

PAKISTAN

REVIVING GROWTH THROUGH COMPETITIVENESS

DECEMBER 2020



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Foreword

As part of its national vision, Pakistan is seeking to achieve sustainable and inclusive development by promoting export-led growth. There are both obstacles and opportunities ahead. To meet its ambitious goal of becoming an upper-middle-income country by 2025, Pakistan will require a swift economic recovery from the coronavirus disease (COVID-19) pandemic and much stronger growth over the next 5 years.

The country has undertaken significant economic reforms to stimulate growth, including deregulation, liberalization, and privatization policies. This process started in the late 1980s and has included the recent switch to a market-based exchange rate regime. In 2020, Pakistan was on course to achieve an electricity surplus for the first time in many years with the new generation capacity it has introduced—another welcome development. In all these achievements, the government's continuing commitment to structural reforms has played a crucial role.

Yet, despite some successful reforms and its considerable potential to advance economic development, Pakistan has experienced decades of episodic growth, marked by boom–bust cycles. A key message of this study is that the government will need to implement further decisive reforms if it is to set the country on a path to strong and long-lasting growth and effectively address its social challenges.

The study highlights lessons from global experience and provides evidence-based recommendations to help decision-makers support sustainable growth. It examines how Pakistan could establish a competitive economy by increasing macroeconomic stability, boosting investments and domestic savings, and strengthening education and health care. The analysis also explores how Pakistan could harness the economic benefits of urbanization.

The study has been jointly produced by the Asian Development Bank and the Islamic Development Bank. Both institutions are committed to supporting Pakistan in achieving its vision of robust, sustainable, and inclusive socioeconomic development. It is hoped that this study will be a useful resource for policy dialogue to help the country implement effective reforms and secure better-quality growth.

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Abbreviations

ADB	—	Asian Development Bank
BISP	—	Benazir Income Support Programme
CCT	—	conditional cash transfer
CDS	—	country diagnostic study
COVID-19	—	Coronavirus Disease 2019
CPPA-G	—	Central Power Purchasing Agency Guarantee
DALY	—	disability-adjusted life year
DISCO	—	distribution company
EDF	—	Export Development Fund
EU	—	European Union
FDI	—	foreign direct investment
FY	—	fiscal year
GDP	—	gross domestic product
GENCO	—	generating company
GSP+	—	Generalised Scheme of Preferences Plus
GST	—	general sales tax
HCI	—	Human Capital Index
HCV	—	hepatitis C virus
IMF	—	International Monetary Fund
IPP	—	independent power producer
LNG	—	liquified natural gas
NEPRA	—	National Electric Power Regulatory Authority
NTDC	—	National Transmission & Despatch Company
PPP	—	public–private partnership
PHPL	—	Power Holding Private Ltd.
PRC	—	People's Republic of China
R&D	—	research and development
REER	—	real effective exchange rate
SAIDI	—	System Average Interruption Duration Index
SAIFI	—	System Average Interruption Frequency Index
SMEs	—	small and medium-sized enterprises
WAPDA	—	Water and Power Development Authority

Weights and Measures

Btu	—	British thermal unit
GW	—	gigawatt
GWh	—	gigawatt-hour
ha	—	hectare
kg	—	kilogram
kV	—	kilovolt
kWh	—	kilowatt-hour
MMcf	—	million cubic feet
MW	—	megawatt
Mtoe	—	million tons of oil equivalent

Glossary

hawala	—	informal nonbanking channel
tehsil	—	The second-lowest tier of local government in Pakistan. Each tehsil is subdivided into a number of union councils and is part of a larger district.
zakat	—	Islamic welfare levy

Pakistan Country Diagnostic Study: Highlights

Pakistan's economic performance over the past several decades has been episodic—and the prospects for strong, sustainable, and inclusive growth still seem distant. Economic growth has been characterized by boom and bust cycles, and the country has not been successful in sustaining its episodes of high growth. The average annual rate of gross domestic product (GDP) growth since 1970 has been 4.7%, but the trend growth rate has declined since the mid-1980s. The deceleration in GDP growth has been accompanied by a slowdown in fixed investment, especially public investment, which has borne the brunt of expenditure cuts in attempts to meet fiscal deficit targets. This has negative implications for the productive capacity of the economy.

The late 1980s marked a change in policies and a move toward greater reliance in the market economy through the deregulation of the banking sector, trade liberalization, privatization, and fiscal consolidation. Even so, the economy suffered repeated balance-of-payments crises due to persistent current account deficits. The frequent occurrence of higher current account deficits basically reflects an underperforming export sector and does not bode well for sustaining high and inclusive growth in the long term. More importantly, persistent balance-of-payments crises—that in large part reflect the weak export performance—have forced Pakistan to seek many stabilization and structural reform programs with the International Monetary Fund (IMF), the last one concluding in 2016. In late 2018, the country faced yet another balance-of-payments crisis and entered into another IMF Extended Fund Facility program in 2019.

Pakistan's last high-growth period was during the 2003–2008 fiscal years (FY), when growth averaged 6.2%. This was followed by a period of low growth, averaging 3.3%, during FY2009–FY2016. After a brief recovery, the economy was under pressure again in FY2019, amid low and declining reserves. With the outbreak of the Coronavirus Disease 2019 (COVID-19) pandemic, GDP contracted 0.38% in FY2020, compared with a pre-pandemic target of 3% growth. A big concern is that COVID-19 will further narrow Pakistan's

already tight fiscal space. The social cost will likely be high, with the poor and vulnerable, including women and casual workers, hit the hardest.

This country diagnostic study uses a growth diagnostic framework and analyzes the binding constraints that hinder private investment and sustaining high economic growth. It identifies the following as the most binding constraints to growth: (i) access to credit to the private sector; (ii) lack of an uninterrupted energy supply; (iii) lack of human capital; (iv) weak governance; and (v) macroeconomic imbalances and risks. Because these constraints are complex and interrelated, it is important to take a holistic approach to formulating policy so that reforms in one area do not worsen other binding constraints. The study provides a detailed analysis of Pakistan's economic performance and offers solutions to improve competitiveness and to sustain strong and inclusive growth in the long term.

Key Messages

Decisive reforms will be needed to unshackle the economy from its binding constraints. Pakistan's lack of export competitiveness, chronic fiscal deficits, and low labor productivity are the root cause of the country's sizable macroeconomic challenges. But constraints are also imposed by weaknesses in the finance and power sectors, the mobilization of resources through foreign direct investment (FDI) and domestic savings, the education and health systems, and the management of the urbanization process. Policy makers and the government need to take a holistic approach to address the binding constraints preventing an improvement in labor productivity and competitiveness.

The following measures are recommended to help tackle these constraints and to secure strong, sustainable, and inclusive growth:

Strengthen the export sector. Pakistan's structure of production is stagnant. A comparison of Pakistan's exports between 1995 and 2018 shows the country exporting the same few products and unable to advance into core industrial areas. To contain the current account deficit and promote growth, exports need to be diversified and upgraded. To this end, promoting innovation, improving research and development (R&D), and increasing investments in the export sector will be vital.

The declining export trend points to a bias in resource allocation against export industries. To turn this around trade policies need to be formulated that

not only promote exports of traditional export products but also products in newer areas of manufacturing. For traditional products, led by cotton-based textiles and basmati rice, it will be important to maintain their high export value. Although the automotive industry is still in a nascent stage of development, with improved skills, sufficient resource allocation, and R&D, the potential is there to make it competitive and for it to eventually start exporting to some overseas markets. By tackling sector-specific constraints, the government can encourage private investors to increase investments in high value-added products. For all exporting sectors, priority should be given to developing Pakistan's newer markets for existing products. Diversifying into these markets will further create opportunities for upgrading to high value-added products.

Improving the skills of those working in the cotton industry is necessary for diversifying into high-value apparel and textiles and should be done using a strategy in which the industry itself takes the lead. Government and industry associations need to work with small farmers to build their capacity to improve yield and quality. To enhance the export potential of basmati rice and secure its position against competing varieties, the government needs a comprehensive strategy that addresses the challenges hindering growth in this high-value rice subsector. The government should create an environment that enables the public and private sectors to engage in commercially viable research.

Attract foreign direct investment and mobilize domestic savings. Pakistan's FDI is low, and the country is stuck in a low-savings, low-investment trap that is hampering its growth potential. There have been notable exceptions to this trend—FDI grew sharply from FY2002 to FY2007, for example—that occurred when major reforms to liberalize foreign investment for the telecommunication sector were carried out. To attract FDI, the government should continue to promote political stability, improve the business environment, and introduce consistency among policies. Mobilizing domestic savings will require sustainable changes in social, macroeconomic, financial, and governance structures.

The lack of affordable capital is a reason for the country's episodic growth performance. There is an emphatic need to improve the mobilization of domestic savings in financing investment and social programs. Both are essential for economic growth and eradicating poverty. To finance the growing need for investments, it will be important that domestic resources are mobilized for sustainable development. This suggests that policy actions

should be targeted at mobilizing domestic savings. Because domestic savings are influenced by public finance, inflation, trade, banking efficiency, and real returns, sustainable changes in social, macroeconomic, financial, and governance structures are needed for mobilizing these savings. To this end, policy actions should be taken to increase banking efficiency, improve financial intermediation, develop financial and capital markets, improve regulatory quality, political stability, and the rule of law. Among the many policy actions that can help boost domestic savings are revamping incentives for private sector savings, introducing tax and expenditure reforms, increasing banking sector efficiency, and promoting financial deepening and macro stability.

Strengthen governance in the finance sector. The sector's weak legal, regulatory, and institutional frameworks have impeded the development of the country's sources of financing, especially for the private sector. With the finance sector having limited sources of funds, it has not been possible to expand private sector investments, which are an important source of productive employment. The country's capital markets remain shallow due to low domestic savings. Social factors, such as a low adult literacy and high age dependency, are also having an adverse effect on domestic savings. Policies and reforms focusing on improving overall governance and the delivery of public services can help improve the economy's competitiveness and productivity.

Although Pakistan has made quick strides in the past few years to improve the ease of doing business, issues related to governance remain a binding constraint. To this end, medium- and long-term reforms are needed for greater accountability and transparency. The structure of urban governance needs to be streamlined, but, at the same time, local governments need to be empowered to make strategic decisions on economic development.

Enhance the power sector. Inefficiencies in the power sector have partly contributed to the government's chronic fiscal deficits and, if not addressed, will continue to impose costs to the economy. Beyond the problem of the circular debt, caused by nonpayment of receivables all along the power value chain, the government faces other sizable power-sector challenges. These include an expensive and unsustainable power mix; inefficient generation, transmission, and distribution assets; poorly targeted electricity subsidies; and limited access to the grid. The high cost of generating electricity in Pakistan has been repeatedly identified as one of the major constraints to developing the private sector. Because of this, the government needs to invest heavily in improving the efficiency of existing power plants and the quality of the grid.

The government has implemented several reforms to address the circular debt, including multiyear tariffs, amending legislation to strengthen regulatory and fiscal regimes in the power sector, increasing market competition, and giving a larger role to provincial governments to plan and execute power projects. Significant progress has been made in reducing the gap between the supply and demand of electricity, primarily because of large investments in generation, especially from the China-Pakistan Economic Corridor collaboration. To sustain these gains, additional reforms to tackle the circular debt and the other problems undermining the sector's performance are needed. These should focus on lowering the cost of generation, improving the efficiency of the transmission and distribution system, further improving regulatory and fiscal regimes; and revising the current tariff structure.

Large capacity payments to power producers make electricity expensive and are a substantial contributor to the circular debt. The government should review its power sector policies to establish clear and transparent guidelines for new independent power producer contracts. The current power mix is expensive and unsustainable. The government should commission an independent study on the full cost of different energy sources to help Pakistan adopt a cost-effective power mix that is aligned with its long-term interests.

Improving the efficiency of existing power plants and the quality of the grid will require huge investments. The government will continue to be one of the major stakeholders in the power sector to ensure that adequate resources are made available for the maintenance and rehabilitation of existing assets. But it needs to create an enabling environment for private sector investment for system improvements and upgrading.

Power sector reforms should address regulatory and fiscal issues. The government needs to simplify regulatory processes to help facilitate tariff determinations and notifications, enable their fast disbursement, and facilitate tax refund claims. It also needs to clarify policies on the taxation of electricity bills. The Federal Board of Revenue withholding the tax billed by distribution companies (DISCOs) regardless of whether the bills are actually paid by consumers has resulted in a large backlog of claims by DISCOs to the board. Subsidies to provincial governments must be explicit and included in the budget that is transferred to the provinces. DISCOs need to make the transition from being large state-owned utilities to professionally run state-owned companies to reduce inefficiencies. Professional managers should be brought in to help bring down costs and implement a turnaround strategy.

The tariff structure needs to be revised to ensure that budgeted subsidies are directed to poor households. Revenue from tariff increases could be linked to politically popular poverty reduction programs to reduce the fiscal burden and make tariff reforms politically appealing. Achieving a more inclusive pattern of economic growth will require investments to achieve universal access. Pakistan is now at a point where it can make a credible commitment to provide universal access to all households. Where it does not make sense to connect to the grid in certain remote areas, off-grid solutions should be sought.

Promoting human capital development. Pakistan's low labor productivity stems mainly from inadequate investment in education and health. Underdeveloped human capital has resulted in the country's labor productivity lagging behind its peers in the region. Educational attainment, including the development of technical skills, remains low, resulting in the labor force lacking the knowledge and skills required to transition to a highly skilled economy.

For the country to meet its education targets in the Sustainable Development Goals, it must improve the quality of education. This can be done through raising teaching standards, updating the curriculum, and adopting a modern teaching and exam methodology that promotes analytical and critical thinking instead of rote learning and cramming. The quality of public education needs to be at par with private schools. To do this, the capacity of concerned government institutions to uphold standards needs to be increased.

Attention is needed to not only improve Pakistan's education and health indicators but also to fill the gaps. Because education and health outcomes between the urban and rural population have widened, the government needs to increase access to quality public social services across gender, regions, and social groups, especially for the rural population. For example, using information and communication technology and distance learning can be instrumental in reducing disparities in the quality of both health and education. Policy action and investments to reduce the prevalence of major diseases, particularly through the early detection of high-burden diseases and encouraging a healthy lifestyle, will have significant benefits for the economy. Programs are needed to increase awareness of both.

Pakistan's large and unregulated private sector in health is a concern. Yet, the potential for the private sector to develop health care could be huge if measures and regulations were put in place to attract public–private partnerships (PPPs) into the sector. The government is working on developing a PPP modality for this.

None of these initiatives will be possible unless there is sufficient government spending on health care. Current spending is well below the 5% threshold that the World Health Organization recommends as a percentage of national budgets. The government needs to expand the fiscal space for health care by prioritizing this in the budget and introducing alternative sources of health financing, such as PPPs, sin taxes, and external financing.

Harnessing the economic potential of urbanization. Urbanization and GDP per capita tend to move in sync as countries develop. Urbanization creates a consuming class that drives demand and allows firms and workers to interact closely, raising productivity through several channels, collectively known as agglomeration economies. These relationships are not inevitable, and Pakistan has so far not been able to fully realize the socioeconomic benefits of urbanization. The country's rapid and uncontrolled urbanization has brought many challenges—growing infrastructure deficits, congestion, environmental stress increasing risks of climate change impacts and natural disasters, unaffordable housing, and growing inequality. Other urbanization challenges include a governance structure that does not involve local officials in decision-making on the economic activities central to their cities, a distortionary land-use model, and restrictive zoning regulations, all of which promote unsynchronized spatial and economic development and undermine urban agglomerations from fully exploiting agglomeration economies. Rapid urbanization in such a context simply adds to congestion and urban sprawl.

A decisive break with past approaches, although not easy, is needed to make Pakistan's cities more livable. Realizing the many benefits that well-managed urbanization brings will require long-term collaboration among various stakeholders, including federal, provincial, and local governments; development agencies; international donors; the private sector; and local communities.

Urban agglomeration economies need to be built. This can be done by improving the management of urban functions and promoting interagency coordination among service providers. This will be particularly important for promoting a synchronized approach to urbanization. Strengthening the capacity of local governments to work with key agencies, and devising and enforcing appropriate transport and land use policies and other regulatory functions, will be crucial for harnessing the economic potential of urbanization. Creating industrial clusters in cities can improve competitiveness and productivity, and contribute to higher and sustained growth and job creation. These clusters could be supported by, among other things, improving trade facilitation and logistics, and rationalizing business regulations and taxation.

Promoting tourism and knowledge-driven businesses can help make Pakistan's cities more livable and boost the economies of these cities.

Land and housing reforms are needed to reduce the spread of urban slums, and housing finance needs to be provided to low- and middle-income households. The government's Naya Pakistan Housing Program, which aims to build 5 million low-cost houses from 2018 to 2023, is a step in the right direction. Government regulations should be revised to foster more affordable rental housing.

Strengthening urban–rural synergies and linkages can create better employment opportunities and improve public services in rural areas and reduce urban migration. This will involve creating and strengthening backward and forward supply chain linkages in urban industry and services sectors with rural areas, and providing better education and health services in backward regions.

Way Forward

The COVID-19 pandemic—which was ongoing at the time of publication—underscores the urgent need to carry out reforms discussed in the study. The pandemic is expected to further undermine the country's already weak economic fundamentals, and the global economic fallout will affect the short- to medium-term outlook for certain sectors. Focusing on and working toward tackling the binding constraints identified in the study can pave the way for Pakistan to work toward achieving strong, sustainable, and regionally balanced growth.

The symptoms of Pakistan's lackluster economic performance are many and varied. Yet, the economy is not without opportunities and bright spots. Significant progress has been made in tariff and trade liberalization. The banking sector, in the main, is healthy, and Islamic banking growing. The security situation—still a significant country risk—has substantially improved since 2016. A surplus supply of energy is expected in 2020. And there are promising export sectors. That said, the negatives outweigh the positives. Even had there been no pandemic, reforms to set the economy on a course for strong, sustainable, and inclusive growth were sorely needed. Pakistan has shown that it is capable of taking bold reforms in the past. The uncertain outlook for the domestic and global economy makes it imperative that it does so again—and quickly.

CHAPTER 1

Understanding the Episodic Growth Performance

Mohammad Zubair Khan and Kiyoshi Taniguchi

Pakistan's episodic pattern of economic growth is characterized by periods of boom and bust. A narrow production and export base has made the economy less resilient to economic shocks, restricted trade, and resulted in a binding balance-of-payments constraint to growth. Domestic resource mobilization is severely limited. A large fiscal deficit, a weak external position, and eroded macroeconomic buffers reflect structural weaknesses in economic management. Consequently, the fiscal and monetary policy adjustments needed to correct these economic imbalances are limiting the fiscal space to tackle Pakistan's infrastructure deficit, raising the cost of doing business for the private sector and holding back the country's international competitiveness. Governance bottlenecks and institutional capacity challenges persist.

Low levels of human capital development in Pakistan have resulted in stagnant labor productivity. The development of a social protection system is progressing, but it still does not provide adequate cover to the country's vulnerable populations. Women in Pakistan are less economically active than men, and underrepresented in skilled jobs. The combination of strained growth, inadequate human capital development and social protection, and the underutilized potential of women is increasing poverty pressures and intensifying income inequality. Pakistan also grapples with a stressed water situation, environmental degradation, natural disasters, and the risks associated with climate change, which threaten sustainability and underscore the need to institute urgent adaptation and mitigation measures.

This country diagnostic study concludes that Pakistan's lack of competitiveness stems from chronic fiscal deficits, a shallow capital market, the high cost of electricity, and low labor productivity. A high level of fiscal deficits has fed into mounting debt and rising interest payments, contributing

to excessive domestic demand spilling over into external imbalances and loss of foreign exchange reserves. A weak export performance has caused persistent balance-of-payments crises, forcing Pakistan to enter into repeated International Monetary Fund (IMF) stabilization and structural reform programs since it joined the organization in 1950. In November 2018, the country faced yet another balance-of-payments crisis amid external pressures causing reserves to dwindle further. This was partly linked to fiscal imbalances from supporting domestic demand and import growth. But, importantly for Pakistan, much of this pressure was strongly linked to the poor performance of exports and surging imports due to the economy's loss of competitiveness.

Competitiveness is vital for sustainable growth. But competitiveness is no longer about the competitiveness of exports alone. It is increasingly recognized that measures to strengthen competitiveness should be economy-wide to support exports and domestic import-substituting businesses. This is because of the strong interdependencies between the domestic economy and exports, and to encourage export diversification. In Pakistan, economic policy has overlooked the fact that businesses create jobs and wealth, not governments. The financing of persistent and rising budget deficits by borrowing from banks has crowded out the private sector. The government's efforts to tackle fiscal imbalances by raising taxes on businesses, overvaluing the Pakistan rupee, and putting the burden of the inefficiencies in the energy sector on businesses has resulted in a loss of competitiveness in export- and import-substituting sectors. Crowding the private sector out from bank credit, especially term credit, has been particularly limiting due to the nascent stage of development of the county's capital markets.

1.1 Economic and Social Impacts of COVID-19

The Government of Pakistan set up the National Command and Operation Centre to implement the decisions of the National Coordination Committee on the Coronavirus Disease 2019 (COVID-19) pandemic.[1] To contain the spread of the virus, the government has, as of June 2020, implemented various measures, including closing borders, restricting international travel, closing schools and universities, prohibiting public events, and implementing varying levels of lockdowns in cities and provinces.[2] The full extent of the economic and social impact of COVID-19 will depend on how well and how fast the virus can be contained. Among the National Command and Operation Centre's roles is collecting data on the pandemic, including confirmed cases,

[1] ADB supported the center to strengthen its monitoring and reporting mechanism related to supply chain, delivery, consumption, and demand for medical supplies and equipment.

[2] ADB. ADB COVID-19 Policy Database. https://covid19policy.adb.org/ (accessed 21 June 2020).

deaths, and recoveries by province and region. The data include statistics for the previous 24 hours.[3]

The Asian Development Bank (ADB), in a March 2020 assessment of the potential economy- and sector-specific impacts of COVID-19, forecast the economic losses ranging from 2.1% to 5.5% of Pakistan's gross domestic product (GDP).[4] Real GDP contracted 0.38% in FY2020 as the COVID-19 pandemic battered economic activity. Containment restrictions, including the suspension of travel and the closure of nonessential businesses, induced concurrent demand and supply shocks that significantly reduced output. Large-scale manufacturing, which accounts for about half of the industry sector, had already contracted by 2.6% in fiscal year (FY) 2019, which worsened to 10.2% in FY2020, with exceptionally large decreases occurring after the onset of the pandemic and spreading across the board. Particularly pronounced declines in FY2020 were 43.8% for the automotive industry, 20.1% for coke and petroleum products, 34.8% for electronics, and 10.4% for textiles. With the marked fall in industry, closure of nonessential businesses, and the suspension of travel and transport, the services sector reversed a 3.8% expansion in FY2019 to contract by 0.6% in FY2020.

Pakistan's main export destinations—the People's Republic of China, the United Kingdom, and the United States—were among the countries worst hit by the pandemic in its early stages. Falling demand from these countries, combined with production disruptions, contracted Pakistan's merchandise exports by 7.2% in FY2020. Because of tariff increases in nonessential items, merchandise imports contracted by 18.2% in FY2020. In sum, the merchandise trade deficit narrowed from 9.9% of GDP in FY2019 to 7.5% in FY2020. Despite lower international oil prices, remittances from workers overseas, many of them in the Persian Gulf, remained robust, growing by 6.3% in FY2020. This was despite some month-to-month volatility—for example, remittances declined by 50.7% in May and increased by 32.2% in June.[5]

The consolidated fiscal deficit of the federal and provincial governments fell from the equivalent of 8.9% of GDP in FY2019 to an estimated 8.1% in FY2020, following fiscal consolidation gains of the first 3 quarters before the COVID-19 took hold in early 2020. Fiscal revenue is estimated at 15.0% of GDP in FY2020, up by 2.3 percentage points from FY2019. Fiscal spending increased from 21.6% of GDP in FY2019 to 23.1% in FY2020 on account of increased interest

[3] Overview data at http://covid.gov.pk/ and detailed data at http://covid.gov.pk/stats/pakistan.

[4] ADB. COVID-19 Economic Impact Assessment Template, as of 28 March 2020. https://data.adb.org/dataset/covid-19-economic-impact-assessment-template.

[5] State Bank of Pakistan. http://www.sbp.org.pk/ecodata/index2.asp (accessed 17 July 2020).

payments and a fiscal stimulus package to mitigate economic losses from the COVID-19 pandemic. Gross public debt reached an estimated 87.2% of GDP in FY2020, with a high fiscal deficit and GDP contraction negating significant fiscal consolidation gains made in the first 9 months of FY2020 under an IMF stabilization program.

Managing the pandemic will require increased spending on containment measures, social safety net programs, and other social support measures. The government will also need considerable funds to be able to quickly increase the capacity of the health care system; procure ventilators, personal protective equipment, and testing kits; and to set up testing laboratories.

The government announced a PRs1.2 trillion relief package on 24 March 2020 to, among other things, provide support to low-income groups, particularly laborers; buy wheat from farmers to support their incomes; reduce the import tariff rates on medicine and food supplies; and provide tax concessions for small industries and the agriculture sector. At the same time, the government announced the temporary deferment of loan interest payments for exporters. From March to June 2020, over 5 million people were provided a monthly stipend of PRs3,000 through the current social protection program. The package also includes a significant reduction in petroleum prices, a facility to pay electricity and gas bills below a certain amount in installments, and incentives for the construction sector. The Prime Minister, in April 2020, established the COVID-19 Pandemic Relief Fund.

The social cost of the COVID-19 pandemic is expected to be much higher for the poor and vulnerable over the next 2–3 years. With weak economic growth and the closure of businesses, employment losses are estimated at 12.5 million–15.5 million in the event of a partial lockdown, and 18.7 million–19.1 million in a severe lockdown (Ministry of Finance 2020). Informal and casual workers are at higher risk of losing employment. Most informal workers are in the wholesale and retail trade and manufacturing, the two hardest hit sectors. Casual workers are often the first to be laid off when businesses cut operating costs—and these workers have less access to paid leave, social protection, and other forms of income support from the government.

The pandemic is likely to force more people back into poverty. Given a 5%–20% reduction in annual per capita consumption expenditure because of COVID-19, the incidence of poverty is projected to range 26.8%–40.9% in 2020, compared with 24.4% in 2018. Without COVID-19, poverty incidence was forecast at 22.8% in 2020 (Bulan et al. 2020).[6]

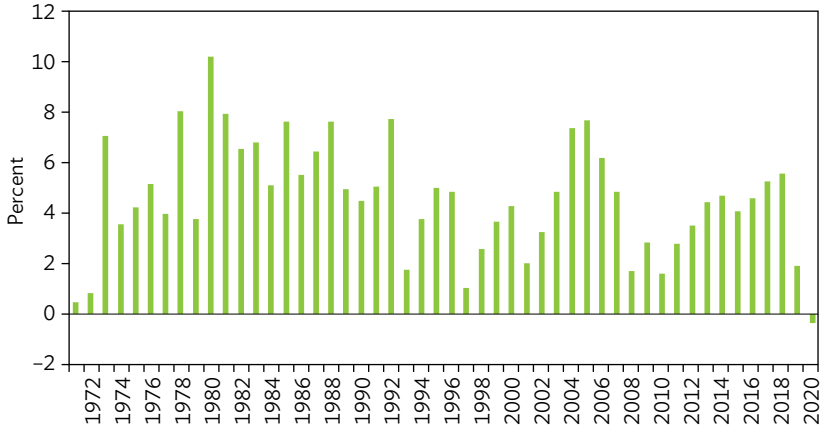
[6] ADB estimates based on $3.2 per day poverty line.

Women are likely to be disproportionately affected by the pandemic. Women workers dominate the affected production sectors and the informal labor market, and are therefore more likely to be laid off. Most health care professionals are women, putting them at higher risk of contracting COVID-19. And girls are at higher risk of being pulled out schools during crises (Ministry of Finance 2020). Global data show that domestic violence against women and girls has been increasing since lockdown measures were implemented, as they are forced to stay at home with their abusers (UN Women 2020).

1.2 Macroeconomic Trends

Figure 1.1 shows Pakistan's boom–bust cycles reflected in the cyclical pattern of its GDP growth. Pakistan's boom–bust cycles are partly due to the lack of macroeconomic policy continuity. The average GDP growth rate from FY1970 to FY2020 was 4.7%.[7] This period had three episodes of high growth, with at least 3 years of growth equal to or above 5% (above the period average) covering 17 years in total: FY1978–FY1983 (6 years), FY1985–FY1988 (4 years), FY2004–FY2007 (4 years), and FY2016—FY2018 (3 years). From FY1970 to FY2020, there were three episodes of low growth with at least 3 years of growth of less than 5%, covering 22 years in total: FY1974–FY1977 (4 years), FY1996–FY2003 (8 years), and FY2007–FY2016 (10 years).

Figure 1.1: Gross Domestic Product Growth, 1971–2020



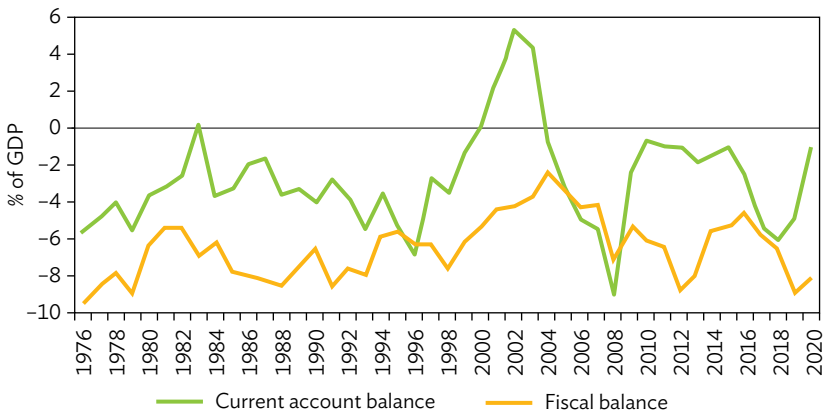
Notes: Years are fiscal years, ending 30 June.
Source: World Bank. World Development Indicators Database.

[7] Pakistan's fiscal year ends on 30 June.

The late 1980s marked a threshold in the direction of policies for deregulation, liberalization, privatization, and fiscal consolidation, and for a greater reliance in the market economy. Even so, the economy suffered repeated balance-of-payments crises due to persistent current account deficits. With each crisis, Pakistan sought a stabilization program with the IMF. All governments, including constitutionally mandated interim governments, broadly agreed on the new direction of economic policies, which, in part, reflected the IMF programs. There were, however, differences in the implementation of these policies during the terms of these governments.

Apart from macroeconomic stabilization measures, the first phase of the new policies was introduced in 1988. This included liberalizing the foreign exchange and trade system, reforming the finance sector, encouraging foreign investment, and opening up areas of the economy to the private sector that were previously reserved for the public sector (Khan 2002). Despite these reforms, the economy's performance deteriorated, with average annual GDP growth decelerating from 6.9% during FY1978–FY1988 to 4.1% during FY1989–FY1999. The government has failed to rein in fiscal and current account deficits (Figure 1.2). The deceleration in GDP growth was accompanied by a slowdown in fixed investment, especially public investment, which bore the brunt of expenditure cuts in attempts to meet fiscal deficit targets. Export growth slowed to less than 5% during FY1989–FY1999, down from over 10% during FY1978–FY1988.

Figure 1.2: Fiscal and Current Account Balance, 1976–2020



GDP = gross domestic product.
Note: Years are fiscal years, ending 30 June.
Source: State Bank of Pakistan; World Bank, World Development Indicators Database.

As part of the structural reforms under the IMF programs, progress was made in liberalizing interest rates, the external current and capital account, and tariffs and trade through sharp reductions in tariffs and quantitative restrictions. Public debt management was also strengthened. But the implementation of fiscal reforms was slow, and progress was limited. There were delays in introducing a broad-based general sales tax (GST) and agricultural income taxation, and in liberalizing utility tariffs and administered prices. Little was achieved in tax administration reform, and state-owned enterprises remained a burden on public finances.

Progress in tariff and trade liberalization was, however, significant. The maximum tariff was cut from 225.0% in 1988 to 35.0% in 1999, and the simple average tariff fell from 123.5% in 1986 to 35.0% in 1999. The number of tariff slab rates was reduced from 10 slabs to five by 1999 in a major simplification of the tariff regime that involved para tariffs being reduced and integrated into the statutory tariff schedule. The changes caused a major reduction in customs duty receipts, which declined from over 6% of GDP in the late 1980s to 2% of GDP in FY2000 as the government increased its reliance on direct taxes and sales tax for revenue. Progress was made in reducing nontariff barriers and phasing them out under World Trade Organization commitments in 1998. The negative list of imports was narrowed from 500 items in the mid-1980s to 44 in FY2000. The role of special import duty concessions and exemptions also declined during this period, and the use of statutory regulatory orders was reduced.

A number of fiscal policy choices had two significant outcomes that affected economic performance in different years and to varying degrees that contributed to the economic slowdown during 1988–1999. First, tax reforms aimed at shifting taxation from international trade to domestic activities led to revenue shortfalls because GST and income tax collection could not grow fast enough to offset the relatively rapid reduction in revenue from tariffs. The slow success in generating revenue from GST was due to shortcomings in tax administration (where reform had not taken place); numerous exemptions (which took nearly 10 years to eliminate); and tax evasion from the poor policy decision to launch GST at a high rate of 15% in 1990 (despite the experience of other countries showing that a much lower introductory rate was called for). Revenue from income tax could not grow rapidly because of weak tax administration and a narrow tax base.

Second, the fixation to meet fiscal deficit targets led to frequent ad hoc tax increases and expenditure cuts. In tariff reform, while the maximum tariffs on final output products were successively and rapidly reduced, tariffs on raw

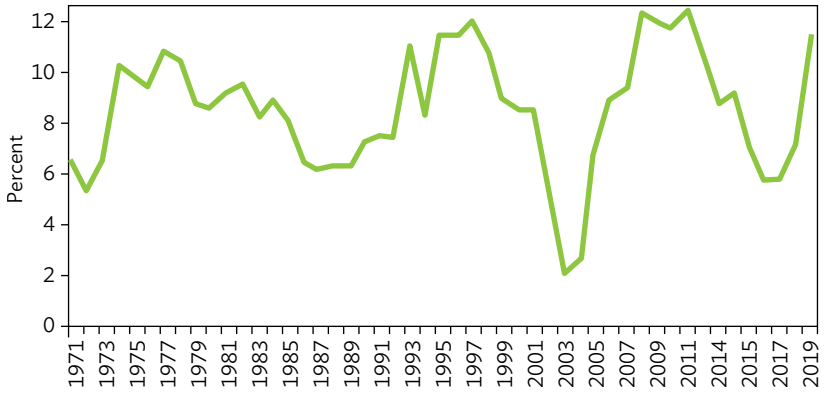
materials and other inputs were not. This is because these tariffs were major sources of revenue. The result was squeezed industry profitability, causing many businesses to close, which in turn reduced incomes, employment, and the tax base. This had a domino effect on the banking system, with failing businesses increasing bad-loan portfolios.

On the expenditure side, cuts in fiscal outlay inevitably fell on development and social spending because of rigidities in the structure of government expenditure due to the large share of interest payments and military spending. The decline in public investment from 10% of GDP in FY1992 to 4.5% in FY2000 was a major factor for the slower GDP growth in the 1990s.

During this period, some finance sector policy decisions had important implications for the economy; among them, sequencing problems. The Structural Adjustment Facility with the IMF in 1988 envisaged the simultaneous implementation of liberalized interest rates and lending practices, and a reduction in the public sector borrowing requirement. Only the first of these two reforms was implemented. Interest rates soared, causing the cost of financing the fiscal deficit to balloon and making it even harder to reduce the budget deficit (Figure 1.3). The IMF program also aimed to reform the banking sector's regulatory system, but this also did not happen. Governance weakened in the 1990s, and the soundness of the banking system deteriorated as nonperforming loans rose. The cost of intermediation increased sharply, reflected in a 7% spread between deposit and lending rates, which, together with high interest rates, depressed private investment and economic activity in the 1990s.

Finance sector reforms continued through the 1990s focusing on the professional and autonomous management of nationalized commercial banks, downsizing and restructuring, loan recovery and portfolio improvement for eventual privatization, and a better regulatory and supervisory role for the State Bank of Pakistan, the central bank. These reforms, however, led to market failures for project and export finance, and agricultural loans. Commercial banks by default avoided lending to traditionally risky sectors (project finance and agriculture) and to new export products, markets, and exporters. This is a dilemma that continues to confront policy makers. The neglect of new export categories hurt the overall expansion of exports since growth usually emanates from these categories. In fact, the State Bank of Pakistan, in 1998, directed commercial banks not to lend for project finance for 6 months to improve banks' loan portfolios. With banks comprising over 80% of the finance sector, and capital markets at a nascent stage, this had an adverse impact on private

Figure 1.3: Money Market Rate, 1971–2019



Source: International Monetary Fund. International Financial Statistics. http://data.imf.org (accessed 11 June 2020).

investment. The State Bank of Pakistan also introduced regulations to cut access to working capital to businesses that were behind on payments on their project loans, causing these businesses to fold. Businesses that saw their profit margins decline due to the changing tariff structure and rising interest rates were further stifled by the central bank's prudential regulations.

