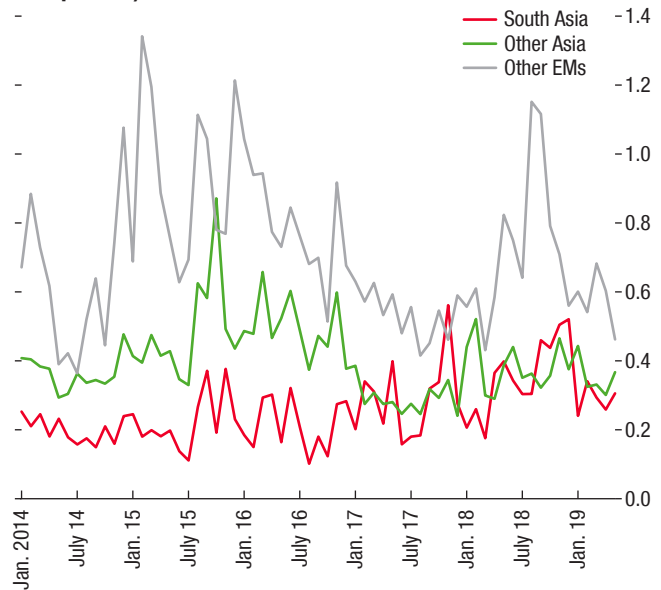
1. South Asia: Private Sector Credit Growth (In percent)



2. South Asia: Financial Soundness Indicators (In percent)



Source: IMF staff calculations; FSI.  
Note: Bangladesh, Nepal (2018 Q2); Bhutan (2018 Q3); Sri Lanka (2018 Q4); India, Maldives (2019 Q1).

**Figure 18. Inflation and Exchange Rate Flexibility****1. South Asia: Inflation Range  
(In annual percent change)****2. Exchange Rate Flexibility<sup>1</sup>  
(Monthly average of 14 days rolling standard deviation, in percent)**Source: IMF, *World Economic Outlook*.<sup>1</sup>South Asia countries include India, Bangladesh and Sri Lanka.

addressing financial sector weaknesses and strengthening prudential policies while reducing the footprint of the state in the economy. Nonperforming loans remain elevated in Bangladesh and Bhutan and just below 10 percent of total loans in India and the Maldives—with higher levels in state-owned banks. In India, important steps have been taken to improve the recognition of nonperforming assets, recapitalize public sector banks, and implement the new insolvency and bankruptcy code, whereas ensuring strict enforcement of regulatory measures remains a challenge in Bangladesh. Other countries in the region, like Nepal and Sri Lanka, are also taking actions to enhance financial regulation and supervision of banks and nonbanks, upgrade the resolution framework, and establish effective macroprudential policies.

These policy efforts are key to supporting the important progress achieved in the larger economies in strengthening monetary frameworks and enhancing exchange rate flexibility. South Asia has been successful in lowering inflation in recent years toward mid-single digits thanks to prudent policies and the decline in global inflation (Figure 18). This is especially relevant for the poorest segments of the population, who have fewer means to protect themselves against the inflationary erosion of their incomes. As part of the moderniza-

tion of monetary policy frameworks, India adopted flexible inflation-targeting in 2015,<sup>1</sup> whereas Sri Lanka is on track to adopt it by 2020, with major changes to the central bank law to strengthen its mandate and independence. Bangladesh also intends to transition from monetary aggregate to interest rate targeting. The upgrade in the monetary policy frameworks will also require developing deeper domestic money markets to enhance monetary policy transmission. Efforts in these countries should also be supported by greater exchange rate flexibility, to foster external competitiveness and facilitate adjustment to shocks, while developing foreign exchange and local currency markets over the long term, including through a wider range of hedging instruments. In countries with exchange rate anchors,<sup>2</sup> modernization efforts should focus on strengthening liquidity and interest rate management as well as increasing central banks' operational autonomy.

## **Supporting Private Sector Entrepreneurship**

*To create more and better jobs, South Asia needs to step up its reform efforts to support private sector-led investment and a more efficient allocation of resources. The region can further open to trade and foreign direct investment, improve infrastructure, and foster financial development while strengthening governance and remaining mindful of fiscal, financial, and environmental risks.*

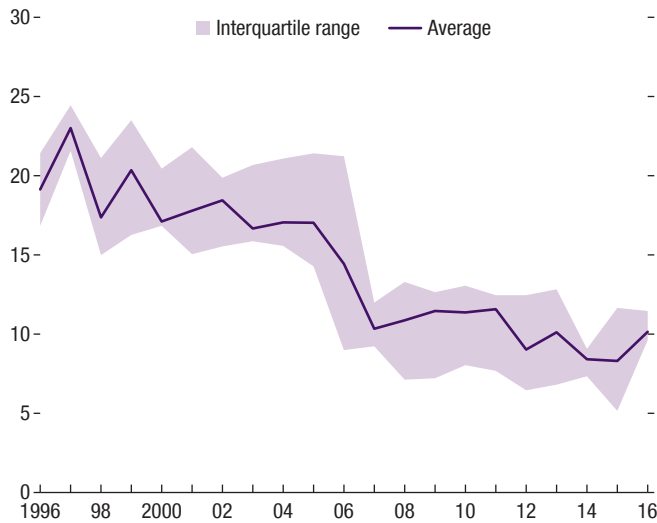
Opening further to trade and FDI can support diversification and further integrate South Asia into the global economy. The region has made important progress in trade and FDI liberalization over the last decades, including through tariff reductions and relaxation of foreign investment regulation in different sectors. Nevertheless, the region's average tariff rate remains relatively high, at 10 percent in 2016, with significant nontariff barriers, including cumbersome trade documentation and long processing times (Figures 19 and 20). On the investment side, caps in India, negative lists in Bhutan, and complex approval systems in Nepal tend to constrain FDI. Recent liberalization steps in India have included a further relaxation of FDI caps and greater use of the automatic approval process. In Sri Lanka, 1,200 paratariffs have been removed since 2017, in parallel with fiscal efforts to offset revenue losses and maintain sustainable fiscal finances. Further trade openness in South Asia would support more competitive and diversified export sectors, facilitating integration into global supply chains. The gains from trade liberalization are considered in Chapter 5.

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<sup>1</sup>See Anand and Cashin (2016).

<sup>2</sup>Bhutan and Nepal are pegged to the Indian rupee, whereas Maldives is pegged to the US dollar, with a horizontal band.

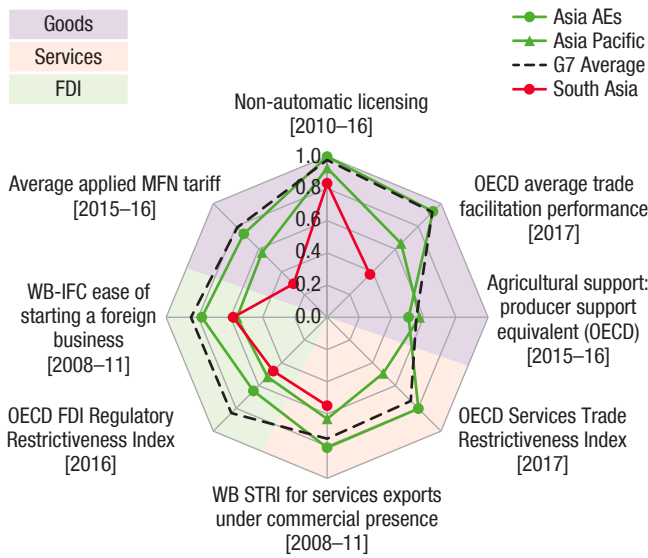
**Figure 19. South Asia: Tariffs**  
(In percent)



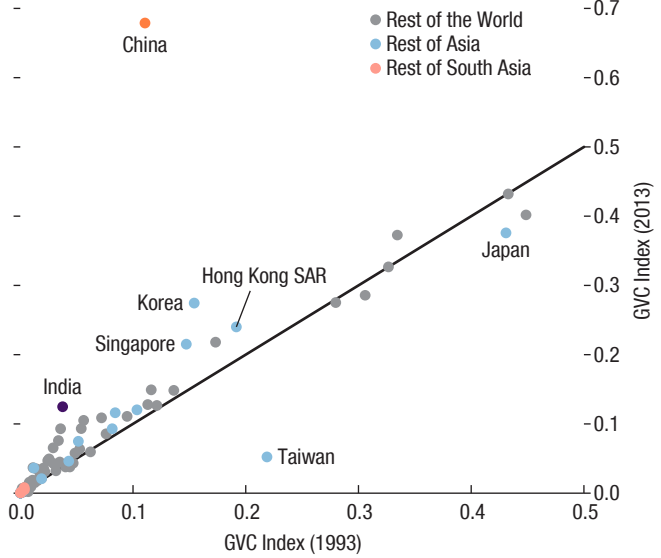
Sources: World Bank, World Integrated Trade Solution database; and IMF staff calculations.  
Note: South Asia includes Bangladesh, Bhutan, Maldives, India, and Nepal.

**Figure 20. Trade Indicators**

**1. Overall Trade and FDI Regime<sup>1</sup>**  
(Year of data in square brackets; Higher means less barriers)



**2. Global Value Chain Integration<sup>2</sup>**  
(1993 vs. 2013, Index, USA = 1)

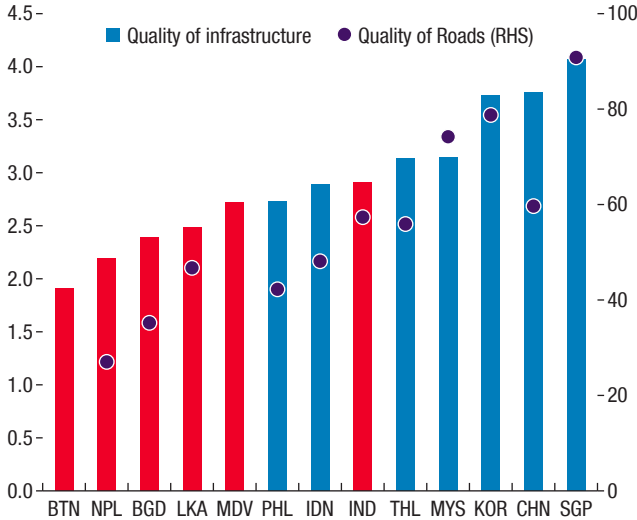


Sources: WTO, World Tariff Profiles; UNCTAD TRAINS and COMTRADE; OECD; WB STRI; World Bank; Global Trade Alert; Haver Analytics and IMF staff calculations.  
<sup>1</sup>The indicators reflect no judgement as to WTO compliance of underlying measures, nor whether certain measures are an appropriate response to the action of other countries. The ease of starting business indicator is perception-based as part of an established IFC survey process. Please see IMF (2018b) for details.  
<sup>2</sup>GVC Index is defined as the sum of backward and forward linkages relative to the US.