Domestic supply-side developments have had adverse consequences for industrial and agriculture production growth and exports. The cotton sector was hit by a series of productivity shocks, including leaf curl virus infestations from 1993 to 1995 and American bollworm infestation from 1996 to 1997. These sharply reduced domestic cotton supplies and raised domestic prices because the government did not immediately allow duty-free imports of raw cotton. As a result, the textile industry's competitiveness suffered, and a number of companies defaulted on their loans with the banks. These defaults further contributed to the declining health of the banking sector, which had already accumulated a large portfolio of nonperforming loans. The disappointing performance of cotton exports from 1993 made import financing more difficult. Rising external debt and pressure on reserves became a repeated feature of Pakistan's balance of payments. With exports stagnating, the current account deficit rose to 4.5% of GDP, and total external debt levels became unsustainable, rising from $20 billion in FY1990 to $43 billion (47.6% of GDP) in FY1998. With a decline in agriculture output and textile production, economic growth decelerated to below 5%.

A new government elected in 1997 failed to advance wide-ranging economic and banking reforms initiated by the previous technocratic interim government. As a response to declining reserves, the government froze foreign-currency accounts, which further eroded investor confidence. Foreign direct investment (FDI) suffered further when the government reopened all agreements signed by the previous administration with independent power producers to renegotiate power purchase prices. Both these developments had a detrimental effect on the confidence of foreign investors and overseas Pakistanis, who are pivotal for sustaining capital inflows into the country.

The new government in 1999 tried to moderate the financial imbalances—and with some success, with the fiscal deficit fluctuating at about 4% of GDP by 2000 and inflation halved to 4%. But gross international reserves fell as a share of imports to their lowest level of less than 1 month of imports in June 2000. Economic growth was slow to revive, and a balance-of-payments crisis threatened. The September 11 attacks and the ensuing geopolitical changes provided the government with new funding opportunities. In December 2001, Pakistan entered a three-year Poverty Reduction and Growth Facility with the IMF.

The process of stabilizing the economy was greatly assisted by the Paris Club rescheduling Pakistan's external debt repayments, the large-scale inflows of grant and concessional foreign assistance after 9/11, and a surge in remittances through banking channels from the worldwide crackdown on informal nonbanking channels known as *hawala.* The major factor behind the economy's improvement, however, was the full implementation of the IMF's stabilization and structural reform program a year ahead of its term. The economy grew in FY2005 at one of the highest rates in the world. As vulnerabilities were reduced, the country regained access to international capital markets. Despite these positive developments, inflation accelerated and a growing current account deficit emerged, pointing to the need for careful macroeconomic management—a prescription that still resonates.

The government introduced tax administration reforms in 2005. But modest increases in tax buoyancy during the boom years of 2005 and 2006 reduced the urgency for bringing about needed reforms in tax administration, although these were eventually completed in 2011. The government made considerable progress in achieving some broad tax reform objectives, including strengthening audit and enforcement procedures, guaranteeing a fairer and more equitable application of tax laws, increasing transparency and integrity, facilitating and promoting voluntary compliance with tax laws, and providing transparent and high-quality tax services. The reforms were well received. Revenue grew under the voluntary tax assessment regime, but

its shortcomings limited the achievement of final outcomes and allowed the continuation of discretionary procedures.

Another important tax reform objective was to reduce reliance on import duties and raise revenue from income and GST. Tariff reforms achieved some improvement in reducing the anti-export bias since 2002 through changes in tariff rates. This not only lowered protection for import-substituting sectors but also reduced tariffs on raw materials and intermediate goods, paving the way for exporters to use inputs at world market prices. WTO (2008) notes that the average most-favored-nation tariff rate was reduced from 20.4% in FY2002 to 14.5% in FY2008, mainly as a result of the introduction of zero tariffs on some 400 tariff lines. All "regulatory" import duties were removed by FY2008, and export growth rates were high during FY2004–FY2011.

The GDP growth rate rose to well over 5% a year from FY2003 to FY2008, including 2 years of growth at over 7.5% in FY2004 and FY2005. This was Pakistan's most recent high-growth episode. GDP expanded on a revival in large-scale manufacturing, through the better utilization of idle capacity in response to increased demand, and power shortages ending after independent power producers added substantial generation capacity to the national grid, which kept ahead of the demand for power until 2005. Domestic investment increased amid an improved business climate, and net FDI rose to over $3 billion in FY2007, mostly in nontradable services (and some in oil and gas). Services sector FDI improved the financial account of the balance of payments during this period, but the inherently adverse impact of these investments on the balance of payments was felt in later years as investors remitted profits and debt service payments in foreign exchange while earning in local currency.[8]

The government was able to reduce and contain the fiscal deficit from 6.1% of GDP in FY1999 to 2.3% in FY2005 (although it rose to 5.4% of GDP in FY2007 ahead of an election). This reduced the debt-to-GDP ratio from over 100% in FY2001 to 53.4% in FY2007. The sharp fiscal adjustment came at a considerable cost to the public sector investment program and resource transfers to provincial governments. Despite stressed irrigation systems and the need to produce cheap hydroelectric power, the government during this period built no new major dams because planners severely underestimated the increase in the demand for power. The power shortages that emerged in 2006 affected industrial production and economic competitiveness for the next decade. The government also failed to reach an agreement with the provinces on a new National Finance Commission Award to transfer adequate resources to the provinces and the onward transfer to local governments. This ultimately

[8] Capital outflows from interest payments, profits, and debt totaled over $2 billion in FY2018.

led to a disappointing performance of local governments in carrying out their ordinances.

From independence until 1982, Pakistan used a fixed exchange rate system. In 1982, the managed floating exchange rate system was introduced; this pegged the rupee to a basket of currencies, providing a useful and credible nominal anchor for monetary policy. In 1998, the central bank introduced the New Exchange Rate Mechanism to help manage its balance of payments. In 2000, Pakistan shifted to a more relaxed managed floating exchange rate. Following the unexpected reversal in capital flows in the fourth quarter of 2001, large foreign exchange inflows posed a challenge for monetary policy under the managed floating exchange rate. To prevent the exchange rate from appreciating and eroding export competitiveness, the State Bank of Pakistan intervened in the market with large purchases of foreign exchange, which increased reserves. The central bank tried to sterilize the increase in net foreign assets by reducing its stock of Treasury bills, but this, coupled with intervention in the foreign exchange market, was inadequate. The rupee's trade-weighted real effective exchange rate index appreciated by over 7% between September 2001 and June 2002, although it was later reversed, and the real effective exchange rate index fell to 1999's level. Reserve money, however, grew by 9.6% in FY2002 and 16.1% in FY2003, which generated a large liquidity overhang contributing to inflationary pressures in subsequent years.[9] The limited intervention in the foreign exchange market was dictated in part by concerns over the quasi-fiscal cost of sterilization and the depletion of the State Bank of Pakistan's stock of Treasury bills (State Bank of Pakistan 2002). The government viewed the rupee's appreciation favorably for fiscal reasons since it reduced the currency's burden of debt servicing. Thus, once again, the fiscal dominance of policy decisions adversely affected the overall economy. In 2019, Pakistan adopted a market-based exchange rate system to stop reserves being drained.

Total merchandise trade, after stagnating at $8 billion–$9 billion from FY1996 to FY2002, increased sharply to $17.3 billion in FY2007. Initially, nearly all the increase was due to textiles because of wider market access granted by the European Union and the United States after 9/11, and the resourcing opportunities from the SARS virus outbreak in Southeast Asia in the final years of the most-favored-nation quota regime. But all other major exports (leather, carpets, leather garments, sports, and surgical goods) initially recorded substantial declines due to the rupee's initial appreciation. Gains in exports

[9] M2 grew by 15.4% in FY2002 and 19.0% in FY2003 due to a declining multiplier. Nominal GDP grew by 6.0% and 10.8% in these years, which was less than growth in liquidity as the velocity of money declined during this period.

became broad-based after the rupee's subsequent depreciation and tariff reductions on inputs kicked in. The sharp reduction in the fiscal deficit during this period further restrained domestic demand and contributed to improved external balances. The current account recorded surpluses from FY2002 to FY2004 as gross foreign exchange reserves rose from $1.7 billion in FY2001 to over $10.0 billion (6.3 months of import cover) in FY2004 and to $13.5 billion (4.5 months) in FY2007.

The dramatic economic turnaround—which started in FY2002 on large capital inflows (mostly remittances), debt rescheduling, and wide-ranging structural reforms—began to falter as serious macroeconomic imbalances began to surface in FY2007 (Khan 2009). These imbalances manifested themselves in a growing fiscal deficit (5.4% of GDP) that led to a widening external current account deficit (4.5% of GDP) and inflation (8% increase in headline inflation). Although real GDP growth decelerated, it remained above 5% and the debt-to-GDP ratio inched up again. Toward the end of FY2007, a food crisis hit the country, caused by a sharp rise in international wheat flour prices.

1.3 Persistent Slow Growth, Reversal of Tariff Liberalization: 2008 to Present

The macroeconomic imbalances continued to grow in FY2008 as fiscal and monetary restraint became more difficult to apply in an election year. Fiscal problems were aggravated by big spending and rising subsidies on oil products as the government tried to insulate consumers and voters from international oil price increases. Real GDP growth slowed to 5% in FY2008—the last year of the high-growth period—as agriculture and manufacturing weakened. The macroeconomic imbalances also resulted in rising inflation, which peaked at 25.3% year-on-year in August 2008. The external current account deficit widened to about $14 billion or 8.5% of GDP, reflecting a widening trade deficit. Exports and remittances continued to grow, but so did imports. These rose by more than 30% due mainly to a $4 billion (2.5% of GDP) increase in the value of oil imports and strong aggregate demand growth. While FDI inflows stayed strong, portfolio outflows reduced the capital account surplus, which led to gross international reserves falling by $4.9 billion to $8.6 billion in June 2008.

Underlying the deteriorating macroeconomy in FY2008 was the rise in the fiscal deficit to 7.3% of GDP due to energy and food subsidies, higher-than-envisaged interest payments, and additional security-related expenditure. The deficit was largely covered by State Bank of Pakistan financing. As a result,

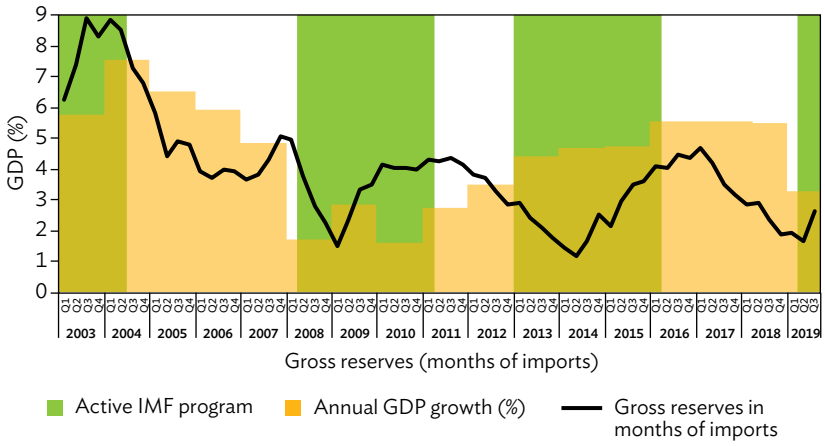
government efforts to contain inflation by not passing on the impact of higher energy prices to consumers turned out to be counterproductive because price subsidies contributed to a higher budget deficit, which was financed by inflationary borrowing from the central bank. To contain inflationary pressures, the State Bank of Pakistan increased its discount rate in several steps by 350 basis points from July 2007 to July 2008 to 13%. Yet, this was not enough to curtail domestic demand to offset the impact of its inflationary deficit financing.

Pakistan suffered several idiosyncratic shocks in this period. All had impacts on the economy, although the magnitudes varied. A major earthquake struck in 2005, and there were massive floods in 2010. The 2008 global financial crisis and recession coincided with Pakistan's own economic crisis. Terrorism in Pakistan after 9/11 hit the economy hard, especially between 2006 and 2016. Nearly 34,000 people lost their lives and damage was done to infrastructure. The investment rate declined from 18% of GDP in FY2005 to less than 11% in FY2016. International trade was disrupted amid canceled export orders for fear of delays, personal travel was restricted, and the cost of insurance cover rose. The government estimates the economic cost of the war on terror to Pakistan since 2001 exceeded $35 billion. Deaths from terrorism have significantly declined since 2017. That said, attacks continue to blight consumer confidence and investor sentiment.

By 2008, the government was finding it difficult to tackle the growing macroeconomic imbalances. Monetary policy continued to accommodate the government's expansionary fiscal stance. Budget overruns financed by borrowing from the State Bank of Pakistan offset the contractionary impact of discount rate increases, thus feeding inflationary pressures. Inflation continued to accelerate, with headline consumer-price-index inflation in November 2008 at 24.7% year-on-year, and core inflation at nearly 19%. Both were recent record highs. Food inflation continued to hover at over 30%, despite the reduction in international food prices after they peaked in July 2008. And reserves fell to $3.4 billion (less than 1 month of imports) by October 2008. A balance-of-payments crisis developed as the government's efforts to borrow funds from other countries failed (Figure 1.4).

The global financial crisis triggered an outflow of portfolio investments, and dollarization increased in the economy during July–October 2008. This contributed to a deterioration in the liquidity positions of banks and capital flight, thus putting pressure on the rupee, which depreciated further. In response to an escalation of liquidity pressures in October, the State Bank of Pakistan reduced the reserve requirement by 4 percentage points and eased

Figure 1.4: Gross Domestic Product Growth, Foreign Exchange Reserves, and International Monetary Fund Programs, 2003–2019



GDP = gross domestic product, IMF = International Monetary Fund.
Source: K. Rosbach. 2018. Pakistan's Economic Growth Forecast is Inconsistent with Stabilizing Foreign Reserves. Unpublished. Manila: Asian Development Bank.

liquidity requirements. It also encouraged the merger of four small banks. These measures stabilized liquidity conditions in the subsequent weeks. The rupee had depreciated 30% since the end of March 2008, reflecting growing foreign exchange market pressures. In May 2008, the State Bank of Pakistan temporarily adopted several foreign exchange measures to reduce these pressures. The government, for its part, imposed regulatory duties on imports of luxury items.

Economic growth in Pakistan decelerated further in FY2009 to 0.4%, the lowest rate in decades. The slowdown was caused by a sharp reduction in domestic demand designed to reduce inflation, the current account deficit, mitigation measures from the energy crisis, and a domestic insurgency. In November 2008, Pakistan and the IMF signed a Stand-By Arrangement for a 23-month stabilization program supported by a $7.6 billion loan. The IMF program entailed steep increases in administered prices of fuel, electricity, and natural gas. This and other measures to restore fiscal discipline and market confidence resulted in the fiscal deficit declining to 5.2% of GDP within a year and the external current account deficit falling sharply to 5.5%. The IMF's program review in late 2010 was not held because of the larger-than-targeted fiscal deficit. The IMF suggested that a stronger reform effort was needed for the introduction of GST and the power sector (IMF 2010).

In 2010, the 7th National Finance Commission Award and the subsequent 18th Constitutional Amendment resulted in significant fiscal and administrative decentralization (Box 1.1). These changes unbalanced the fiscal federal structure, which posed macroeconomic and political challenges. The 7th National Finance Commission Award significantly increased the share of the provinces in the federal divisible pool, from 47.5% to 57.5%. Because of this and lax overall fiscal discipline, the budget deficit climbed sharply, rising from 5.2% of GDP in FY2009 to 6.5% in FY2011 and to 8.8% in FY2012.

Box 1.1: Implications of the 7th National Finance Commission Award and the 18th Constitutional Amendment

The 7th National Finance Commission Award and the subsequent 18th Constitutional Amendment in 2010 were the biggest shifts in fiscal decentralization since the Constitution of Pakistan was passed in 1973. These changes resulted in significant fiscal and administrative decentralization that left the federal fiscal structure unbalanced and posed macroeconomic and political challenges.

The 7th National Finance Commission Award transferred a large share of the divisible pool—at 57.9%, unprecedented in its size—and other resources to the provinces from the federation without reassigning additional expenditure responsibilities to the provinces. This contributed to the substantial vertical fiscal asymmetry that created a significant structural deficit at the federal level, resulting in harmful macroeconomic effects.

Just as challenging as the 7th National Finance Commission Award transfer was the interprovincial revenue sharing formula in the award, which, if unchecked, will contribute to increasing the resource and development disparities between provinces. The award altered the formula for the horizontal distribution of resources among provinces from population-based parameters to multiple ones that included population, poverty, inverse population density, and revenue collection. This gives more resources to provinces that collect more revenue. In other words, richer provinces are rewarded with additional resources, thus accentuating development disparities between provinces.

The 18th Constitutional Amendment further significantly curtailed the responsibilities of the federal government and expanded the legislative and executive domain of Pakistan's four provinces. Some of the reassignments created a governance vacuum at the national level amid conflicting provincial policies that had adverse international repercussions. Even some taxation and revenue-generating powers of the federation have been contested.

Continued next page

Box 1.1 continued

The 7th National Finance Commission Award removed the general sales tax (GST) on services from the divisible pool. With the federal share reduced, provincial equity was lost due to differences in their GST revenue-generating capacity. Apart from the larger share in the divisible pool, the provinces have exclusive tax jurisdiction over agriculture and services, which account for 80% of Pakistan's gross domestic product. Overall, the reduction in the federal share has seriously constrained the government's ability to respond to nationally important unexpected expenditure or to assist provinces.

Removing GST from the divisible pool has contributed to the persistent federal budget deficit, and rising debt and debt service, thereby reducing resources for development. With 57.9% of tax revenue going to the provinces, a much greater federal effort is needed to raise revenue for the federal budget. The large share of tax revenue going to the provinces has resulted in an increased tax burden on taxpayers and businesses with adverse consequences for tax compliance. This also resulted in a loss of competitiveness that contributed to the balance-of-payments crisis.

The 7th National Finance Commission Award does not address the issues of sharing the burden of financing joint responsibilities, which remains with the federation, and the public debt service of loans for national projects. The award also does not assign responsibility to provinces for line losses and the power sector's circular debt—the accumulation of new payment arrears of power distribution companies. This is despite the unbundling of distribution companies into regional companies, which has the potential to result in considerable claims on federal finances.

Despite increased tax revenue, fiscal outcomes have worsened since the 7th National Finance Commission Award. Lack of federal government resources may have also contributed to fiscal imbalances in the power sector caused by the circular debt and pending refunds to exporters, both of which further eroded competitiveness and restricted manufacturing, which had consequences for unemployment.

At the same time, provinces had difficulties to strengthen their public financial management frameworks. Thus, provincial governments have large resources at their disposal, but ineffective mechanisms to ensure fiscal discipline and accountability. The provincial demand for a larger share in divisible-pool resources is rooted in the acute shortage of resources for local governments, since fiscal decentralization did not trickle down to them (notwithstanding some progress in some provinces). And progress in improving the delivery basic social services—one of the key economic justifications for fiscal decentralization—has been mixed.

Domestic private investment fell from 12.8% of GDP in FY2008 to 9.8% in FY2013. FDI, after peaking at above 3% of GDP in FY2008 (well above other South Asia countries), fell below 0.5% in FY2013, which put further pressure on already falling reserves. The main reasons for the decline in investment rates were political and economic uncertainty, liquidity problems in the banking system, public sector borrowing from banks crowding out the private sector, infrastructure bottlenecks, and power shortages. Public investment also fell on declining government resources and rising expenditure. With investment declining, private consumption drove aggregate demand, supported by remittances and farm income. Headline inflation fell sharply, but underlying inflationary pressures remained. Broad money supply growth remained near 15%, driven mostly by the State Bank of Pakistan's continued financing of the large fiscal deficit.

The external position weakened further in FY2013 because severe financial account shortfalls caused reserves to fall even though the current account deficit was contained due to lower imports, strong remittances, and bilateral inflows. Exports started to decline because of a loss of competitiveness due to policy makers failing to respond to changes in global trading rules and market trends. Financial inflows collapsed at the same time that debt service obligations increased sharply (including to the IMF). Because of this, the rupee came under pressure, prompting foreign exchange market intervention. From July to December 2011, despite increased exchange rate flexibility (4.5% depreciation), reserves fell by nearly $2 billion, reflecting in part intervention by the State Bank of Pakistan. Keeping the rupee stable despite deteriorating fundamentals came with a heavy price for reserves, particularly in the run-up to elections in the first half of 2013. State Bank of Pakistan net sales in the interbank market totaled about $3.5 billion in FY2013.

Fiscal deficits, which are considered as one of the root causes of Pakistan's macroeconomic challenges, remained large. Revenue and expenditure slippages pushed the deficit to over 8.1% of GDP in FY2013, compared with a deficit target of 4.7% in the budget a year earlier. Revenue fell short by 1.25% of GDP below the FY2013 budget target due to poor tax collection (where the ratio of tax revenue to GDP was about 10% of GDP), inadequate tax administration, and slower economic activity. The increased expenditure (2.75% of GDP) reflected higher energy subsidies. The provincial surplus envisaged in the budget did not materialize after the 7th National Finance Commission Award, making fiscal management difficult. The budget deficit was financed entirely domestically due to the very low availability of external financing and a lack of access to global financial markets.

In September 2013, soon after a change of government, Pakistan entered into a three-year Extended Fund Facility with the IMF. The government set about addressing imbalances by paying off the energy sector's circular debt, which was threatening to stall power generation at some plants, by making a one-time payment of PRs400 billion to creditors.[10] The government, however, did not follow up the write-off with measures to prevent the circular debt from building up again. The fiscal adjustment started with a reduction in the budget deficit in the 3 years of the IMF program, with expenditure cuts of about 1.6% of GDP and revenue increases of 2.0% of GDP by FY2016. The budget deficit fell from 8.1% of GDP in FY2013 (preprogram, including the circular debt of about 2.0% of GDP) to 4.4% of GDP in FY2016 (excluding the arrears of the energy sector and the circular debt). The fiscal-adjustment gains made during the IMF program period were subsequently partially offset by the increase in expenditure by 2.0% of GDP due to increased spending on expensive mass transit systems, China-Pakistan Economic Corridor–related infrastructure, and wooing voters in a forthcoming election. Although tax revenue increased, the budget deficit shot back to 6.6% of GDP in FY2018 (excluding circular debt liabilities of about 2.0% of GDP).

The increase in tax revenue—which rose from 13.3% of GDP in FY2013 to 15.2% in FY2018—was a significant achievement. This was done by increasing import duties and regulatory duties on imports, and higher GST and income tax rates. But the corporate tax burden on businesses increased, deterring already low investment. An increasing proportion of taxes were collected, including withholding taxes on withdrawals from bank accounts and other transactions, which had a detrimental effect on cash deposits and bank liquidity. The number of individual and corporate tax filers declined during this period despite a coercive tax administration that included a commission system that rewarded officials for generating revenue, thus raising the burden of taxation on taxpayers and businesses.

The share of import duties in tax collection increased from 9.5% in FY2014 to 12.5% in FY2016 due to the tariff reforms of previous years to reduce the anti-export bias being reversed. The maximum tariff rates on finished goods were reduced, and rates at the lower range, which were mostly on raw materials, intermediate inputs, and machinery, were increased for their revenue potential. This disadvantaged exports and exposed domestic industry to greater competition from imports. The export rebate system was not modified to the

[10] Circular debt is the amount of cash shortfall within the Central Power Purchasing Agency that it cannot pay to power supply companies. Circular debt is the result of the difference between the actual cost of power supply and tariff revenue, the delayed or nonpayment of subsidies by the government, and delayed determination and notification of tariffs.

tariff changes. In fact, the delay in government refunds of duties and GST to exporters lasted over a year and ran up arrears of over PRs200 billion, which hurt export competitiveness. The dominance of fiscal revenue consideration in tax policy measures came at the cost of export competitiveness and the domestic economy.

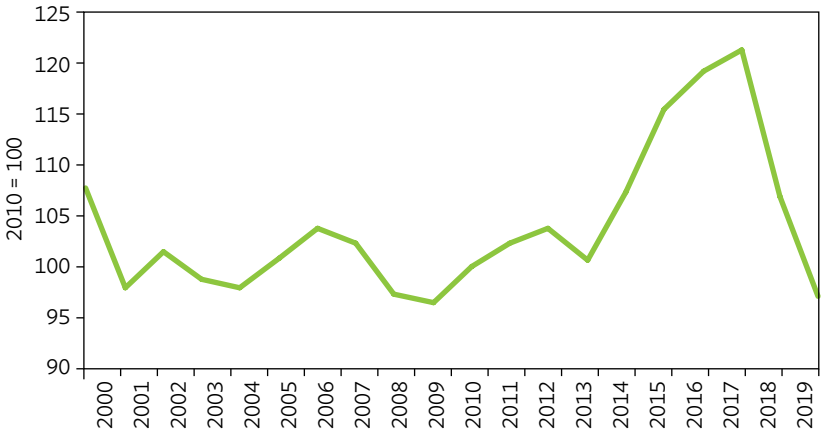
The fiscal problems also reflected continued losses in public sector enterprises, a legacy of the nationalization policies of the mid-1970s. The privatization and restructuring of key loss-making public sector enterprises remained largely on hold. Meanwhile, financial losses continued to accrue at state-owned Pakistan International Airlines Corporation Ltd. and Pakistan Steel Mills Corporation Ltd. The combined accumulated losses of public sector enterprises exceeded PRs1.2 trillion (4.0% of GDP) by March 2018, which could eventually lead to sizable demand for fiscal resources (IMF 2018). And the circular debt—which was brought to near zero at the end of FY2016—resumed, reaching PRs193 billion (0.5% of GDP) in July 2016, with an accumulated stock of arrears of PRs514 billion (1.5% of GDP) by the end of December 2017. It stood at PRs2.21 trillion (about 4% of GDP) in stock and flow in June 2020.

The dominance of fiscal revenue consideration was also evident in the government's exchange rate policy. Here, it first resorted to appreciating the nominal rupee–dollar exchange rate from PRs110 (a level reached after an episode of market-driven depreciation in October and November 2013) to PRs100 and then to pursue a largely stable nominal exchange rate policy (Figure 1.5). The policy suppressed inflationary pressure, but was adopted largely to contain debt servicing costs and the rupee costs of imports in the budget.

The unavoidable consequence of maintaining a stable nominal exchange rate over a protracted period when regional currencies were depreciating was that the real effective exchange rate appreciated, rising by nearly 27% from December 2013 to June 2017. This accentuated the loss of competitiveness caused by a much broader range of factors and over a longer period. In response to the external balance position, the State Bank of Pakistan has allowed the rupee to depreciate by nearly 5% since December 2017.

Exports declined in value for 3 years in a row from $25 billion in FY2014 to $21.9 billion in FY2017, but began to rebound in FY2018, helped by the recovery of cotton prices, strengthening trading-partner growth, duty drawbacks offered under the government's export support package in 2017, and a partial release of rebate refunds.

Figure 1.5: Real Effective Exchange Rate, 2000–2019



Source: World Bank. World Development Indicators Database.

Imports surged in FY2017 and FY2018, reflecting strong domestic demand amid a persistently overvalued real effective exchange rate worsening the already poor competitiveness of the domestic sector, the implementation of import-intensive China-Pakistan Economic Corridor investment projects, and rising oil prices. To contain import growth, the government maintained its cash-margin requirements on payments for consumer imports and significantly raised regulatory duties on many imported intermediates, consumer goods, and luxury goods. Even so, a trade deficit of over $32 billion in FY2018 pointed to the limited effectiveness of these measures.

The current account deficit, which supports domestic demand and import growth, deteriorated rapidly to 5.3% of GDP in FY2017 from 2.6% of GDP in FY2016 at the end of the IMF's Extended Fund Facility program. It widened further to 6.1% of GDP at the end of FY2018. Maintaining a largely stable nominal exchange rate amid mounting external pressures led to reserves losses. Despite significant external borrowing by the government, including several syndicated bank loans and international sukuk and Eurobond issues of a combined $2.5 billion, the State Bank of Pakistan's gross reserves declined from $18.5 billion at the end of the IMF program to $7.3 billion in November 2018—equivalent to 1.3 months of imports (IMF 2018). External public debt rose sharply over FY2013–FY2018, from $53.4 billion (22.4% of GDP) to $81.4 billion (29.3%).

The slow revival of economic growth has been driven by large imports and consumption demand, financed by an unprecedented surge in remittances, multilateral and bilateral donor support, and expensive commercial borrowing. Despite increased government infrastructure spending, the investment rate remains low. Private investment in manufacturing has stayed away because of the uncompetitive economy, the high cost of doing business, and an excessive tax burden on compliant businesses. The share of manufacturing in GDP declined for 4 consecutive years and was just above 13% in FY2018.

1.4 The 2018–2019 Balance-of-Payments Crisis

The new government that took office in July 2018 faced continuing external pressures on reserves driven by excess domestic demand and loss of export competitiveness, with the latter partly due to the rupee's appreciation. Policy measures were taken to tackle the pressing need to stabilize the economy. These included an 18% cumulative depreciation in the rupee; interest rate increases totaling 275 basis points, fiscal consolidation through a budget supplement of raising taxes and cutting some development spending; a large increase in gas tariffs, bringing them closer to cost recovery levels; and a proposed increase in electricity tariffs. By the end of 2018, the rupee had fallen 27%, and the policy interest rate was further increased to 10%. These measures, however, were not up to the task, and some were even counterproductive in tackling the large macroeconomic risks that hovered over the near- to medium-term outlook.

It was apparent that some monetary tightening was essential to contain domestic demand, since most credit to the private sector from commercial banks was for working capital to finance exports and to compete with imports. The rise in the policy interest rate reduced the economy's competitiveness and aggravated the external imbalances. Most commercial bank lending is to the government to finance the fiscal deficit. Hence, higher interest rates have contributed to higher interest payments by the government, which have widened the fiscal deficit, thus further increasing the external imbalances. The measures taken by the government to contain the budget deficit also relied more on increasing customs duty rates than reducing expenditure across the board or broadening the tax revenue base. Since most taxes are paid by the same businesses, further increases in tax rates hurt competitiveness. Similarly, the government's attempt to rectify imbalances in the power sector by raising tariffs resulted in raising the cost of doing business.

To tackle the low and declining level of reserves at the end of 2018, the government sought balance-of-payments support from Saudi Arabia and the

United Arab Emirates in the form of deferred oil payments and short-term loans—which could be rolled over—for depositing with the State Bank of Pakistan. This avoided having to enter another IMF program. By January 2019, the central bank's gross reserves stood at $7.0 billion, down from $18.5 billion at the end of the IMF's Extended Fund Facility program in September 2016. This was despite borrowing over $20 billion during the period.[11] Without making meaningful policy changes to tackle the underlying causes of the external imbalances, the new loans will continue to finance excessive domestic demand and increase the liability of debt servicing in the coming years, adding to the estimated $16 billion–$17 billion annual financing gap in foreign exchange over FY2019–FY2021, the next 3-year period.[12]

Pakistan's GDP growth rate contracted 0.38% in FY2020. This is the first time that Pakistan's GDP has contracted since this measure has been tracked. The downside risks for Pakistan's future growth trajectory will depend on the course of the COVID-19 pandemic.

1.5 Causes of the Episodic Growth Performance

Declining capacity to export

Pakistan's exports have failed to provide a sustained contribution to GDP growth and to finance the import needs of a growing economy, exposing the country to repeated balance-of-payments crises. In 1965, Pakistan exported more manufactured goods than Indonesia, Malaysia, the Philippines, Thailand, and Turkey combined (World Bank 2002). But in the following decades, it could not achieve the market-share gains made by these economies in world markets, diversify its products, or move into higher value-added products. In 2017, Pakistan's exports of manufactured goods totaled $16.8 billion compared with Indonesia's $70.7 billion, Malaysia's $145.2 billion, the Philippines' $55.5 billion, Thailand's $175.8 billion, and Turkey's $120.3 billion (Table 1.1).[13] The stark contrast illustrates the poor performance of Pakistan's export sector compared with these countries.

[11] This borrowing included over $10 billion in FY2017, over $6 billion in FY 2018, $2 billion from the People's Republic of China in July 2018, and $1.0 billion in November 2010 and $1.0 billion in December 2018 from Saudi Arabia.

[12] The projected current account deficit plus the projected amortization of external debt.

[13] World Trade Organization. Data. http://data.wto.org/ (accessed 12 December 2018).

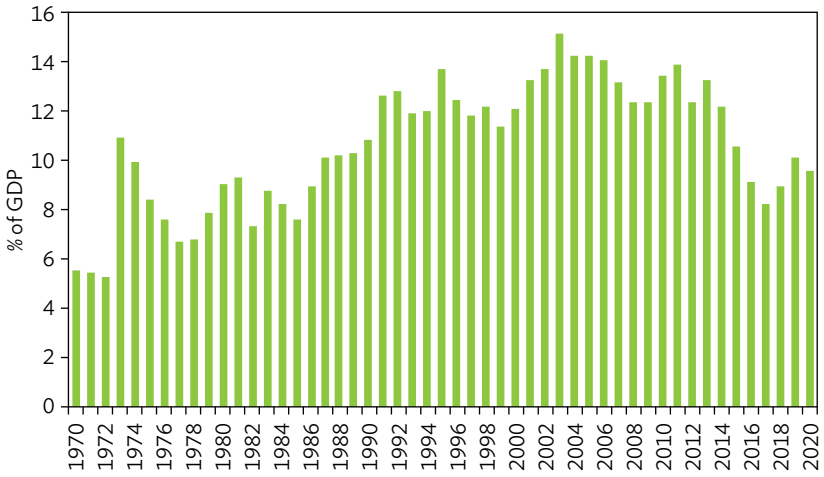
Table 1.1: Exports in Selected Asian Countries
($ billion)

Country	Product/Sector	1965	1980	1990	2000	2010	2015	2016	2017	2018	2019
India	Total merchandise	1.7	8.6	18.0	42.4	226.4	268.0	264.5	299.2	324.8	324.3
	Manufactured goods	...	5.0	12.5	32.9	138.0	181.6	186.1	205.0	223.3	...
Indonesia	Total merchandise	0.7	21.9	25.7	65.4	157.8	150.4	144.5	168.8	180.2	167.7
	Manufactured goods	...	0.5	9.0	36.9	58.4	66.3	67.7	70.7	77.7	...
Malaysia	Total merchandise	1.2	12.9	29.5	98.2	198.6	200.0	189.7	218.1	247.5	238.2
	Manufactured goods	...	2.4	15.8	78.9	133.2	132.9	128.8	145.0	169.7	...
Pakistan	**Total merchandise**	**0.6**	**2.6**	**5.6**	**9.0**	**21.4**	**22.1**	**20.4**	**21.6**	**23.4**	**23.3**
	Manufactured goods	**...**	**1.3**	**4.4**	**7.6**	**15.9**	**16.8**	**16.0**	**16.8**	**17.4**	**...**
Philippines	Total merchandise	0.7	5.7	8.1	38.1	51.5	58.8	57.4	68.7	69.3	70.9
	Manufactured goods	...	1.2	5.6	34.8	43.8	49.3	47.4	55.5	55.2	...
Thailand	Total merchandise	0.6	6.5	23.1	69.0	193.3	214.3	215.4	236.6	253.0	246.3
	Manufactured goods	...	1.6	14.6	51.7	141.5	159.9	160.5	174.9	189.0	...
Turkey	Total merchandise	0.5	2.9	13.0	27.8	113.9	151.0	149.2	164.5	177.2	180.8
	Manufactured goods	...	0.8	8.8	22.3	88.5	107.2	107.2	120.3	133.4	...

... = not available.
Source: World Trade Organization. Data. http://data.wto.org/ (accessed November 2020).

Pakistan's export-to-GDP ratio is by far the lowest among competitor countries at similar stages of development, indicating the bias against exports in the incentive system for resource allocation. Evidence suggests investment in the export sector continues to be below the already low domestic investment rate. Production capacity is underutilized and exporting companies have reportedly gone under. The fluctuations in the export-to-GDP ratio largely reflect changes in the competitiveness of a particular sector and exogenous factors, such as temporary changes in market access for textiles, Pakistan's main export. The share of merchandise exports declined from a peak of 15.2% of GDP in FY2003 to 8.9% in FY2018—the only country in developing Asia to have experienced such a large decline (Figure 1.6).

Figure 1.6: Exports of Goods and Services, 1970–2020



GDP = gross domestic product.
Source: World Bank. World Development Indicators Database.

The weakness in Pakistan's export sector is also reflected in its inability to diversify export products and achieve diversification within each major product group—a situation that has prevailed since the 1990s. Exports have tended to concentrate on less sophisticated and lower value-added products. This is evident in textiles, clothing, leather products, sports goods, and surgical products. Pakistan's exports suffer from low import content, which restricts products to a narrow range of low value-added exports due to duties and taxes on imports of intermediate goods.

The relatively weak performance of Pakistan's exports is also reflected in the country's narrow export basket, given its level of income. As Figure 1.7 shows, Pakistan's exports continue to be dominated by garment and textiles, although manufacturing products have declined since the mid-1980s.

The poor performance of Pakistan's exports largely reflects the mix of policies and inadequate responses to changes in market trends and access and global trading rules. Early after independence, Pakistan adopted import substitution policies with a cascading and high tariff regime to protect industry and to keep agriculture prices below world market prices for the benefit of industry and consumers. Pakistan's choice of import substitution was not unusual at the time of its adoption in the 1950s and 1960s, but as other countries soon moved away from inward-looking policies, Pakistan continues to rely heavily on import substitution, despite some attempts to liberalize the economy. Even so, import tariffs have been used as an important source of fiscal revenue, and imports remain heavily taxed. Because of this, Pakistan has been unable to acquire an ability to diversify and upgrade toward high-demand products in international markets.

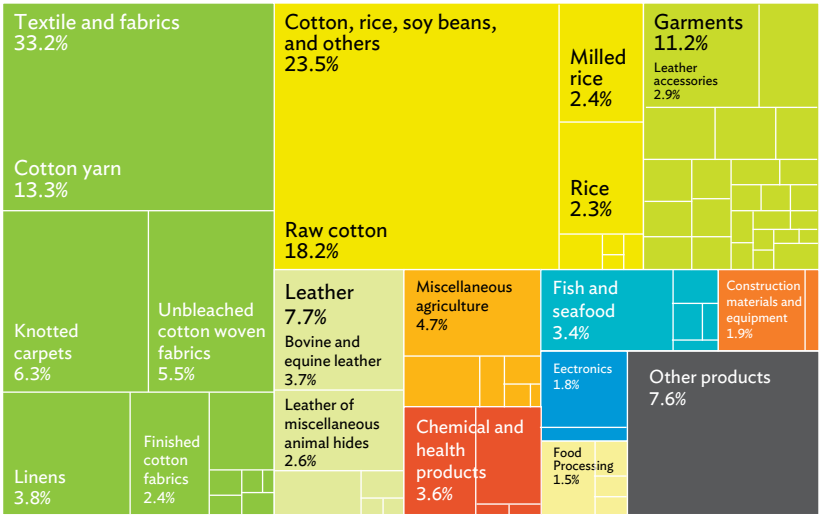
Import tariffs as a revenue tool

The long-term underperformance of Pakistan's exports relative to other Asian countries and industry's lack of diversification have been largely caused by an import substitution policy that used tariffs as the principal instrument of protection. Textile exports are the exception to this poor performance because of cheap domestic cotton. While these tariffs contributed to revenue, they also affected the resource-allocation decisions of investors. High tariffs gave substantial protection to import-substituting industries. But they also made exporting costlier despite various schemes to refund or rebate taxes paid on inputs. Even well-functioning export promotion policies that refund all taxes paid by exporters on their inputs do not compensate firms for tying up working capital in the taxes paid at the early stage of production or for the time and effort spent in collecting refunds, especially by small and medium-sized enterprises (SMEs), whose products are the mainstay of the country's growing exports.

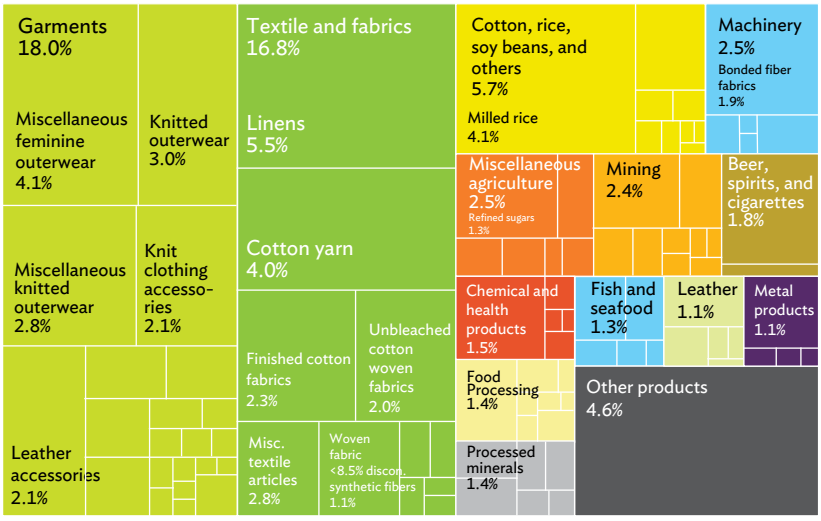
The conflict between the objective of increasing tax revenue or promoting exports continues to haunt Pakistan's policy choices. Revenue collection priorities have always overridden export promotion objectives and continue to do so with adverse effects on exports. The tariff liberalization undertaken during FY2001–FY2007 was reversed in FY2011 to raise fiscal revenue, with

Figure 1.7: Tree Map of Export Products, 1985 and 2018

1985



2018



Source: Asian Development Bank calculations based on UN Comtrade database. https://comtrade.un.org/ (accessed April 2018).

the applied tariff gradually increasing to 9.99%. This was done mainly by raising tariffs on raw materials, inputs, and machinery. Raising tariffs eroded the competitiveness of Pakistan's exports, which declined by 18% to $20.4 billion from a peak of $24.0 billion in FY2007. Tariff revenue increased by 169% during FY2010–FY2016, whereas imports grew by only 17% during this period. Regulatory duties were applied on 105 tariff lines in 2013 and expanded to over 1,500 tariff lines at the harmonized system 8-digit level in FY2017. The share of regulatory duties collected from import revenue increased from 1.5% to over 8.0% of customs revenue collection from FY2013 to FY2017.

Maximum tariff rates on finished goods were subsequently reduced and rates at the lower range, mostly on raw materials, intermediate inputs, and machinery, were increased. The maximum tariff rate on finished goods was reduced to 25% in FY2015 when a 1% duty on essential raw materials and machinery was imposed; this comprised 40% of tariff lines that were earlier exempted from duty. In FY2016, the number of slabs was further reduced to five, and the maximum tariff reduced to 20% (the lowest slab, however, increased from 1% to 2%). In FY2017, the slabs were reduced to four by merging the slab of 2% and 5% and creating a new slab of 3%. In that year, the government increased the import tariff on raw materials and machinery from zero to 3%. An additional duty of 1% was levied under Statutory Regulatory Orders, which raised the duty on raw materials and machinery to 4% in FY2017 from zero in FY2014.[14] Thus, tariff changes have, in recent years, increased the cost of manufacturing both for exports and the domestic market.

The four duty slabs are currently 3%, 11%, 16%, and 20%, with a large number of tariff lines subject to an additional duty of 1% (these are apart from the regulatory duties on 1,500 tariff lines). Tariff levels overall are high. This is weakening productivity growth and impeding efficient resource allocation and integration into global value chains.

To compensate exporters in manufacturing, many schemes are in place to waive or reimburse import duties on their inputs, but the effectiveness of these schemes is poor. Many exporters, especially SMEs, often do not avail of the benefits because of the lengthy procedures required to do this.

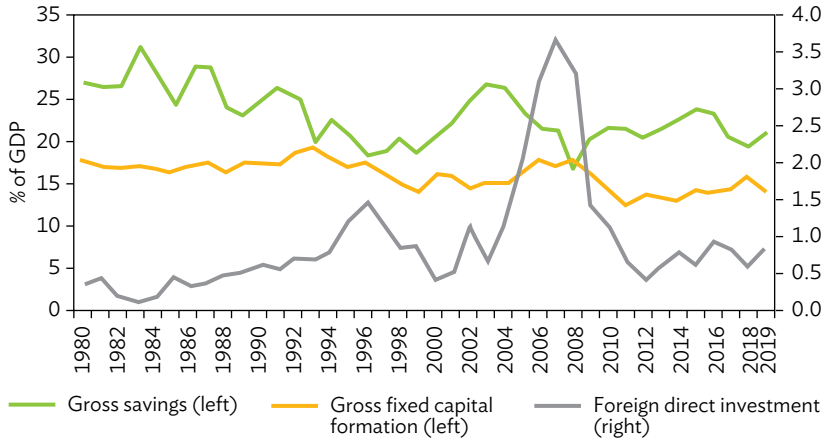
Low savings and investment rates

National savings, buoyed by substantial remittances, are still low compared with other countries in the region and have been declining since FY2003 after

[14] See 1178(I)/2015 in Statutory Regulatory Orders. https://www.fbr.gov.pk/ActiveSrosImport.

a short period of growth underpinned by remittances. The decline to some extent reflects a consumption boom fueled by a rapid expansion in personal loans by banks, a worsening macroeconomy, and rising security concerns (Figure 1.8). The national savings rate, at barely 11% of GDP in FY2007, was only about half of the level in FY2003, less than one-third of the savings ratio in India (31% of GDP), and almost one-fifth of the ratio in the People's Republic of China (47%).

Figure 1.8: Savings, Investment, and Foreign Direct Investment, 1980–2019



GDP = gross domestic product.
Sources: World Bank, World Development Indicators Database; CEIC Data. https://www.ceicdata.com/en/about-us.

The longer-term factors contributing to Pakistan's low savings rate are public sector dissaving, a weak tax effort, very rapid population growth, and weak finance sector development. Government expenditure is increasing rapidly on sharp increases in interest payments, defense spending, wage bills, and subsidies. Tax revenue has been rising since FY2013 but continues to lag behind expenditure growth, resulting in negative public savings. Private sector savings are mobilized for public investment partly through the inflation tax, but mostly through domestic borrowing.

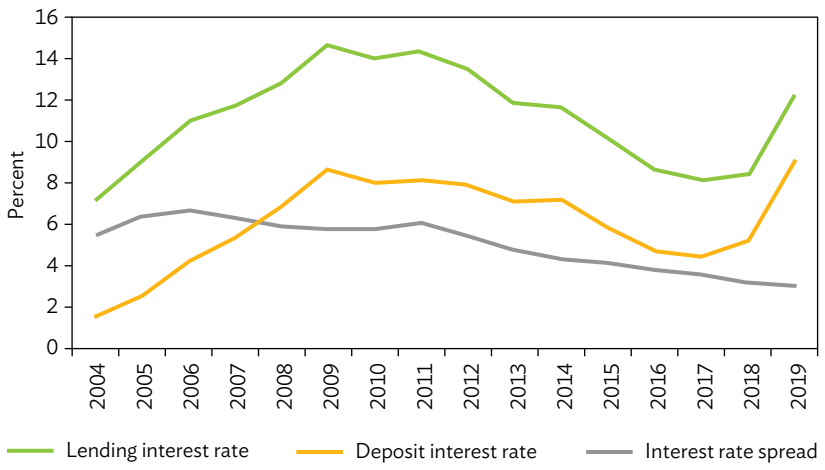
The implications of a low savings rate for investment are amplified by low financial savings and poor financial intermediation in Pakistan's finance sector. This has historically been dominated by the banking industry, which was nationalized in 1974 and remained in the public domain until the privatization of the majority shares of most banks in the early 2000s.

Capital for investment in the banking industry up to then was provided by the banks themselves and development finance institutions. Publicly controlled development finance institutions were important suppliers of long-term credit until the 1990s.

Public ownership of nationalized commercial banks allowed the government to contain the cost of financing persistently high fiscal deficits with borrowing from domestic banks at administered low-interest rates until the liberalization of interest rates in the 1990s. While financial repression allowed the government to mobilize resources for the budget deficit at a lower cost, it also reduced financial-resource mobilization. Low bank lending rates translated into lower deposit rates, especially since the spread between deposit and lending rates has historically been large in Pakistan, with deposit rates being largely negative in real terms since the nationalization of banks 1974.

The large spread between lending and deposit rates indicates inadequate competition among commercial banks to attract additional depositors and borrowers (Figure 1.9). Pakistan's domestic interest rate spread averaged 515 basis points during 2004–2019. Although the spread has fallen since then, its underlying trend is positive.

Figure 1.9: Lending Rate, Deposit Rate, and Interest Rate Spread, 2004–2019



Source: World Bank. World Development Indicators Database.

The large interest rate spread reflects a lack of competition between nationalized banks and the rising cost of intermediation due to an increasing portfolio of nonperforming loans. The latter is a consequence of changing business conditions in the country and poor lending decisions made by the government-controlled management of nationalized commercial banks. Political interference in the award of project loans by public institutions has caused nonperforming loans to accumulate. At the end of 2001, they accounted for 20% of the outstanding advances of nationalized commercial banks and 60% of those of development finance institutions and specialized banks. The contaminated loan portfolio and limited competition, coupled with the use of monetary policy instruments, such as reserve deposits, have contributed to Pakistan's exceptionally high interest rate spreads.

Limited finance sector development

Pakistan continues to suffer from limited finance sector development, although some progress has been made since the banking and finance sector reforms in 1988. In 2013, Pakistan was ranked 108th out of 183 countries in the World Economic Forum's Financial Development Index, where it lagged behind other large South Asian economies. Pakistan's ranking for the development of financial institutions was much lower than for the development of the country's financial markets.

The finance sector, despite growing diversity, is still dominated by banks, which account for 74% of total finance sector assets. Islamic banking grew very rapidly in the 2000s and has a current market share of about 12%. The finance sector is healthy and stable, as reflected in sound banking indicators. The capital adequacy ratio, at 15.8%, is well above the minimum regulatory requirement. Gross nonperforming loans, at 8.4%, are the lowest in a decade. Even so, the finance sector has not been able to make an adequate contribution to economic growth due to a lack of intermediation and diversification. In fact, the banking sector's good health and its lack of intermediation are precisely because of the predominance of lending to the government to finance its rapidly rising public debt by investing in risk-free government securities. Because of this, financial intermediation has been adversely affected, while banks have made handsome, risk-free profits.

Lack of affordable capital is an important constraint at the investment stage. Persistent high budget deficits and heavy government borrowing from the banking sector has crowded out the private sector. Credit to the private sector

is picking up, but it remains costly, and there is insignificant term lending for capital formation. Because deposit rates are low and quite often negative in real terms, they are not attractive for mobilizing financial savings. The persistently large spread between deposit and lending rates is keeping the cost of money high for investors. But investors in Pakistan have anyway preferred real estate to capital market instruments other than government securities, because of high returns in real estate and lax tax incidence in the sector.

Bank credit to the private sector contracted significantly after a surge in nonperforming loans since FY2008 and because of the growth of budget financing needs that led banks to lend to the government in risk-free securities (Khan 2018). With nonperforming loans declining after FY2011, private sector lending began to recover, increasing to 12.7% in FY2006 and 14.9% in FY2017. Lending to the private sector nevertheless continues to lag behind other countries in South Asia and countries with similar income and populations (IMF 2017). Much of the lending to the private sector is short to medium term for working capital and consumer finance, with banks showing little appetite for longer-term lending. Few firms have access to bank loans or credit lines, despite significant progress in improving this access. According to the World Bank's Global Findex Database, less than 10% of the adult population have accounts with formal financial institutions, although this is increasing.

Islamic financial products are a growing component of the finance sector—and there is potential for further growth—but their contribution to the economy through intermediation is being held back. Islamic banks are not able to invest in the real economy with their specialized intermediation instruments. This skews Islamic lending toward investments in government securities and short-term trade financing. Consequently, some Islamic banks have excess liquidity because of a lack of investments, causing some of the largest ones to reduce their deposit base. This waste of investable resources could be remedied by developing a sovereign sukuk market.

The government is the major borrower of investable capital in the finance sector. The limited supply of long-term loans is crowded out by government debt securities and deterred by a lack of confidence in the debt-recovery regime and judicial enforcement. Domestic financial institutions need to increase their intermediation role in long-term finance. Available long-term loans are below the requirements of the public and private sectors to support productive investments in industry, housing, and infrastructure, which are essential for stimulating growth. Commercial infrastructure finance is constrained by not enough bankable projects, commercial infrastructure

assets being predominantly owned by the public sector, and concerns over the ability of public entities to meet their contractual obligations to project companies.

For the banking sector to play a meaningful role in spurring investment and growth, the expansion in private sector credit needs to be sustained and diversified toward long-term financing, particularly project finance. Polices and incentives are needed to foster the growth of the nonbank finance sector and equity instruments to provide finance for SMEs and to share sector risks. The finance sector, however, relies heavily on public sector borrowing. The government should find a better fiscal revenue source and reduce its fiscal deficit. This would give the financial system more exposure to the private sector. Increasing financial inclusion would mobilize additional pools of savings and funding.

Pakistan has a small commercial debt capital market; its outstanding amount was PRs761 billion in February 2018. Most commercial debt paper is bought by institutional investors with very little taken up by the public. State entities have not looked at this avenue for raising capital for infrastructure projects to reduce the ever-increasing fiscal burden on budgetary resources. Corporate issuance, both term finance certificates and sukuk, lags behind other countries in Asia. Pakistan's corporate debt as a percentage of GDP is 2.4%—far below India (22%) and Malaysia (25%). The lack of supply in primary markets is amplified by illiquidity in secondary markets, which makes corporate debt virtually inaccessible to investors.

Pakistan's low investment rate is amplified by its inability to attract significant FDI. Security tensions and weak macroeconomic and sectoral policy frameworks are the main factors why Pakistan lags behind other lower-middle-income countries in mobilizing FDI. Pakistan has been getting FDI inflows since the early 1970s, but at relatively low levels and confined to a few sectors (power generation, banking and finance, telecommunication, and oil and gas exploration). FDI, however, significantly increased in the mid-2000s, surging from $300 million in FY2001 to $5.8 billion in FY2008, as Pakistan's economic conditions improved, particularly the reduced external vulnerabilities that accompanied a strong buildup in reserves. This FDI mainly went into banking and finance, and telecommunication. But it did not last: FDI declined as economic conditions worsened after the international commodity price shock in 2008. The increase in FDI since 2015 is largely from the China-Pakistan Economic Corridor and concentrated in power and road building.

Poor human capital development

A healthy and educated workforce is vital to a country's competitiveness and productivity. Workers in poor health are significant costs to businesses in terms of absenteeism and lower levels of efficiency. The quantity and quality of basic education increases the efficiency of workers if both are high.

Despite being a lower-middle-income country, Pakistan ranks among the least developed countries in the world on human development indicators. It missed the health and education targets of the Millennium Development Goals, and looks unlikely to reach its Sustainable Development Goals. Health and education outcomes have slowly improved in the recent past, but Pakistan still lags behind other countries in South Asia and other developing countries at a similar level of income per capita.

Pakistan has one of the world's highest out-of-school populations—an estimated 22.8 million children ages 5–16 are not in school.[15] Some 4.9 million children of primary school age of which 62% are girls are not in school; this is 8% of the world's out-of-school children. Educational attainment at this level is among the lowest in the world, with less than half the population completing primary education.

Participation in preprimary and primary education remains a big challenge. Only 40% of children ages 4–5 are enrolled in preprimary schooling, resulting in a large school-going age cohort who are less prepared for primary education.[16] Although the participation rate for primary-age children has improved, 20% of children ages 6–10 are still out of school, with large disparities across gender, household income levels, and regions (provinces and rural/urban). The greatest improvements in school participation at the primary level have taken place in Khyber Pakhtunkhwa and Balochistan, where there are historically lower participation rates compared with Punjab and Sindh (World Bank 2017).

Those enrolled in school are not guaranteed a quality education. Learning outcomes across the country are abysmally low. And similar to enrollment trends, disparities exist across gender, income levels, and regions. Almost a quarter of rural children in grade 5 cannot read sentences in Urdu or their regional language or do two-digit subtraction at grades 1 and 2 (SAFED

[15] UNICEF. Education. https://www.unicef.org/pakistan/education.

[16] The data used in this section are from World Bank, Education Statistics, http://datatopics.worldbank.org/education unless otherwise stated.

2017). Alarmingly, there is no national framework or minimum standards for education quality. Several factors contribute to these poor outcomes and are common across the provinces. They include:

- **Low access to and participation in early childhood education.** This has long-term detrimental effects on human capital. Improving access and participation could positively affect children's school preparation and completion, and could also improve achievement. Investment in early childhood education programs has been low, with provincial governments turning their attention to this only recently.
- **Poverty being a major contributor to high numbers of out-of-school children.** These children are more likely to be girls, older, rural, poor, and have less-educated parents. They are also likely to live further away from a school.
- **Learning not supported by the school environment.** Almost half of rural government schools have multi-grade teaching in grade 2 classrooms, which, coupled with high pupil–teacher ratios and low quality of teaching, leads to poor student learning (SAFED 2017).
- **Low content knowledge and weak pedagogical skills among teachers.** A sample-based survey of teachers in Pakistan found only 36% could do two-digit addition. There is a heavy emphasis on rote learning and memorization, and little access to appropriate teaching and learning materials.
- **Pervasive management and governance challenges.** The management capacity of district education administrative staff is typically low and leadership inadequate. Performance management systems do not foster accountability across the education system. And education data, although collected, is not analyzed or used to drive decision-making at the management level.

Youth in Pakistan make up more than a third of the workforce. Harnessing the youth bulge will be pivotal to economic growth (World Bank 2017). For this to happen, Pakistan needs a trained, employable workforce that can meet the demands of industry, which it does not have. Only half of employers in Punjab who participated in a World Bank survey said the general and technical education systems produce people who meet their skills needs (World Bank 2015). Pakistan faces significant skills shortages and mismatches, yet demand is growing for market-relevant and job-specific skills produced by higher education and skills training, especially in emerging economic sectors (Atiq, Anis, and Khan 2009).

Access to and participation in higher education and skills training is low. Access to schooling at the secondary level is limited across provinces, and there is an acute shortage of secondary schools in many regions. The net enrollment rate for secondary school was just 46% in 2016 and even lower for girls. The low enrollment rate at this level is a big obstacle to accessing tertiary education and skills training.

Access to tertiary education is low and the privilege of a few. The gross enrollment rate for higher education (10%) lags far behind neighboring countries and those of lower-middle-income countries. According to World Bank (2015), the incidence of technical and vocational education and training is even lower—only 1.9% of those ages 15–64 have skills training. Participation varies by region (with the lowest in Balochistan) and by income level, with 20% of 18–24 year-olds from the wealthiest households enrolled in higher education or skills training compared with 0.7% from the poorest households (World Bank 2017). Gender disparities are glaring in the skills sector, where men are much more likely to participate in training programs, possibly because they meet course entry requirements and are more able to attend training courses (Cheema et al. 2010).

There are many reasons for the low participation in higher education and skills training; among them, supply-side constraints that include the insufficient physical capacity of public universities and training institutions to accommodate students and the poor use of some facilities. Little effort has been made to diversify tertiary education and skills training. Financial aid and scholarship schemes to encourage participation from poor households are inadequate. And the social demand for skills training is low due primarily to the poor quality of training and its lack of relevance.

Linkages between higher education and skills training programs and employers are weak in design, delivery, research, and employment placement, rendering these programs unresponsive to labor market needs. Little or no formal on-the-job training is incorporated into skills training programs.

The resources available to both education sectors are insufficient, with the bulk of expenditure going on recurring costs. Spending on tertiary education was just 1.4% of total government expenditure in FY2016—and it is much lower for skills training. In FY2015, just 0.3% of total government expenditure was spent on secondary and postsecondary nontertiary vocational education. Given the high cost of providing quality education in each of these sectors, funding shortfalls impede the design and implementation of education reforms. The government has yet to explore strategies to diversify funding.

1.6 The Way Forward

In broad terms, the government needs to restrain domestic demand to reduce pressure on external accounts. This will require credible medium-term fiscal consolidation in coordination with the provinces, including both revenue and expenditure measures, and tackling the quasi-fiscal deficits.

The government should make tax collection more efficient or identify new fiscal revenue sources instead of increasing tax rates. Additional revenue mobilization can be achieved mainly through improved collection and streamlined tax administration by simplifying tax codes that restore competitiveness and encourage investment.

The issues on the 7th National Finance Commission Award and 18th Constitutional Amendment need to be tackled to ease fiscal challenges. Potential measures to increase federal resources include reducing taxes in the divisible pool, stopping all other subvention resource transfers, not undertaking provincial projects in the Public Sector Development Program, and agreeing on a credible surplus-creation mechanism in the provinces that is in line with macroeconomic policy. The federating units need to agree on sharing the debt servicing burden and assign responsibility to provinces for line losses in the power sector since the unbundling of distribution companies.

The federal government needs to urgently tackle the quasi-fiscal deficits, especially the losses at Pakistan International Airlines and Pakistan Steel Mills. The energy sector should achieve financial balance—that is, a reduction in the annual increase of the circular debt—by reducing losses rather than increasing tariffs.

The government will need to adopt some expenditure-switching policies away from imports and to encourage exports. It is commendable that the State Bank of Pakistan adopted a flexible market-based exchange rate system in May 2019 that allowed a depreciating real effective exchange rate index (trade weighted). The government should maintain moderate tariffs on imports of final products only temporarily to curb demand, but not as a distortionary resource-allocation incentive. The tariff policy should be a trade policy to encourage exports, and import tariffs should not be considered as a fiscal revenue source.

The government needs to stimulate domestic supply, which implies that it needs to tackle a wide range of issues that affect competitiveness. Export competitiveness, which is not determined by the exchange rate alone, is critical for sustainable growth. The economy-wide support for fostering export competitiveness is imperative. The government needs to tackle the fundamental changes in global trading rules and market trends that have important implications for the competitiveness of countries. Apart from border issues, including the exchange rate, taxes on inputs, and trade facilitation, the ability to deliver on time and conforming with international standards have become sources of comparative advantage that require a range of behind-the-border policy and infrastructure support.

A major effort is needed to reform tertiary education and skills training to provide the workforce with the skills that can improve the country's competitiveness. Investment in both education sectors should be increased, and both sectors need to be integral parts of national and provincial growth strategies.

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CHAPTER 2

Identifying Critical Constraints

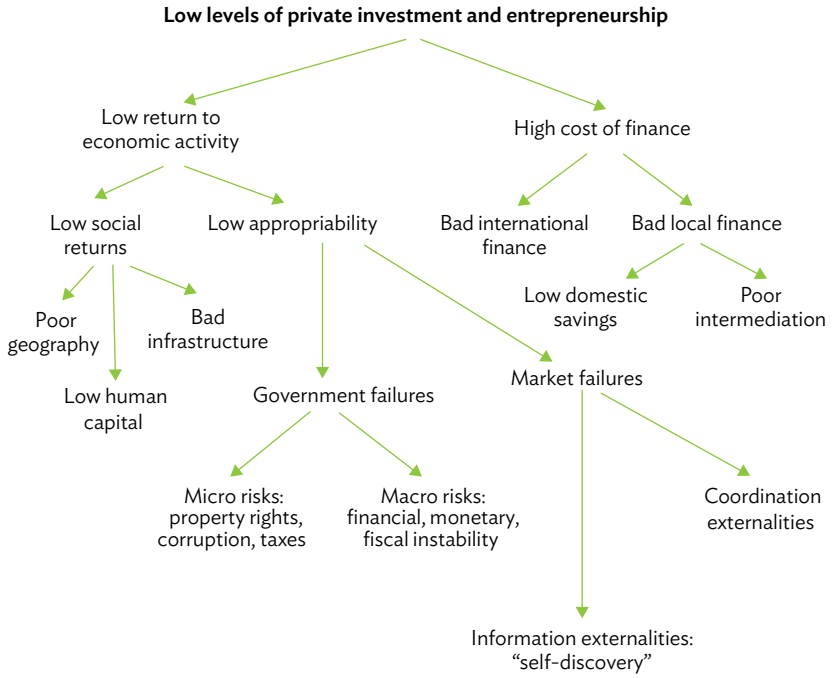
Manisha Pradhananga

This chapter broadly follows the growth diagnostics framework of Hausmann, Rodrik, and Velasco (2005) that provides a systematic approach to identify the critical constraints to the economic growth of a country at a particular point in time (Figure 2.1). The growth diagnostics approach acknowledges that, because countries are different, growth strategies must be calibrated to a country's specific constraints and opportunities. This is in contrast to the laundry-list approach of Washington Consensus reforms, which assumes that any reform is good, and the more and deeper the reform, the better. This laundry-list approach is neither effective nor practical. In a world of "second best," not all reforms will necessarily be welfare enhancing. The sequencing of reforms is equally important. As discussed in Chapter 1, there have been examples in Pakistan's history where improper sequencing may have done more harm than good. In addition, because developing country governments are capacity- and resource-constrained, they may not have the political capital to carry out numerous reforms at a given time.

The growth diagnostics framework is based on the premise that there are many reasons for poor economic growth, and these are manifested by a distinctive set of symptoms. As Figure 2.1 shows, the decision tree starts with the question, why is investment low? This could be because the cost of financing new investments is too high or the returns to investment are too low. From there, the framework branches out further to determine the root causes of the problem. For instance, if the high cost of finance is the problem, then it could be due to low domestic savings or poor intermediation in domestic financial markets. This chapter analyzes each of these constraints for Pakistan on the basis of historical trends and comparisons with other countries. Depending on the indicator being analyzed, Pakistan can be compared against the best performers for that indicator, neighboring countries, or countries

with similar income per capita (i.e., lower-middle-income for Pakistan's comparator countries).

Figure 2.1: Growth Diagnostics Decision Tree



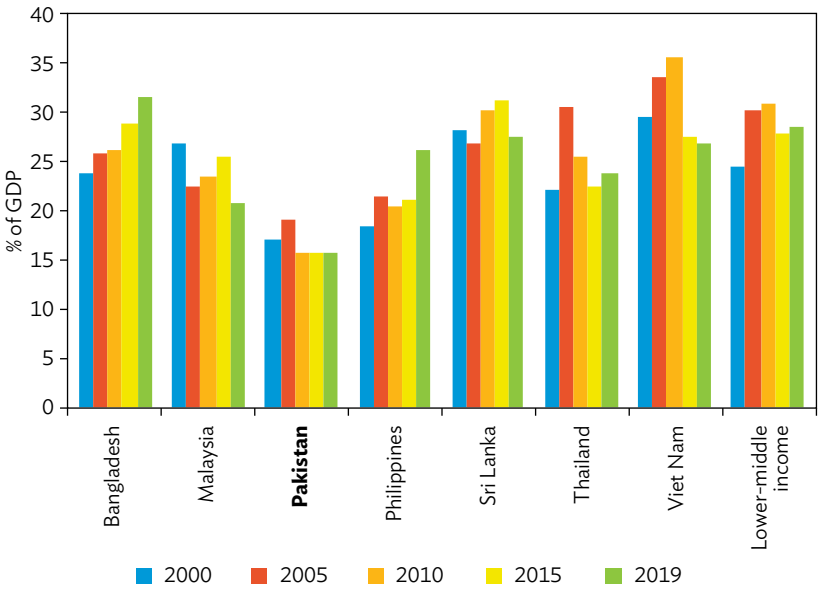
Source: R. Hausmann, D. Rodrik, and A. Velasco. 2005. *Growth Diagnostics*. Cambridge, MA: John F. Kennedy School of Government, Harvard University.

Growth diagnostics have received their fair share of criticism for, among other things, their exclusive focus on growth instead of development, for the appropriateness of low investment as a starting point for all countries, and for the implicit assumption that it is possible to isolate constraints when in the real world there are complex interactions between different branches of the decision tree (Felipe and Usui 2008; Fernández-Arias 2008; Dixit 2007). Despite these limitations, the exercise of going through the decision tree is useful for organizing and disciplining the analysis. Growth diagnostics, however, should not blindly follow the decision tree by forcing a country to fit a particular model. Instead, careful analysis of economic theory, and price and nonprice signals, should be undertaken, and this requires a detailed understanding of the economy (Hausmann, Klinger, and Wagner 2008).

2.1 Low Investment

The investment rate in Pakistan is low compared with other lower-middle-income countries. From 2000 to 2018, it averaged 15%, one of the lowest rates among countries in this income group (Figure 2.2).

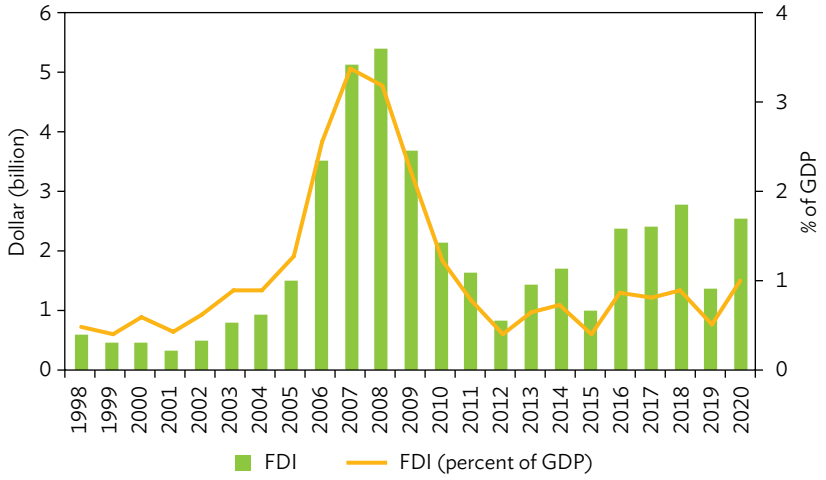
Figure 2.2: Investment Rate in Select Asian Countries



Source: World Bank. World Development Indicators Database.

The problem of low investment is exacerbated by Pakistan's inability to mobilize foreign direct investment (FDI). FDI inflows since the 1970s have overall remained low and confined to a few sectors (banking and finance, oil and gas exploration, and communications). It is worth noting that with the reduction in external vulnerabilities that helped build up foreign exchange reserves and improve economic conditions, FDI increased significantly in the first decade of the 2000s, from $0.3 billion in FY2001 to $5.4 billion in FY2008, particularly in banking and finance and telecommunications. FDI was hard hit by the 2008 global financial crisis (Figure 2.3). Recent FDI growth has been due to China-Pakistan Economic Corridor investments in power and transport infrastructure. Chapter 3 discusses the FDI trends in detail.

Figure 2.3: Foreign Direct Investment, 1998–2020



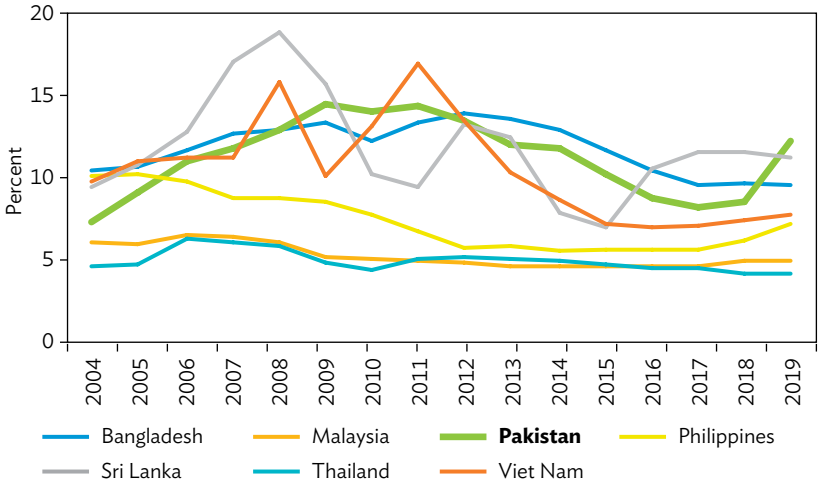
FDI = foreign direct investment, GDP = gross domestic product.
Note: Years are fiscal years, ending 30 June.
Source: Estimates based on Pakistan Bureau of Statistics. Statistics Database. http://www.pbs.gov.pk/.

The low level of investment in Pakistan could be due to a myriad of variables, including the high cost of finance, poor financial intermediation, low physical and human capital, weak institutions, and macroeconomic risks. The rest of this chapter examines each of these factors in detail to identify the binding constraints.