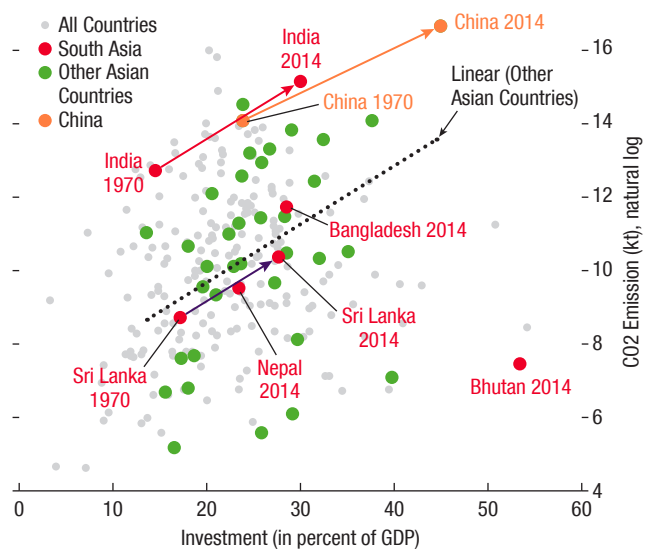


Figure 21. Infrastructure and Environmental Sustainability

1. Quality of Infrastructure



2. CO2 Emissions and Investment, 1970–2014

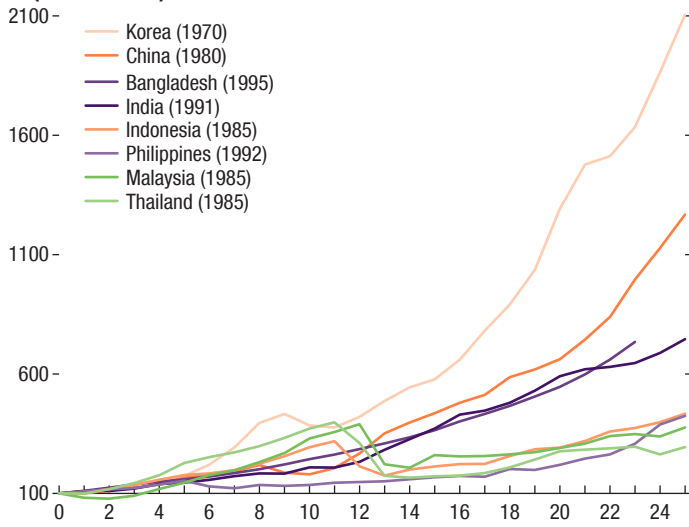


Sources: World Bank Logistics Performance Index; World Economic Forum; World Development Indicators.

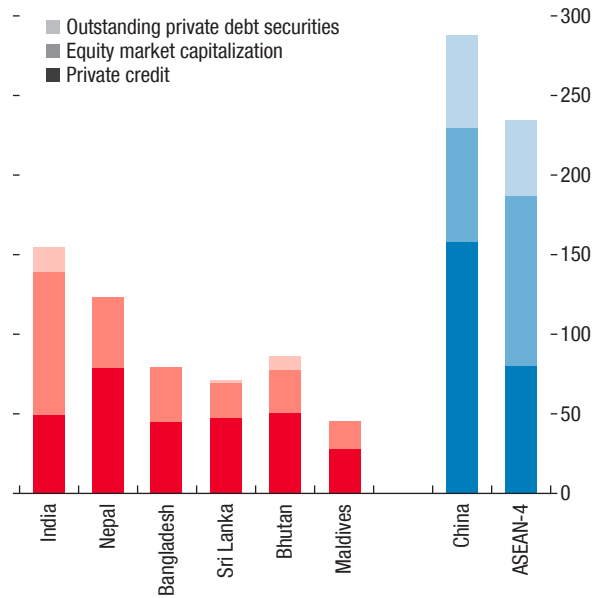
Improvement in infrastructure can support economic activity while being mindful of environmental sustainability. Inadequate infrastructure hinders productivity and discourages private investment in many South Asian countries. Frequent power interruptions in Bangladesh lead to increased production costs in the garment sector and inadequate ports reduce competitiveness, whereas road and air connectivity constrains tourism and economic activity in Nepal and Sri Lanka. Rapid development will require large investments in infrastructure across the region, including in energy, transport, water, and urban services, facilitated by land reforms, especially in India. However, infrastructure investment can be associated with larger greenhouse gas emissions (Figure 21). According to the *2016 New Climate Economy Report* and Bhattacharya and others (2016), the existing stock of infrastructure and its use are associated with more than 60 percent of the world’s total greenhouse gas emissions, with nearly two-thirds of emissions attributed to the energy sector (International Energy Agency 2012), from the consumption of fossil fuels in power, transportation, and industrial sectors. Policies and regulatory frameworks are therefore needed to safeguard the environment. Energy pricing reforms, like those implemented in India and Sri Lanka, can create incentives to reduce energy overconsumption and develop renewable energy sources.

Figure 22. Investment and Financial Development

1. Real Gross Fixed Capital Formation Index, Years from Reform Commencement (Year 0 = 100)



2. South Asia: Financial Depth (In percent of GDP, 2018 or latest)



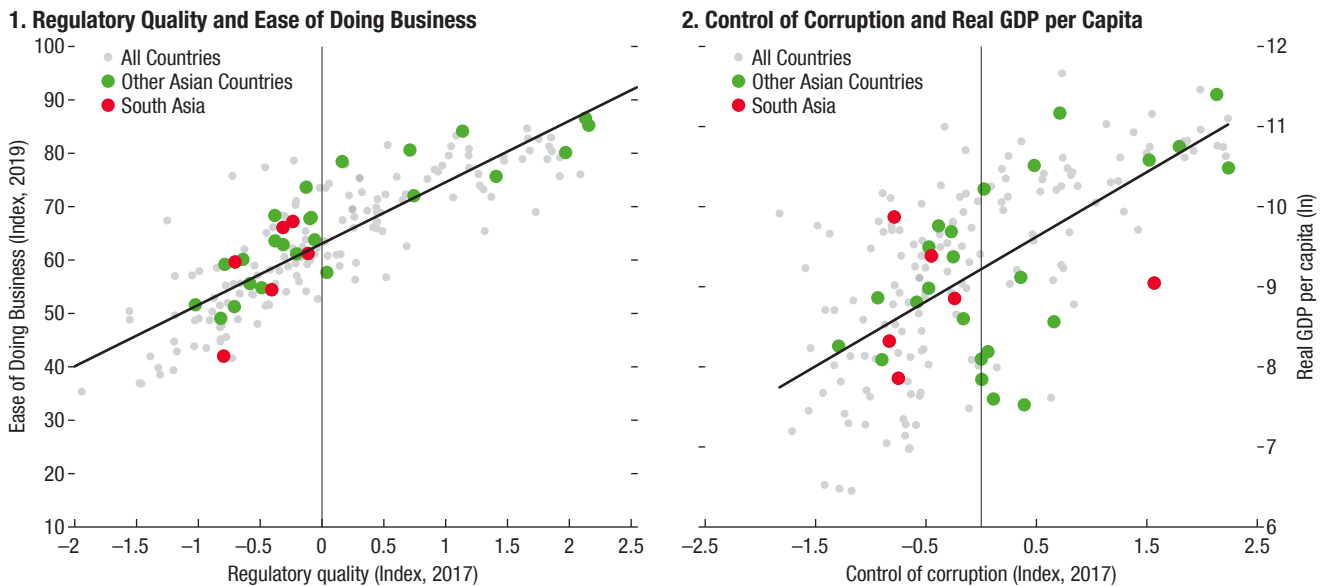
Sources: World Economic Outlook database; IMF staff calculations; IFS; FinStats.

This is especially important for South Asia as it is one of the most affected regions by climate change in the world (Mani and others 2018).<sup>3</sup>

Fostering financial development is key to supporting the region’s large investment needs. Sustaining rapid development requires large investments. Capital formation in South Asia has accelerated broadly in line with the experience in peer countries (Figure 22). Although governments have increased capital spending, notably in infrastructure, given limited fiscal space, these resources need to be supplemented by private investment. Some countries, like the Maldives and Sri Lanka, have embarked on public–private partnerships (PPPs) to undertake large-scale projects while strengthening public financial and investment management frameworks to ensure rigorous project appraisal and selection as well as fiscal affordability. In India, the creation of special purpose vehicles to acquire land and obtain relevant permits and licenses have helped attract FDI inflows to support large investment projects. Nevertheless, as discussed earlier, there is still significant scope for South Asia to reduce the footprint of the public sector in the economy and mitigate quasifiscal risks while ensuring greater market discipline and competition. In this context,

<sup>3</sup>Given South Asia’s vulnerability to major natural disasters, developing disaster resilience strategies will also be critical for sustainable growth in the region (IMF 2019).

Figure 23. Business Environment<sup>1</sup>



Sources: World Bank Doing Business Indicators; Worldwide Governance Indicators; and IMF staff estimates.

<sup>1</sup>The Worldwide Governance Indicators dataset summarizes views and perceptions provided by a large number of survey respondents. Lower index values denote a lower perceived level of the quality of the corresponding governance indicator by survey respondents. The ease of doing business is also a perception-based indicator, as part of an established IFC survey process, and may not represent a comprehensive measure of the business environment. These indicators do not reflect the IMF’s assessment of the quality of governance or the business environment.

more focus on disinvestments and privatizations of state-owned banks can foster governance and efficiency gains. There is also need for further development of South Asia’s financial sector—which remains relatively shallow vis-à-vis regional comparators and largely bank-based—and deeper capital markets to spur private entrepreneurship and effectively mobilize long-term capital for investment.

In this context, sustained governance reforms are critical to creating an enabling business environment for private investment and growth. Stronger governance improves the business environment by strengthening the effectiveness of state functions and government policies, which in turn helps boost investment and income. Perception-based indicators suggest that, as other peers, South Asia still has scope to further improve governance, including by fighting corruption, enhancing regulatory quality, and increasing government effectiveness, which would contribute to increasing private investment and boosting productivity (Figure 23). The region should also continue simplifying business regulations, streamlining the investment approval process, upgrading anticorruption and anti-money laundering/counter-financing of terrorism frameworks, as warranted, improving fiscal and state-owned enter-

prise governance, and strengthening the rule of law, building on the progress made in recent years.

## Investing in People

*To achieve sustainable and inclusive growth, South Asia also needs to prepare the workforce for the challenges of the twenty-first century. This would include investing in human capital, empowering women, and supporting the youth, while addressing informality. Greater financial inclusion and stronger social safety nets can support this process, leveraging new technologies and digitalization.*

Investing in human capital has a strong growth yield. Human capital encompasses the knowledge, skills, education, and health of a country's working age population. Increasing human capital improves productivity and is key for sustained economic growth, particularly in the context of rapid technological change.<sup>4</sup> Although spending in education in South Asia is broadly in line with peers, there is scope to improve its coverage and quality—from primary education to vocational training, together with public health. For example, although India's investment in tertiary education has been associated with strong growth in the high-skilled service sector, it should be complemented by an increase in spending directed at primary education to broaden access to quality education and boost literacy across the country, including for young girls. Greater efforts on research and development by the public and private sectors could also generate high returns, given South Asia's still large distance from the technological frontier, if accompanied by improvements in education, stronger research institutions, and university–industry collaboration (Figure 24).<sup>5</sup>

Adopting digital technologies is key to preparing the workforce for the challenges of the new economy. New technologies are changing the way we live and work and can be a powerful tool to support growth and poverty reduction, enhancing productivity and business opportunities, through greater access to information and a wider range of goods and services at lower prices. Although digitalization and financial technologies have grown in South Asia, a large share of the population still lacks internet access (Figure 25). To foster adoption of new technologies, South Asia needs to invest in telecommunications infrastructure to expand internet access and enhance digital literacy.

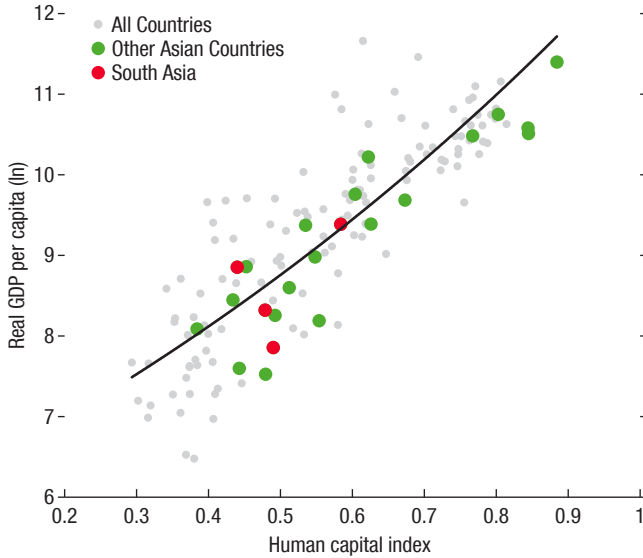
South Asia stands to gain from catching up with regional peers on financial inclusion, including through greater use of fintech. Lack of access to a formal

<sup>4</sup>See seminal papers by Barro (2001) and Lucas (1990). Research by Atolia and others (2017) highlights trade-offs between the long-run growth yields from human capital investment and short-run ones from physical capital investment.