2.2 Is the High Cost of Finance a Binding Constraint?

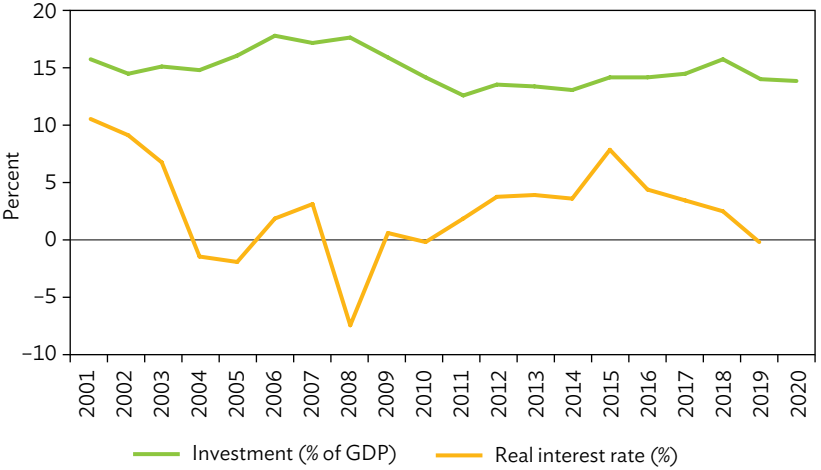
Lending interest rates in Pakistan are high compared with other lower-middle-income countries in Asia (Figure 2.4). At first glance, this indicates that high lending rates are discouraging investment and limiting access to finance, especially for small and medium-sized enterprises (SMEs). But as Figure 2.5 shows, real interest rates are not strongly correlated with investment. When real interest rates fell sharply from FY2001 to FY2005, the investment rate did not show a significant increase, while investment rose in FY2014, a year when real interest rates also rose. This suggests that although high interest rates may discourage investment, other factors are perhaps more important for constraining investment in Pakistan.

Figure 2.4: Lending Interest Rates in Selected Countries, 2004–2019



Source: World Bank. World Development Indicators Database.

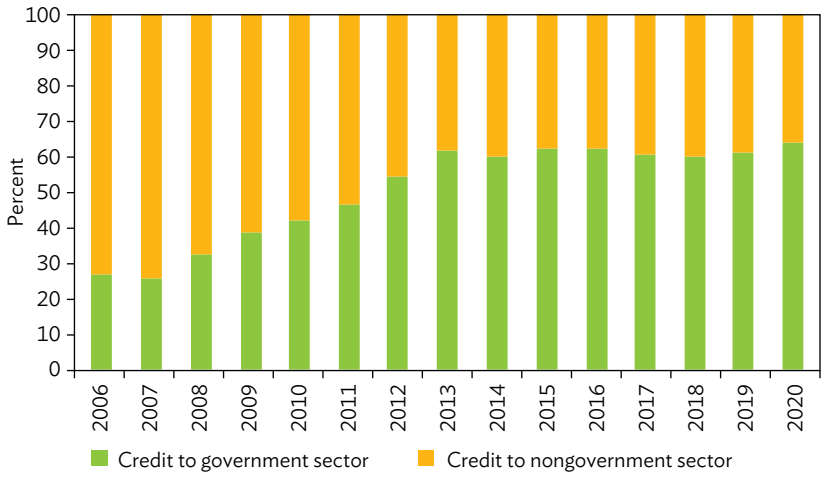
Figure 2.5: Investment and Interest Rates, 2001–2020



GDP = gross domestic product.
Notes: Investment is gross capital formation. The real interest rate is computed by deflating lending rates by the GDP deflator. Years are fiscal years, ending 30 June.
Sources: Computations based on Pakistan Bureau of Statistics. Statistics Database. http://www.pbs.gov.pk/; State Bank of Pakistan. Statistics Database. http://www.sbp.org.pk/ecodata/index2.asp.

The banking sector's credit provisioning suggests that access to finance is a bigger critical constraint than the high cost of finance. Pakistan's capital markets are underdeveloped: the total assets of financial intermediaries represent only 60% of GDP, most of which are owned by banks. But banks have little appetite to lend to the private sector, preferring to invest in high-yield, low-risk government Treasury bills and Pakistan Investment Bonds. Figure 2.6 shows bank lending to the government. At under 30% in FY2006, it had risen to 62% by FY2013 and was at 61% in FY2019. Furthermore, most lending to the private sector is for short- to medium-term working capital, with only about 35% for long-term investment in fixed capital. (Figure 2.7)

Figure 2.6: Bank Lending as a Percentage of Total Lending, 2006–2020



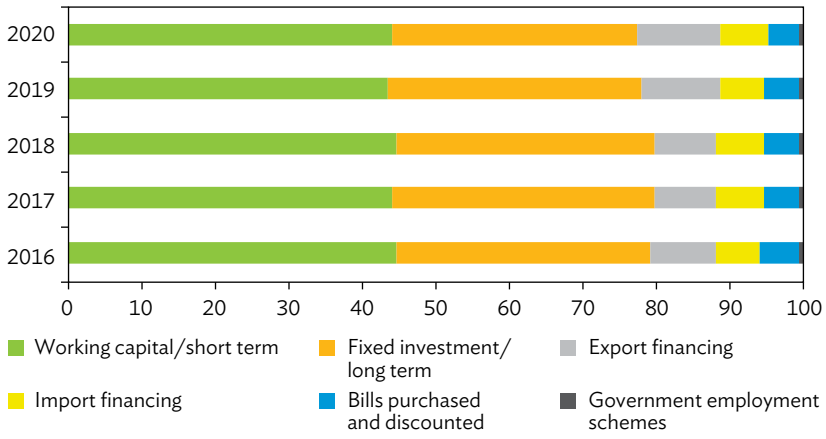
Note: Years are fiscal years, ending 30 June.
Source: State Bank of Pakistan. Statistics Database. http://www.sbp.org.pk/ecodata/index2.asp.

SMEs, as noted earlier, have a particularly hard time getting affordable credit. Pakistan's 3.2 million SMEs constitute 90% of private enterprises, employ nearly 80% of the non-agriculture workforce, and account for 40% of GDP. Yet, less than 10% of loans to the private sector goes to SMEs (Figure 2.8).

Besides access to credit, low domestic savings constrain investment by limiting the supply of financing. At 18.5% of GDP, Pakistan has one of the lowest gross national savings rates among lower-middle-income countries in Asia, and the rate has been falling since the early 2000s (Figures 2.9 and 2.10). This is despite the large remittances sent home by migrant workers, totaling $19.6 billion in

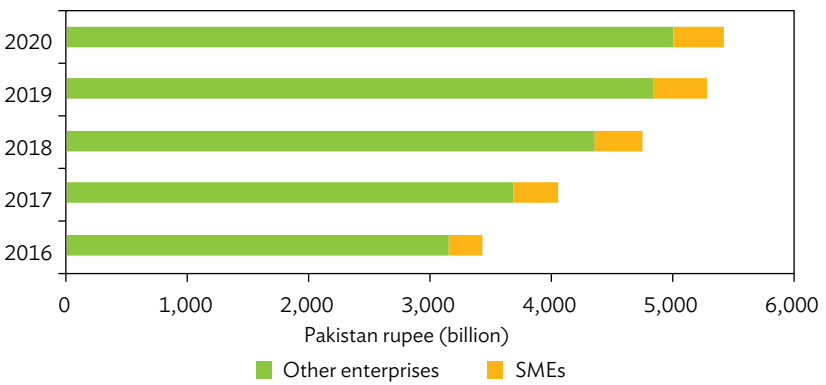
FY2018, a threefold increase from FY2008.[1] The low savings are caused by both a persistent budget deficit in the public sector and low private savings.

Figure 2.7: Credit to the Private Sector by Type of Financing, 2016–2020



Note: Years are fiscal years, ending 30 June.
Source: State Bank of Pakistan. Statistics Database. http://www.sbp.org.pk/ecodata/index2.asp.

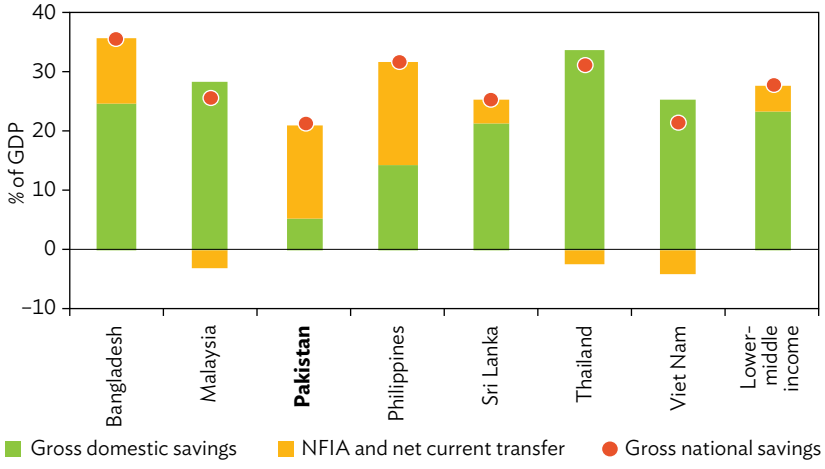
Figure 2.8: Loans to Small and Medium-Sized Enterprises and Other Enterprises, 2016–2020



SME = small and medium-sized enterprises.
Note: Years are fiscal years, ending 30 June.
Source: State Bank of Pakistan. Statistics Database. http://www.sbp.org.pk/ecodata/index2.asp.

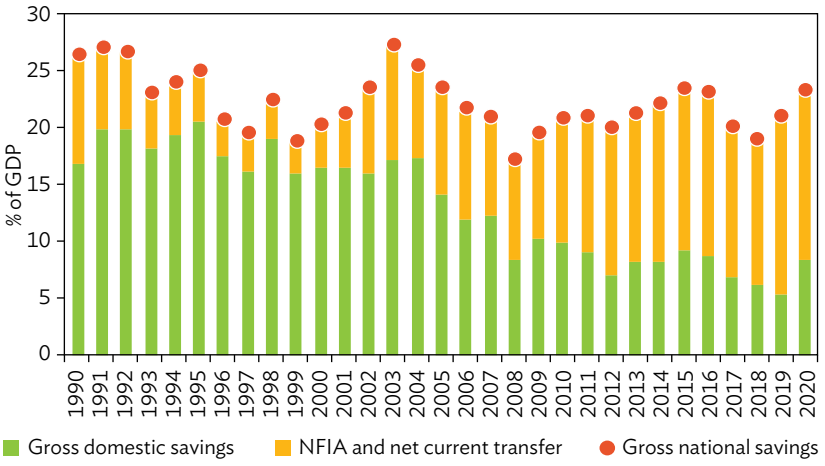
[1] Seasonally adjusted figures from State Bank of Pakistan. Workers Remittances (Credit). http://www.sbp.org.pk/ecodata/homeremmit/Remittance.pdf (accessed December 2019).

Figure 2.9: Gross Savings of Selected Countries, 2019



GDP = gross domestic product, NFIA = net factor income from abroad.
Sources: Pakistan Bureau of Statistics. Statistics Database. http://www.pbs.gov.pk/; State Bank of Pakistan. Statistics Database. http://www.sbp.org.pk/ecodata/index2.asp (both accessed December 2019); World Bank. World Development Indicators Database.

Figure 2.10: Gross Savings, 1990–2020



GDP = gross domestic product, NFIA = net factor income from abroad.
Note: Years are fiscal years, ending 30 June.
Sources: Computations based on Pakistan Bureau of Statistics. Statistics Database. http://www.pbs.gov.pk/; State Bank of Pakistan. Statistics Database. http://www.sbp.org.pk/ecodata/index2.asp.

Low income is often given as an explanation for low savings. However, a growing body of literature on household surveys (Banerjee and Duflo 2007) and detailed accounting of financial diaries (Collins et al. 2009) from around the world have shown that even the poorest do not spend all their income on basic needs but manage their money through saving and borrowing. When formal savings products are unavailable or unaffordable, the poor tend to save "under the mattress" or in livestock and jewelry (Karlan, Ratan, and Zinman 2014). This holds true for Pakistan: 35% of the population saved some money in 2017, but only 6% saved at a financial institution. The average figures for lower-middle-income countries are 40% and 16%, respectively (Demirguc-Kunt et al. 2018). The reasons for low levels of savings at financial institutions include weak financial development, lack of trust in the financial system, low levels of basic education and poor financial literacy, and political instability and spillover violence. The launch of the Deposit Protection Corporation in 2018, which protects bank deposits of up to PRs250,000 per depositor per bank, will encourage savings in banks by lowering the risk of losing money to bank failures. It will also improve financial stability and build confidence in the banking system (State Bank of Pakistan 2018)

The problem of low domestic savings is aggravated by limited access to international financial markets, a reflection of Pakistan's credit ratings (Table 2.1). In latest developments, worsening macroeconomic conditions triggered credit rating downgrades from B to B– from Fitch Ratings and Standard & Poor's, and to B3 from Moody's Investors Service. Because of these ratings, Pakistan has limited access to international financial markets, which has compelled the government to rely on domestic resources to finance its persistent budget deficit.

Table 2.1: Credit Ratings

Rating Agency	Rating	Outlook	Date
Moody's Investors Service	B3	Stable	May 2020
Standard & Poor's	B–	Stable	February 2019
Fitch Ratings	B–	Stable	January 2020

Source: Country Economy. Rating: Pakistan Credit Rating. https://countryeconomy.com/ratings/pakistan (accessed November 2020).

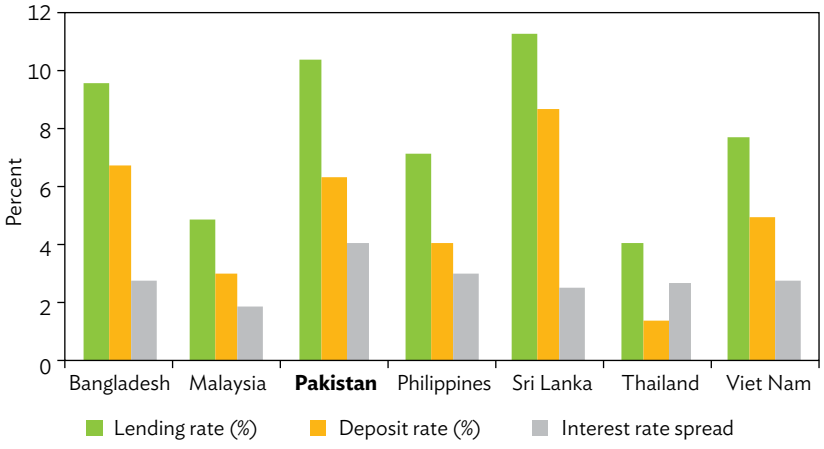
2.3 Is Poor Financial Intermediation a Binding Constraint?

The financial system can play an important role in promoting growth and development by reducing the transaction cost of pooling savings and channeling them into efficient projects. Pakistan's banking system—34 licensed banks, including 20 local private banks and five foreign commercial banks—is highly concentrated. The assets of the top five commercial banks accounted for over half of the sector's assets in 2017. The government is heavily involved in the banking sector, both as a borrower through the significant holdings by banks of government securities and as an investor through the State Bank of Pakistan's stakes in other banks.

Pakistan's interest rate spreads between lending and deposits are wide. Interest rate spreads can be used as a proxy indicator of efficient financial intermediation, and to gauge lack of competition, financial repression, high taxation, and a weak macroeconomic environment. Wide spreads discourage savings and investment, because of low returns on deposits and the high cost of credit. Looking at spreads is particularly relevant for Pakistan and other developing countries, where capital markets are not well-developed and banks are the primary source of funding for the private sector (Figure 2.11). Figure 2.12 shows that from FY1999 to FY2002, Pakistan's interest rate spread averaged 8%. From FY2002 to FY2008, the spread averaged 6%. In 2008, the State Bank of Pakistan responded to concerns of policy makers and financial-market stakeholders over high spreads with a minimum rate of return on savings deposits. This caused spreads to decline, from 5.9% in FY2009 to reach a historic low of 3.3% in FY2018.

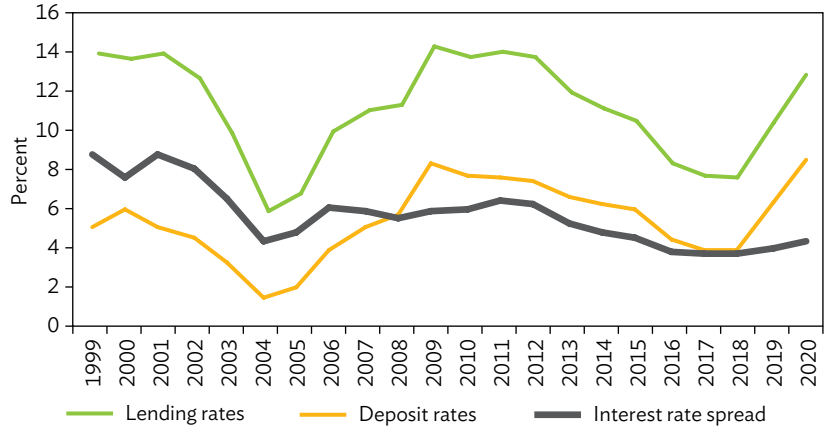
Achieving financial inclusion is an important challenge for Pakistan. Access to financial services not only promotes savings but also provides easier access to credit and the ability to manage financial emergencies. Only 21% of the adult population had an account at a formal financial institution in 2017, compared with an average of 58% for lower-middle-income countries (Figure 2.13). The share drops to 7% for women. Households have very little access to credit, with only 3% of the population borrowing from financial institutions in 2017. The average for lower-middle-income countries is 10%.

Figure 2.11: Interest Rate Spread in Selected Countries, 2019



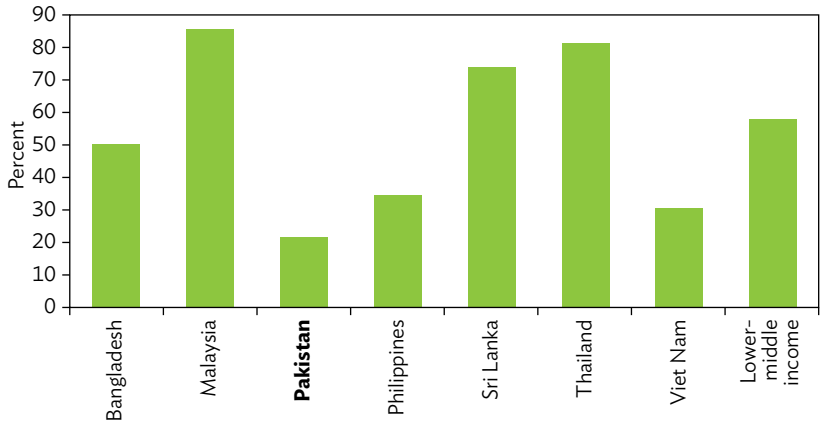
Source: World Bank. World Development Indicators.

Figure 2.12: Interest Rate Spread, 1999–2020



Note: Years are fiscal years, ending 30 June.
Source: World Bank. World Development Indicators Database.

Figure 2.13: Share of Population Ages 15+ with a Financial Institution Account, 2017



Source: World Bank. World Development Indicators Database.

Microfinance shows a similar picture with the formal microfinance sector's total assets reaching less than 2% of the poor. Microfinance has the potential to fill gaps in the financial market. While microfinance policies and services have focused on credit, there is also the potential for the sector to be developed to offer savings and other products.

In summary, the discussion so far has identified a set of interrelated factors in the financial market that partly explains the low level of investment in Pakistan. Low domestic savings and poor financial development have led to high interest rates, inefficient financial intermediation, and low access to financial services. Although the high cost of finance is a concern, access to credit to the private sector, especially to SMEs, is a more critical binding constraint. In addition to the poor availability of credit to the private sector, low returns to investment from inadequate physical or human capital could also explain the low investment rate.

2.4 Is Low Physical Capital a Binding Constraint?

Adequate physical infrastructure is needed to enhance productivity and support growth. Pakistan's overall infrastructure is among the worst in the world, ranked by the World Economic Forum at 105th among 141 countries (WEF 2019). It ranked lower than all countries in South Asia except

for Bangladesh and Nepal, and among lower-middle-income countries (Table 2.2). This section examines whether the lack of sufficient and reliable transport and energy infrastructure are binding constraints to growth in Pakistan.

Table 2.2: Global Ranking of Infrastructure Development in Selected Countries, 2019

Infrastructure Type	Bangladesh	Malaysia	Nepal	Pakistan	Philippines	Sri Lanka	Thailand	Viet Nam
Overall Infrastructure Rank	**114**	**35**	**112**	**105**	**96**	**61**	**71**	**77**
Transport Infrastructure	**100**	**29**	**91**	**69**	**102**	**50**	**53**	**66**
Quality of road infrastructure	108	19	120	**67**	88	76	55	103
Railroad density	40	63	...	**54**	91	35	55	58
Efficiency of train services	65	13	...	**47**	88	49	75	54
Efficiency of air transport services	109	25	131	**93**	96	72	48	103
Efficiency of seaport services	92	19	135	**70**	88	68	73	83
Utility Infrastructure	**113**	**51**	**116**	**114**	**96**	**82**	**90**	**87**
Electricity access	108	87	101	**111**	103	2	2	84
Electricity supply quality	68	38	119	**99**	53	39	31	62

... = not available.
Note: Ranking of 1 is the highest, 141 is the lowest.
Source: World Economic Forum. 2019. *The Global Competitiveness Report*. Geneva.

Transportation: Weak infrastructure

Rail, road, and seaport transportation infrastructure in Pakistan ranked 69th out of 141 countries in the World Economic Forum's 2019 Global Competitiveness Index. Among lower-middle-income countries, Pakistan was only higher than Bangladesh and the Philippines.

Rail. Historically, railways have occupied a central position in the national transportation network, handling about 73% of freight tariff in the 1950s and 1960s. The last few decades, however, have seen a steady decline, with railways accounting for less than 4% of total freight traffic in 2011 (Li, Alam, and Wang

2018). The poor performance is mainly due to a lack of investment to expand and upgrade assets, which has affected the productivity, quality, and reliability of the rail system (Pakistan Railways 2018).

While the quality of Pakistan's rail infrastructure ranks higher than other lower-middle-income countries, it has a low score of 3.8 (1.0 indicating extremely underdeveloped and 7.0 extensive and efficient by international standards) for the efficiency of rail services, suggesting that considerable improvements are needed to reach international standards (WEF 2019).

Progress is being made in the implementation of the Railway Revitalization Strategy to improve the rail system's business processes, institutional framework, financial stability, and services. Performance data show gross earnings rose from PRs49.5 billion in 2018 to PRs54.6 billion in 2019, and freight volume increased from 4% to 7% in the same period (Pakistan Railways 2019).

Roads. Pakistan has 263,775 kilometers of roads, of which 4.6% are federal roads under the supervision of the National Highways Authority (Table 2.3). Federal roads comprise 39 strategic road networks spread across the four provinces. These roads are classified either as national highways, motorways, or expressways, and they carry 80% of total commercial traffic (National Highways Authority n.d.).

Table 2.3: Road Length of National Highways by Province

Province	Road Length (km)	Percent of Total
Balochistan	4,565	40.1
Punjab	2,731	24.0
Sindh	2,204	19.4
Khyber Pakhtunkhwa	1,878	16.5
Total	**11,378**	**100.0**

km = kilometer.
Source: National Highways Authority. n.d. Road Network Maps of Projects. http://nha.gov.pk/wp-content/uploads/2016/04/NHA-Road-Network-Maps-of-Projects-02.01.2012-Part-01.pdf.

In terms of quality of road infrastructure, the World Economic Forum ranks Pakistan 67th out of 141 countries with an overall score of 4.0 (1.0 indicating extremely underdeveloped and 7.0 extensive and efficient by international standards) (WEF 2019).

Under the China-Pakistan Economic Corridor, five projects worth $5.3 billion will provide an additional 966 kilometers of new or connecting highways. Road transportation along these routes will be faster, cheaper, and more reliable, making it easier for manufacturers to access product inputs and to sell their products.

Seaports. Pakistan has three warm-water seaports: Karachi Port, Port Qasim, and Gwadar Port. Port traffic by flow of containers from land to sea and vice versa has risen 54% since 2007, with the biggest annual increase of 19% in 2017.[2] Karachi Port is the country's major shipping port providing round-the-clock port services. It handles about 1,600 ships a year and has the capacity to expand its operations.[3] Developing Gwadar Port is a priority for the government because of its strategic location at the mouth of the Persian Gulf and proximity to key shipping routes. Its development is one of the major infrastructure projects being built under the China-Pakistan Economic Corridor, and it is a link in the Belt and Road Initiative. In 2015, the port was leased to the People's Republic of China (PRC) for 43 years. Because of its strategic location, other port-related projects, including a free economic zone and an international airport, are being built around Gwadar Port.

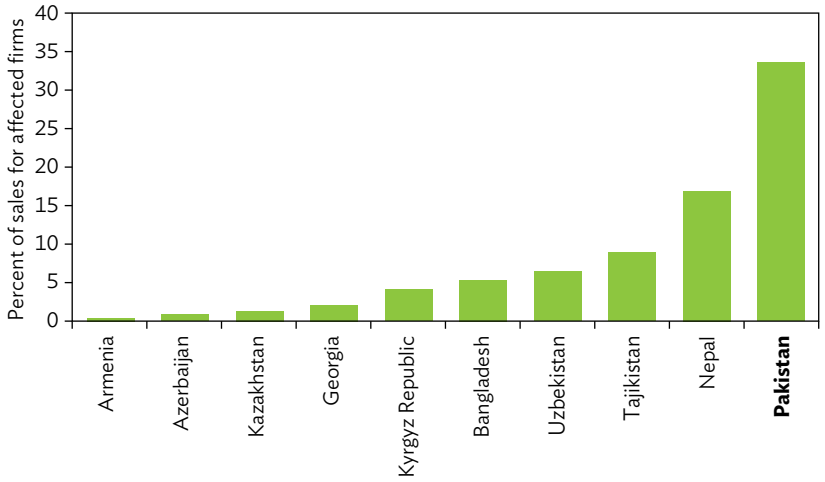
Energy: Outages and circular debt

The World Bank's Doing Business reports consistently rank "getting electricity" as a major constraint for firms in Pakistan. Gas- and oil-fired power plants account for approximately 70% of Pakistan's installed capacity and 60% of electricity generation. A persistent shortfall in gas supply (due to the rapid depletion of indigenous sources) and expensive oil has led to insufficient energy generation, growing dependence on imported fuel, and high per-unit costs of generation. Power demand has been growing at 5% annually since 2008 and is expected to continue to grow at 5%–9% a year until 2025. Because of the gap between the supply and demand of electricity, power cuts have been common since 2006. During the peak summer months of 2013, urban areas experienced an average 8 hours of load shedding a day—and 16 hours a day in some rural areas (Planning Commission of Pakistan and USAID 2013). The World Bank estimates the value lost from electricity outages in 2013 was 33% of the total annual sales of firms (Figure 2.14), which exceeded losses in other South Asian and Central Asian countries.

[2] World Bank. World Development Indicators Database. https://data.worldbank.org/ (accessed December 2019).

[3] Karachi Port's current occupancy is 45%, according to Karachi Port Trust. Port Statistics. http://kpt.gov.pk/pages/default.aspx?id=43 (accessed December 2019).

Figure 2.14: Value Lost Due to Electrical Outages in Central and South Asian Countries, 2013



Source: World Bank. World Development Indicators Database.

Significant progress has been made in reducing the electricity demand–supply deficit, in large part due to investment in new generation capacity under the China-Pakistan Economic Corridor. A large share of the new capacity, however, is based on coal-fired generation, which will dramatically change the energy mix. The National Electric Power Regulatory Authority projects the share of oil-based generation capacity will decline from 30% in 2016 to 8% by 2024, while the share of coal will increase from 7% to 18% during the same period (see Chapter 5, Figure 5.6 for more details). Although this will largely resolve generation constraints, to fully benefit from the new capacity, transmission and distribution networks need to be strengthened to reduce losses and evacuate additional supply to end users.[4] Without these improvements, Pakistan will get caught in a "capacity trap" where it will be forced to pay costs for the additional generation without being able to benefit from it.

In addition to the constraints in power supply, another important challenge facing the energy sector is the circular debt. A complex set of interrelated factors, including high transmission and distribution losses, and tariff setting, have led to an accumulation of unpaid receivables throughout the energy value chain. (The major causes of circular debt are discussed in detail in Chapter 5.) In 2013, the government cleared the accumulated circular debt.

[4] Transmission and distribution losses in Pakistan average 16.5%.

But because the underlying issues were not resolved, circular debt continues to accumulate. This debt is not only a fiscal liability for the government but it also discourages private investment and stifles the long-term development of the energy sector.

In summary, energy supply is a binding constraint to Pakistan's economic growth. Although new generation capacity will ease generation constraints, other underlying factors related to poor transmission and distribution networks, and the circular debt, need to be resolved to capture the full benefits of these new investments. Transportation infrastructure is not a binding constraint, and ongoing and planned infrastructure projects will further improve transportation access and reliability.

2.5 Is Low Human Capital a Binding Constraint?

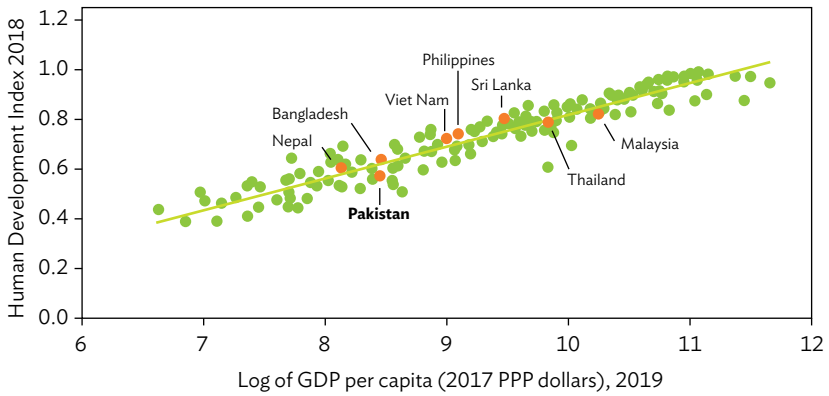
With a population of more than 200 million, Pakistan is the world's fifth most populous country. It is one of only two countries in the world (the other being Nigeria) that has a population of over 100 million and a fertility rate of more than three births per woman (Table 2.4). Pakistan's population is expected to exceed 300 million by 2050 (UNDESA 2019). The high fertility rate is linked to the low use of family planning for programmatic reasons, and cultural and religious obstacles to contraception, especially among the poor, uneducated, and those living in rural areas (UNFPA 2016). Two-thirds of the population is under 30, which creates both a challenge and an opportunity. If the economy is able to absorb the swell of young people entering the labor market and provide decent jobs, then it could benefit from the skills and ideas of a young population. But an inability to create decent employment opportunities could create frustration and discontent among youth, which may feed into political and social unrest. A large population is already straining the country's limited health and education resources, as is evident from overcrowded schools and hospitals, and the generally poor quality of social services. Pakistan continues to underperform in health and education outcomes. It scored 0.562 on the Human Development Index in 2017, putting the country in the medium human development category (UNDP 2018). This is below the index rankings of Bangladesh and Nepal, which have lower income per capita than Pakistan, but have been able to achieve higher human development (Figure 2.15). This section examines Pakistan's health, education, and labor market situation to explore whether human capital is a binding constraint to growth.

Table 2.4: Population Statistics of the World's Most Populous Countries

Country	Total Population, 2018	Annual Population Growth, 2018 (%)	Fertility Rate, 2017 (births per woman)
People's Republic of China	1,397,715,000	0.36	1.7
India	1,366,417,754	1.02	2.2
United States	328,239,523	0.47	1.7
Indonesia	270,625,568	1.10	2.3
Pakistan	**216,565,318**	**2.03**	**3.5**
Brazil	211,049,527	0.75	1.7
Nigeria	200,963,599	2.56	5.4
Bangladesh	163,046,161	1.04	2.0
Russian Federation	144,373,535	(0.07)	1.6
Mexico	127,575,529	1.09	2.1

( ) = negative.
Source: World Bank. World Development Indicators Database.

Figure 2.15: Human Development Index and Log of Gross Domestic Product per Capita in Selected Countries



GDP = gross domestic product.
Source: World Bank. World Development Indicators, United Nations Development Programme. Human Development Data. http://hdr.undp.org/en/data# (accessed December 2019).

Health: Triple burden of disease

As a lower-middle-income country, Pakistan faces a triple burden of disease. The burden of infectious diseases is amplified by the threat of noncommunicable diseases, such as cancer, heart disease, and diabetes, and the rising risk of pandemics.

Communicable diseases, and maternal and perinatal and nutritional conditions, accounted for 35% of deaths in Pakistan in 2016 (WHO 2018a). Despite significant improvements, Pakistan still has a poorer health profile than other lower middle-income countries. The disparity is especially noticeable for infant and child health indicators: for every 1,000 babies born alive in 2017, 43 died before the end of their first month, 58.8 died before age 1, and 71.5 died before age 5 (Table 2.5). Of the children who make it to age 5, 38% suffer from stunting, with Pakistan having one of the world's highest rates of stunting (NIPS and ICF 2019).

Table 2.5: Health Indicators

	Pakistan			Lower-Middle-Income Countries
Health Indicators	**2007**	**2012**	**2018**	**2018**
Life expectancy at birth, total (years)	64.4	65.7	67.1	68.4
Maternal mortality ratio (modeled estimate, per 100,000 live births)	214	197	140[a]	265[a]
Mortality rate, infants (per 1,000 live births)	75.6	69.7	57.2	37.7
Mortality rate, newborns (per 1,000 live births)	51.5	49.2	42.0	24.4
Mortality rate, under-5 (per 1,000 live births)	94.9	86.6	69.3	50.5
Survival to age 65, female (% of cohort)	68.6	71.3	72.9	74.4
Total fertility rate (births per woman)	4.2	3.7	3.5	2.8

[a]2017.
Source: World Bank. World Development Indicators Database.

The World Health Organization categorizes 29% of Pakistan's population in the high transmission of malaria group, 69% in the low transmission group, and only 2% of the population as malaria free (WHO 2018b). The incidence and mortality rate for tuberculosis in Pakistan is decreasing amid wider treatment coverage and more resources being allocated to combat the disease. Even so, with 562,000 cases reported in 2018, Pakistan is still among the top 10 countries with the highest burden of tuberculosis (WHO 2018c).

While infectious diseases are still highly prevalent, the burden of disease in Pakistan is shifting from communicable to noncommunicable diseases. Deaths caused by noncommunicable diseases, such as cardiovascular disease, diabetes, and cancer, increased from 45.5% of total deaths in 2000 to 58% in 2016. Among noncommunicable diseases, cardiovascular disease accounts for the largest share, at 29% of all deaths (WHO 2018a). Deaths and disabilities

from noncommunicable diseases may increase in the absence of national targets for curbing the harmful effects of risk factors, such as alcohol abuse, smoking, and lack of physical activity. WHO (2018a) estimates that in 2016, 1 in 3 adults was physically inactive, 1 in 4 had high blood pressure, 1 in 5 smoked, and 1 in 10 had raised blood glucose.

Education: Access and quality

Pakistan's education indicators are poor. Only 57% of the population (ages 15 and over) is literate; this is below the average of both lower-middle-income countries (75%) and low-income countries (59%). The literacy rate varies significantly across provinces, gender, and between rural and urban areas. It is highest among men in urban areas of Sindh (82%) and lowest among women in rural parts of Balochistan (12%) (Table 2.6).

Table 2.6: Literacy Rate (Ages 15+) by Province and Gender, 2019

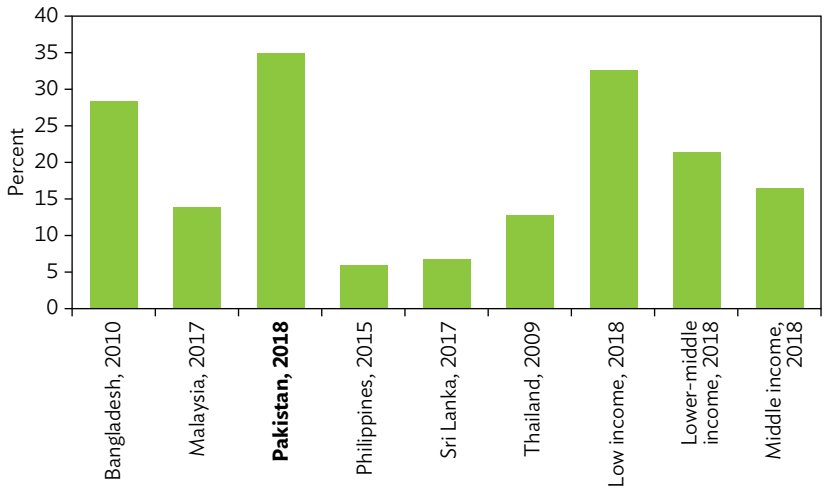
	Literacy Rate (%)			
Province/Area	Total	Male	Female	Difference by Gender
Pakistan	56	69	45	24
Urban	72	79	64	15
Rural	47	62	33	29
Punjab	61	70	53	17
Urban	75	80	70	10
Rural	52	63	42	21
Sindh	55	68	42	26
Urban	71	79	62	17
Rural	36	53	18	35
Khyber Pakhtunkhwa	52	72	34	38
Urban	63	79	48	31
Rural	49	70	30	40
Balochistan	37	52	21	31
Urban	54	68	38	30
Rural	30	45	14	31

Note: Year is fiscal year, ending 30 June.
Source: World Bank. World Development Indicators Database.