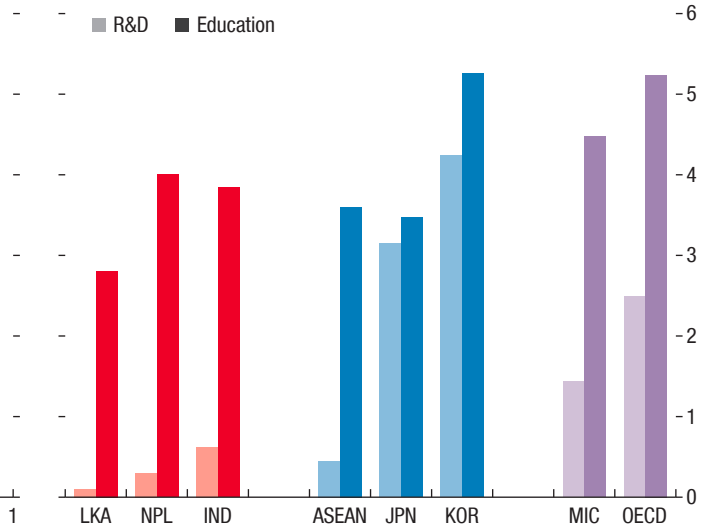
<sup>5</sup>See Griffith, Redding, and Van Reenen (2004) and Goni and Maloney (2017).

Figure 24. Human Capital

1. Human Capital and Real GDP per Capita



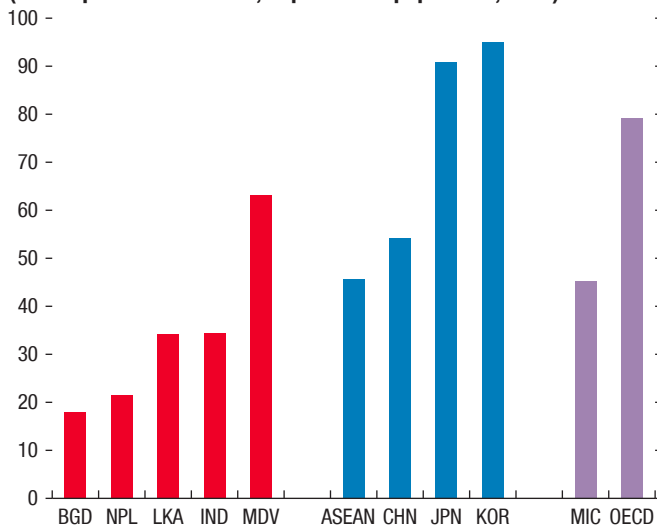
2. R&D and Public Education Spending (In percent of GDP, 2017 or latest value available)



Sources: World Bank; and IMF World Economic Outlook; World Bank World Development Indicators and Country Authorities.

Figure 25. Internet Access

Internet Use (Within past three months, in percent of population, 2017)



Source: World Bank World Development Indicators.

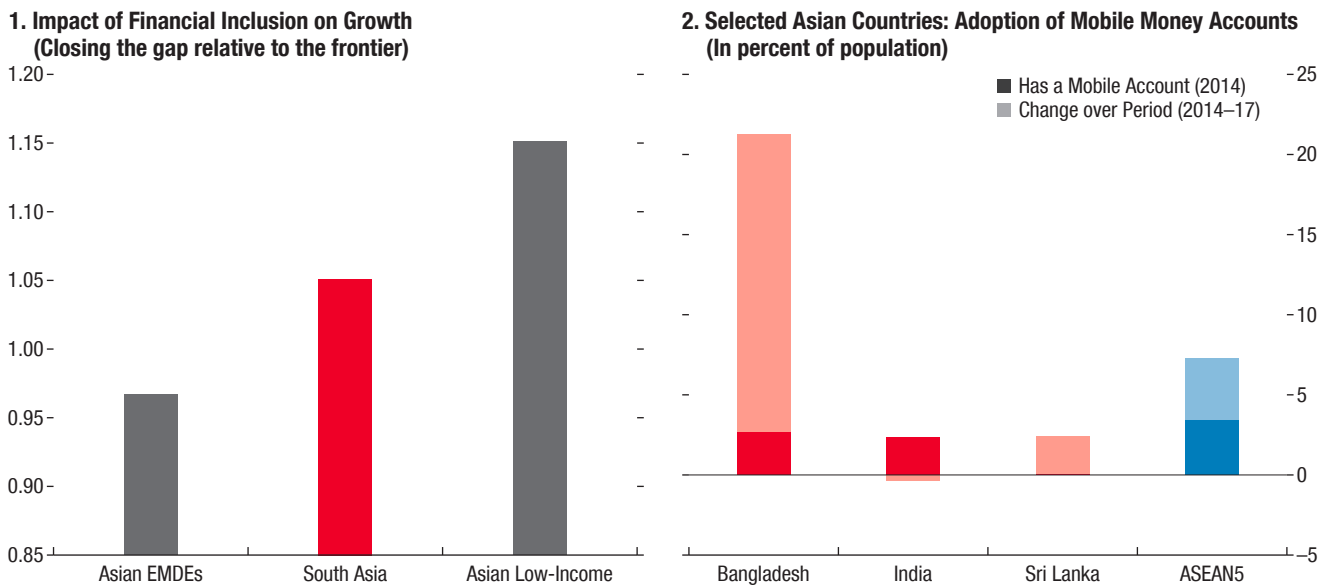
financial system can result in suboptimal savings and investment. Policies that foster financial inclusion can therefore help ease financing constraints, boost investment and consumption, increase income levels, and correct market failures (Figure 26).<sup>6</sup> Strategies in this direction are already in place in the region, aided by the adoption of digital payments, mobile banking, and other fintech applications, to boost productivity. In India, “no frills” accounts have reached over 300 million people, under a scheme introduced in 2014 to expand access to financial services, including accounts for savings and remittance receipts. In Bangladesh, mobile money

<sup>6</sup>The impact of financial inclusion on growth is based on IMF (2018a) and estimated from a panel regression of 188 countries between 1990 and 2016. The financial inclusion measure is derived from a composite index of indicators from the IMF Financial Access Survey database.

accounts have grown rapidly and facilitate receipt of domestic remittances while government and private sector–led programs are helping to increase financial literacy. Nepal launched a financial inclusion action plan in 2018. Improving financial and technology literacy should also be a priority.

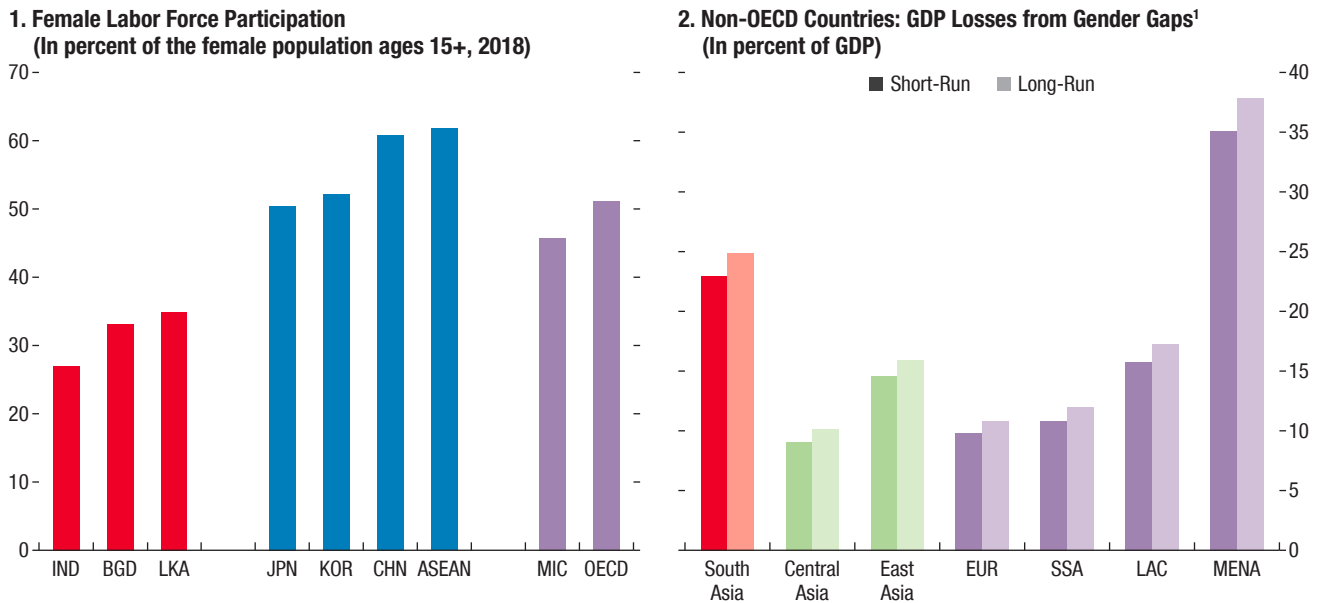
South Asia’s economies can also benefit significantly from reducing the still large gender gaps. Female labor force participation (FLFP) ranges from 35 percent in Sri Lanka to 23 percent in India, significantly below peer countries like China and ASEAN, where it stands well above 60 percent (Figure 27). Moreover, although FLFP has been steadily rising in Bangladesh, it is on a declining trend in India, from 43 percent in 2005. Higher FLFP could generate significant income gains by increasing economic efficiency, helping South Asia boost its economic growth potential. For example, Cuberes and Teignier (2016), simulating an occupational choice model, show how misallocation of women in the labor force—from frictions that may reflect discrimination, differences in optimal choices of women, or other demand and supply factors—can result in significant income losses. In their analysis, the South Asian region shows the second-largest income loss due to gender gaps, after the Middle East and North African (MENA) region, at 23 percent in the short run and 25 percent in the long run (Figure 27), with almost 40 percent due to occupational gaps. At the country level, Khera (2018) uses a dynamic stochastic general equilibrium model to show

**Figure 26. Financial Inclusion and Fintech**



Sources: IMF, *World Economic Outlook*; World Bank Global Findex; and IMF staff calculations.