Pakistan faces a serious challenge in enrolling and retaining children in school. It is estimated that 6 million children or 25% of all children of primary school age were out of school in 2018. If out-of-school children at the primary and secondary levels are included, the number jumps to 19 million or 34% of the child, adolescent, and youth population (Figure 2.16). Although the number

of out-of-school children fell by 2.4 million at the primary level from 2012 to 2018 and by 6.3 million at the secondary level, progress is slow, and Pakistan still has the world's highest number of out-of-school children. The national figures mask disparities based on gender, geography, and socioeconomic status. The out-of-school rate is higher for girls (49%) than boys (40%). Among provinces, Balochistan's out-of-school rate is 70% and Sindh's is 52% (NEMIS and AEPAM 2018). While most out-of-school children have never been to school, about a fourth attended school and then dropped out (NEMIS and AEPAM 2018). Lack of basic facilities, poor quality of education, teacher absenteeism, and corporal punishment have all contributed to the high drop-out rates (Chaudhary 2016).

Figure 2.16: Out-of-School Children, Adolescents, and Youth of Primary and Secondary School Age in Selected Countries



Source: UNESCO UIS. Data Centre. http://data.uis.unesco.org/ (accessed December 2019).

Among the children that do stay in school, the data suggest that the quality of education they receive is poor. The minimal gains made in making education more accessible have generally not been accompanied by improving the quality of education. Data from the 2018 Annual Status of Education Report show that 44% children in grade 5 in rural areas cannot read a story in Urdu, Sindhi, or Pashto; 48% cannot read a sentence fluently in English; and 47% cannot perform two-digit division (SAFED 2019). Results from the National Achievement Test show poor learning for grade 4 and grade 8 students. These scores are reported on a scale of 1–1,000, with the mean set at 500. In 2016,

the national average for all subjects tested was below 500, and they were particularly low for science (478) and math (484) (NEAS 2016).[5]

Labor market: Skills shortage

Pakistan has the world's 10th largest workforce totaling 63.4 million people in 2018, an increase of 4.7% from 58.6 million in 2015 (Pakistan Bureau of Statistics 2019). However, with a literacy rate of 57% and poor overall learning outcomes, the labor market faces a shortage of skilled workers. The 2019 Global Competitiveness Index ranks Pakistan 125th out of 140 countries on skills; this is below the average for South Asia and lower-middle-income countries (WEF 2019). This shortage is exacerbated by the migration of many skilled and highly skilled workers out of the country in search of better opportunities. Of the 625,000 Pakistani workers who emigrated in 2019, 50% were skilled and highly skilled; among them were doctors, nurses, teachers, accountants, and engineers, who are in short supply (Table 2.7). While the global migration trend brings in much-needed remittances to the economy, it is also hollowing out the availability of skilled and highly skilled workers.

Table 2.7: Emigrated Registered Workers by Skills Level, 2013–2020

Year	Highly Qualified	Highly Skilled	Skilled	Semi-Skilled	Unskilled	Total
2013	12,057	5,032	263,138	102,963	239,524	622,714
2014	14,647	6,216	287,649	120,204	323,750	752,466
2015	17,484	7,853	397,317	151,636	372,281	946,571
2016	16,510	8,172	335,671	152,235	326,765	839,353
2017	16,029	9,886	188,745	85,686	195,940	496,286
2018	16,105	9,770	142,486	56,208	157,870	382,439
2019	15,475	9,845	285,932	64,876	249,075	625,203
2020	4,148	3,011	83,530	15,019	77,922	183,630

Source: Bureau of Emigration and Overseas Employment. https://beoe.gov.pk (accessed October 2020).

The lack of quality basic education is impeding access to and outcomes from technical and vocational education and training, which in itself faces many problems, including poor and outdated curricula, financing constraints, and a fragmented setup. The textile and garment industry faces shortages of workers skilled in new technologies and processes, including computerized sewing, computer-aided design and manufacturing, and supply chain management. Very few training schools offer these courses.

[5] Subjects tested were math and Urdu reading and writing for grade 4 students; science and English reading and writing for grade 8 students.

Gender disparities also worsen labor-market outcomes in Pakistan. The labor participation rate for women, at 22.8%, is among the lowest in the world (Pakistan Bureau of Statistics 2019).[6] Despite some areas of progress, the labor market remains skewed along gender lines, and the share of women employed as wage or own-account workers has declined. Their work as contributing family workers, which is often unpaid, has increased as a share of employment. Women are more likely than men to be paid on a piece-rate basis—36.5% compared with 11.5% for men in FY2018. In the same year, men had a greater share of fixed-wage employment, at 52% compared with 44.9% for women. This has contributed to the prevalence of women in vulnerable employment: 70.9% for women compared with 51.5% for men in FY2018 (Pakistan Bureau of Statistics 2019).[7] And Pakistan has one of the world's highest gender pay gaps (ILO 2013). Overall, women's wages are 60% of men's wages (Pakistan Bureau of Statistics 2018).

In summary, the lack of human capital is a long-term binding constraint for growth in Pakistan. Basic health and education indicators are dismal. Pakistan has one of the world's highest child-mortality and stunting rates, and the highest number of out-of-school children, adolescents, and youth in the world. Low literacy rates and ineffective technical and vocational education and training are making it difficult for the country to move beyond a low-skilled economy.

2.6 Are Weak Institutions a Binding Constraint?

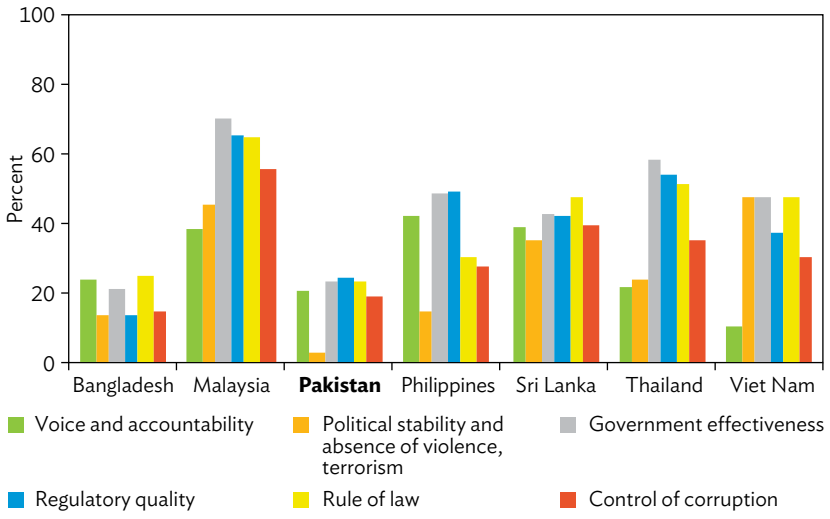
Good institutions are critical for long-term growth and development (Acemoglu and Robinson 2012). They create an environment conducive to promoting investment and innovation, and are needed for the effective delivery of public services. Good institutions ensure accountability and transparency, so that policy making is not captured by vested interests. The World Bank's Worldwide Governance Indicators has six indicators that cover three broad dimensions of governance: political, economic, and institutional. Two indicators, "voice and accountability" and "political stability," measure the political dimension. The economic dimension is measured by "government effectiveness" and "regulatory quality," and the institutional dimension is measured by "rule of law" and "control of corruption." Overall, Pakistan's score

[6] Labour Force Surveys, in their annual reports, refer to individuals age 10 and over, whereas this analysis uses age 15 and over, so the numbers are slightly lower than those reported in the surveys.

[7] Vulnerable employment includes own-account workers and contributing family members.

on the governance index is low compared with other lower-middle-income countries (Figure 2.17). It performs especially poorly in political stability and absence of violence/terrorism.

Figure 2.17: Governance Indicators of Selected Countries, 2019

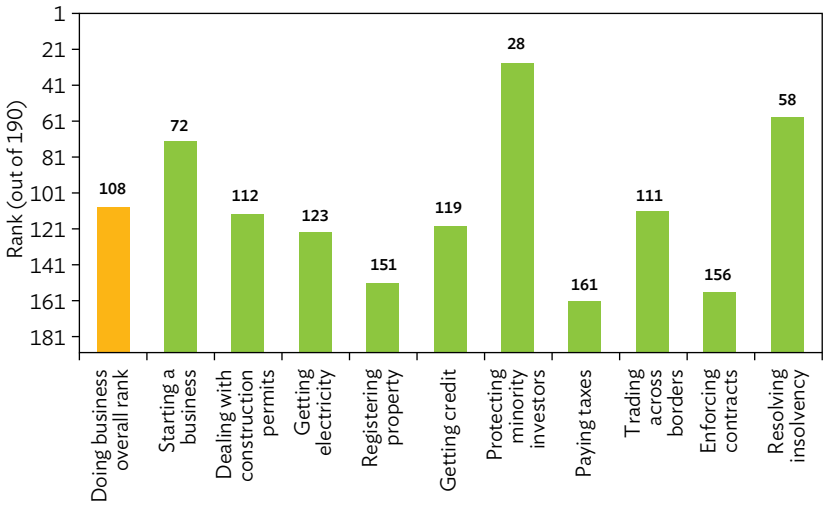


Source: World Bank. Worldwide Governance Indicators Database. https://info.worldbank.org/governance/wgi/ (accessed December 2019).

Pakistan also performs poorly in various measures of the World Bank's Doing Business indicators, although its overall ranking has significantly improved in recent years, from 147th out of 190 countries in 2018 to 108th in 2020 (Figure 2.18). The 2020 Doing Business report recognized Pakistan as one of the year's top 10 reformers. Pakistan achieved this by setting up a national secretariat and a prime minister's reform steering committee to ensure progress in reform programs. Significant advances have been made in the Doing Business indicators of starting a business, dealing with construction permits, getting electricity, registering property, paying taxes, and trading across borders. Pakistan's ranking on getting credit has worsened, however.

Among the Doing Business indicators, Pakistan still performs poorly in enforcing contracts, paying taxes, and registering property, although, as just noted, significant advances have been made in the last two. The paying taxes indicator measures the administrative burden of paying taxes for medium-

Figure 2.18: Rankings on Ease of Doing Business, 2020



Note: Rank 1 is the highest, 190 is the lowest.
Source: World Bank. 2020. *Doing Business 2020: Comparing Business Regulation in 190 Economies*. Washington, DC.

size firms, including the frequency of filing and payments, and the time taken to comply with tax laws. Pakistan's tax system is highly complex and fragmented between federal and provincial governments. Customs duties on machinery imports have complex schedules of rates and exemption conditions. The introduction, in 2019, of online payments for value-added tax and corporate income tax is a step in the right direction. But further reforms are needed to lessen the burden, as it takes firms 283 hours to pay taxes and 34 payments a year. The enforcing contracts indicator measures the time and cost required to resolve a commercial dispute and whether a series of good practices have been adopted to promote the quality and efficiency of the court system. The 2020 Doing Business report shows it takes 1,071 days and 20.5% of the claim value to resolve a commercial dispute in Pakistan. The quality of the judicial process scores 5.7 compared with 7.1 for the rest of South Asia. The registering property indicator measures the time and cost required to register a property, and the quality of land administration. It takes 105 days to register a property in Pakistan, a huge improvement on 2017's 208 days. Eight different procedures are required to register a property, costing property holders 4.2% of the property value.

One way to better understand issues related to governance in Pakistan is by examining how its cities are managed. Good urban governance is critical, because by FY2025 about 50% of Pakistan's population is expected to live in urban centers (UNDESA 2019). Urbanization could potentially be beneficial for Pakistan because cities are more efficient at providing physical infrastructure and at matching firms with their most suitable workers and vice versa. Cities also tend to be incubators of innovation. Unfortunately, a complex governance structure with multiple institutions managing the urban space has often led to coordination problems resulting in traffic congestion, pollution, and a lack of affordable housing and space for dynamic and expanding businesses in Pakistan's largest cities.

Local government in Pakistan is organized in a three-tier system comprising the district, *tehsil,* and union councils.[8] Since legislation on local government is separately formulated by each province, the functions of local governments vary. Although some authority has been devolved to local governments, they are often restricted to providing essential infrastructure and services, and have limited authority to formulate and implement policies to attract private investment and promote local economic development (ADB 2019). In addition to the three-tiered local government system, multiple parallel institutions operate in most cities. For example, Development Authorities operate under provincial governments and are designated to develop urban action plans; undertake public works, such as water and sewage projects; and develop land for urban expansion. These issues related to urban governance are discussed in more detail in Chapter 7.

In summary, although Pakistan has made quick strides in the past few years to ease doing business, issues related to governance remain a binding constraint. Medium and long-term reforms are needed for greater accountability and transparency. The urban governance structure needs to be streamlined, but, at the same time, local governments need to be empowered to make strategic decisions on economic development.

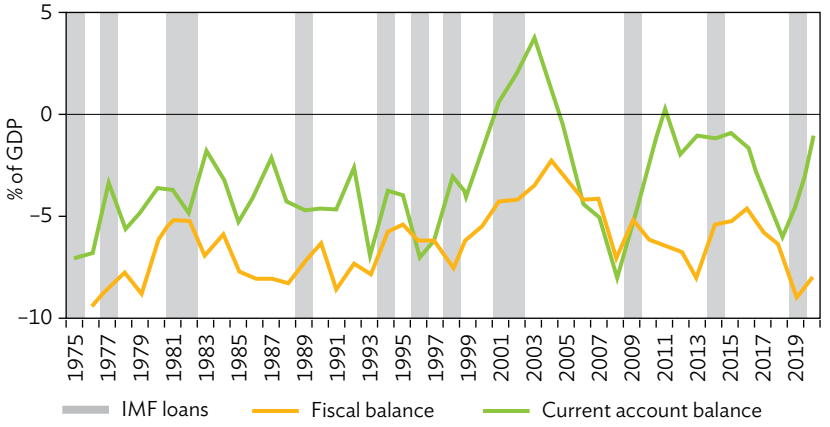
2.7 Are Macroeconomic Risks a Binding Constraint?

Pakistan's economic growth has been episodic, with periods of high growth being punctuated by fiscal and balance-of-payments crises. Since independence in 1947, Pakistan has sought IMF assistance many times, and it has an ongoing

[8] The second-lowest tier of local government in Pakistan. Each *tehsil* is subdivided into a number of union councils and is part of a larger district.

$6 billion program started in July 2019. Figure 2.19 shows the trend in Pakistan's fiscal and current account deficits since the mid-1970s, and loans by the IMF. These recurring crises are a symptom of deep-seated structural problems within the economy that are related to poor fiscal management and consumption-fueled growth. These crises not only put a brake on growth, but the accompanying uncertainty discourages investment and innovation.

Figure 2.19: Fiscal Balance, Current Account Balance, and International Monetary Fund Loans, 1975–2020



GDP = gross domestic product, IMF = International Monetary Fund.
Note: Years are fiscal years, ending 30 June.
Source: Based on the Pakistan Bureau of Statistics. Statistics Database. http://www.pbs.gov.pk/; Ministry of Finance. http://www.finance.gov.pk/.

One of the most important reasons for Pakistan's persistent fiscal deficit is its weak tax collection system. The tax-to-GDP ratio, at 11.6% in FY2019, is low by international comparison. From FY2010 to FY2019, the share of direct taxes in total tax revenue averaged 35%; in Indonesia, Malaysia, and Thailand, the share averaged 45% (Table 2.8). Pakistan's low level of direct taxes is due to multiple factors, including a narrow tax base, weak compliance and enforcement, and abundant exemptions and loopholes that facilitate tax evasion.

Table 2.8: Tax Revenue, 2010–2020
(%)

Tax Type	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Direct taxes	36.4	36.4	37.6	35.9	37.2	36.6	35.3	33.8	34.4	32.3	32.2
Customs duties	11.1	11.3	11.2	11.7	10.1	10.9	12	12.5	13.6	15.3	13.2
Sales tax	36.4	38.7	41.6	41.1	42.2	38.7	39.2	33.3	33.4	5.4	33.7
Excise tax	9.1	8.4	6.3	5.8	5.9	5.8	5.6	5.2	4.8	32.7	5.4
Other	6.9	5.2	3.3	5.5	4.6	8	7.8	15.2	13.8	14.2	15.5

Note: Years are fiscal years, ending 30 June.
Source: Federal Board of Revenue. https://www.fbr.gov.pk/Publications.

Because of weak revenue collection from direct taxation, the government has sought other ways to manage its fiscal position, which is primarily driven by short-term fiscal considerations at the expense of long-term growth and competitiveness. For example, the government raised import duties on intermediate goods and machinery, which eroded export competitiveness and discouraged innovation. It also raised revenue from withholding taxes on a range of transactions, including cash withdrawals from bank accounts, which had a detrimental effect on cash deposits and bank liquidity. The government's pursuit of a stable nominal exchange rate to contain the costs of imports and debt servicing caused the real effective exchange rate to rise by nearly 27% from December 2013 and June 2017, making Pakistan's exports uncompetitive in the international market.

This loss of competitiveness feeds recurring balance-of-payments crises. Pakistan's external account has been in deficit since FY2010 (FY2011 saw a small positive balance). The current account deficit has widened significantly since FY2016, reaching 6.1% of GDP in FY2018. The rise was mostly driven by a surge in imports due to an overvalued exchange rate, capital expenditure for China-Pakistan Economic Corridor projects, and rising oil prices. Pakistan's loss of export competitiveness and stagnant product structure is examined in more detail in a later section of this chapter and in Chapter 3. Although remittances traditionally offset the trade deficit, they stagnated in FY2017, which led to a widening current account deficit. Remittances recovered in FY2019, reaching $21.8 billion, but this could not make up for the widening trade deficit. As a result of the persistent current account deficit, foreign exchange reserves have been declining and were at less than 2 months of import cover at the July 2019 start of the current IMF program (Table 2.9).

Table 2.9: External Indicators, 2010–2020
($ million)

External Indicators ($ million)	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Current account balance	(3,946)	214	(4,658)	(2,496)	(3,130)	(2,709)	(4,867)	(12,621)	(19,195)	(13,434)	(2,970)
Balance on trade in goods	(11,452)	(10,427)	(15,652)	(15,355)	(16,590)	(17,191)	(19,283)	(26,680)	(30,903)	(27,612)	(19,910)
Exports of goods	19,680	25,369	24,718	24,802	25,078	24,089	21,972	22,003	24,768	24,257	22,507
Imports of goods	31,132	35,796	40,370	40,157	41,668	41,280	41,255	48,683	55,671	51,869	42,417
Balance on trade in services	(1,774)	(2,029)	(3,305)	(1,564)	(2,650)	(2,963)	(3,406)	(4,339)	(6,426)	(4,970)	(2,827)
Balance on primary income	(3,282)	(3,017)	(3,245)	(3,669)	(3,955)	(4,595)	(5,347)	(5,048)	(5,437)	(5,610)	(5,682)
Secondary income credit	12,562	15,687	17,544	18,092	20,065	22,040	23,169	23,446	23,571	24,758	25,449
Overseas remittances	8,906	11,201	13,186	13,922	15,837	18,721	19,917	19,351	19,914	21,740	23,131
SBP gross reserves	13,953	16,614	11,905	7,198	10,509	14,836	19,446	17,550	11,341	9,301	13,724
Months of imports	4.4	4.6	2.9	1.8	2.5	3.5	4.7	3.6	2.0	1.8	2.6
Foreign exchange rate (PRe/$)	83.8	85.5	89.24	96.73	102.86	101.29	104.24	104.7	109.84	136.09	158.33

( ) = negative, PRe = Pakistan rupee, SBP = State Bank of Pakistan.
Note: Years are fiscal years, ending 30 June.
Source: State Bank of Pakistan. Statistics Database. http://www.sbp.org.pk/ecodata/index2.asp.

Long-standing high levels of fiscal deficit have also meant an accumulation of both domestic and foreign debt. Public and publicly guaranteed debt reached close to 88% of GDP at the end of FY2019 (IMF 2019). About two-thirds of the deficit was financed by domestic sources, mostly bank borrowing, and the rest from external sources. Gross external debt reached 30.3% in FY2019 and is expected to peak at 40% of GDP in FY2021.

In summary, macroeconomic imbalances and risks are a binding constraint for Pakistan's growth. In the short term, the recurring fiscal and balance-of-payments crises create macroeconomic uncertainty that discourages investment and innovation. But more importantly, these problems are structural. Fiscal mismanagement, in particular, but also a narrow tax base and weak tax administration have caused the government to adopt policies prioritizing short-term fiscal considerations at the expense of long-term growth and competitiveness. The erosion of competitiveness feeds into the recurring balance-of-payments crises. Thus, structural reforms are needed in the medium to long term to deal with the fiscal deficit, especially to broaden the tax base and strengthen tax administration. If these reforms are not taken, Pakistan will surely find itself in yet another fiscal and balance-of-payments crisis.

2.8 Are Coordination and Information Failures a Binding Constraint?

Markets left on their own may not lead to the appropriate level of investment and diversification into new products and processes because of information and coordination problems. The cost of finding new areas of production is expensive, and first movers must take all the risks to find out whether something is profitable or not. If they are successful, they will be copied by others. But if they fail, they bear the losses. Because of this, market incentives for self-discovery are inefficiently low. Successful specialization in the past (for example, garments in Bangladesh and cut flowers in Colombia) was usually driven by historical accidents and the serendipitous choices of a few entrepreneurs.

But the right investments determine the structure of the economy and the pattern of specialization. This is extremely important because structural transformation is probably the single most defining characteristic of the process of development. As countries develop, there are changes in not only how much they produce but also *what* they produce and *how* they do it (Felipe

2007). This process of structural transformation is evident in a country's export structure—as countries develop, they tend to export more complex products (Klinger and Lederman 2004).

This section uses Hidalgo and Hausmann's (2009) Economic Complexity Index and product space analysis to understand the structure of Pakistan's economy and examine whether coordination and knowledge problems are critical constraints to the economy. Both the Economic Complexity Index and product space analysis are based on the capabilities available in a country by analyzing the structure of its exports. Capabilities could include knowledge about a product, physical assets, intermediate inputs, and labor relations. A country's level of income is correlated with the number of its available capabilities. Rich countries tend to export products that require a higher number of capabilities, while poor countries export products that require fewer capabilities. A deviation from this income–capabilities relationship is predictive of a country's future growth.

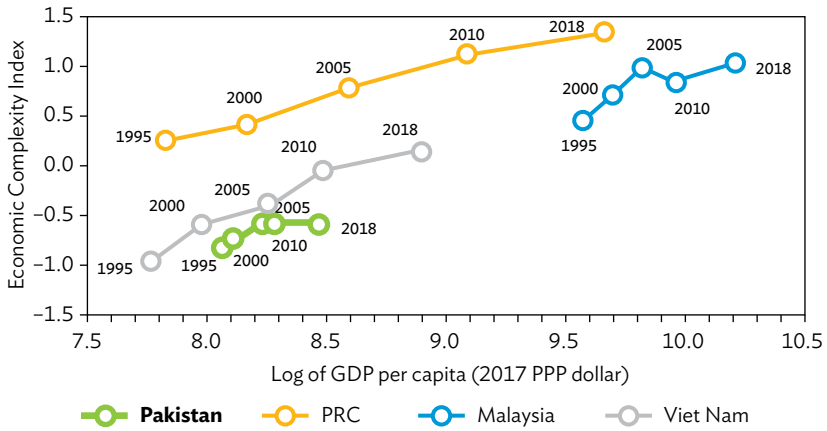
Figure 2.20 shows the evolution of Pakistan's Economic Complexity Index since 1995 compared with Malaysia, the PRC, and Viet Nam.[9] Pakistan's productive structure has been stagnant, while the comparator countries have made fast progress and surpassed Pakistan both in terms of income and the economic complexity of their productive structure. The comparison is particularly stark with the PRC and Viet Nam. In 1995, Viet Nam was at a lower income and complexity level than Pakistan. But Viet Nam was able to upgrade its production structure and reach a higher level of complexity by 2000 and a higher level of income by 2010. In 1995, the PRC started at a higher level of complexity, but at a lower income level than Pakistan. But the PRC was able to upgrade both the productive structure of its economy and income, surpassing Pakistan's income by 2000.

Figure 2.21 illustrates the product space of Pakistan's exports in 1995 and 2017. The black squares mark the products in which Pakistan has revealed comparative advantage.[10] Over the review period, Pakistan's product space has undergone no significant shift in exports, nor has the country advanced into new areas toward the core of the product space. Pakistan's product space both in 1995 and 2017 shows that its exports are concentrated in the right periphery in the green nodes representing the garments, textiles and fabrics, and footwear sectors. While this cluster is tightly connected within itself, it is

[9] The Economic Complexity Index is calculated by using export data that considers the number of products a country exports, and the ubiquity of those products (i.e., the number of countries that export those products).

[10] Revealed Comparative Advantage Index greater than or equal to 1; i.e., when the share of a country's export basket is greater than its share of world exports.

Figure 2.20: Economic Complexity Index and Gross Domestic Product per Capita in Selected Countries



GDP = gross domestic product, PPP = purchasing power parity, PRC = People's Republic of China.
Sources: Harvard Growth Lab. Atlas of Economic Complexity for Economic Complexity Index. http://atlas.cid.harvard.edu/ (accessed December 2019). For GDP per capita, World Bank. World Development Indicators Database.

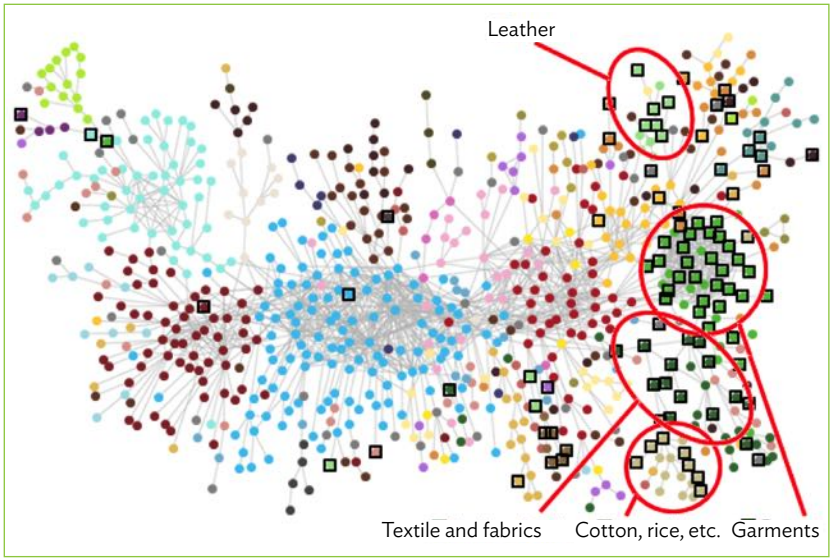
weakly connected to the rest of the product space. Pakistan exports almost no products from the tightly packed industrial core of the product space, which implies the country faces a big challenge in diversifying into more complex areas in the core of the product space.

Both the Economic Complexity Index and product space analysis show that Pakistan's export basket has not improved since the mid-1990s. The country has consistently maintained a "poorer" export basket, given its level of income (Reis and Taglioni 2013). Felipe (2007) concluded that Pakistan is stuck in exports that are exported by even poorer countries; unfortunately, this conclusion still applies more than a decade later.

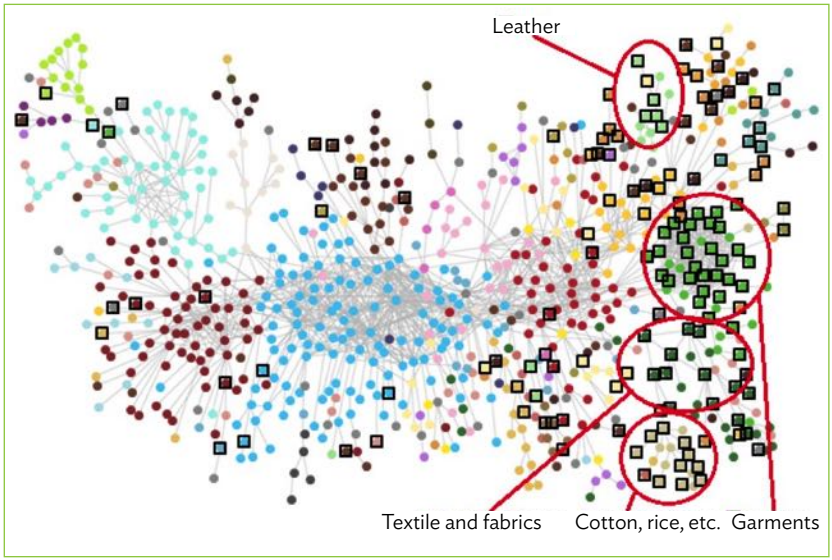
Pakistan's overall ranking for innovation capability on the Global Competitiveness Index is quite low (79th out of 141), but it does reasonably well on entrepreneurial culture (59th out of 141) (WEF 2019). Unfortunately, it is unclear from this analysis whether the stagnation of Pakistan's productive structure is due to inadequate self-discovery and coordination or as a result of other binding constraints in the economy (energy, human capital, macro risks). It is likely that information and coordination problems have been intensified by a general loss of competitiveness as a result of other binding constraints in the economy, discouraging diversification and upgrading.

Figure 2.21: Product Space of Exports, 1995 and 2018

1995



2018



Source: Asian Development Bank estimates based on R. Hausmann and B. Klinger. 2006. Structural Transformation and Patterns of Comparative Advantage in the Product Space. *Working Paper Series*. 6 (41). Cambridge, MA: Harvard University.

2.9 Conclusion

This chapter used the growth diagnostics framework to identify binding constraints to Pakistan's growth. The motivation for this exercise is to help policy makers prioritize and sequence reforms to deliver stable and inclusive economic growth. The assessment of each "node" of the decision tree, along with comparisons with other lower-middle-income countries in the region, showed the following factors are binding constraints for growth in Pakistan: access to credit for the private sector, an unreliable electricity supply, poor human capital, and macro risks related to a persistent fiscal deficit.

Because these constraints are complex and cross-cutting, it is important to take a holistic approach to formulating policy to ensure that reforms in one area do not worsen other binding constraints. For example, a persistent fiscal deficit has not only caused recurring macroeconomic upheavals but has also led the government to borrow heavily from the domestic market. The fiscal deficit also forces the government to carry out short-term policies to raise revenue at the expense of long-term competitiveness, thereby stoking recurring balance-of-payments crises. In this context, getting fiscal management right is of utmost importance in the medium to long term. This should not, however, come at the expense of needed investments in human and physical capital to ensure long-term productivity growth so that Pakistan can achieve its goal of becoming an upper-middle-income country as envisioned in Pakistan Vision 2025, the national development plan (Government of Pakistan 2014).

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CHAPTER 3

Trade Performance: Challenges and Opportunities

Kiyoshi Taniguchi, Manisha Pradhananga, and Mansoor Ali

This chapter analyzes Pakistan's trade performance through its export data—an exercise that shines useful light on the continuing concentration of a few products in the country's export basket and the lack of technological innovation in these products. Starting with a brief look at the country's recent export performance, the chapter then examines two sectors, the cotton value chain and basmati rice, that have the potential to improve the country's export performance, and a sector that has failed to develop as an exporter, but may have potential down the line—the automotive industry. The chapter also discusses the Export Development Fund to highlight issues of export priorities.

Cotton-based products are Pakistan's biggest exports, but they have not managed to evolve and diversify to the level that matches the country's considerable cotton resources. Despite failing to fully benefit from opportunities in the past, there are areas where Pakistan can increase exports of these products. This will require identifying and prioritizing the right strategies.

Since the 1990s, basmati rice exports have been a success story, but growth has recently tapered off. The main factor causing this—weaknesses in research and development (R&D)—will make it difficult for Pakistan to maintain its lead in basmati as it faces emerging sector challenges.

The automotive industry could have been a contributor to exports by the 21st century, but the analysis in this country diagnostic study shows that it has been left behind by shortcomings of policy, regulation, skills, and macroeconomic factors. Nevertheless, the industry is on the path to improving its capacity in serving the domestic market, which in turn could be the basis for export growth later. Achieving this, however, will not be easy given strong competition internationally.

A common thread when analyzing Pakistan's current and potential exports is the lack of a consistent strategy that sets goals and provides a roadmap. Government funding for export development is too narrowly focused. Improving resource allocation to fill gaps throughout the value chain of an industry that eventually leads to exports should be a necessary component of the country's export strategy.

3.1 Export Trend since the Early 2000s

This has been marked by a few years of rapid growth that peaked in 2011, at $29.8 billion, followed by a declining trend (Figure 3.1). During FY2015–FY2018, exports contracted and grew at an average annual rate of 1.9%, and were at $30.1 billion in FY2018.

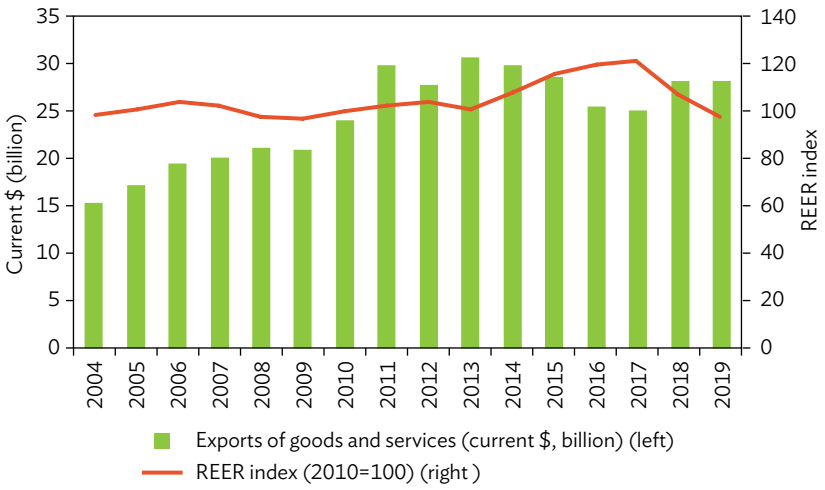
Figure 3.1: Export Performance, 2003–2019

Note: Years are fiscal years, ending 30 June.
Source: World Bank. World Development Indicators Database.

The decline in exports since FY2015 is reflected in most product groups and major export destinations, and came at a time when the value of world exports increased by about 6% a year. World trade in textiles and clothing, which constitutes nearly 58% of Pakistan's exports, have grown by about 4% a year. The decline in Pakistan's exports coincided with an appreciation in the rupee's

real effective exchange rate (REER). Since 2011, the rupee's REER index has appreciated over 20%, following a period of relative stability (Figure 3.2).

Figure 3.2: Real Effective Exchange Rate and Exports, 2004–2019



REER = real effective exchange rate.
Note: Rise in the REER index is an appreciation; a fall is a depreciation.
Source: World Bank. World Development Indicators Database.

Performance of major export groups

Table 3.1 shows the rates of growth and decline of Pakistan's major exports from FY2015 to FY2019. Initially, the decline in exports after FY2011 was not uniform across major product groups, with some continuing to grow. But from FY2015, the decline was evident in almost all product groups.

During FY2013–FY2017, textile exports were broadly steady as some categories of clothing exports to the European Union (EU) grew by benefiting from the Generalised System of Preferences Plus, which came into effect in 2013.[1] But cotton yarn exports fell sharply during FY2015–FY2017. Together with an

[1] Generalised Scheme of Preferences Plus (GSP+) is a preference arrangement within the EU's Generalised Scheme of Preferences. GSP+ is designed to support vulnerable developing countries that lack export diversification and are not sufficiently integrated into the international trading system. GSP+ countries benefit from a complete duty suspension for products across 66% of all EU tariff lines. Pakistan is the biggest GSP+ beneficiary.

Table 3.1: Growth Rate of Major Exports, 2016–2020
(%, year-on-year)

Commodity	2016	2017	2018	2019	2020	2016-2020 Average
Live animals and animals products	(12.0)	6.8	10.3	(0.2)	2.2	1.1
Vegetable products	(13.4)	(9.9)	26.2	10.9	(2.2)	1.3
Prepared foodstuffs, beverages, spirits, vinegar and tobacco	(30.2)	20.2	82.6	(30.5)	(17.5)	(2.6)
Mineral products	(34.7)	(2.5)	20.4	(1.9)	(22.8)	(10.3)
Chemical or allied industries products	(16.2)	13.4	23.8	(35.3)	3.9	(4.6)
Plastics and rubber articles	(12.3)	(9.2)	17.4	(3.0)	(16.3)	(5.4)
Raw hides, skins, leather, and fur skin articles	(16.4)	(3.1)	8.8	(18.6)	(13.4)	(9.1)
Textiles and textile articles	(5.9)	(2.4)	7.3	1.5	(5.9)	(1.2)
Footwear, headgear, umbrellas, walking sticks	(15.1)	(8.0)	18.1	21.3	3.5	3.0
Base metals and articles	(22.9)	4.1	24.7	13.4	1.5	2.9
Machinery and mechanical appliances	(20.4)	(18.2)	14.0	2.3	(9.7)	(7.2)
Optical, photographic, cinematographic, and measuring, checking, and precision apparatuses	7.7	(2.6)	3.7	5.8	(8.3)	1.1
Miscellaneous manufactured articles	(5.4)	(1.6)	0.4	(4.0)	(8.1)	(3.8)
Vehicles, aircraft, vessels and other transport equipment	(22.7)	5.3	137.3	(24.8)	119.0	26.0
Total exports	**(11.4)**	**(2.1)**	**13.7**	**(1.1)**	**(6.4)**	**(1.8)**

( ) = negative.
Note: Years are fiscal years, ending 30 June.
Source: Calculations based on State Bank of Pakistan data.

overall reduction in clothing exports in FY2017, textile exports declined 9.3% in that year. Among other exports, cereals peaked in FY2011 and plastics a year later, both of which have since declined.[2] The other export groups started their decline during FY2015–FY2017.