Figure 27. The Cost of Gender Gaps

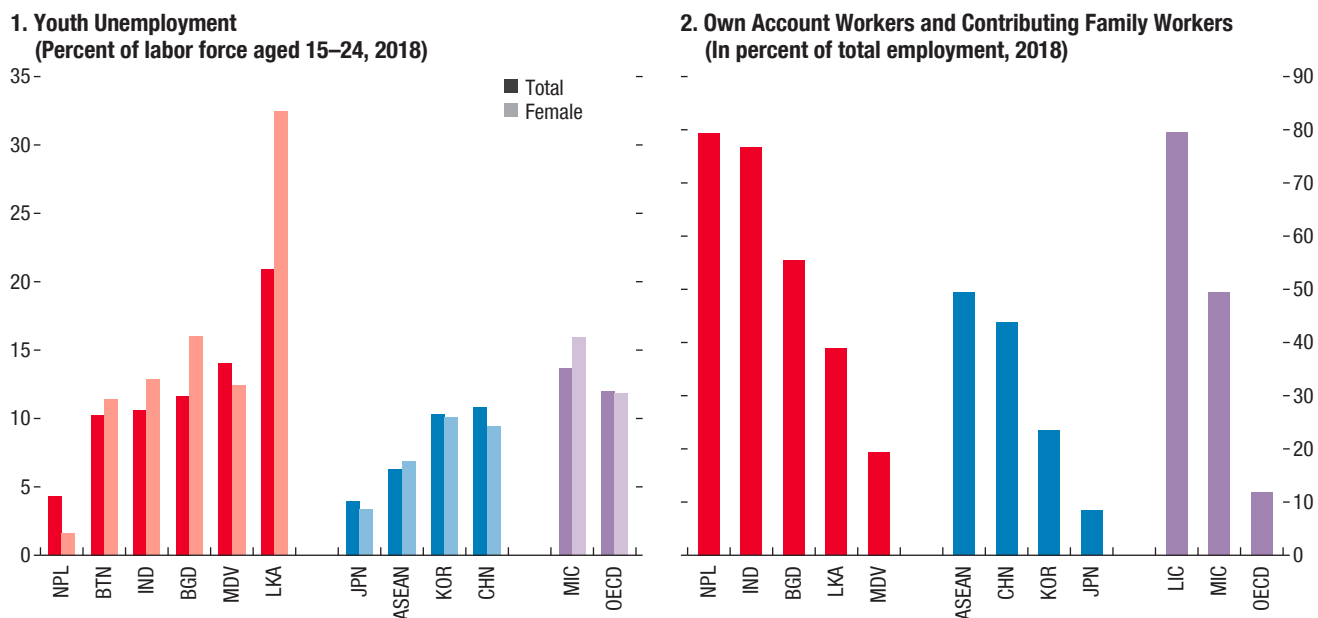


Sources: World Bank World Development Indicators; Cuberes and Teignier (2016).  
<sup>1</sup>Country groupings follow World Bank definitions, with Europe and Central Asia split.

that closing gender-based education and financial inclusion gaps in India would have a long-run impact of around 6 percent of GDP, even if some of the increase in female labor supply were absorbed by the less productive informal sector.

More emphasis is needed on policies aimed at promoting the economic empowerment of women, including through greater use of digitalization. Many countries in the region have taken important steps in this direction. In Sri Lanka, greater access to public and private childcare services and enhanced maternity leave are being supported by companies' ability to deduct payrolls for women during maternity leave to preserve incentives to hire women.<sup>7</sup> Public safety and easier access to clean water and energy in Bangladesh are expected to lower females' home care burden (International Labour Organization 2018), whereas programs to increase access to finance such as the World Bank's National Rural Livelihood Project in India can promote entrepreneurship and support higher labor force participation. Greater use of flexible work arrangements and telework, adopting new technologies, can also encourage women's work (Mitter 2000), together with efforts to reduce skill mismatches—for example, by focusing more on STEM (science, technology, engineering, and mathematics) education and vocational training. These ini-

<sup>7</sup>See Jahan (2018).

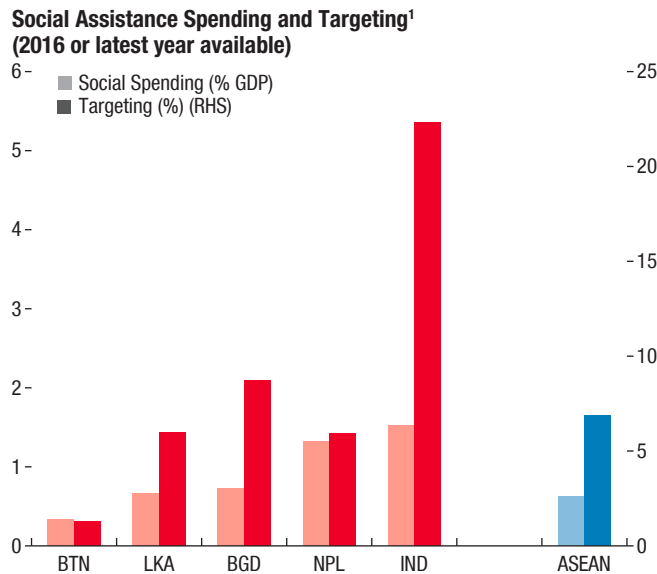
**Figure 28. Youth Unemployment and Informality**

Sources: World Bank World Development Indicators; and ILO.

tatives can help women as well as youth transition into employment, especially in Sri Lanka where youth unemployment is more than 20 percent, and more than 30 percent for young women (Figure 28).

These efforts, together with reforms to increase labor market flexibility, can help tackle the prominent informality in most South Asian economies (Figure 28). This tends to arise mainly from self-employment and participation in small family enterprises, especially by women, which accounts for more than 70 percent of total employment in India and Nepal, much higher than in other Asian peers. Informality can impact many aspects of economic activity and government policy, including tax collection and delivery of social safety net programs. Addressing informality requires a broad policy approach that tackles its multiple causes. As discussed earlier in the paper, this includes supporting private sector-led investment and growth to create more and better jobs; addressing gaps in human capital, infrastructure, and access to finance; and facilitating the insertion of women and the youth into the labor market. Modern labor regulations should also strike a balance between protecting workers' rights and incentivizing formal hiring. For example, firms would benefit from greater flexibility to adapt to changing market conditions by loosening regulations that make it costly to expand firm size—such as in the case of India's Industrial Disputes Act—and limiting the generosity of severance pay requirements, as it is currently the case of Sri Lanka.



**Figure 29. Social Safety Nets**

Source: World Bank ASPIRE database.

<sup>1</sup>Targeting is transfers received by poorest quintile as a percentage of all transfers.

Parallel steps to strengthen social safety nets can protect the most vulnerable from the labor dislocations and costs inherent to the structural transformation of the economy. For example, Lang and Tavares (2018) find that more liberal trade and FDI regimes can be combined with stronger safety nets and human capital investment to offset any adverse distributional impact of reforms. The focus should be on protecting people—versus protecting jobs—through social protection programs that apply to both formal and informal workers, given the extensive underemployment in many South Asian economies. These programs should be well-targeted to ensure their efficiency and effectiveness in addressing inequality and mitigating any adverse distributional impact of new reforms. Although South Asia’s spending in social assistance is in line with regional peers, in most countries, there is significant scope to improve targeting (Figure 29). Digital technologies offer an opportunity in this sense, if complemented by adequate data security controls. In India, bank accounts have been linked to the country’s biometric identification system (*Aadhaar*) to allow direct electronic payments of specific social benefits to eligible bank account holders. The PM-KISAN scheme has also recently been announced to provide small Indian farmers with direct income support, although there is scope to rationalize other subsidies to help ensure its fiscal affordability.

## Bolder and Safer Reforms to Unlock South Asia's Growth Potential

*Benefits to the Indian economy from further liberalization—supported by other structural reform efforts—are estimated to be substantial, at over 100 trillion rupees in terms of GDP or 20 percent of real GDP, relative to the current baseline scenario, by 2040. The rest of the South Asia region would also benefit through home-grown reforms and productivity spillovers from India.*

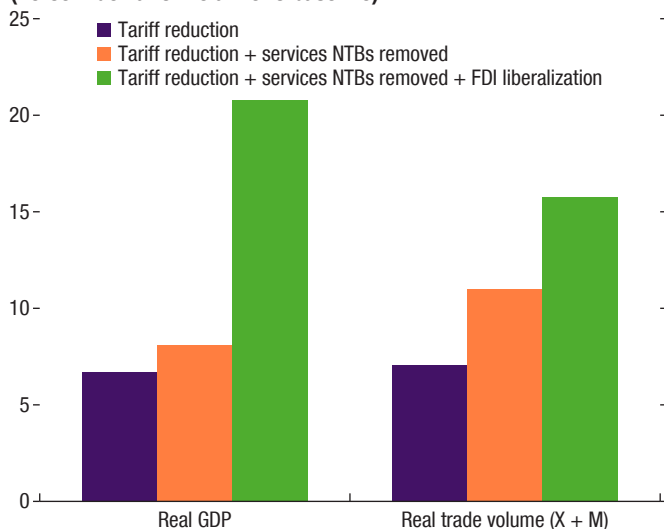
Using model simulations, this chapter considers the prospective impact of a reform package to deliver higher and safer growth. As highlighted in the preceding chapter, trade and FDI restrictiveness is high in South Asia and a more rapid pace of liberalization would better support private sector-led growth. To maximize the benefits from further liberalization, there is a need for sound macroeconomic management as well as for a greater push to invest in the region's rapidly expanding labor force. Broader deregulation efforts, especially of labor markets and industry, are also important. For tractability, and because of its outsized role in the economic dynamics of the South Asia region, this chapter considers, using model simulations, a reform scenario for India, although the takeaways apply equally to other countries in the region.

### An India-specific Reform Scenario

Trade opening and FDI liberalization could substantially increase productivity in India. Simulations using the IMF's Global Integrated Monetary and Fiscal (GIMF) model for India assess the effect of three trade liberalization measures: (1) reducing goods tariffs from current levels to zero; (2) substantially reducing nontariff barriers to trade in services, by 30 percent; and (3) reducing restrictions on FDI to the global average level (see Annex 4).<sup>1</sup> The

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<sup>1</sup>In India's case, many of the restrictions to FDI are operational in nature, including relating to infrastructure and ease of doing business.

**Figure 30. India: Liberalization Scenario****India: Impacts of Trade and FDI Liberalization  
(Percent deviation relative to baseline)**

Source: IMF staff estimates.

combined effect of these measures would deliver a productivity (and GDP) increase of about 20 percent in India (Figure 30). These reforms, and the associated benefits, are assumed to take gradual effect over 20 years.<sup>2</sup> Indeed, as discussed in the previous chapter, reductions in tariffs need to proceed in parallel with revenue mobilization to ensure the reforms remain consistent with public sector debt sustainability. Prioritizing reductions in nontariff barriers, product market reforms and FDI liberalization can also support growth, making the necessary fiscal space for tariff cuts.

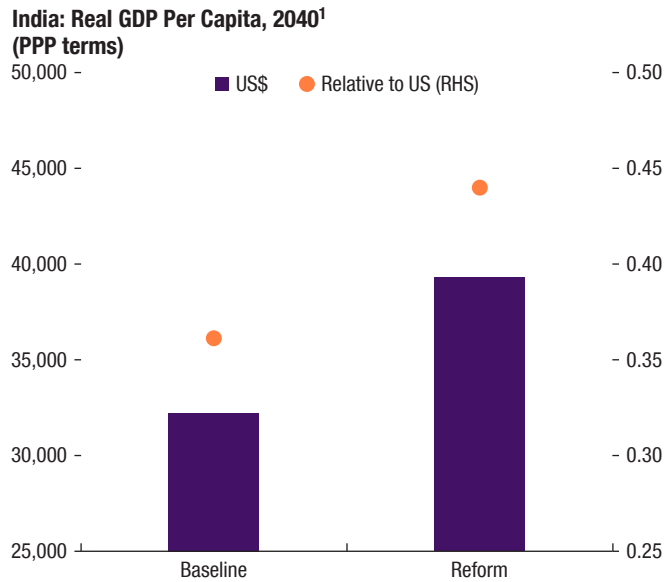
Evidence from empirical analysis supports the broad conclusions from these model simulations.

Regressions show a statistically significant positive association between FDI inflows and growth, as well as between tariff reductions and growth. These findings hold both in a global sample of countries and one relating just to Asia and Pacific countries. Results are robust to alternative specifications (see Annex 5). This is consistent with other findings in the literature studying the relationship between structural factors and growth for emerging market and developing economies, including Rajan and Zingales (1998), Djankov and others (2002), Caselli and Gennaioli (2008), and Christiansen, Schindler, and Tressel (2013), among others.

The gains from trade and FDI liberalization would need to be supported by enabling reforms to fully materialize. The elimination of trade and investment barriers would potentially open up those sectors in the economy in which the country has a comparative advantage. Nevertheless, in India, significant rigidities in labor and product markets may lead to high costs of the reallocation of labor across economic sectors, resulting in suboptimal allocations and a loss in aggregate productivity. Kambourov (2009) finds, from a cross-country analysis, that high firing costs slow down the intersectoral reallocation of labor after a trade reform, with about a third of the gains in real output and labor productivity lost in the years following the trade reform. Accordingly,

<sup>2</sup>A similar trade liberalization scenario was considered in IMF (2018c). A more thorough description of the GIMF model is provided in Annex 4.

**Figure 31. India: Income Projections**



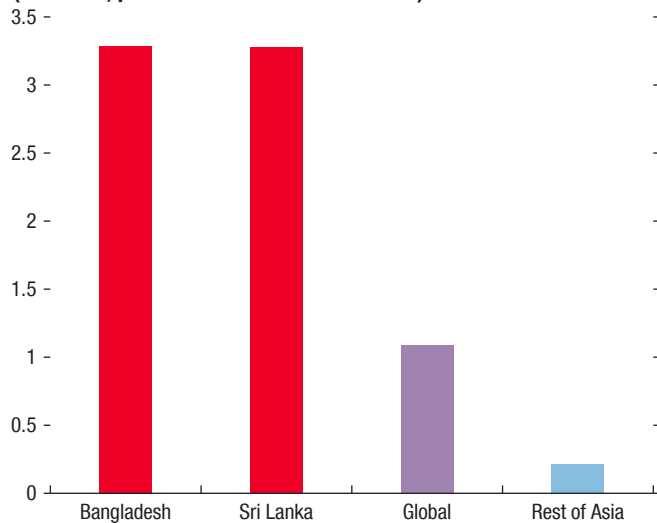
Source: IMF staff estimates.

<sup>1</sup>Baseline assumes medium term WEO projection and reform scenario factors in the impact of trade and FDI liberalization and productivity increase.

and as discussed in the previous chapter, to support substantial sectoral and labor reallocation associated with the liberalization process, sustained reform efforts will need to proceed in parallel in the areas of infrastructure development, human capital improvements, as well as labor and product market deregulation to facilitate this process.<sup>3</sup>

The substantial reforms considered above, if sustained, could add over 100 trillion rupees to India's real GDP by 2040. Under the baseline scenario discussed in Chapter 2, GDP per capita could reach US\$32,000 by 2040 in PPP terms or about 36 percent of US income. The key to unlocking sustained higher growth and pushing the economy well above this baseline projection is an acceleration in structural reforms. If reforms can boost productivity by 20 percent over the course of two decades—as suggested in the liberalization scenario considered above—India's GDP per capita could reach nearly US\$40,000 by 2040, in PPP terms or about 45 percent of US income—in real terms, this would represent more than a 100 trillion rupee (US\$1.4 trillion) boost to economic activity (Figure 31).

<sup>3</sup>This is consistent with the findings of Kambourov (2009) and El Fayoumi and others (2018) for a cross-country emerging market sample.

**Figure 32. Spillovers to South Asia****GDP Spillovers from Reform Scenario in India  
(Real GDP, percent deviation from baseline)**

Sources: APDMOD simulation and staff calculations.

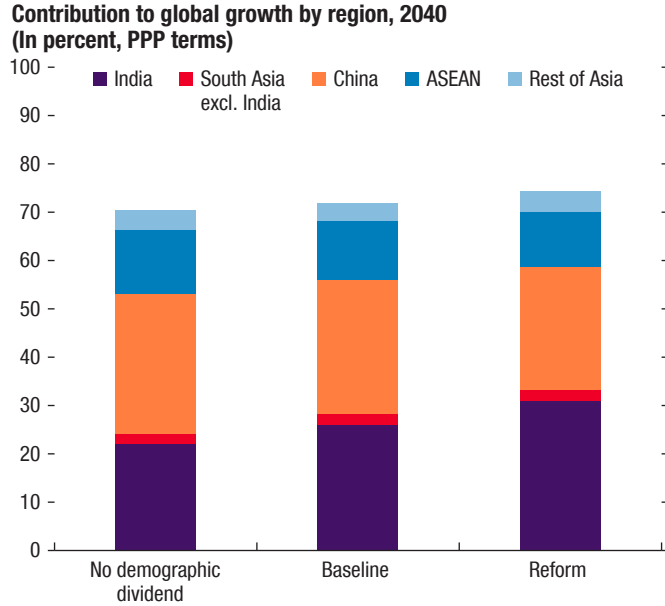
### Spillovers from India to the Broader South Asian Region

The entire South Asian region would benefit substantially from productivity-enhancing reforms in India. Spillovers to neighboring countries from the India-specific scenario are assessed using the Asia-Pacific Department module (APDMOD) of the IMF's Flexible System of Global Models (FSGM), as discussed in Annex 4. Because it features distinct country blocks for many economies in Asia—including Bangladesh, India, and Sri Lanka in the South Asia region—the model is well suited to considering spillovers.

The structural reform scenario in India would be expected to boost the level of GDP elsewhere in South Asia (in this case, Bangladesh and Sri Lanka) by about 3 percent, relative to a no-reform baseline (Figure 32). This is substantially more than the impact on other countries in Asia. Of course, if other countries in the region pursued similar reforms to those considered for India, the economic gains would be substantially larger.

Spillovers are large for economies within South Asia, thanks to strong trade linkages and associated gains from enhanced productivity in India through technology transfers. First, the APDMOD model structure allows for productivity spillovers emanating from India, capturing both the direct effect of technology spillovers through the import of technology-embodied capital goods from India, and the indirect effect of the dissemination of technological advances. These effects are both stronger for countries that are more economically integrated with India (that is, those that import more from India than from others), and those that are furthest from the technological frontier—for example, advanced economies that are closer to the technological frontier would not reap substantial increases in their own productivity due to improvements in Indian productivity. In addition, strong trade linkages between India and the rest of South Asia imply that the substantial increase in domestic demand—and commensurate boost to import demand—in India benefits others in the region by increasing demand for their exports. To max-

**Figure 33. South Asia: Long-term Contribution to Global Growth**



Sources: IMF, *World Economic Outlook*; and IMF staff estimates.  
 Note: Regional categories based on IMF classification, ASEAN = Association of Southeast Asian Nations.

imize the positive spillovers from reforms in India, strong domestic reform efforts need to advance in parallel.

If all countries in South Asia pursued the same reforms considered for India, the region's contribution to global growth could be about 35 percent by 2040. Evidence suggests that both Bangladesh and Sri Lanka have substantial room to liberalize goods and services trade—by lowering tariff and nontariff barriers. Although data limitations and the fact that these countries are not modeled in the GIMF model preclude a precise analysis, simplified calculations can be used to approximate the effect for the remainder of South Asia. Under this full liberalization scenario, real GDP growth for the South Asian region (GDP weighted) could surpass 6.5 percent over the long term, compared to almost 6 percent under the baseline scenario and just over 5 percent in a scenario in which the benefits of the demographic dividend cannot be secured. Under the reform scenario, the region's contribution to global growth could reach 35 percent by 2040 (Figure 33).

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## Building the Reform Momentum

As evidenced by three decades of strong and steady growth, renewed structural reform efforts will be essential to deliver durable and job-rich growth to South Asia. As discussed in the paper, since the mid-1980s, sustained structural reforms coupled with prudent macroeconomic management have brought steady progress to the region, following decades of relatively slow growth. Although growth trajectories have varied across countries, these reform efforts have supported strong per capita income growth in the region, lifting over 200 million people out of poverty. Looking ahead, with over 150 million people in the region expected to enter the labor force by 2030, South Asia will need to leverage on all sectors of the economy in a balanced way to create greater and better-quality jobs. In this context, accelerating the structural reform agenda—even beyond the baseline scenario which already envisages ongoing reforms—is especially important to support productivity and income growth, given the slowdown in trading partners abroad and South Asia’s limited policy space domestically.

Although there is a strong argument for advancing structural reforms in the region, political economy considerations need to be factored in. In any country, and not just in South Asia, political constraints often affect policymakers’ abilities to push through even well-designed structural agendas, resulting in delayed or inadequate structural reforms. Measures face opposition from those who stand to lose from the changes and only limited support or buy-in from those who stand to benefit, given differences in access to information and political influence, and sometimes the fact that benefits will only accrue in the longer term. Complacency about robust growth performance can further defer action (Borg 2015). Indeed, WEO (IMF 2016b) finds that weak economic conditions often end up becoming the trigger for reforms. This is consistent with India’s and South Asia’s experience in the 1990s during which the sluggish growth path highlighted the urgency of reforms.



Clear communication on the benefits of the reforms and prioritization based on the expected macrostructural impact are key to building reform momentum. The political and social cost of the reforms varies from country to country, depending on their specific circumstances, social preferences, and institutional architecture. Nevertheless, in general, there is scope to prioritize reforms that yield short-term gains as well as large long-term payoffs (IMF 2016a). For example, as discussed earlier, financial development and FDI liberalization can support consumption and investment by relaxing credit constraints while boosting productivity. Product market reforms, including within-country product market deregulation and trade liberalization, also tend to be easier to implement given their expansionary effect already in the short term, by promoting entry of new firms and greater efficiency (IMF 2016b). Moreover, they take on targeted vested interests, which can be influential but only affect a small share of the population. Labor market reforms, for example, those aimed at reducing excessive employment protection (Chapter 4), tend to impact a large number of regular workers, who are likely to resist changes for fear of losing acquired rights and tend to be better organized than the labor force “outsiders”—for example, in the informal sector—who would most benefit from the reforms. As a result, these reforms can be easier to implement if supported by demand-side policies.

Given the limited fiscal space in most South Asian economies, reforms need to be prioritized to remain consistent with debt sustainability objectives and accommodate complementary social spending needs. Stronger social safety nets are important to support the most difficult structural reforms, notably to labor markets, minimizing their distributional impact on the most vulnerable segments of the population. Moreover, there is a significant need to expand infrastructure and connectivity in the region, including through financial inclusion and digitalization. Broadening the tax base and eliminating inefficient subsidies, while reducing the role of the state in the economy, can create the necessary fiscal space to support the reform process while promoting more efficient credit allocation and capital market development. For countries with limited institutional and implementation capacity, reforms should be carefully prioritized and sequenced. For instance, in the cases of Bangladesh and Nepal, large infrastructure gaps should be addressed in the context of a realistic medium-term fiscal framework.

The robust economic performance and recent elections in most South Asian economies offer a propitious window of opportunity to accelerate the reform agenda. General elections have recently taken place in Bangladesh, Bhutan, India, and the Maldives and are planned by mid-2020 in Sri Lanka. Cross-country evidence from Organisation for Economic Co-operation and Development (OECD 2009) finds a higher likelihood of achieving more reforms, at lower cost, in the first two years of a government office, on the

back of a fresh and strong electoral mandate. A frontloaded reform program is also more likely to succeed as it provides more time to see the reforms bear fruit. Peer pressures are also found to matter, calling for regional initiatives to spur trade liberalization and reform efforts. In more advanced countries, like Australia and New Zealand, reform champions in the form of national productivity councils have also been instrumental in shaping the reform agenda.

South Asian economies stand to benefit enormously from frontloading their reform agenda. As highlighted in the paper, the benefits to the Indian economy alone would be significant, bringing real GDP per capita to nearly 50 percent of that one of the United States by 2040, with important spillovers to the rest of the region. By 2040, South Asia could contribute to about one-third of global growth, under an accelerated reform path.