Long-term export view

The rise and fall of exports during FY2004–FY2017 conceal the sector's long-term underperformance. This is most clearly shown by the successive balance-of-payments crises faced since the 1990s due to foreign exchange reserves falling to unacceptably low levels from weak export earnings. From FY1990 to FY2016, Pakistan's exports grew at an average annual rate of 5.6%, by far the lowest rate among comparable countries in Asia. Bangladesh's exports over this period rose 11.8% and Sri Lanka's 8.3%. The exports of Viet Nam and Cambodia, both new entrants to the textile and clothing sector, rose 26.7% and 27.1%, respectively. Pakistan is the only country in this group with a ratio of exports to gross domestic product (GDP) in single digits (7.2% in 2016). This points to a bias in resource allocations against export industries in the country's development strategy. Other South Asian countries, by contrast, have export-to-GDP ratios ranging from 11.7% to 15.3%, and this is even bigger for high-performing economies in Southeast Asia, at 33.4%–44.7%.

The product mix of Pakistan's exports has not evolved over time and compares unfavorably with Bangladesh, Viet Nam, and other countries that have successfully diversified the product mix of their exports. The lack of diversification in Pakistan's exports, coupled with a poor record of value-addition in core sectors, is further dimming the prospects of achieving sustained export growth. While competitor countries have invested in adding value to their exports, Pakistan continues to rely on raw goods or goods that have not evolved to a higher degree of technological innovation. There has also been no real development of new sectors since the early 2000s, as Table 3.2 shows. And even textiles, the biggest export sector, have not shown enough innovation to offset a decline in traditional textile products. Progress has, however, been made in certain high-value textile products, but their contribution to overall exports is slight. An analysis of export destinations also shows no significant change (Figure 3.3). Pakistan's inability to modernize its export portfolio is a major hurdle to export growth.

[2] Cereal exports, mainly to Afghanistan, depend on exportable surpluses in Pakistan and border security conditions.

Table 3.2: Composition of Exports, 2004–2020

Item	Total Exports (%)		Change in Composition Over the Period
	2004	2018	
Food	**9.9**	**20.2**	**10.3**
Rice	4.9	0.0	(4.9)
Fish	1.2	1.9	0.7
Fruit	0.8	0.0	(0.8)
Vegetables	0.6	1.4	0.8
Tobacco	0.1	0.0	(0.1)
Wheat	0.0	0.0	0.0
Spices	0.1	0.0	(0.1)
Oil seeds and nuts	0.1	0.1	0.0
Sugar	0.2	0.0	(0.2)
Meat	0.2	1.4	1.2
Other food items	1.6	0.0	(1.6)
Textiles	**66.0**	**56.8**	**(9.2)**
Raw cotton	0.4	0.0	(0.4)
Cotton yarn	6.5	0.0	(6.5)
Cotton cloth	15.4	0.0	(15.4)
Cotton combed	2.2	0.0	(2.2)
Yarn other than cotton yarn	0.9	0.0	(0.9)
Knitwear	14.1	0.0	(14.1)
Bed wear	8.4	0.0	(8.4)
Towels	0.9	0.0	(0.9)
Tents, canvases, tarpaulins	0.7	0.4	(0.3)
Readymade garments	5.8	0.0	(5.8)
Art, silk, and synthetic textiles	3.4	1.3	(2.1)
Made-up articles	2.5	2.6	0.1
Other textile materials	4.9	2.4	(2.5)
Petroleum	**1.8**	**1.6**	**(0.2)**
Petroleum crude	0.1	0.0	(0.1)
Petroleum products	1.5	0.0	(1.5)
Solid fuel including naphtha	0.2	0.5	
Other Manufactured Goods	**19.0**	**15.6**	**(3.4)**
Carpets	1.9	0.3	(1.6)
Sports goods	3.0	2.0	(1.0)
Leather, tanned	3.0	0.0	(3.0)
Leather, manufactured	2.5	0.0	(2.5)
Footwear	0.6	0.0	(0.6)
Surgical goods	1.4	1.8	0.4
Cutlery	0.2	0.0	(0.2)
Onyx, manufactured	0.1	0.0	(0.1)
Chemicals, pharmaceuticals	3.1	4.7	1.6
Engineering goods	2.0	0.0	(2.0)

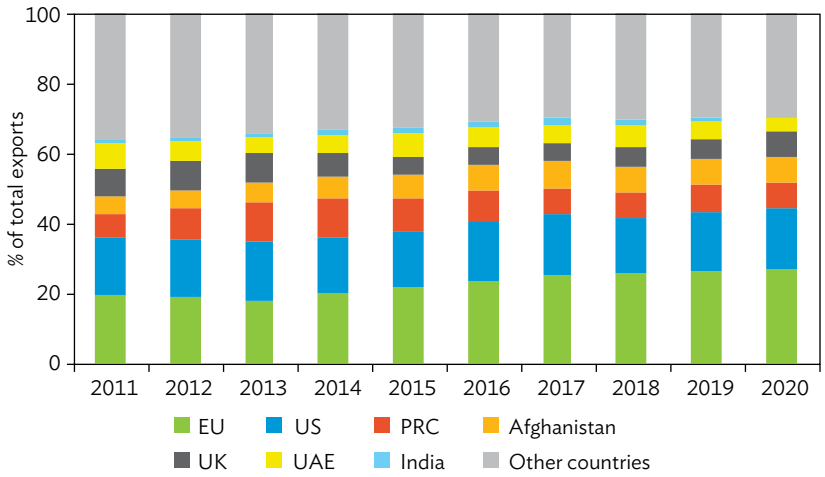
Continued next page

Tab le 3.2 continued

Gems	0.0	0.0	0.0
Jewelry	0.1	0.0	(0.1)
Furniture	0.1	0.0	(0.1)
Molasses	0.4	0.0	(0.4)
Handicrafts	0.0	0.0	0.0
Cement	0.3	0.0	(0.3)
Guar	0.2	0.1	(0.1)
All Others	**3.3**	**5.8**	**2.5**
Total Exports	**100.0**	**100.0**	**0.0**

( ) = negative.
Note: Years are fiscal years, ending 30 June.
Source: State Bank of Pakistan. www.sbp.org.pk/ecodata/Export_Receipts_by_Commodity_Arch.xls (accessed November 2020)

Figure 3.3: Major Export Destinations, 2011–2020



EU = European Union, PRC = People's Republic of China, UAE = United Arab Emirates, UK = United Kingdom, US = United States.
Note: Years are financial years, ending 30 June.
Source: Calculations based on State Bank of Pakistan data.

Analyzing sectors in which Pakistan has years of experience is a useful exercise to identify areas that can contribute to future export growth. It should be relatively easy to improve competitiveness in these products and commodities, at least in the short to medium term. In the long term, however, diversification and developing expertise in newer sectors is the optimal course, and it will still be necessary to focus policy on sectors that are already the main contributors to exports, particularly cotton and rice.

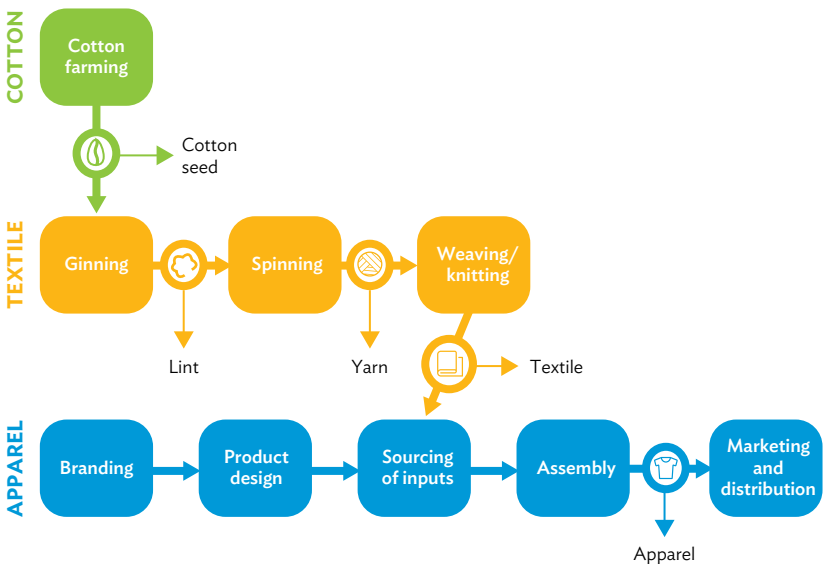
3.2 Cotton, Textile, and Apparel Industry

The combined contribution of Pakistan's cotton, textile, and apparel industry is 8.5% to GDP and close to 60% to total exports. The industry employs 38% of the workforce—15 million jobs in rural and urban areas (TCO 2018). It has the potential to create more jobs and to provide women with economic opportunities outside of the household.[3] The following analysis identifies vertical and horizontal links in the industry, and constraints and opportunities for its upgrading.

Cotton-to-apparel value chain

The cotton-to-apparel value chain spans three sectors: cotton, textiles, and apparel. Each requires diverse endowments and capabilities (Figure 3.4). Pakistan is active in all three sectors. It is one of the world's largest producers of cotton, has a long history of textile production, and a growing apparel industry.

Figure 3.4: Cotton Value Chain



Source: Adapted from K. Goto. Competitiveness and Decent Work in Global Value Chains: Substitutionary or Complementary? *Development in Practice*. 21 (7). pp. 943–58.

[3] In Bangladesh, women who have greater access to wage employment measured by geographic proximity to apparel factories were found to have a much higher labor force participation rate, more education, and were married and had children later (Heath and Mobarak 2015).

Outputs at every stage of the cotton value chain are exportable, including cotton lint, yarn, textiles, textile made-ups, and apparel. Being able to export products at higher levels of the value chain provides a greater value per unit of exports. Table 3.3 illustrates this point: the unit value of cotton exports is just $1.8/kilogram (kg), but it is $26/kg for woven apparel. Over the years, Pakistan has been able to export higher value-added products, with the share of apparel exports in total exports in the cotton value chain increasing from 31.4% in FY2005 to 40.8% in FY2017 (Table 3.3). The average unit value of these exports, however, is lower than the world average, except for textile made-ups and woven apparel. This implies that Pakistan can command a higher price for its exports in the cotton value chain in the international market by improving the quality of its products.

Table 3.3: Cotton Value Chain Exports by Standard International Trade Classification, 2005 and 2018

Product	SITC Code	Share of CVC Exports (%)				Unit Value ($/kg)			
		Pakistan		World		Pakistan		World	
		2005	2018	2005	2018	2005	2018	2005	2018
Low Value Added									
Cotton	263	1.7	0.5	2.3	0.4	1.0	1.5	1.2	1.8
Cotton yarn	6513	16.2	8.9	1.9	0.6	2.1	2.8	2.7	3.7
Intermediate Value Added									
Cotton fabric	652	15.0	13.4	5.4	2.9	3.8	5.1	6.6	9.3
Synthetic yarn and fabric	651[a] 653, 654	8.4	4.8	15.3	12.6	3.0	4.2	4.7	6.2
Knitted fabric	655	0.4	0.0	3.5	0.0	3.7	4.9	5.9	9.3
Textile made-ups	656-658	26.8	25.7	13.2	15.3	4.5	6.9	5.7	7.4
High Value Added									
Knitted apparel	845-846, 8472	18.3	27.7	28.5	35.5	9.3	8.5	16.2	15.9
Woven apparel	842-844, 8471	13.1	18.9	29.8	32.6	8.6	11.9	17.8	36.9

CVC = cotton value chain, kg = kilogram, SITC = Standard International Trade Classification.
Note: Years are fiscal years, ending 30 June.
[a] Except 6513: cotton yarn.
Source: UN Comtrade database. https://comtrade.un.org/ (accessed December 2019).

Cotton production

Pakistan is the world's fifth-largest cotton producer after India, the People's Republic of China (PRC), the United States, and Brazil (USDA 2019). In FY2018, 11.9 million bales of cotton were grown on 2.7 million hectares (ha) (Pakistan Central Cotton Committee 2019). Cotton is the main crop of the rainy season, covering 30% of the season's crop area. Rice, sugarcane, and maize are grown on the rest of the crop area. Wheat is the most important winter crop.

Cotton is grown in two provinces, Punjab and Sindh, which account for 71% and 29% of total production, respectively (PBS 2010).[4] Of the total cotton-cropped area, 72% is under owner farms, 15% under owner-cum-tenant farms, and 13% under tenant farms (PBS 2012). Just over 70% of tenant farms are cultivated by sharecropping. Cotton farms are small: 86% are less than 5 ha, covering over 56% of the total cotton-cropped area (Table 3.4). The small size is a worry because it is harder for these farms to participate in cotton value chains. Large farms can sell directly to ginners, but smaller ones generally do not have this access and are often compelled to sell to middlemen. Small farmers are also at a disadvantage in access to high-quality inputs, such as seed, fertilizers, and pesticides, due to financial constraints.

Table 3.4: Distribution of Cotton Farms by Size
(%)

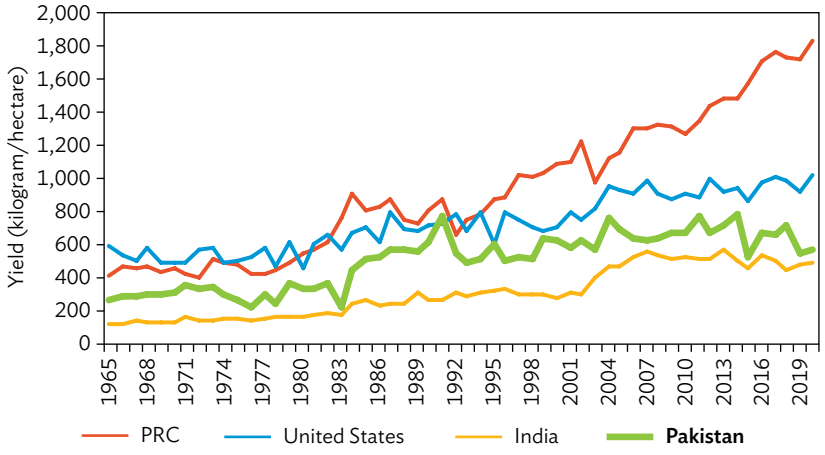
Size	No. of Farms	Cropped Area
Under 5 hectares	85.7	56.4
5 to under 10 hectares	9.0	19.2
10 to under 20 hectares	3.7	13.3
20 to under 40 hectares	1.1	6.2
40 to under 60 hectares	0.2	1.9
60 hectares and above	0.2	2.9

Source: Pakistan Bureau of Statistics. 2010. Agricultural Census 2010. Islamabad.

Pakistan's cotton yield, at 719 kg/ha in 2018, is low compared with the PRC and the United States (Figure 3.5). Within Pakistan, however, big differences exist in the two major cotton-growing provinces due to climatic conditions. The average yield in Punjab was 669 kg/ha in FY2018; in Sindh, it was 1,049 kg/ha (Pakistan Central Cotton Committee 2019).

[4] Based on a five-year average during FY2012–FY2016.

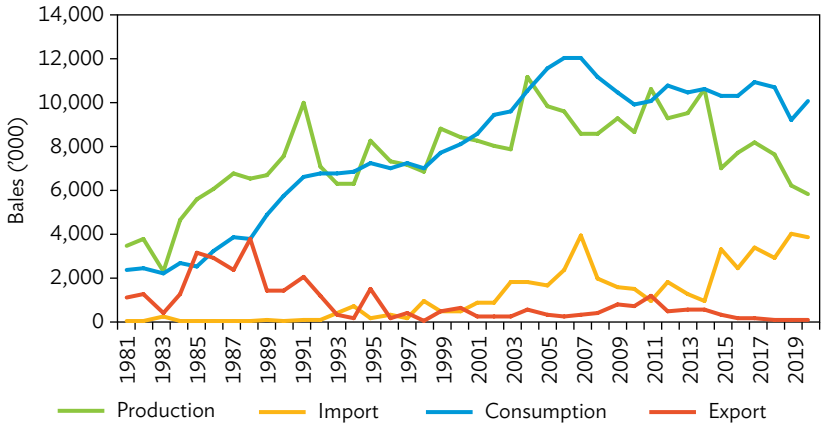
Figure 3.5: Cotton Yields in Major Cotton-Producing Countries, 1965–2020



PRC = People's Republic of China.
Source: United States Department of Agriculture Database. https://apps.fas.usda.gov/psdonline/app/index. html#/app/downloads.

Figure 3.6 shows trends in Pakistan's cotton production, consumption, exports, and imports. Production is volatile, mostly due to weather patterns and pests. In FY2011, it fell 13.4% due to excessive rain and the cotton leaf curl virus (PBS 2012). In FY2016, excessive rain, and whitefly and bollworm (especially pink bollworm) infestation, caused production to fall 29% (TCO 2016). Production losses from pest infestation average 15% and can be as high as 40% (Salam 2008). Genetically modified, insect-resistant Bt cotton has been extensively cultivated since its official release in Pakistan in 2010. Bt cotton is resistant to bollworm, but not to sucking pests, such as mealybugs, the cotton leaf curl virus, and other diseases that affect cotton. Low-quality Bt cotton, possessing weak or nonperforming insect-resistance traits, is prevalent. In a survey, 33% of farmers had little knowledge of insect-resistant cotton varieties (Spielman et al. 2017). A weak regulatory framework for the commercialization and distribution of seeds may have led to the prevalence of low-quality Bt cotton. Because of the importance of cotton to rural livelihoods, it is imperative that the Pakistan government puts an effective strategy in place to reduce losses from pests and to regulate the use of Bt cotton.

Figure 3.6: Cotton Production, Consumption, Exports, and Imports, 1981–2020



Notes: Consumption includes mill and non-mill. Years are fiscal years, ending 30 June.
Source: Pakistan Central Cotton Committee. http://www.pccc.gov.pk/ (accessed October 2020).

Pakistan is among the top 10 cotton importers in the world. Because Pakistan generally produces low-quality short-staple cotton, it has to import high-quality long-staple cotton to produce the high-count yarn used in high-grade textiles. Long-staple and extra-long-staple cotton are in high demand in the international market and fetch premium prices (Table 3.5).[5] Pakistan has moved from producing medium to medium-long cotton, but it is still heavily reliant on imports of long-staple cotton.

Table 3.5: World Long-Staple Cotton Consumption
(ton)

Country	2019	2020	2020 forecast
India	195,000	160,000	175,000
PRC	140,000	110,000	115,000
Pakistan	**37,000**	**32,000**	**35,000**
Egypt	15,000	12,000	13,000
United States	5,000	3,300	4,000

PRC = People's Republic of China.
Note: Year is fiscal year, ending 30 June.
Source: Cotton Outlook. Long Staples. https://www.cotlook.com/news/long-staple-updates/.

[5] Fiber length determines the strength and evenness of the yarn and efficiency of spinning. Although largely influenced by cotton variety, factors such as extreme temperature, water stress, nutrient deficiencies, and excessive cleaning and drying at the ginning stage (the process of separating cotton fiber from the seed) may lead to shorter fibers. Pakistan is the third largest consumer of long-staple cotton.

Contamination at various stages of the cotton production chain, including picking, transporting, and ginning, contributes to the low quality of Pakistan's cotton. Cotton is primarily picked by hand by rural women; this generally has lower trash content than machine-picked cotton. But after picking, different varieties of cotton brought by small farmers are mixed, which lowers the overall quality. Cotton is also contaminated while being transported in open trolleys and trucks, and during storage at ginners. A contamination-free cotton project, launched in three districts in 2002, was able to reduce contamination from 1.94 grams per bale to 0.74 grams. In the same year, the Cotton Standardization Ordinance was passed, but it has not been implemented effectively because the textile industry refuses to pay a premium for higher quality cotton. Salam (2008) argues that the failure to pay higher prices for better quality has held back progress in ginning. Pakistan clearly has an advantage in cotton production from its geography, climate, and long history of cotton farming. But the country will not be able to maximize these benefits if it does not improve the quality of its cotton and fix the problems in its cotton supply chain.

Textile industry

The textile industry consists of ginning and spinning seed cotton into yarn, and weaving or knitting yarn to produce textiles. It is Pakistan's largest industrial sector, accounting for about 40% of the industrial workforce and contributing to nearly a quarter of industrial GDP (Ministry of Textile Industry 2018). The industry consists of integrated textile mills, small-scale ginning units, and operations for weaving, apparel, and made-ups. In June 2018, there were 1,221 ginneries, 477 spinners, and 40 composite textile units (TCO 2018).

Many of the country's ginning units lack modern technology, resulting in impure cotton fiber, low lint-to-seed ratios, and low productivity. The international standard for ginning factories is 60 bales an hour; Pakistan processes only 10–12 bales an hour (Switch-Asia 2017). Ginned cotton is transferred to spinning units to produce yarn. Of the 3.4 million tons of yarn produced in FY2016, 3% was consumed by the organized mill sector, 12% exported, and 85% consumed by power and canvas looms (nonmill consumption) to produce towels, hosiery, and similar products (Table 3.6).

Most spinners rely on small spindles to produce yarn of low count, which fetches a low average price of $2.3/kg in the international market. Some large textile units with in-house spinning facilities can produce higher-count yarn, but others import this yarn to meet international demands.

Table 3.6: Production, Consumption, and Exports of Yarn, 1981–2019
(metric ton)

Year	Production	Mill Consumption	Exports	Nonmill Consumption
1981	374,947	43,277	95,232	236,438
1986	482,186	46,052	157,895	278,239
1991	1,055,228	40,215	501,072	513,941
1996	1,505,244	30,164	535,889	939,191
2001	1,729,129	68,275	545,134	1,115,720
2006	2,556,300	95,710	694,526	1,766,064
2011	2,956,972	108,790	531,770	2,316,412
2016	3,397,339	115,286	423,624	2,858,429
2017	3,428,072	115,871	456,074	2,856,127
2018	3,430,050	116,215	522,396	2,791,439
2019	3,431,290	116,849	403,580	2,910,861

Note: Years are fiscal years, ending 30 June.
Source: Pakistan Central Cotton Committee. 2019. Cotistics. October. Vol 48. http://www.pccc.gov.pk/pdf files/cotistics%20 2019.pdf.

From 1972 to 1980, more than 95% of the yarn produced in Pakistan was cotton, but since the late 1990s, blended yarn has increased. In FY2018, of the 285,240 tons of yarn produced in the country, about 35% was blended (TCO 2018). In addition, 163,518 tons of synthetic fiber was imported; this included polyester, viscose, acrylic, and nylon fiber. Top exporters of synthetic fibers to Pakistan are Malaysia, the PRC, and Thailand (Pakistan Central Cotton Committee 2019). The yarn is then woven or knitted into textiles. In FY2018, Pakistan produced more than 1 billion square meters of cloth, of which 92.5% was cotton and the rest blended (TCO 2018). Medium and superfine cloth make up a higher share of textiles produced compared with fine and coarse cloth. Pakistan exports 20%–25% of its cotton cloth, with the domestic market consuming 75%–80%. Production is concentrated in unprocessed cloth that undergoes additional processing to be used in the apparel industry.

Apparel industry

The world apparel industry has gone through tremendous change since the first decade of the 2000s after the phase-out of the quota-based system of the Multifibre Arrangement.[6] The quota system led to the fragmentation of the industry's international supply chain as factories were set up in low-wage countries to utilize unused quotas. The phase-out led to consolidation among the largest suppliers, who were no longer constrained by quotas. The share of the world's top 15 apparel exporters in total apparel exports increased from

[6] For further information, see World Trade Organization, Textiles: Back in the Mainstream. https://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm5_e.htm.

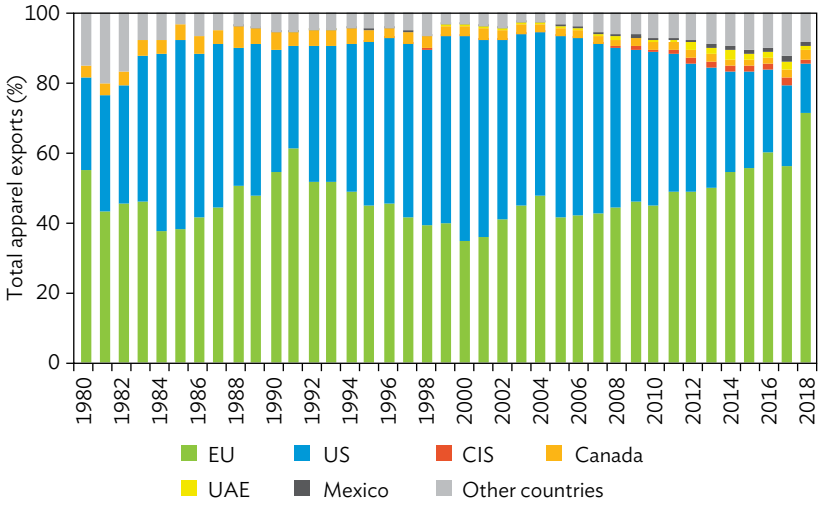
66% in 1995 to 78% in 2016 (and the share of top five exporters from 44% to 57%). Pakistan was one of the few countries that were able to increase its export share in the world apparel market after the Multifibre Arrangement expired (Frederick and Gereffi 2011).

The apparel industry is divided into woven and knitted. Knit fabrics are used for T-shirts, dresses, sweaters, underwear, and swimwear; woven fabrics are used for dress shirts, trousers, jeans, and textile made-ups. Knitted garments are popular, especially in developed countries, because of their inherent qualities, such as softness, coolness, sweat absorbency, and durability. The share of knitted apparel in world trade is increasing faster than woven apparel. The annual average growth from 2005 to 2016 for knitted apparel was 3.9% and 2.4% for woven apparel. Pakistan is active in both, but the share of woven apparel in its exports is growing more rapidly than knitted apparel.

The knitwear sector developed in Pakistan in the 1990s during the Multifibre Arrangement period due to the large quotas it received from the United States for cotton knit shirts. The knitting industry was not well-established then, so firms had to produce their own fabric, which led to a vertically integrated sector, with spinning, knitting, dyeing and bleaching, and finishing done under the same roof. The knitwear sector in Pakistan is mostly export-oriented and produces higher value-added apparel products. Because Pakistan did not receive substantial quotas for woven apparel under the agreement, this segment did not fully develop until much later. Most of the country's woven apparel manufacturers are not vertically integrated. But Pakistan does have a competitive advantage in denim, which is under the woven category (IGC 2013).

The main markets for Pakistan's apparel exports are the EU and the United States, which account for 79% of the country's apparel exports (Figure 3.7). Their value rose more than eightfold from $583 million in 1990 to $3.7 billion in 2017. Although the United States is the bigger market, the proportion of the EU's share has been growing since Pakistan was granted the Generalised Scheme of Preferences Plus status in 2014. This allows vulnerable developing countries to pay fewer or no duties on exports to the EU, giving them vital access to this market. Before this, Pakistan's competitors had an advantage in the EU; for example, Bangladesh received duty- and quota-free access through the EU's Everything but Arms initiative. With Generalized Scheme of Preferences Plus status, 20% of Pakistan's exports enter the EU at zero tariff and 70% at preferential rates. The United Kingdom's exit from the EU may be a problem for Pakistan if it is not able to secure the same arrangements for exports to the UK.

Figure 3.7: Main Apparel Export Markets, 1980–2018



EU = European Union, CIS = Commonwealth of Independent States, UAE = United Arab Emirates, US = United States.
Source: UN Comtrade database. https://comtrade.un.org/ (accessed December 2019).

Pakistan's apparel exports can be characterized by excessive concentration in a few categories of cotton apparel. Table 3.7 shows that in 2016, the top 5 apparel exports were all cotton and comprised 69.9% of total apparel exports and 20.8% of total exports. The single apparel category of men's cotton pants accounted for more than a quarter of apparel exports. The concentration in cotton has become more pronounced: in 2005, the same top five apparel categories accounted for 62.6% of apparel exports and 13.3% of total exports.

As one of the top cotton-producing countries with a well-developed textile industry, it is natural for Pakistan to specialize in cotton apparel. But this excessive concentration not only limits its export-earnings potential but may also be putting the country at a disadvantage for moving to higher value-added products and processes. Synthetic fibers are an important component in higher value-added products, such as coats, athletic apparel, and dresses and skirts. For Pakistan to upgrade into these products, it will need to expand its capabilities to work with and even produce synthetic fibers, which requires sophisticated knowledge of chemicals and engineering.

Table 3.7: Top Apparel Exports by Standard International Trade Classification Code, 2005 and 2018

SITC Code	Description	2005 Value ($ million)	2005 % to Total Apparel	2005 % to Total Exports	2018 Value ($ million)	2018 % to Total Apparel	2018 % to Total Exports
8423	Men's pants, cotton	419	7.8	2.6	1,192	14.5	4.9
8439	Misc women's outerwear, cotton	324	6.0	2.0	861	10.5	3.5
8459	Misc. knitted outerwear, cotton	373	6.9	2.3	834	10.1	3.4
8451	Knitted outerwear, cotton	348	6.5	2.2	703	8.5	2.9
8462	Cotton undergarments, others	537	10.0	3.4	566	6.9	2.3
8472	Knit clothing accessories	224	4.2	1.4	534	6.5	2.2
8481	Leather accessories	569	10.6	3.6	514	6.2	2.1
8422	Men's suits	11	0.2	0.1	336	4.1	1.4
8429	Misc. men's outerwear	94	1.7	0.6	128	1.6	0.5
8463	Synthetic knitted undergarments	34	0.6	0.2	98	1.2	0.4
	Total Apparel	**5,388**	**54.5**		**8,225**	**70.1**	
	Total Exports	**16,022**		**18.3**	**24,361**		**23.7**

nec = not elsewhere classified, SITC = Standard International Trade Classification.
Note: Years are fiscal years, ending 30 June.
Source: UN Comtrade database. https://comtrade.un.org/.

Cotton has been steadily losing its global market share to synthetic fibers. According to the International Cotton Advisory Committee, cotton's share in total world fiber consumption fell from close to 42% in 1997 to 32% in 2011. In the United States, the share of cotton apparel imports fell from 60% in 2008 to 46% in 2011 (USDA 2012). The shift toward synthetic fibers was partly due to the rise in cotton prices in 2008. In the 2020s, low growth in cotton consumption is expected due to intense competition from synthetic fibers (OECD and FAO 2017). This is already manifested in the consumer preference in the United States for sportswear, which is usually made of cotton blends and synthetic fibers, such as spandex and nylon. From 2007 to 2013, the sportswear category in the US apparel market grew by 14.0%, while the rest of the market grew 2.7% (Wexler 2014). If Pakistan wants to maintain or increase its share in world and US apparel markets, it is imperative that it increases its capability in synthetic fibers, including for cotton blends.

Constraints in the cotton value chain

The cotton value chain is one of the oldest and most important industries in Pakistan, but it faces constraints to its further development. Some have already been discussed, including pest and quality control in cotton production, inefficient and old technology, and over-specialization in cotton apparel. Other constraints permeate the entire value chain, making Pakistan less competitive in the world market, especially in the extremely competitive world of apparel production. A 2013 survey of 47 countries found the main determinants of sourcing and investment decisions in the value chain for textiles and apparel include production and labor costs, labor skills and productivity, and the ability to meet quality standards and order delivery times (OECD et al. 2013). In the survey, Pakistan was competitive on cost, but not on many non-cost factors. Constraints were particularly binding in infrastructure, especially energy infrastructure, and skilled labor.

Energy supply to the cotton industry

The World Bank's 2020 Doing Business Report ranks Pakistan 123rd out of 190 countries for access to electricity. This was also identified as one of the constraints for the apparel industry in a survey of apparel manufacturers: of 32 firms surveyed, 28 reported severe electricity and natural gas shortages (IGC 2013). Spinning and textile production are energy-intensive processes, where energy accounts for 20% (spinning) and 35% (textile production) of input costs (Farole and Winkler 2014). Scheduled and unscheduled power cuts, where outages last 5-10 hours daily, are a financial burden for firms,

which have to buy backup generators and battery-invertor systems (ADB 2018). Diesel-generated electricity costs four times more than it does from the grid. These financial burdens impede the international competitiveness of firms operating in the cotton value chain. The unreliability of electricity supply also leads to production delays—another financial cost—which makes these firms uncompetitive in an industry where lead times are short and extremely important.

The government recognizes that the supply of energy is a significant constraint to economic growth and has prioritized increasing power generation capacity. Pakistan has attracted $33 billion in energy investments through the China-Pakistan Economic Corridor initiative, under which 10 gigawatts of generation capacity is expected to be commissioned by 2019 (ADB 2018). Given the scale of these investments, Pakistan may soon have a surplus of power in the short term. Most of the new generation capacity, however, relies on thermal energy, which imposes environmental costs and increases dependence on imported coal. Chapter 5 discusses Pakistan's energy constraints in more detail.

Skilled workers and managers

The generally low level of education in Pakistan means not only a lack of educated and skilled workers but also workers that are harder to train, slower to adapt to new technology, and require more supervision. IGC (2013) identifies two particular human-capital constraints in the apparel sector—lack of skilled stitchers, who make up the majority of apparel workers, and lack of middle management. Stitchers are largely trained on the job as helpers through an apprentice-like program. Many large firms also have in-house training programs for stitchers, but small and medium-sized firms are reluctant to bear the cost of training because of high worker turnover. In addition to augmenting stitching skills, workers should also be trained in other technical skills, such as designing and dyeing, where there is potential for deriving higher value by enhancing the quality of apparel.

The local government in Punjab has taken some initiatives in this area. One is the Skills for Garments Program that provides training to men and women from poor and vulnerable communities. The training goes beyond basic courses for industrial stitching machine operators to include training on computer pattern design, fashion design, pattern drafting and cutting, production planning, quality control, operating knitting machines, and apparel merchandizing (IGC 2017). The Pakistan Technical and Vocational Education and Training Sector Support Program 2017–2021 is also helping to increase private sector

participation in skills development. The program updated training curricula for marketing, patternmaking, fiber cutting, stitching, and other related activities to tackle the skills mismatch and upgrade technical skills of employees, and it uses computers in its design courses (Ahmed 2017).

Upgrading the cotton value chain

The global market for apparel and related products is characterized by intense competition among developing countries. These countries face the challenge of providing cheap, well-trained labor to work in this market, while ensuring their workers and entrepreneurs gain from these activities. For those working in the cotton value chain to benefit in such a competitive environment, they should be able to move into higher skills-content activities and niche products.

The potential for this upgrading exists in all parts of Pakistan's cotton value chain. Upgrading cotton production could include using improved cotton varieties that are pest resistant and bringing in modern agricultural techniques that improve productivity and quality. In the textile sector, upgrading could entail shifting to higher-value products, such as superfine and processed cloth, and increasing productivity by using more efficient methods. In the apparel sector, firms that are part of a global value chain may have the opportunity to upgrade by learning from global players.

Humphrey and Schmitz (2002) identify four types of upgrading possibilities in global value chains, as illustrated in Table 3.8. They argue that the kind of upgrading strategy that is available to a firm in a global value chain depends on the nature of the relationship between the buyer and seller. The apparel industry is a classic buyer-driven global value chain, which is common in diffused-technology-based consumer goods.[7] In this type of value chain, global production-sharing is done through arm's length transactions with numerous independent suppliers. The "lead firms" are international buyers and large retailers (such as Hennes & Mauritz AB, Marks & Spencer Group PLC, and Walmart Inc.) or brand manufacturers (such as Gap Inc., Nike Inc., and Zara Espana SA) that work directly with producers or through global sourcing companies (such as Li & Fung Ltd. and Mast Industries Inc.). Most of the value is created at the beginning and end of the chain in activities such as design, marketing, retailing, and providing other services. Developing countries in the global value chain for apparel usually start at the cut-make-trim stage. The lead firms drive the design, sourcing of materials, and retailing, while

[7] This is in contrast to producer-driven production networks that are more prevalent in vertically integrated global industries, such as electronics and automobiles.

manufacturers in developing countries are responsible for cutting, sewing, and providing simple trims. The cut-make-trim model is characterized by intense global competition, where firms compete on the basis of cost and the ability to deliver large orders on time. This level of competition often leads to a race-to-the-bottom where manufacturers are often tempted to cut-costs by lowering labor and safety standards, and have little incentive to invest in upgrading facilities or the skills of their workers (Frederick and Gereffi 2011).