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## Annex 1. South Asia's Reform Experience

### Bangladesh

In the aftermath of the liberation war of 1971, with about one-fifth of the economy destroyed, economic management in Bangladesh focused on reviving the war-torn economy, relying on extensive state control and nationalization of large manufacturing firms. During the 1980s and early 1990s, the government began reforming the economy by increasing the role of the private sector, notably in the ready-made garment industry, and focused on macroeconomic stabilization to cope with declining aid and worsening terms of trade. Structural reforms included reductions in food and agricultural subsidies, financial liberalization, and easing of import restrictions with the unification of the exchange rate (Mahmud, Ahmed, and Mahajan 2008; World Bank 2007). Restrictions on capital and profit repatriation were removed and a board of investment was created to attract FDI (Hossain 2013). Several fiscal reforms, including the replacement of the sales tax by a value-added tax and introduction of higher budgetary allocations to human resource development and poverty alleviation, were launched in the early 1990s, under the IMF's Enhanced Structural Adjustment Facility. Private investment took off in the 1990s, benefiting from a reduction in tariffs and lower restrictions to private investment. The exchange rate gradually became more flexible and was eventually moved to a *de jure* floating rate in 2003. Over the past decade, Bangladesh has been working on further strengthening its fiscal policies and modernizing the monetary policy regime. Further efforts to address the large nonperforming loans in the banking sector, especially in state-owned banks, and reform the national saving certificate scheme remain needed to support private investment and develop the domestic debt market.

## **Bhutan**

Over the past decades, Bhutan's economic development has benefitted from increased economic integration with its neighbors, especially India. Supportive government policies and planning have enabled the development of hydropower, with solid FDI in the sector, and improving infrastructure, leading to a gradual diversification of the economy. FDI liberalization also supported value-added tourism. Macro policies have prioritized financial and external stability and revenue mobilization. Moreover, as the only net carbon-neutral country in the world, Bhutan has placed a high priority on sustainable growth.

## **India**

Before the 1980s, India's slow growth performance was associated with an inward-looking development strategy, which relied mainly on import substitution and heavily constrained private entrepreneurship. The country's reform process took off in mid-1980s (Panagariya 2004). Quantitative restrictions on imports were removed and imports started being regulated through negative lists. The unwinding of industrial licenses and the investment restrictions, under the Monopolies and Restrictive Trade Practices (MRTP) Act, starting in 1985, provided a significant relaxation of industrial controls and supported the import liberalization. Several export incentives were also introduced and expanded. The second wave of reforms took place in the early 1990s. In 1991, the New Industrial Policy abolished licensing requirements for all industries and entry restrictions on MRTP firms. It also ended public sector monopolies in many sectors and initiated a policy of automatic approval of FDI up to 51 percent. The trade regime also underwent massive changes. The tariff structure was rationalized, with significant reduction in tariff rates. The negative list for imports was progressively reduced. By 1994, exchange controls were removed, and the rupee was made convertible on both the trade and current account. Post-2000 reforms have focused on macroeconomic stability and continued liberalization. The Fiscal Responsibility and Budget Management Act was enacted in FY2004 to advance fiscal consolidation and improve fiscal discipline. Portfolio investment by foreign institutional investors was allowed gradually, although significant limitations remain. The inflation targeting framework was introduced in 2015 and formalized in 2017. A pan-India Goods and Services Tax was rolled out in 2017 to help enhance the efficiency of intra-Indian movement of goods and services, create a common national market, and improve tax buoyancy. Caps on foreign direct investment were largely removed during 2015–18.

## Maldives

With robust growth and significant improvement in health and education indicators, the Maldives has reached upper middle-income status. Maldives' development has been mainly driven by tourism, accounting for over 27 percent of GDP and over 60 percent of the Maldives' foreign exchange receipts. The tourism industry benefited significantly from foreign investment, receiving 90 percent of FDI. The development of the fishing industry, the second leading sector in the Maldives, started in 1989, when the government lifted import quotas and opened some exports to the private sector. Subsequently, it also liberalized regulations to allow more FDI. In recent years, the authorities are focusing on economic diversification and are considering further FDI liberalization.

## Nepal

Before the 1990s, Nepal pursued an inward-looking state-led development strategy, creating public sector enterprises in almost all sectors (Basnett and others 2014). The reestablishment of the democratic system in the early 1990s spurred a wave of reforms. In 1992, tariff slabs and rates were brought down while import restrictions, export duties, and the dual exchange rate were abolished. The banking sector was deregulated and commercial banks allowed to hold foreign exchange abroad. A new industrial policy was codified, under the Industrial Enterprise Act. Investment was opened for all industries, except those related to defense or causing health and environmental hazards. The Foreign Investment and Technology Transfer Act was enacted in 1992, with up to 100 percent in FDI allowed in all major sectors, including hydropower, banking, and airlines.

## Sri Lanka

Following its independence in 1948, Sri Lanka recorded strong per capita income growth, with a significant improvement in living standards compared to peers, reflecting relatively strong institutions, a high-quality education system, and liberal trade and FDI arrangements. However, by the late 1950s, Sri Lanka's relative growth performance started weakening, as the country adopted a state-led import-substitution strategy, with tight import restrictions, nationalization of previously well-performing export industries, including plantations, and proliferation of state-owned enterprises. The government tightened controls of wage setting and introduced rigid employment protection. Real GDP growth declined to 3¾ percent by the late 1970s. A first round of economic liberalization in 1977–79, with trade and FDI reforms, a

devaluation of the exchange rate, and legal protection of foreign-owned assets from nationalization, boosted real GDP growth to around 6 percent. However, the intensification of the civil war in the 1980s undermined the economic recovery. In the 1990s, a second wave of reforms enabled the return of plantations to private control and the privatization of telecommunications. After the end of the civil war in 2009, the reform momentum remained sluggish, with increases in import taxes to supplement a narrow tax base and lack of progress in the liberalization of major state-owned enterprises. In recent years, reform efforts have gradually improved, under the IMF's Extended Fund Facility, with the launch of a new Inland Revenue Act, energy pricing reforms, and the central bank's transition to flexible inflation targeting.

## Annex 2. India: Two Homegrown Success Stories

### The Emergence of a Globally Competitive IT Industry

The information technology and business process management (IT-BPM) industry is the largest export sector in India, with \$137 billion of exports in FY2019, contributes 9.3 percent to India's GDP, and employs more than 4 million people, mostly skilled engineers.

In the early 1980s, the Indian government recognized the country's potential in IT services, deriving from its large number of low-wage, high-skilled engineers, fluent in English (Saxenian 2001). The emerging sector was proactively liberalized, with a new computer policy in 1984 recognizing the software sector as an industry and opening access to bank finance. In 1986, the Computer Software Exports, Development and Training Policy gave liberal access to the latest technologies, including computer hardware and software, to enhance competitiveness and encourage value added exports.

The creation of software technology parks (STPs) in the early 1990s provided the ecosystem for attracting private investment in the sector. Firms operating from STPs—similar in nature to export processing zones for software exports—were offered duty-free imports and corporate tax exemptions as well as high-quality telecom networks, including high-speed satellite links and other infrastructure. The industry was also permitted 100 percent FDI with export obligations and free repatriation of capital, royalties, and dividends to attract global capital. To enhance governance but avoid bureaucratic interventions, an autonomous agency, Software Technology Parks of India (STPI), was established in 1991, with industry representatives in their boards to foster private investment.

Bangalore emerged as the “Silicon Valley of India.” The IT cluster included the Information Technology Park Limited of Bangalore—a PPP initiative



by the state government of Karnataka, Tata industries, and a consortium of Singaporean firms. The city attracted, together with many domestic firms, several multinational corporations and successfully became an IT hub for the offshore development of custom software and its delivery to global clients (Rao and Balasubrahmanya 2017). Given availability of high-skilled engineers, multinationals also set up global in-house centers to develop high-end product software. The success of Bangalore led to the development of other smaller clusters in Delhi, Mumbai, Pune, Chennai, Hyderabad, and Kolkata.

The global adoption of a new technology platform—the Unix operating system along with an independent workstation—in the mid-1980s created saving opportunities for big corporations in the United States and Europe to replace high-cost onshore IT service contracts with low-cost offshore ones in countries like India, Israel, and Ireland (Dossani 2006). Large domestic firms seized the new business opportunities, focusing on low value-added but high-volume custom software development while gradually setting up over 1,000 global delivery centers to reach out to clients. This business model allowed India to boost its software exports, capturing a 55 percent share in the global outsourcing market. The emergence of new business process outsourcing and information technology-enabled services further supported exports, as large corporations started outsourcing their back office work.

The sector has gradually moved up the global value chain. Although growth in IT-BPM services exports has decelerated in recent years, as the industry lost some of its wage competitiveness, large domestic firms and multinationals are increasingly focusing on in-house training and skill upgrades in new technologies, like big data analytics, cloud computing, artificial intelligence, and machine learning, to move up the value chain and capture a larger share of the growing digital economy segment. More than 1,400 global in-house centers have also been set up by multinationals to develop high value-added product software as well as engineering and research and development services.

## **Made in India: The Auto Component Industry**

The automobile and auto component industries contribute to over 2 percent to India's GDP and employ nearly 1.5 million people. The sector has witnessed a robust performance, growing from \$4.5 billion in 2002 to \$53.6 billion in 2018, with three-fourth of revenues generated from the domestic market and one-fourth from exports. A few auto component firms have gained in size and scale, integrating in global value chains (Dash and Chanda 2017) and supplying to the global aftermarket sale segment. The domestic sector produced 31 million vehicles in 2019.

The auto component sector took off after the liberalization reforms of the early 1990s. Many original equipment manufacturers (OEMs) from Japan, Korea, Europe, and the United States set up manufacturing units in India, attracted by the growing size of the Indian middle class; the government's focus on building high quality road infrastructure in an economy dominated by road transportation; and competition among states to attract investment through land concessions, tax rebates, power supply, and other facilities. Stiff competition from global OEMs forced domestic OEMs to outsource motor parts from domestic companies to reduce costs. For example, Maruti Suzuki, the domestic leader in passenger vehicles, increased its local sourcing to over 80 percent. In turn, some global OEMs started outsourcing from local auto component firms, providing access to modern technology and fostering in-house research and development.

India's automobile and auto component industries are mostly located in three well-developed multi-industry clusters: Mumbai-Pune-Nashik-Aurangabad in the west, Chennai-Bangalore-Hosur in the south, and Delhi-Gurgaon-Faridabad in the north. Two new clusters are being developed in Sanand, Gujarat, and Pithampur, Madhya Pradesh. Geographical proximity has allowed the automobile and component industries to save on transportation costs and benefit from a common pool of infrastructure, provided by the state governments, while sharing as well as monitoring technology and quality specifications. Firms have also benefited from the presence in these clusters of the rising IT industry to develop research and development capacity and technology.

India's penetration in the global auto component market, still below 2 percent, remains constrained by the small size of the firms and remaining technology gap. Although the trade deficit in this segment declined from \$5 billion in 2012 to \$2.5 billion 2019, most OEMs continue to import auto parts from their foreign vendors and plants, notably engine parts as well as electric and electronic equipment, which leading Indian firms have not been able match global standards (Rajput 2017). Nearly 50 percent of autopart imports are from Asian countries. In particular, 24 percent of total imports originate from China and cater to the cheaper aftermarket sale segment. Lack of free trade agreements, still complex business regulations and bureaucracy, and a rigid labor market legislation are among possible bottlenecks.

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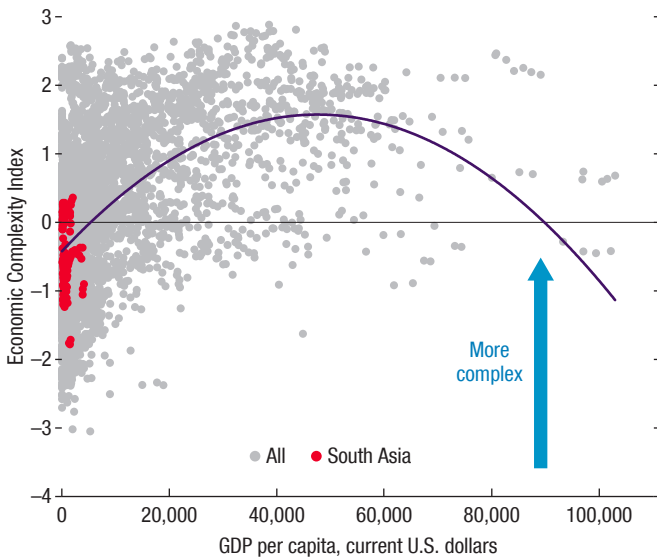
## Annex 3. South Asia: Economic Complexity and Product Space

There is growing evidence that until an economy reaches advanced economy status, higher per capita income is broadly associated with greater export diversification and economic complexity (Hausmann and others 2014; IMF 2014). Economic complexity is a term popularized by Hausmann and others (2011) and is derived using the concept of revealed comparative advantage (RCA). An economy has RCA in a specific good if its share in the economy's exports is larger than the good's global export share. Economic complexity is a combination of the diversity of an economy (defined as the number of products in which the economy has RCA) and the ubiquity of these products (captured by the number of countries that have RCA in this product). Economic complexity is thus a measure of the knowledge in an economy as expressed in the products it makes (Annex Figure 3.1).

There is substantial scope to increase the complexity of South Asia's exports, as captured by the economic complexity outlook index (Annex Figure 3.2). The index measures the average complexity of products that a country can diversify into—that is, how strategically positioned a country is in its product space. India, Nepal, and Sri Lanka are especially well positioned to improve the complexity of their exports. Given their current production structures, it will be easier for them to diversify because they have many complex products near their current set of productive capabilities.

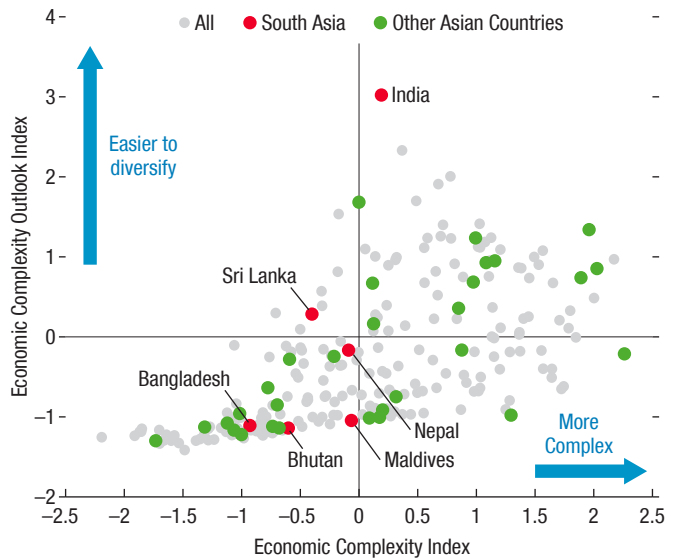
The extent of diversification potential is a function of a country's position in the product space (Annex Figure 3.3). The product space depicts the connectiveness between products, based on the similarities of know-how required to produce them. For example, India exports several products at the core of the product space, such as cars parts, ships, and mobile phones; that is, India has RCA in exporting various manufacturing products that are related to more complex goods. The existing facilities make it easier for India to diversify into similar products. On the other hand, although Bangladesh has been suc-

Annex Figure 3.1. Economic Complexity Index, 1964–2017



Sources: The Atlas of Economic Complexity; World Bank.

Annex Figure 3.2. Economic Complexity Outlook Index, 2016

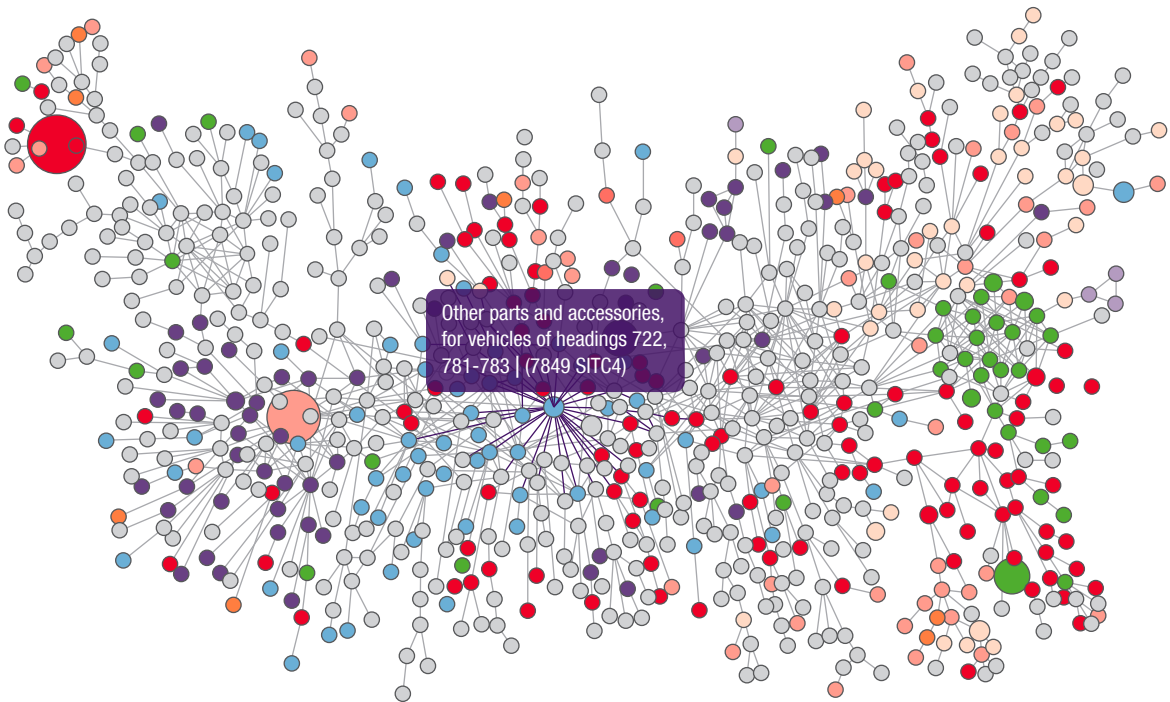


Source: The Atlas of Economic Complexity.  
 Note: *Economic Complexity Index* measures how diversified and complex a country's export basket is. *Economic Complexity Outlook Index* measures the ease of diversification for a country, captured by how many complex products are near a country's current set of productive capabilities.

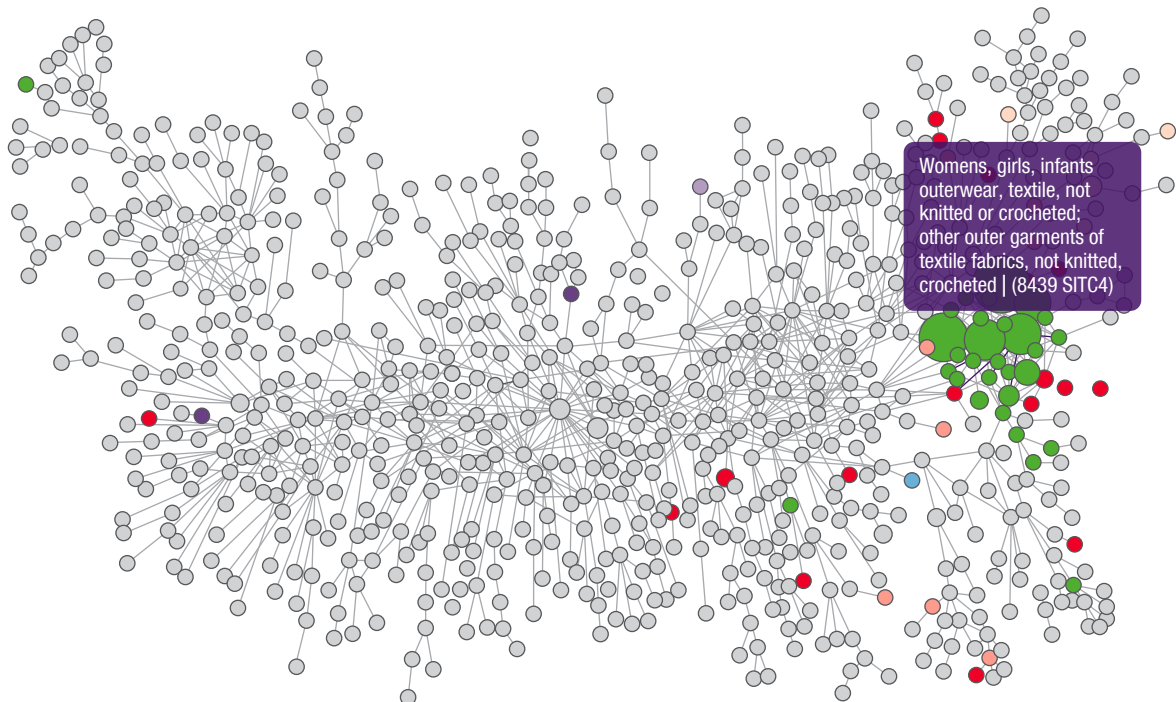
Successful in dominating the garments sector, it has a lower complexity outlook because the ready-made garment sector is less connected to other, more complex industries. As a result, it would be harder for Bangladesh to move up the complexity scale without concerted policy measures.

Annex Figure 3.3. The Product Space in India and Bangladesh

1. India: Product Space, 2016



2. Bangladesh: Product Space, 2016



Source: The Atlas of Economic Complexity.

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## Annex 4. Model Descriptions and Calibration

The simulations presented in Chapter 4 are generated using two different economic models. The GIMF model is used to assess the implications of a trade liberalization scenario, as its structure allows for the explicit consideration of tariff and nontariff barriers. A similar trade liberalization scenario was considered in IMF (2018c).<sup>1</sup> Spillovers from a productivity shock in India to other countries in South Asia are considered using APDMOD, since this model has an explicit accounting for Bangladesh and Sri Lanka. The models are described in the following text.

### Global Integrated Monetary and Fiscal (GIMF) Model

The GIMF (documented in Anderson and others 2013; and in Laxton and others 2010) is used to consider the macroeconomic impact of trade liberalization. Structurally, each economy in the model is close to identical, but with different key steady-state ratios and behavioral parameters, based on a stylized data set consistent with 2015 and 2016, and some long-term trends, primarily related to asset holdings.

Consumption dynamics are driven by saving households and liquidity-constrained households. Saving households face a consumption-leisure choice based on the overlapping generations model of Blanchard (1985), Weil (1987), and Yaari (1965), in which households treat government bonds as wealth, making the model non-Ricardian and endogenizing the long-term determination of the real global interest rate to equilibrate global savings and investment. The real exchange rate serves to adjust each economy's saving

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<sup>1</sup>In IMF (2018c), simulations for all countries in Asia jointly liberalizing their trade regimes are conducted using the GIMF as well as a Ricardian Trade Model (RTM)—a multisector computable general equilibrium model. These two scenarios are complementary, with the RTM providing insights primarily on sectoral reallocation and the GIMF providing insights on broader macroeconomic effects.



position (its current account and associated stock of net foreign assets) relative to the global pool. Liquidity-constrained households cannot save, consuming all their income each period, amplifying the model's non-Ricardian properties in the short term.

Relative to standard versions of the GIMF, this model has a sector for services. Services are produced from tradable and nontradable goods. They are priced as an input for consumption domestically or exported to be consumed by foreigners. Services are exclusively part of consumption, and their demand vis-à-vis consumption goods is relatively inelastic (at 0.9). Consumption of services is a combination of services provided domestically or abroad. This allows for a final price of services that will enter the consumer price index, much as the consumption of services combine with the consumption of goods to define final household consumption.

Private investment relies on the Bernanke-Gertler-Gilchrist (1999) financial accelerator. Investment cumulates to the private capital stock for tradable and nontradable firms, which is chosen by firms to maximize their profits, with a standard inverse relationship between the capital-output ratio and the cost of capital.

The nominal side of the economy depends on implicit Phillips' curves and monetary policy using an inflation forecast-based interest rate reaction function. Fiscal policy is driven by a sufficiently detailed government sector that can reproduce simplified fiscal accounts for each economy.