Table 3.8: Upgrading in Global Value Chains

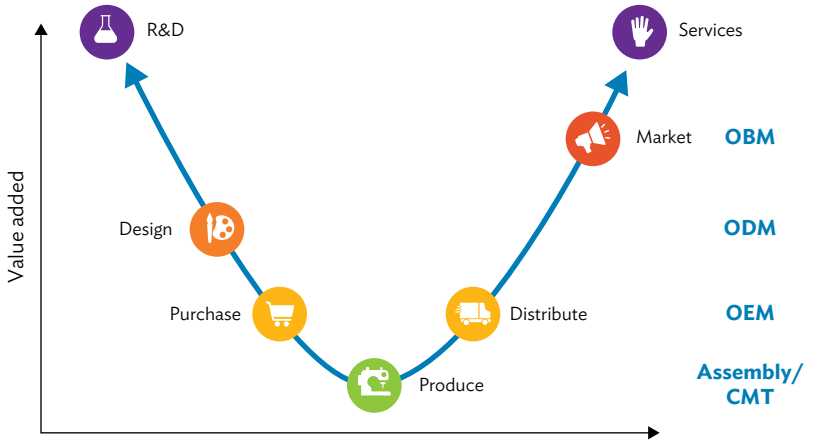
Upgrading Type	Description
Functional	Shift to higher-value functions
Product	Shift to higher-value products
Process	Incorporate more sophisticated technologies in production
Intersectoral	Leverage expertise gained in one industrial sector to enter a new sector

Source: J. Humphrey and H. Schmitz. 2002. How Does Insertion in Global Value Chains Affect Upgrading in Industrial Clusters? *Regional Studies*. 36. pp. 1017–1027.

Intersectoral upgrading is the most challenging and is relatively rare, as this kind of upgrading depends on innovative capacity and requires long-term investments in human capital (Humphrey and Schmitz 2002). Product, processes, and functional upgrading are important strategies, but functional upgrading seems to be particularly important in the apparel global value chain (Gereffi 1999). This involves shifting from low value-added activities characterized by cut-make-trim into higher-value activities, such as sourcing inputs (fabric and trim), product development and design, and retail and marketing services. In the apparel global value chain, the first step to functional upgrading is to move from cut-make-trim to original equipment manufacturing, where firms' responsibilities include buying textiles and trim inputs, and manufacturing. One rung above original equipment manufacturing is original design manufacturing where firms take on product design. Some firms go on to original brand manufacturing and do their own marketing and branding activities. These stages of value addition are represented as a curve in Figure 3.8. As the figure shows, firms are able to capture higher value addition as they move up the curve through functional upgrading.

Functional upgrading seems to be increasingly globally important since the end of the Multifibre Arrangement, where buyers prefer suppliers to not just provide manufacturing but also associated services to manage the supply chain. A more consolidated value chain, where all stages of the chain are in one location, makes product development, and monitoring quality and labor

Figure 3.8: Curve of Value-Added Stages in the Apparel Value Chain



CMT = cut-make-trim, OEM = original equipment manufacturing, OBM = original brand manufacturing, ODM = original design manufacturing, R&D = research and development.
Source: Adapted from S. Frederick. 2010. Development and Application of a Value Chain Research Approach to Understand and Evaluate Internal and External Factors and Relationships Affecting Economic Competitiveness in the Textile Value Chain. Unpublished. Raleigh, NC: North Carolina State University.

conditions at all stages, much easier (OECD et al. 2013). The proximity of different stages of the value chain also reduces logistics costs and allows manufacturers to respond to orders quickly.

Pakistan has the advantage of having a complete supply chain within the country. Moving from cut-make-trim to higher-value activities will require backward linkages to the textile sector, which is a major sector input. Textile-producing countries without textile sourcing capabilities will be at a disadvantage as they upgrade to higher functions. These countries will also need a highly trained workforce with expertise in textile production, and product development and design (Frederick and Gereffi 2011). Very few countries that manufacture apparel are both large cotton producers and have well-developed textile industries. Many African countries grow cotton, but do not have textile or apparel industries. Bangladesh has a large apparel industry, but it does not have backward linkages to textile and cotton production.

The textile and apparel industries have very different requirements for factor intensity since textiles are much more capital intensive than apparel. Labor-abundant developing countries usually do not have a comparative advantage in textile production, while countries with strong textile industries usually do

not have a comparative advantage in apparel production. Pakistan has a rare advantage because it has the entire supply chain, an advantage that it shares with India.

Another potential for upgrading comes from expanding apparel exports to domestic and regional markets. Traditionally the EU and the United States have been Pakistan's two largest markets for apparel, followed by Japan. But new markets are opening up. Countries with a rising middle class, including Brazil, India, the PRC, and the Russian Federation, have created new possibilities for more South-South trade. Reorienting the apparel industry to domestic and regional markets could provide opportunities for Pakistan's apparel industry to upgrade to higher functions, such as branding and marketing, which have one of the highest barriers to entry for developing countries (Lall 1991). But Pakistan's apparel firms involved in global value chains may also find that they have limited opportunities for upgrading to high-value activities, such as design and marketing, if they attempt to encroach on the core competences of lead firms (Schmitz and Knorringa 2000).

Nowhere is the potential for upgrading an apparel industry starker than in the PRC. The country's rising cost of labor and higher living standards mean that Pakistan and other countries in similar situations will be able to compete against it in traditional markets—and the PRC is fast becoming a potential destination for apparel exports (World Bank 2016).[8] The PRC's 1.3 billion population is a huge consumer market for apparel. Apparel industry wages in the PRC were $3.60/hour in 2016, 64% higher than in 2011 (and higher than in Argentina, Brazil, and Mexico) (Aleem 2017). The China-Pakistan Economic Corridor puts Pakistan in a good position to attract investment from the PRC and to benefit from this new export opportunity.

Opportunities and policy recommendations

Potential opportunities for Pakistan's cotton, textile, and apparel sectors are well recognized by all stakeholders. The issue is whether the country will be able to capitalize on them. As the energy situation improves, an important constraint for the industry is lessening. Improving skills is a must for diversifying into high-value apparel and synthetic and mixed fiber textiles in addition to being able to complement cost advantages with maintaining consistent quality. But improving skills should be based on a clear strategy in which the industry takes the lead.

[8] According to World Bank (2016), a 10% increase in the PRC's apparel prices will result in a 25% increase in exports from Pakistan to the United States.

Cotton production suffers from the same issues as the rest of the agriculture sector—the standard of seeds, fragmented farming, harvesting practices, and postharvest handling. The government and industry associations need to work with small farmers to build their capacity to improve the yield and quality of cotton produced in the country. Market-based incentives need to be aligned so that farmers are able to differentiate and benefit from better prices for better quality.

While these medium to long-term steps are being initiated, the immediate focus should be on securing newer markets for existing products. Diversifying into newer markets will also create opportunities for upgrading to newer products and functions that may not be possible in traditional export markets.

3.3 Basmati Rice[9]

Rice is a major export earner for Pakistan, especially the premium long-grain aromatic basmati variety, which is cultivated in certain regions of Punjab. More can be done to enhance basmati's export potential and secure its position against competing varieties.

Rice production and exports

The production, cultivated area, and exports of rice continue to increase (Figure 3.9). Rice is Pakistan's largest food export and second-largest agriculture export after cotton.[10] Pakistan is the world's 10th largest rice producer and 4th largest rice exporter in terms of quantity.[11] The government's deregulation of the rice trade in the early 1990s was a success, and rice has become a significant foreign exchange earner.

Pakistan's rice production and exports can be divided into two broad categories: basmati and non-basmati (all other rice types) (Table 3.9). Non-basmati rice varieties primarily comprise varieties developed by the International Rice Research Institute—IRRI6 and IRRI9—which are nonaromatic and shorter grain than basmati. The non-basmati classification now also includes long-grain nonaromatic varieties that are directly competing with basmati. In terms of production volume, the locally available International Rice Research

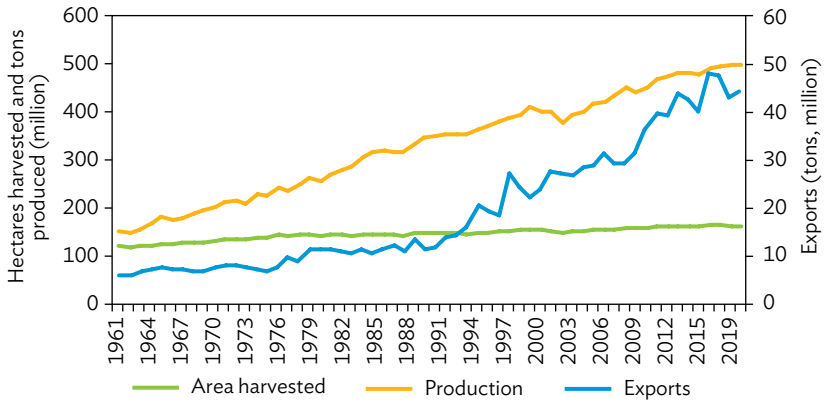
[9] This section draws on Taniguchi and Ali (2018).

[10] State Bank of Pakistan data on export receipts by commodity. www.sbp.org.pk/ecodata/Export_Receipts_by_Commodity.xls (accessed 21 October 2018).

[11] Food and Agriculture Organization of the United Nations. FAOSTAT 2016 data on crops and livestock products. (accessed 30 October 2018).

Institute varieties of coarse rice dominate. By tonnage, non-basmati rice varieties account for 65% of Pakistan's total rice production, but only 35% in value terms.

Figure 3.9: Global Rice Production Areas and Exports, 1961–2020



ha = hectare.
Note: Production and export tonnage is after milling.
Source: Authors' calculations based on data from US Department of Agriculture. Rice Yearbook: World Supply, Utilization, and Trade. https://www.ers.usda.gov/data-products/rice-yearbook.

Table 3.9: Rice Production, 2015 and 2018

2015

Variety	Area ('000 ha)	Production ('000 tons)	Export ('000 tons)	Export Value ($ million)
Basmati	1,424	2,548	619	682
IRRI	780	2,180	2,746[a]	981
Other non-basmati	687	2,275	367	186
Total	**2,891**	**7,003**	**3,732**	**1,849**

2018

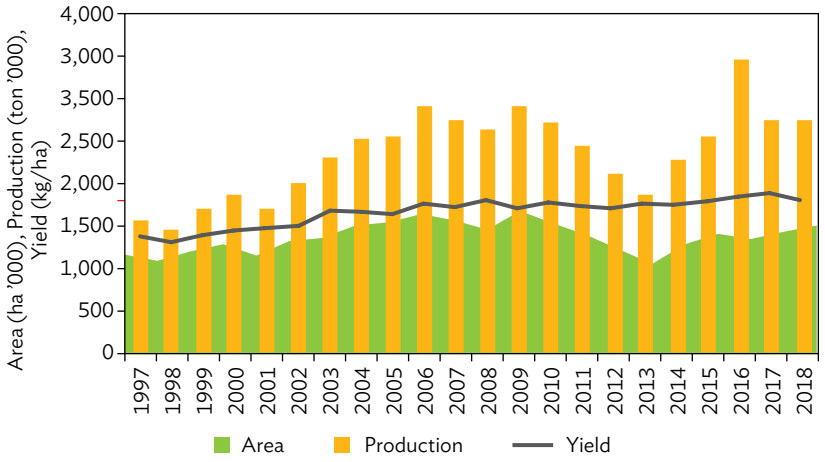
Rice	Area ('000 ha)	Production ('000 tons)	Export ('000 tons)	Export Value ($ million)
Basmati	1,520	2,735	501	525
Non-basmati	1,381	4,292	3,522	1,476
Total	**2,901**	**7,027**	**4,023**	**2,001**

ha = hectare, IRRI = International Rice Research Institute.
Note: Year is fiscal year, ending 30 June.
[a] The discrepancy between the production and export volumes of IRRI and non-basmati varieties stems from the difference between financial and crop year, and overlaps of previous stocks and new crops.
Source: Pakistan Bureau of Statistics. Agriculture Statistics. http://www.pbs.gov.pk/content/agriculture-statistics (accessed December 2019).

Basmati rice production and exports

Pakistan's basmati rice production has been volatile since the early 2000s (Figure 3.10). Production increases have been from irrigation advances, new seed varieties, and export deregulation. But these tended to be one-off productivity gains after which production levels declined.

Figure 3.10: Basmati Rice Area, Yield, and Production, 1997–2018



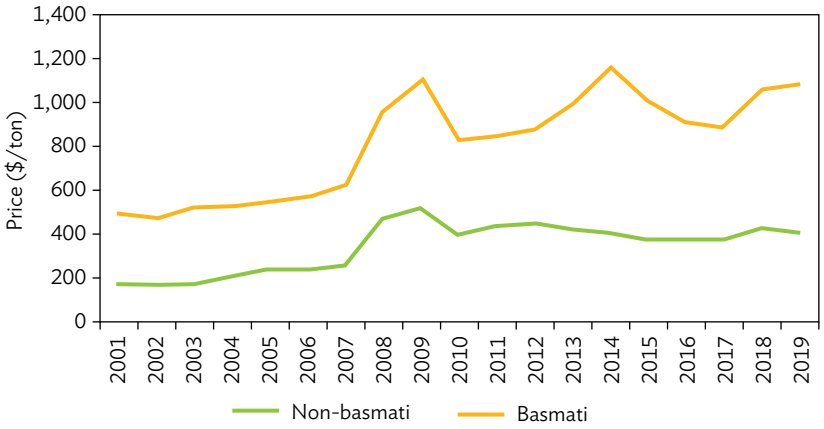
ha = hectare, kg = kilogram.
Notes: Production weight is of milled rice. Years are fiscal years, ending 30 June.
Sources: Authors' calculations based on data from the Rice Exporters Association of Pakistan, http://reap.com.pk/download/index.asp (accessed 5 April 2017); Pakistan Bureau of Statistics. Agriculture Statistics, http://www.pbs.gov.pk/content/agriculture-statistics (accessed November 2019).

India is Pakistan's only competitor in the export market for basmati rice, but basmati also has to compete with other rice varieties in the global market. Pakistan's basmati production faces many problems: low yields, poor handling, old varieties, changing environmental factors, and diseases. And while it continues to be a major global exporter, competitor countries are improving the quality of their rice, increasing production, and strengthening their rice value chains. Pakistan risks being left behind.

Because basmati rice is a niche variety with a relatively small gene pool, it requires more research than other varieties to increase yields, protect it from disease, enhance its ability to compete with other varieties, and increase its resilience to climate and other environmental changes. Given basmati's genetic

characteristics and environmental requirements, it may always have a lower yield than other varieties. That said, the price premium it commands is large enough to compensate for lower yields (Figure 3.11). But the lack of advances in basmati research is affecting its profitability and clouding its outlook.

Figure 3.11: International Price of Pakistan Basmati and Non-Basmati Coarse Rice, 2001–2019



Note: Years are fiscal years, ending 30 June.
Source: Rice Exporters Association of Pakistan. www.reap.com.pk.

The demand for the aromatic long-grain quality of basmati is under threat from nonaromatic long-grain varieties that are higher yielding and show greater disease resistance. Prices for these varieties are about the same as traditional basmati rice. The new nonaromatic varieties are also often marketed using the basmati name and are sometimes mixed with other varieties. Pakistan's research and marketing system is failing to respond to this competition.

Basmati rice research and development

Pakistan's current rice production, including basmati, is affected by both internal and external factors. Insufficient investment in agriculture R&D in Pakistan has resulted in suboptimal yields, a lower-than-potential productivity growth curve of rice varieties, and an inability to prepare for the changing environmental and market conditions for basmati. Since about 2010, Pakistan's overall rice exports have been flat—and in the case of basmati, they have dropped significantly. Newer long-grain nonaromatic varieties have

been cutting into basmati's share of the premium rice market. Low-value non-basmati varieties can still thrive by catering to low-priced, lower-quality markets, but premium varieties require greater R&D investment to maintain their edge.

There are successful examples from around the world where countries have devoted large shares of resources on their "champion" products (e.g., palm oil in Malaysia). Given basmati's high market value and potential to increase exports, it should be a major strategic focus for the government.

Underinvestment in basmati rice R&D is a combination of low funding and poor funding decisions. Pakistan's R&D in rice is structured the same as its R&D for agriculture—that is, a supply-side approach that excludes farmers, industry, businesses, and service providers from setting the research agenda. This results in a lack of incentives for innovative research and a lack of motivation among stakeholders to participate in R&D. Pakistan's R&D structure needs to be modernized to an integrated strategy that includes commercialization as an integral component. The principle of "farming for the market" driven by an efficient policy, strategy, and R&D framework is needed. By innovatively streamlining R&D—from seed development to export markets—Pakistan can enhance export revenue from this crop.

Developing newer and better varieties is a core function of R&D, but so is R&D on downstream components of the value chain. Research on improving sowing, transplanting, irrigation, weeding, pest control, fertilizer use, harvesting, drying, transport, storage, processing, marketing, exports, and regulation are all needed to get the maximum benefits from a variety. All agricultural R&D in Pakistan lacks this streamlined approach.

Despite inadequate R&D funding, domestic research institutions have developed basmati rice varieties for various environmental conditions. These institutions report an excellent performance from these varieties, but they are not used by farmers, with the R&D limited to trial demonstrations rather than eventual commercialization. This is symptomatic of the misguided perception that rice R&D ends in the laboratory or research farm. This perception needs changing to modernize agriculture R&D in Pakistan.

In the absence of a single institution overseeing R&D for basmati rice, multiple entities, often with overlapping efforts, perform this function. These include the Pakistan Agricultural Research Council; the Ayub Agricultural Research Institute; the Rice Research Institute; the Nuclear Institute for Agriculture and Biology; the National Institute for Biotechnology and Genetic Engineering; the

University of Agriculture, Faisalabad; and the Pakistan Agricultural Research Board. The Pakistan Agricultural Research Council is the primary agriculture R&D agency. It has a wide mandate to coordinate research among federal, provincial, and higher education institutions. Since 2002, its endowment fund for agriculture research has provided financial resources for 410 projects totaling PRs1.7 billion across all agriculture sectors. But of the 410 projects, only 18 are in rice, and only two on basmati.

Over the years, these institutes have done the bulk of public sector research on basmati rice. Their organizational structure and operational setup have fallen behind modern requirements for demand-based R&D, as have wages and incentives for their researchers. The small dedicated research budgets of these institutions are a major hindrance to innovation, consistency of development, and quick adaptability to commercial requirements. Of their total annual budget, more than 80% goes on salaries and expenses, and the rest is the minimum required for the upkeep of facilities.

Data from the Ministry of Finance and State Bank of Pakistan show rice accounts for 3% of agriculture's value addition and 0.6% to overall GDP (Ministry of Finance 2017), but 9% of the country's foreign exchange export earnings.[12] Yet, Pakistan spends less than other rice-exporting countries on agriculture R&D as a percentage of agriculture GDP even though the country has a high number of researchers per farmer. This mismatch impedes the efficiency and productivity of the R&D system. Because of this, basmati is under threat from better-researched varieties, especially from India. Punjab's 2015 agriculture growth strategy includes increasing the ratio of operating budgets to salary budgets and a greater focus on the commercialization of R&D in universities (Government of Punjab 2015a). The case for increasing R&D funding for rice is now acknowledged by the federal and Punjab government in Pakistan Vision 2025 documents (Ministry of Planning Development and Special Initiatives 2014), but increases in research funding still go through the existing R&D system and channels, rather than this funding treating basmati rice as a special strategic asset and committing the government to maximizing its export quality, quantity, and price. A commitment to allocate R&D funding for the whole rice value chain could be the catalyst for the renewed growth of basmati.

[12] State Bank of Pakistan. Export by Commodity. www.sbp.org.pk/ecodata/Export_Receipts_by_Commodity.xls (accessed 21 October 2018).

Consequences of limited basmati rice research and low development budgets

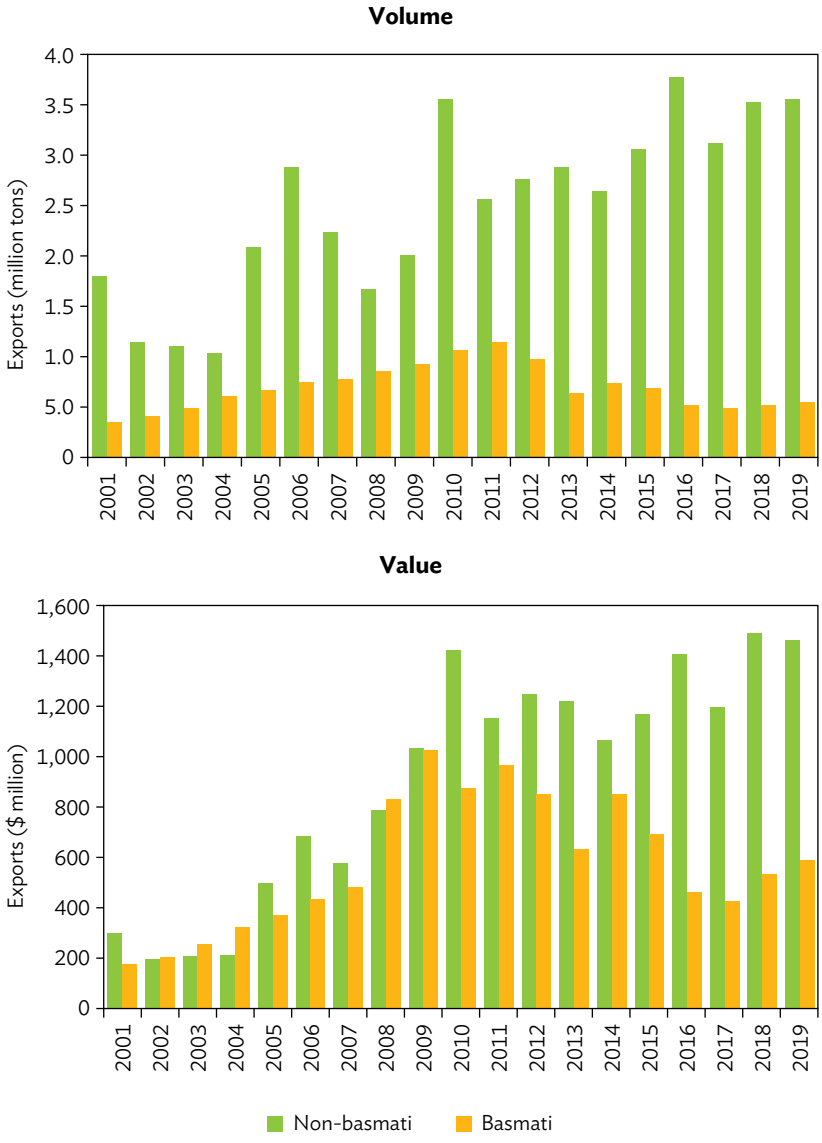
The effects of low R&D investment are manifested in many ways. Several years can elapse between R&D and its marketable result. Similarly, any measures to reform the R&D system now will take the medium to long term before they have an impact.

Figure 3.12 compares trends in the exports of basmati rice and other varieties and shows the decline in basmati rice during FY2001–FY2019 compared with other varieties. Exports of basmati rice peaked in FY2011 and have been declining ever since. This decline is attributed to five factors: (i) bacterial leaf blight; (ii) exports rejected at destination because of aflatoxins, resulting from harvesting wet paddy; (iii) fraudulently mixing non-basmati varieties in basmati shipments; (iv) the encroachment of high-yielding non-basmati varieties into traditional basmati cultivation areas; and (v) Iran closing as a market due to United Nations sanctions. A common thread that runs through all five factors is the absence of a mechanism to prepare the sector for disruptions. A sound R&D institutional setup could proactively help the whole value chain cope with these factors and reduce annual trade fluctuations.

Combating bacterial leaf blight requires a consistent and long-term commitment. Most interventions for this have been short-term projects and long-term funding has been lacking. Most mechanized harvesting for basmati rice is still done by machines designed for wheat, resulting in rising postharvest losses. The continuing practice of harvesting and bringing wet paddy to market is another R&D failure, since it often leads to germinations of aflatoxins. The result is not only lost revenue but damage to the reputation of the country's rice (and it takes time to rebuild reputations). Progress is needed on designing practical on-farm drying to avoid wet paddy contaminating the value chain.

Getting basmati rice recognized as a unique variety will help in countering competition from high-yielding non-basmati varieties. While market forces are often the determinants of which variety gets greater acceptance, increased and better-targeted R&D investment can improve a variety's chances of getting that acceptance. Basmati should have a special status in terms of R&D priority given its uniqueness and high value, and the considerable export revenue that it brings in. Many other countries have allocated increased public resources to export earners.

Figure 3.12: Export Volume and Value of Basmati and Non-Basmati Rice, 2001–2019



Note: Years are fiscal years, ending 30 June.
Source: Rice Exporters Association of Pakistan. www.reap.com.pk.

A comparison of domestic yields of business-as-usual versus progressive rice farmers highlights the gap that can be filled by better R&D adoption (Table 3.10). With better understanding and access to research, progressive farmers are able to generate higher yields. The rice yield gap can be reduced if the R&D function includes the widespread adoption of successful research.

Table 3.10: Rice Yield Gap

Yield Potential	Yield (tons/hectare)	Yield Gap	Gap (%)	Gap Description
World's highest yield (US)	7.4	4.5	61	Gap = world highest – Pakistan average
Potential yield	5.2	0.6	12	Research gap = potential yield – progressive farmer yield
Progressive farmer yield	4.6	1.7	37	Extension gap = progressive farmer yield – Pakistan national average
Pakistan average	**2.9**			

US = United States.
Source: M. Aslam. 2016. Agricultural Productivity Current Scenario, Constraints and Future Prospects in Pakistan. *Sarhad Journal of Agriculture.* 32 (4). pp. 289–303.

The large variations in rice yields from year to year reflect the rice industry's instability. Yields fell considerably in 2012 due to blight and floods, but recovered in the following year. The cycle of yield dips and peaks in a major sector shows rice is vulnerable to many factors that can be managed, but this is not currently happening. A solid R&D foundation could help preempt disruptions and provide resilience to shocks. An efficient R&D system should be proactive rather than reactive in its approach to disease, new varieties, changes in the environment, and technological advances. As a major international player in rice, Pakistan should aim to be a leader in innovation through its R&D.

Opportunities and policy recommendations

The funding for basmati rice R&D is not enough to be able to achieve a sustained increase in exports. Modern models of R&D funding rely on a combination of public grants, industry contributions, and fees and levies. A levy is already in place in the form of an export development surcharge collected from rice exporters based on the value of exports, and the Export Development Fund (EDF) is discussed in detail later in the chapter. The industry has for many years contributed through this surcharge to the fund, which was designed

for improving rice exports.[13] While the funds have been collected efficiently, they have not been used for the right purpose because of the involvement of different government departments.

The amount of funding required for reviving growth in basmati rice production and exports is not huge. Recent policy work, especially in Punjab, has recognized the need for increased investment in R&D (Government of Punjab 2015b). Funds are available for this in the government's annual development budget, but the Asian Development Bank's Punjab Basmati Rice Value Chain Technical Assistance Project found a dearth of good project proposals and project management capabilities. The project highlighted that scientists find it difficult to spend even small grant amounts over the duration of a project because of the insular nature of research work. Any effort to modernize and streamline agriculture R&D must involve a holistic approach for using government funds. Policy makers also need to be convinced that the amount of R&D funding required is small compared with the benefits it can generate for the economy over the long term.

In addition to improving public sector R&D funding, creating an environment that encourages private sector-led research is essential. The private sector, however, has concerns with the enforcement of intellectual property rights and uses this as an excuse for not carrying out R&D in basmati rice.

Pakistan could create a basmati rice board or an overall rice body for all varieties similar in function to the Malaysian Palm Oil Board. This could be funded by the contributions of rice exporters to the EDF. The Malaysian Palm Oil Board, a government body, is a good model of how coordinated efforts in the whole palm-oil value chain can improve the prospects of a particular crop. From plantations to processing to exports, the board takes care of research, development, and commercialization (Government of Malaysia 2015). The board has made Malaysian palm oil an international benchmark product, investing heavily in R&D and commercialization. The key features of this model are that the board oversees the whole value chain for palm oil and research scientists are included in international marketing.

[13] No official data exist on how much has been collected through the surcharge on rice exports. It can, however, be estimated at $65 million on the basis of a rate of 0.25% of the value of exported rice and total rice exports totaling $25 billion during 2000–2018. None of this has been made available to the sector, however. Compared with current R&D budgets, a fraction of this surcharge amount since 2000 would have been sufficient to prepare for various challenges. See Rice Exporters Association of Pakistan. Rice Export Figures: 2010 to 2018 and Country Wide Exports 2017–2018. http://reap.com.pk/admincp/download/Upload_files/2010-18%20Export%20Figures.pdf (accessed 29 October 2018) and Rice Export Data, July 2000 to June 2014 from the same source. http://reap.com.pk/admincp/download/Upload_files/Rice%20Export%20July%202000%20to%20June%202014.pdf (accessed 29 October 2018).

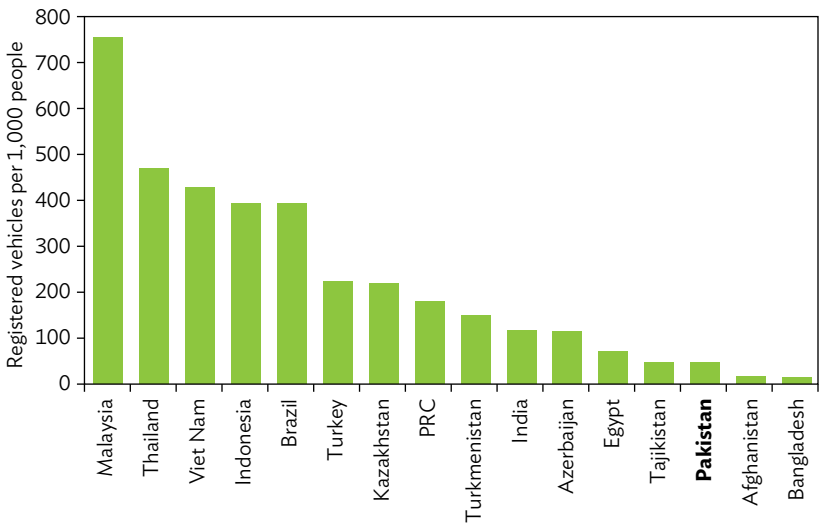
The overriding requirement for rice development is for the government to draw up a strategic roadmap that closes the R&D gaps. It should create an environment that enables the public and private sectors to engage in commercially viable research. Without R&D reform, the outlook for the production and marketing of Pakistan's basmati rice will remain volatile.

3.4 Automotive Industry

Domestic market

The demand for vehicles in Pakistan is expected to be significant in the coming years. Vehicle ownership is rapidly growing, but compared with other populous countries, Pakistan still has a low level of motorization (Figure 3.13). This reflects historical developments, industrial policy, taxes and tariffs, a skills shortage, investment incentives, import policies, and access to financing, among other factors. The country's own production of automobiles has lagged behind comparator countries in scale, competitiveness, and technology.

Figure 3.13: Registered Vehicles per 1,000 People in Selected Countries



PRC = People's Republic of China.
Note: Data as of 2013 except 2014 for Turkmenistan and Bangladesh; 2012 for Thailand, India, Azerbaijan; and 2011 for Pakistan.
Source: World Health Organization. Registered Vehicles. http://apps.who.int/gho/data/node.main.A995 (accessed 13 August 2019).

Pakistan had some automotive manufacturing facilities at independence, but this head start never translated into steady growth for the industry, and other countries in the region soon overtook Pakistan in their domestic production. Some joint ventures with manufacturers in Europe, Japan, and the United States were set up in the 1960s, but these ended with the nationalization policies of the 1970s—and in doing so, impeded the development of domestic skills and technology in the automotive industry. The early 1980s saw the first attempts to rebuild a domestic automobile industry with an investment by Suzuki Motor Corp. By the 1990s, Honda Motor Company and Toyota Motor Corp. had joint ventures for domestic assembly and the partial use of locally manufactured parts.

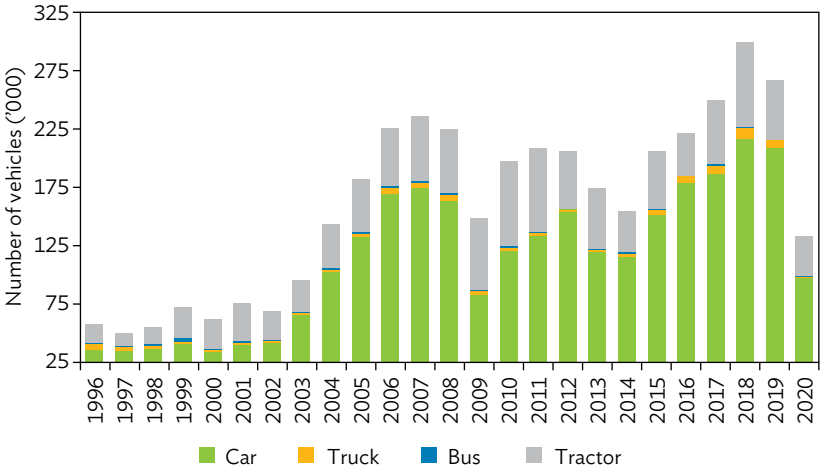
The government and industry hope the Automotive Development Policy 2016–2021 (Ministry of Industries and Production 2016) will encourage an improvement in the skills, competitiveness, and technology of local production, but many factors have to work for this to happen, including the macroeconomic situation. The steady production trends in Figure 3.14 point to considerable potential for future growth, despite the current capacity constraints. But assumptions about expected domestic demand growth based only on demographics need to be reassessed because the macroeconomic shocks of 2019 and 2020 (COVID-19) have greatly affected sales of new vehicles.

The automotive sector comprises the assembly and manufacture of cars, trucks, buses, tractors, and motorcycles. Pakistan is one of the few countries that produces or assembles all types of automobiles. This production, however, is stuck at the bottom rung of technological development. Little innovation has taken place over the years, and the industry is not as competitive as it is in other countries in the region. Production has steadily grown, but the scale is below market requirements, and the quality of the vehicles that Pakistan produces is low (Figure 3.14).

The production of cars is primarily by three Japanese original equipment manufacturers: Honda, Suzuki, and Toyota. Although other vehicle manufacturers have entered or are planning joint assembly ventures, these three dominate. Depending on the model, the proportion of completely knocked-down and semi-knocked-down kits varies.[14] A couple of production dips since 2010 have been mainly because of cyclical downturns in the economy.

[14] A completely knocked-down kit comprises all the parts needed to assemble a vehicle. A semi-knocked-down kit comprises partially assembled parts.

Figure 3.14: Vehicle Production, 1996–2020

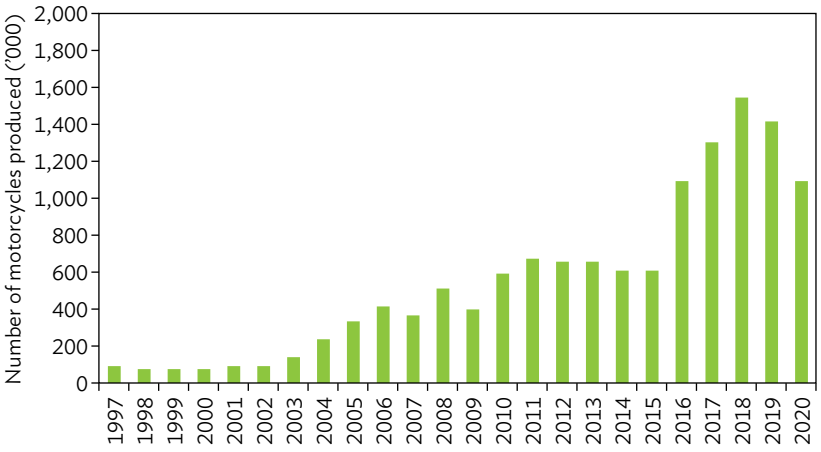


Note: Years are fiscal years, ending 30 June.
Source: Pakistan Automotive Manufacturers Association. Production and Sales of Vehicles. https://www.pama.org.pk/statistical-information/historical-information/annual-sales-production.

Motorcycle production, which includes three-wheeler rickshaws, has the largest local content, but technical standards are low (Figure 3.15). The local market for motorcycles is competitive, and there are dozens of manufacturers. Yet, the technical specifications being produced are now obsolete in developed countries. Similarly, tractor models in Pakistan are second generation, whereas seventh-generation models are being used in developed countries.