Trade is tracked bilaterally among all regions. The flows react to demand, supply, and pricing conditions (that is, the terms of trade and bilateral real exchange rates). There are flows for noncommodity goods and services, and for commodities. Noncommodities trade is further broken into final goods (consumption and investment), consumption services, and intermediate goods. All categories are tracked separately, allowing for the incorporation of differential tariffs and NTBs on consumption, investment, and intermediate goods plus services.

## **Flexible System of Global Models (FSGM): Asia-Pacific Department Module (APDMOD)**

The APDMOD module of the FSGM is an annual, multiregion, general equilibrium model of the global economy combining both microfounded and reduced-form formulations of various economic sectors (see Andrle and others, 2015, for a thorough presentation of the model). Each country/regional block is structurally identical, but with potentially different key steady-state ratios and behavioral parameters. The substantial country coverage in the

model, as well as its ability to replicate actual business cycle properties, make it well suited to considering spillovers from a reform scenario in India.

Real GDP in the model is determined by the sum of its demand components in the short run, and the level of potential output in the long run. *Aggregate demand* follows the standard national expenditure accounts identity, where real GDP is the sum of household consumption, private business investment, government absorption, and exports of goods and services, less imports of goods and services. Selected details for these processes are as follows:

- *Private consumption* is determined by a discrete-time representation of the Blanchard-Weil-Yaari OLG model, based on a constant-elasticity-of-substitution utility function containing only consumption. This imparts important non-Ricardian properties onto the model (debt matters). Consumption dynamics are driven not only by OLG households, but also by liquidity-constrained (LIQ) households who consume all their income each period. This feature amplifies the non-Ricardian properties of the basic OLG framework.
- *Private investment* uses an updated version of the Tobin's Q model, with quadratic real adjustment costs. Investment is negatively correlated with real interest rates and cumulates to the private business capital stock, which is chosen by firms to maximize their profits.
- *Public (government) absorption* consists of spending on consumption and investment goods. Government consumption spending only affects the level of aggregate demand. It is an exogenous choice determined by the fiscal authority. The level of government investment is also chosen exogenously, but in addition to affecting aggregate demand directly it also cumulates into a public capital stock, which can be thought of as public infrastructure (roads, buildings, etc.). A permanent increase in the public capital stock permanently raises the economy-wide level of productivity.
- *Exports and imports*, individually, are modeled as reduced-form equations. Exports increase with foreign activity and are also an increasing function of the depreciation in the RCI. Imports increase with domestic activity and are an increasing function of the appreciation of the real effective exchange rate. To keep the dimensionality of the model small enough to allow it to have a large number of individual country blocks, the model does not track all the bilateral trade flows among countries. The model has, however, been developed to have exchange rate and export volume properties that are similar to the IMF's multiple-good, structural models.
- *Aggregate supply* is captured by potential output, which is based on Cobb-Douglas production technology with trend total factor productivity, the steady-state labor force, the nonaccelerating inflation rate of unemployment (NAIRU), and the actual capital stock.

- The core *price* in all regions is the consumer price index excluding food and energy, CPIX, which is determined by an inflation Phillips curve. CPIX inflation is sticky and reflects the expected paths of exchange rates and the economic cycle, as captured by the output gap. The degree of forward-looking behavior in inflation is country specific.

The model incorporates three types of *commodities*: oil, food, and metals. This allows for a distinction between core and headline inflation and provides richer analysis of the macroeconomic differences between commodity-exporting and -importing regions. The demand for commodities is driven by the world demand and is relatively price inelastic in the short run due to limited substitutability of the commodity classes considered. The supply of commodities is also price inelastic in the short run. Countries can trade in commodities, and households consume food and oil explicitly, allowing for the distinction between headline and core CPI inflation. Commodities can function as a moderator of business cycle fluctuations in the model.

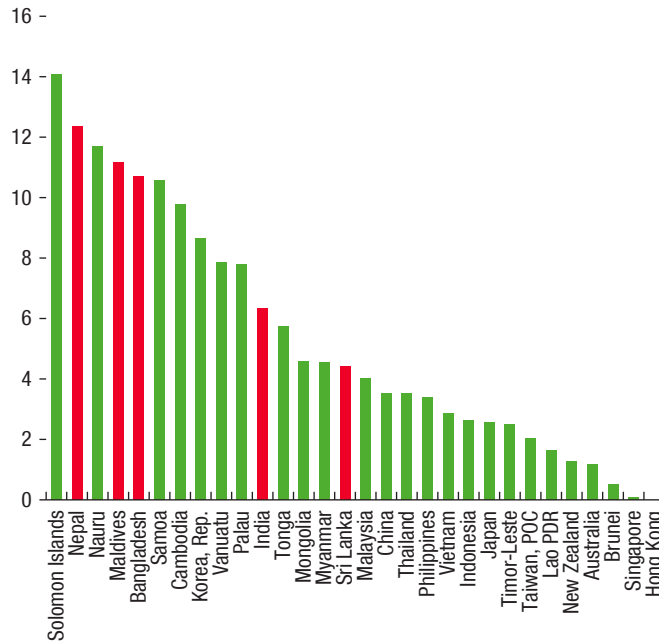
In terms of *monetary and fiscal policy*, in the short run, the nominal side of the economy is linked to the real side through monetary policy. The behavior of monetary authorities is represented by an interest rate reaction function. The standard form is an inflation forecast-based rule operating under a flexible exchange rate. However, the form of the interest rate reaction function is such that there is scope for a fixed exchange rate regime, monetary union, or a managed floating exchange rate regime.

The model also incorporates an important *productivity spillover* channel whereby improvements in productivity in one country are transmitted to the productivity in its trading partners. The spillover structure attempts to capture the direct effects of technology spillovers from importing technology embodied capital, higher intensity of capital imports as a percent of total imports from advanced economies, as well as the indirect effects of the dissemination of technological advances. The amount of this spillover is based on the difference of the level of productivity vis-à-vis the level of US productivity (how far away the country with the productivity increase is from the technological frontier) and the degree of trade openness (where openness is considered as a proxy for a country's commitment to growth-friendly policies).

### **Additional Trade Liberalization Scenario Calibration Details**

As noted in Chapter 4, the trade liberalization scenario considered using the GIMF model follows closely the exercise conducted in IMF (2018c). The first layer of the scenario—an elimination of goods tariffs in India—would entail a substantial reduction from the end-of-sample (2016) value of 6.35 percent

**Annex Figure 4.1. Tariffs in Asia Pacific**  
(In percent)



Sources: World Bank, World Integrated Trade Solution database; and IMF staff calculations.

Note: South Asia = Bangladesh, Bhutan, India, Maldives, Nepal and Sri Lanka.

(product-weighted effective tariff rate, mean). Relative to India, Bangladesh has somewhat higher good tariffs (10.72) and Sri Lanka has a slightly lower mean effective tariff rate (4.43) (Annex Figure 4.1). As for FDI restrictiveness, India has a substantially more restrictive set of policies than many other countries in the OECD's FDI regulatory restrictiveness index—a value of 0.2 as compared to OECD and global averages of 0.07 and 0.09, respectively, as of 2018.

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## Annex 5. Insights from Growth Regression Analyses

The results of growth regressions confirm the positive impact of structural reforms on productivity and growth. Due to data availability, the analysis consists of two different types of exercises, which control for underlying macroeconomic shocks to a different degree. The first set controls for country-level macroeconomic shocks and analyzes whether a sector with stronger tariff reduction has stronger productivity increase. The second set documents the association between the growth of real GDP per capita and structural indicators through a multivariate regression, controlling for global shocks and country-level time-invariant factors.

In the first set of analysis, the level of productivity in country  $i$  sector  $j$  and year  $t$  (denoted as  $y_{i,j,t}$ ) is modeled as:

$$y_{i,j,t} = \alpha_{i,j} + \gamma_{i,t} + \phi \tau_{i,j,t} + \varepsilon_{i,j,t}$$

where  $\alpha_{i,j}$  denotes country-sector fixed effects,  $\gamma_{i,t}$  denotes country-year fixed effects,  $\tau_{i,j,t}$  denotes output tariff rate, and  $\varepsilon_{i,j,t}$  denotes other factors that can influence productivity. Controlling for country-year fixed effects reduces the concern that  $\phi$  may simply pick up spurious relationship between  $y_{i,j,t}$  and  $\tau_{i,j,t}$ . The identification assumption here is that tariff rate  $\tau_{i,j,t}$  is uncorrelated with the residual term  $\varepsilon_{i,j,t}$ .

In the second analysis, the annual growth rate of real GDP per capita in country  $i$  year  $t$  (denoted as  $g_{i,t}$ ) is modeled as:

$$g_{i,t} = \delta_i + \mu_t + \vec{\beta} \vec{Z}_{i,t} + v_{i,t},$$

where  $\alpha_i$  denotes country fixed effects;  $\mu_t$  denotes time fixed effects;  $\vec{Z}_{i,t}$  denote a set of structural indicators, including tariff rates, FDI inflows to GDP ratio, and several other structural indicators (see the note of Annex Table 5.2 for details); and  $v_{i,t}$  denotes other factors that affect real GDP per capita growth.

Annex Tables 5.1 and 5.2 report the estimation results and suggest that liberalization efforts indeed benefit growth, with tariff reductions and removal of FDI restrictions showing quantitatively important impacts on growth. This finding holds also if the analysis is conducted just for Asian countries. The results suggest that a 5 percent decline in output tariffs leads to a 14 percent increase in sector-level labor productivity in the long run (this relatively strong effect may reflect the fact that the sample period of the first analysis is 1995–2014, a period during which global supply chain expansion benefited from reduction of tariff barriers) and an increase in the growth rate of real GDP per capita by 0.2 percent.<sup>1</sup>

On both fronts, India has made significant progress in the past decades. However, there is still room for further reduction of trade barriers. In 2017, the average tariff in India was still higher than the median of emerging markets and developing economies. Similarly, the room for further reduction of FDI restrictions is significant as India still underperforms most emerging markets and developing economies on this front.

**Annex Table 5.1. Sector-level Productivity and Sector-level Tariffs**

Variables	(1) Log(productivity)
Tariff rates	−0.027*** (0.0044)
Country by year fixed effects	Yes
Country by sector fixed effects	Yes
Observations	16,057
R-squared	0.992

Sources: the World Input-Output database (WIOD), and IMF Staff estimation.

The dependent variable is defined as the log of real value-added per employee, and the sample consists of 40 countries and manufacturing industries defined at the 3-digit level of the International Standard Industrial Classification (ISIC) from 1995 to 2014. Two vintages of the WIOD are merged together to create this sample.

Robust standard errors in parentheses

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

<sup>1</sup>The effects may not be permanent, given the static nature of the analysis.

**Annex Table 5.2. Impact of Structural Changes on Growth**

Variables	(1) ALL	(2) ALL	(3) ALL	(4) Asia Only	(5) Asia Only
Tariff rates	-0.038** (0.015)		-0.045*** (0.015)	-0.077*** (0.016)	
FDI inflows		0.150*** (0.036)	0.122*** (0.046)		0.314*** (0.046)
Log(income)	6.099* (3.359)	0.764 (1.950)	10.500** (4.725)	0.124 (5.633)	-7.083 (4.005)
External demand	74.671*** (11.645)	43.531*** (10.133)	63.335*** (15.338)	0.330 (19.772)	2.101 (10.666)
Country fixed effects	Y	Y	Y	Y	Y
Period fixed effects	Y	Y	Y	Y	Y
Observations	987	1,130	719	166	162
R-squared	0.472	0.374	0.615	0.672	0.575

Sources: the IMF World Economic Outlook dataset, RES Structural indicators, and IMF staff estimation. Note: The dependent variable is the growth of real GDP per capita compared with the previous year. The sample consists of 178 countries from 1988 to 2017, and is unbalanced. The third column also controls for indexes measuring export diversification and export opportunity. Standard errors in parentheses are clustered at the country level.

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



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