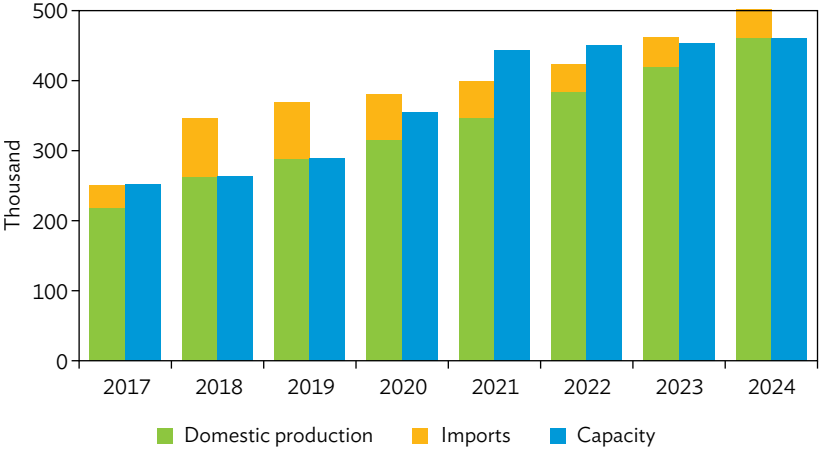
Although the automotive industry is growing, local assembly production cannot fulfill demand, with the gap filled by imports of completely built units—a situation that is expected to continue for the medium term since new projects will take time to fill the growing demand gap. With the new automotive policy already in place and up to 13 new manufacturing entrants ready to invest, the capacity of the local industry is expected to double from 2017 to 2024, which will be just enough to fulfill the growth in demand (Figure 3.16). This expected increase in the number of manufacturers may bring price rationalization, but any improvement in quality standards is not guaranteed unless this is matched by regulatory enforcement.

Figure 3.15: Motorcycle Production, 1997–2020



Note: Years are fiscal years, ending 30 June.
Source: Pakistan Automotive Manufacturers Association. Production and Sales of Vehicles. https://www.pama.org.pk/statistical- information/historical-information/annual-sales-production.

Figure 3.16: Forecast Demand and Supply of Vehicles, 2017–2024



Source: Elixir Securities Research. 2018. Automobile Assemblers: New Players' Entry. Karachi.

Half of the planned new entrants to Pakistan's automotive market are from the PRC and in the small-car and truck market (Table 3.11). Prices for cars and trucks will likely become more competitive once these vehicles are on the market, but better quality standards will only come from government action. The huge increase in motorcycle production points to a similar path for the small-car market: here, demand was met but without any significant improvement in technology.

Table 3.11: Planned Automotive Industry Investments

Company	Timeline	Capex ($)	Capacity ('000)	Status
Kia	2020	190	30	Greenfield
Hyundai	2020	163	30	Greenfield
Yangste	2019	19	15	Greenfield
Renault	2020	230	15	Greenfield
SsanYong	2019	145	8	Brownfield
BAIC	2019	31	24	Greenfield
DFSK	2020	11	8	Greenfield
Volkswagen	2020	..	8	Greenfield
Nissan	2019	41	30	Brownfield
Foton	...	12	...	Greenfield
Changan	...	3	...	Greenfield
IVECO	...	102	...	Greenfield
Chongging	...	24	...	Greenfield
Topsun	...	5	...	Greenfield

... = not available.
Source: Based on information from the Board of Investment as of June 2018.

Pakistan has a large auto parts manufacturing sector that supports local manufacturers of cars, motorcycles, and tractors. The sector, which has a large workforce, has a diversified product range catering to most categories of customers, but the level of innovation and technology is below comparable countries in Asia with auto parts manufacturing. The sector services the lower-value end of domestic manufacturing requirements, and is not integrated into the global value chain for auto parts. Local content averages only 30%. While the global automotive industry increasingly uses electronics and software, Pakistan has not yet developed this capacity. It is also likely that Pakistan will find it difficult to participate at a competitive level in the new age of electric and driverless automobiles.

Export markets

The experience of some Asian countries suggests that once joint ventures achieve a certain scale, and there is excess capacity after meeting domestic demand, the next move is to look to export markets. This strategy was led by Japanese carmakers who set up full assembly plants in Indonesia, Malaysia, and Thailand, among other countries, during the 1980s. In addition to servicing domestic demand, the complementary advantages of lower costs and access to skilled labor made these countries important secondary production hubs for exporting to other parts of the world. These hubs became the base for not just exports of completely built units but also for supplying kits to assembly plants in other countries. Pakistan is in this category. The current dominance of three Japanese carmakers in local assembly relies on parts sourced from secondary production hubs rather than directly from Japan. Because these countries have built economies of scale, it will be very difficult for Pakistan to compete in the same products and in the same markets.

Despite the planned increase in production, the higher end of the small-car market will still not be at a scale where exports can be competitive. But it is possible that PRC joint ventures for small cars in Pakistan could export to some Asian and African countries if a certain level of production is achieved. For this to happen, Pakistan would be acting as a second production hub for PRC small-car manufacturers, just as Indonesia, Malaysia, and Thailand have become for Japanese vehicle manufacturers.

Although there is potential to increase exports, the main source of growth in the automotive industry over the coming decade will be to service domestic demand. A common feature of joint ventures with foreign automobile manufacturers is that franchise restrictions limit exports to other countries. While these restrictions can be renegotiated, the reality is that this can only happen when production in Pakistan for exports makes economic sense. Furthermore, Pakistan's automobile industry standards lag behind other developing countries, and this in itself is a major hurdle to competing in export markets. To clear this hurdle, standards, quality, and cost efficiency need to be raised.

Policy environment

Government policy for the automotive industry has been neither continuous nor consistent. There have been two government policies for the automotive industry since FY2006, one covering FY2006 to FY2016 and the other FY2016

to FY2021. The time gap between these two policies raises the question of the extent to which the government is prioritizing the industry. Only a few goals of the first policy were achieved, and the difference between them highlights the lack of strategic continuity. By contrast, India's 2002 National Auto Policy and Automotive Mission Plan FY2006–FY2016 and FY2016–FY2021 show a commitment to a continual long-term strategy to improve the competitiveness of the country's automotive industry.

Pakistan's first automotive industry policy set the target of increasing the industry's contribution to GDP from 2.8% in FY2007 to 5.6% in FY2012. The current policy adjusted this goal in the face of reality and aims to increase this contribution from 2.3% in FY2016 to 3.8% in FY2021. The current policy also sets targets of increasing the industry's contribution to manufacturing from 22% to 30%, and employment from 2.4 million to 4.0 million. These adjusted targets are becoming tougher to achieve, and progress so far has been slow. Work also needs to begin on developing a strategy for the industry beyond FY2021.

Assemblers have successfully lobbied the government to maintain the highly protectionist measures that have led to the industry's undercapacity, overpricing, and loss of competitiveness. The industry has resisted trade liberalization, resulting in less competition in the domestic market. The consequences have been high prices and low quality. The first automotive industry policy was criticized for its narrow focus. The current policy seems to have achieved broader acceptance among industry stakeholders, and it certainly has more in common with the successful automotive industry policies of India and Thailand. The policy covers skills development, standards enforcement, investment incentives, consumer welfare, capacity enhancement, and import and tariff rationalization.

The experience of some other Asian counties that initially protected their automotive industries using tariffs is that these were gradually relaxed as domestic competitiveness improved. This was done without abrupt or volatile policy changes, and the industry was able to plan and adjust to changing tariff regimes. Pakistan's experience has been the opposite. The government has frequently changed policy direction on the competing needs of meeting domestic demand and protecting local industry from imports. The aim of import substitution is best served by increasing competition domestically, which in turn requires incentives to import parts for local assembly. This seemingly paradoxical strategy requires clarity and commitment from the government to be effective.

After over 3 decades of local production, the three large carmakers are using on average only 50% local content; the current automotive industry policy envisages about 70%. One impact of local parts being low-tech and imported parts being higher-tech is that the prices of locally assembled cars are still highly correlated to the exchange rate. The rapid depreciation of the rupee in FY2018–FY2019 forced local manufacturers to raise prices, causing a public outcry to the Competition Commission of Pakistan and the Supreme Court against local joint venture manufacturers, who were alleged to have kept prices artificially high and standards low because of insufficient investment in locally manufactured technology. Because of the higher-value content of imported parts, the industry is going through production cuts and sales declines, which could have been avoided if the domestic supply chain was developed enough to provide a cushion against adverse exchange rates.

Industry scale is an important determinant of the level of technology, competitiveness, and pricing. Companies that have achieved a scale beyond a certain critical mass can innovate independently and competitively price their products. The scale of Pakistan's automotive industry is not at this level. The waiting time for deliveries is long and premiums are paid for immediate purchases. This limited capacity directly leads to higher prices and a lack of commercial pressure to improve standards.

Opportunities and policy recommendations

The development and competitiveness of Pakistan's automotive industry are dependent on many factors—among them, a skilled workforce and standards enforcement—that require policy coordination to be successful. The country is already behind the curve in skills, technology, and policy development compared with other Asian countries with automotive industries. With a rapidly changing technological outlook for the global automotive industry, Pakistan faces the real danger that by the time the industry improves, it will still be a generation behind other Asian countries that have better domestic production capabilities.

After years of stopgap measures, the current automotive industry policy, for all its faults, does lay the groundwork for the country to expand domestic production. The proposals for 13 new joint ventures between local and foreign vehicle manufacturers are the first evidence of the attractiveness of the new policy. Incentives given to new entrants over 3–5 years seem to have worked in terms of commitments to foreign direct investment.

The small-car market, led by Suzuki and followed by imports, is the most attractive for manufacturers. With the planned new entrants in this market, increased competition may lead to greater local content if there are cost advantages for manufacturers and assemblers. Increased competition may not necessarily result in improved quality due to poor safety standards and their lack of enforcement even though improving both are part of the government's current automotive policy. Fuel standards exemplify these gaps. Here, Pakistan lags behind other countries because of lobbying by oil companies against improving standards for better quality oil. A similar scenario is possible for the automotive industry, where manufacturers could potentially successfully lobby the government to delay or soften the enforcement of industry standards. If this continues, the domestic sector will remain insular and deprived of the technical skills needed for competing internationally. That does not, however, rule out the potential for exports. Countries with similar or even lower industry standards will be potential importers, but these markets will be at the lower end of technology and value—a pattern similar to Pakistan's other exports, where the country seems to be stuck in a vicious cycle of low-value products.

The country should take measures that can lead to greater skills and technology development for the automotive industry over the medium term. It should also be noted that the export potential of some countries was born out of first successfully developing domestic industries. Learning from the experience of these countries could help develop a strategy for implementing the current automotive industry policy so that certain longer-term goals, such as skills development and standards enforcement, are clearly defined. Doing this will ensure that stakeholders can properly plan their operations, and it will also help the industry become more regionally competitive.

Tariffs and taxes applied to the industry have been used over the years to balance the competing demands of revenue generation, preserving foreign exchange reserves, protecting the domestic market, and satisfying local demand. The current automotive industry policy has rationalized some industry tariffs and taxes. Even so, Pakistan not only has high import tariffs for auto parts by international standards, but there are inconsistencies for different parts and importers. These anomalies create distortions in the behavior of stakeholders and impede the industry's growth. The best way to enhance domestic competitiveness is to attract foreign direct investment to the industry without protectionist measures. Similarly, competition from imports should be persuasive grounds for domestic manufacturers to invest in technology.

Pakistan's has no dedicated regulator to ensure the implementation of policies for the automotive industry or at least to enforce standards. There are government departments that could take on this role, but they would need to prioritize initiatives that are needed to strengthen the industry.

One of the many reasons for the small size of Pakistan's automobile industry relative to the size of the population is the country's underdeveloped financing and leasing services that reflect a lack of scale in the financing sector and distortions in the banking sector that affect the whole economy.

3.5 Investing in Export Development

Export policy

Pakistan's export policies have not been consistent or strategic enough to significantly diversify the product mix or bring value enhancement. Export policies alone cannot achieve these objectives—capital investment, skills, a strong domestic production base, good infrastructure, and political and economic stability also affect a country's export competitiveness. Even so, in Pakistan's case, the scope is considerable for policy measures that both enhance exports and catalyze reforms in other sectors.

That the current export policy acknowledges the gaps and areas for development is encouraging (Ministry of Commerce 2015). But the solutions identified in the Trade Related Investment Policy Framework are short term in the incentives they offer because of the policy's three-year horizon. This, in itself, shows that long-term strategic planning and vision are lacking. Many of the policy measures proposed are also too narrowly focused. The ongoing practice of issuing ad hoc regulatory and policy orders that change import and export requirements go against the principles of a consistent medium- to long-term strategy. The policy framework makes only token mention of the need to invest in R&D, although it does recognize the dearth of technical expertise in government. Having this expertise is necessary for creating an enabling environment for export growth.

At the time of writing, a new framework export policy was being prepared that will primarily focus on investment as the driver of export growth and competitiveness (Ministry of Commerce 2018). Its aim will be to move away from the silo approach of previous export policies. A draft of this policy refers for the first time to a value-chain and supply-chain approach. It recognizes

the need to invest across sectors to achieve diversification and to prioritize sectors that offer the best returns for the country. The final policy will show just how far-sighted this vision is and whether a roadmap has been devised for achieving it.

Export Development Fund

The performance of the EDF provides lessons on the need to develop an integrated export strategy. In 1991, the government levied an export development surcharge equivalent to 0.25% of the value of exports, with the proceeds going to the 1992-created EDF to distribute to export associations for export development. The Export Development Act was amended in 2005, making it mandatory that all surcharge proceeds collected in a fiscal year be transferred to the fund in the following fiscal year. The EDF's stated aim is to tackle bottlenecks faced by exporters and producers of export goods and services. It also financially supports export-promotion initiatives.

The EDF is autonomous, although it has ties to the Ministry of Commerce's Export Wing. A board of administrators is responsible for running the fund. The legislation creating the fund specifies that its sources of funding are (i) donations and endowments, (ii) proceeds from the export development surcharge collected by the federal government, (iii) grants made by the federal government, and (iv) income accruing to the fund from its investments and property.

The design of the EDF is flawed. This stems from the rather old-fashioned approach that the only funding requirement for export development is related to international marketing through, for example, trade delegations and fairs, international offices, and publicity—in other words, export promotion. These functions are important, but the surcharge's levy of 0.25% of total exports is too high for this purpose. The modern concept of integrated value chains requires a comprehensive view of the whole sequence of production and processing that eventually leads to exports. Because the surcharge is levied on the final value of exports, exporters regard it as a tax on them and feel entitled to use all levy proceeds, which ignores the contribution of the whole value chain toward the final export product. Exporters rely on the efficiency of domestic value chains for competing internationally. Without investing funds in the whole production and processing chain, efforts on international marketing will only benefit sales of current products.

The largely autonomous EDF is not open to public scrutiny. Its effectiveness can only be gauged from publicly released information. It is revealing that no EDF-supported project has been marketed as a shining example of the fund's contribution to developing exports. Funds are spent on export promotion, which is transitory by nature, rather than on R&D projects, which can bring lasting improvement to export sectors. For example, since the early 2000s, the fund has invested about PRs1 billion in promoting the leather industry, a sector whose exports have declined (*Business Recorder* 2017). A better way to use the EDF could be in projects that are identified through the market knowledge of exporters. Doing this would also better align production and processing to market demands.

The EDF lacks technically qualified managers and is generally understaffed. The inability of export associations to design effective export-development projects is matched by the fund's incapacity to screen and promote R&D-based development because of its focus on simple marketing activities. Fund spending on these activities is a further concern because they are duplicated by the Export Marketing Development Fund, a 2006-created fund managed by the Trade Development Authority, which performs some of the same functions as the EDF.

Value-chain approach for export development

An industry-wide approach is needed to achieve a sustainable improvement in Pakistan's export competitiveness. Success stories from around the world show how economies can become globally competitive. While economy-specific circumstances play a role, R&D and the diffusion of technological innovation throughout a specific industry are common threads for success. Economies also rely on government interventions to develop exports by, among other things, seeking out new markets for products, helping smaller firms to export, and building a national identity for an industry's exports, as opposed to Pakistan's practice of export promotion largely through marketing mechanisms.

Export development success stories like Malaysian palm oil, Chilean wine, Indian grapes and maize, Kenyan floriculture, and Ugandan fisheries all use a holistic approach to developing the whole value chain rather than just focusing on exports. A similar pattern is observed in the export development of software and electronics in India, Malaysia, and Taipei,China. And it is interesting to note that Japan, the United States, and other advanced economies still depend on industry-specific, government-supported R&D and export development measures (World Bank 2006).

Funding and using the Export Development Fund

The EDF's detailed financial rules require that all proceeds from the surcharge are collected by the State Bank of Pakistan and transferred to the Ministry of Finance, which, in turn, must transfer these funds to the Ministry of Commerce (Ministry of Commerce 2006). The transfer of these funds, however, has not followed legal requirements, and the funds have been kept under the control of the Ministry of Finance. The Strategic Trade Policy Framework FY2015–FY2018 states that only 20% of surcharge proceeds have been transferred to the fund by the Ministry of Finance in clear violation of legal requirements. Going by average export levels, annual proceeds collected by the State Bank of Pakistan from the export development surcharge are PRs5 billion. Export associations have voiced their concerns on occasions, but no attempt has been made to challenge this on legal grounds. This shortage of funds is used as the main excuse for the fund's underperformance.

The Ministry of Finance claims the surcharge should be treated as part of the budgetary pool and that its use should be subject to annual allocations and disbursement requests. Because no stakeholder has approached the courts to clarify this interpretation of the Export Development Act, the dispute between the two government departments continues. The impact of this situation has turned a levy meant for export development into a de facto tax on exports. The Ministry of Finance may be justified in withholding funds since these are spent on overlapping activities with the Trade Development Authority's Export Marketing Development Fund without any commensurate increase in exports.

The core of the problem is the EDF's lack of management capacity to develop a strategy other than marketing activities. Without building this capacity and investing in R&D and technology-adoption projects to improve export competitiveness, the Ministry of Commerce will not be able to convince the Ministry of Finance that the funds it receives are being productively used.

The lack of transparency on how funds from the EDF and the Export Marketing Development Fund are spent raises further concerns on their use and efficacy for export development. For example, the EDF, in FY2018, reportedly released PRs73.7 million to the Pakistan Horticulture Development and Export Company because the company was facing a cash shortfall for salaries and administrative expenses; in other words, the funds were not being spent as intended on export development (*Business Recorder* 2018).

In addition to building the capacity to design effective projects for export development, it is essential that a cost–benefit analysis framework should be implemented that can evaluate the EDF's spending efficiency. Currently, no such analysis has been conducted. But doing this could show whether the export development surcharge should have been used, and, if so, how effectively.

Policy recommendations

Reforms to the EDF could provide a considerable impetus to other measures being taken by different agencies to increase exports. The following reforms are recommended for the fund:

- Amend the Export Development Act to explicitly incorporate the need to invest in all upstream activities that lead to final products for export. The amendment should also clarify the responsibility of exporters for contributing to the whole value-chain for overall export growth.
- Amend the EDF's mandate to include funding for promising export sectors and sectors covered by the export development surcharge. Without this, most funding will continue to be allocated to existing export sectors and not contribute to export diversification.
- Encourage stakeholders to propose areas of support to improve any export-oriented industry rather than only relying on export associations. All stakeholders in a value chain should have the same opportunities to make proposals and be encouraged to develop ideas.
- Establish a culture of competitive innovation grants within the EDF that rewards good project proposals.
- Develop industry-specific technical expertise within the EDF. Modern concepts of export and value-chain development will directly aid the fund's contribution to export growth. The productive deployment of funds will require building the capacity of the fund's management.
- Implement a system for quantifying the EDF's costs and economic and financial benefits to justify the surcharge transfers from the Ministry of Finance and for evaluating the fund's performance.
- Set up a treasury management office within the EDF. Doing this could greatly enhance the available pool of funds and create endowment funds for investment management.
- Set performance targets and incentives on the basis of balanced scorecards for EDF managers to improve the fund's performance.

- Bring in private sector professionals that can enhance the EDF's performance.
- Mandate the EDF to pursue projects of cross-sectoral significance.
- Build up the EDF's research capability.
- Allow the EDF to seek out and fund project proposals from R&D and other organizations in addition to export associations.

3.6 Conclusions

Pakistan's failure to export more and better goods is the result of many shortcomings. To remedy this, greater policy attention and investment needs to be given to industries where the country has a long-established presence. Unfortunately, cotton and basmati rice have not been able to build on this experience—and neither industries are innovation leaders despite decades of domestic know-how. Complacency born from past achievements seems to be the norm. A common factor missing in both industries is the lack of investment in R&D, specifically R&D using modern value chain-based approaches. For both cotton and basmati rice, low yields, poor quality, inefficient farming methods, and postharvest losses are common, as indeed they are in the whole agriculture sector. And these initial deficiencies multiply downstream when competing with other countries in value-added goods. For cotton, increasing spending on R&D also applies to textile manufacturing. Without these investments, Pakistan will remain dependent on exports of lower-value goods in quality and price.

For the automotive industry, domestic market dynamics do not make exports a viable option at present. This situation is further clouded by poor standards and skills shortages. Pakistan first needs to improve domestic quality and competitiveness before it can realistically aim at export markets. The government therefore should make this a priority policy target for the industry.

Resources for export development and promotion need to be allocated efficiently to get better value from them. An inclusive approach to resource allocation that views the entire value chain as a single entity is needed rather than the current narrow focus on institutions promoting exports. A demand-driven and results-based funding mechanism that can help to fill gaps in value chains is needed to improve competitiveness in all Pakistan's export sectors.

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CHAPTER 4

Foreign Direct Investment and Mobilizing Domestic Savings: Financing Sustainable Development

Kiyoshi Taniguchi, Abdul Wajid Rana, and Bukhari Sillah

This chapter examines Pakistan's foreign direct investment (FDI) flows and mobilization of domestic savings. The level of FDI is a key indicator of an economy's internationalization and helps countries overcome capital shortages if domestic investment and savings are limited. It may also encourage domestic investment through spillovers and linkages with local industry, and improve the investment climate. Pakistan's FDI is low, and the country is stuck in a low-savings, low-investment trap that is hampering its growth potential. This is a vicious circle because low savings mean there is not enough capital for investment, a lack of investment capital makes growth spurts unsustainable, and low growth results in fewer savings. Increasing FDI and domestic savings are the only way to break this cycle and to help put the country on a sustained high-growth trajectory.

Being able to mobilize domestic savings is dependent on macroeconomic, financial, social, and governance factors, among others. One of the key elements for mobilizing domestic savings is a consistent trade deficit, but this undermines other positive factors, such as a moderate inflation rate. Other key factors adversely affecting the mobilization of the Pakistan's domestic savings include a high dependency ratio, weak human capital development, an underdeveloped banking sector, and weak governance. Among the many policy actions that can be taken to help boost domestic savings are increasing banking efficiency, streamlining cumbersome business regulations, promoting political stability, upholding the rule of law, reducing the dependency ratio, and improving the adult literacy rate.

4.1 Foreign Direct Investment Trends

FDI, a nondebt instrument, is generally considered a stimulus for accelerated development and economic growth in developing countries. It helps overcome low domestic savings and augments domestic capital for investment. It supports the balance of payments when they are fragile, and enhances efficiency through the transfer of new technology, innovation, managerial skills, and marketing. It creates job opportunities, increases competition, and improves human capital. It helps integrate economies into the global economy and promotes enterprise development. Many factors constrain countries getting FDI; among them, a low level of education, poor health indicators, a low level technology, insufficient trade openness, weak competition and institutions, and inadequate regulatory frameworks (OECD 2000).

FDI is motivated by two main—and possibly overlapping—considerations. Vertical direct investment, also known as efficiency-seeking FDI, aims to produce components that become an integral part of a main product because of cost objectives, natural resource availability, or low labor costs. Horizontal direct investment, or market-seeking investment, replicates the production process to serve the domestic market and avoid trade costs. To accomplish either of these objectives, foreign investors can enter the market by (i) building new assets, such as a factory or distribution facility (i.e., greenfield FDI), or (ii) acquiring or leasing existing assets (i.e., brownfield FDI through mergers and acquisitions). The decision on whether a foreign investor enters the market through greenfield or brownfield FDI depends to a great extent on the investment policy regime and domestic regulations. Domestic regulations that limit foreign ownership in various industries to joint ventures erect high barriers for greenfield FDI. At the same time, restrictions on foreign investors are generally relaxed in special economic zones designed in part to encourage greenfield FDI, which is linked to global value chains to a greater extent than brownfield FDI, especially in the manufacturing sector.

The determinants of FDI can be broadly grouped into factors capturing comparative advantage, level of international integration, and institutions and government policy. Some of these factors, as drawn from UNCTAD (2002) and Cevis and Camurdan (2007), are:

- **Rate of return.** The rate of return on investment in a host economy influences FDI decisions (Asiedu 2002).
- **Market size.** A large market size provides more opportunities for sales and profits to foreign firms (Wang and Swain 1995; Moore 1993; Schneider and Frey 1985).

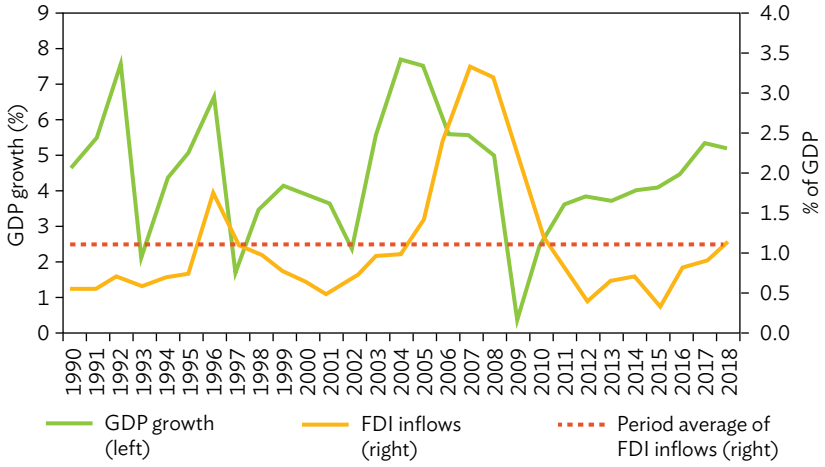
- **Labor costs and availability of skilled labor.** Low labor costs, coupled with an educated workforce, are magnets for FDI. High wage-adjusted productivity of labor attracts efficiency-seeking FDI to produce for and export from host countries (Wheeler and Mody 1992; Schneider and Frey 1985; Loree and Guisinger 1995).
- **Infrastructure.** The availability of quality infrastructure, particularly electricity, water, airports and seaports, highways, logistics and distribution facilities, and telecommunications, is an important determinant of FDI. When developing countries compete for FDI, the countries that are best prepared to deal with infrastructure bottlenecks tend to receive more FDI (Wheeler and Mody 1992; Loree and Guisinger 1995; Asiedu 2002).
- **Openness and export promotion.** Gains from FDI are far higher in countries that promote exports rather than imports. Trade openness positively influences export-oriented FDI inflows. Investors generally want big markets and like investing in countries whose trade is regionally integrated and where trade agreements encourage investment (Edwards 1990; Gastanaga, Nugent, and Pashamova 1998; Hausmann and Fernández-Arias 2000; Asiedu 2002).
- **Political stability and growth.** Countries that have high and sustained growth are more likely to attract FDI inflows (Schneider and Frey 1985; Lipsey and Fredrik 2004; Dasgupta and Rath 2000; Durham 2004).
- **Government finance.** A high fiscal deficit leads to more government liabilities and, therefore, more taxes and defaults on international debt. Thus, fiscal stability—one of the macroeconomic stability indicators—positively affects market sentiment and investor confidence (Ilyas and Merve 2018).
- **FDI government policy.** In a highly globalized and competitive world, government policies significantly affect competitiveness and the business environment, which both influence the investment decisions of foreign companies. Government policies to attract FDI come in various forms, but the most common are partial or complete tax holidays, import duty exemptions, and different kinds of direct and indirect subsidies. Subsidies to attract FDI help multinational firms reduce production costs, improve incentives to create patents and trademarks, enhance the relative attractiveness of locating production facilities in countries offering incentives, and raise the economic benefits of FDI relative to exports (Blomstrom and Kokko 2003; Schneider and Frey 1985; Grubert and Mutti 1991; Loree and Guisinger 1995; Driffield and Taylor 2000; Kumar 2002).

FDI combined with international trade are the twin engines of global economic prosperity. Econometric analysis suggests that a 10% increase in a country's two-way trade relative to gross domestic product (GDP) can expand GDP by at least 1.6 percentage points through various channels. Nominal world GDP grew by 7.8 times from $11 trillion in 1980 to $88 trillion in 2019, according to the World Bank's World Development Indicators. Merchandise trade expanded 10.7 times in this period, with global exports in goods and services totaling $25 trillion in 2019, and the stock of FDI expanding by a factor of 20. A huge expansion in global FDI was behind the large increase in world income, and these investments have transferred better technology, higher wages, more trade, and overall development.

Figure 4.1 shows that FDI in Pakistan has been low since FY1990, averaging only 1.1% of GDP in FY2018. The main cause of this has been an unstable political, economic, and security situation, although there have been notable exceptions. FDI inflows grew sharply from FY2002 to peak at 3.4% of GDP in FY2007, a period when Pakistan embarked on major reforms and provided multiple investment incentives. Over this period, foreign investment was liberalized by restrictions being removed on entry, ownership, and profit repatriation, and by providing investors with property protection, credit facilities, concessional customs duties, tax holidays, an accommodative visa policy, easing foreign exchange controls, and tariff reductions. Wide-ranging structural reforms were undertaken in various sectors, with the government pursuing sound economic policies based on the principles of liberalization, deregulation, and privatization—a process that began in 2001 as part of an International Monetary Fund–financed Poverty Reduction Growth Facility and a Paris Club debt restructuring deal. The agriculture, telecommunication, energy, and banking sectors were opened to FDI. Foreign currency accounts were protected by immunity from inquiries by the Income Tax Department or any other tax authority on the source of funds in foreign currency accounts.

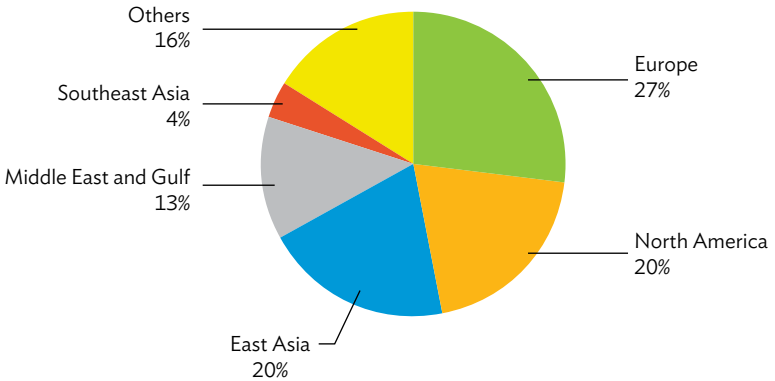
Figure 4.2 shows that from FY1990 to FY2018, Europe (led by the United Kingdom, Switzerland, and the Netherlands) accounted for the highest share of total FDI (27% of total $40.4 billion FDI). This was followed by North America (primarily the United States), East Asia (mainly the People's Republic of China [PRC]; Hong Kong, China; and Japan), and Middle Eastern and Gulf countries (mainly the United Arab Emirates). A recent development has been increasing FDI from the PRC through the China-Pakistan Economic Corridor. In the 5 years to FY2018, the PRC accounted for nearly 24% of the total FDI; in FY2000, it was only 2%.

Figure 4.1: Gross Domestic Product Growth and Foreign Direct Investment Inflows, 1990–2018



GDP = gross domestic product, FDI = foreign direct investment.
Note: Years are fiscal years, ending 30 June.
Sources: State Bank of Pakistan. 2016. *Handbook of Statistics on Pakistan Economy*. Karachi; State Bank of Pakistan. 2019. *Statistical Bulletin: November 2019*. Karachi.

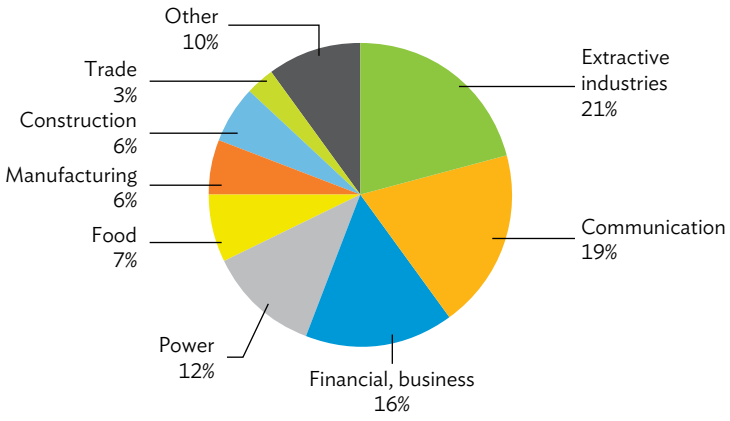
Figure 4.2: Share of Foreign Direct Investment Inflows by Regions, 1990–2018



Note: Years are fiscal years, ending 30 June.
Sources: State Bank of Pakistan. 2016. *Handbook of Statistics on Pakistan Economy*. Karachi; State Bank of Pakistan. 2019. *Foreign Investment in Pakistan by Countries and Sectors*. Karachi.

Figure 4.3 shows FDI is highly concentrated in a few sectors, led by extractive industries (21%) and telecommunications (19%). This has meant that negative developments in these sectors have had a knock-on effect on overall FDI. For example, the fragile security situation in the oil and gas exploration areas of Balochistan and Khyber Pakhtunkhwa has deterred FDI not only in that sector but also in other sectors.

Figure 4.3: Share of Foreign Direct Investment by Sector, 1997–2017



Note: Years are fiscal years, ending 30 June.
Sources: State Bank of Pakistan. 2016. *Handbook of Statistics on Pakistan Economy*. Karachi; State Bank of Pakistan. 2019. *Foreign Investment in Pakistan by Countries and Sectors*. Karachi.

Pakistan pursued a gradual opening of the economy from the late 1980s following the failure of a nationalization policy pursued in the early and mid-1970s. The government, during this early period of opening up, encouraged FDI in manufacturing. In 1997, the Board of Investment's first Investment Policy allowed FDI in all economic sectors.[1] This was followed by 2013's Investment Policy that is based on eight principles (Board of Investment 2013) (Box 4.1).

1 Specified exceptions include arms and ammunitions; high explosives; radioactive substances; securities, currency, and mint; and consumable alcohol.

Box 4.1: Eight Principles of the 2013 Investment Policy

1. **Full ownership.** Foreign investors allowed to hold up to 100% of equity barring certain restricted sectors that include manufacturing weapons and printing currency.
2. **Ease of registration and entry.** Foreign investors entitled to incorporate, sell shares, transfer ownership, and de-register under the Companies Act of 2016 and the Banking Companies Ordinance of 1962.
3. **Flexibility in financial procedures.** Foreign investors given the right to exchange local currency into any other freely convertible foreign currency, subject to the State Bank of Pakistan's foreign exchange regulations.
4. **Flexibility in land and real estate procedures.** Lease of land without limit by foreign investors.
5. **Ownership in agriculture.** Foreign investors can hold up to a 60% stake in agriculture businesses and 100% in corporate farming.
6. **Incentives for pioneer industries.** Foreign investors bringing technology not available in Pakistan receive incentives at par with special economic zones.
7. **Investment protection.** Investments protected under the Foreign Private Investment (Promotion and Protection) Act of 1976, the Protection of Economic Reforms Act of 1992, and the Foreign Currency Accounts Protection Act of 2001.
8. **Incentives.** No restrictions on royalty or technology transfer payments, and repatriation of capital, profits, and dividends. Tax holidays (exemption from customs duties and general sales tax) and complete exemption of federal, provincial, and municipal taxes in export processing zones.

Source: Board of Investment. 2013. *Investment Policy*. Islamabad.

FDI accelerated during the policy reforms that were undertaken to liberalize the economy during FY2002–FY2007. These reforms ushered in productivity and efficiency gains, higher economic growth, and rising incomes and employment. Box 4.2 briefly looks at two examples of the beneficial impact of FDI during this period: the deregulation of the telecommunications industry and the privatization of state-owned banks and opening the sector to foreign investment.

Box 4.2: Telecoms and Banking: Two Foreign Direct Investment Success Stories

Telecommunications and banking are two industries that have been major recipients of foreign direct investment in Pakistan and are notable success stories.

Telecoms. The industry's deregulation in 2004 and the privatization of state-owned monopoly Pakistan Telecommunication Corporation in the same year unleashed a wave of FDI that totaled $7.4 billion over FY2004–FY2017 (State Bank of Pakistan 2019). The investments provided a much-needed boost to the sector and had a beneficial effect on the broader economy.

Telephone density increased from 2.8% in FY2001 to 76.7% in FY2019, cellular subscribers increased from 2.4 million in FY2003 to 162.0 million in FY2019, 3G, and 4G penetration reached 34.2% in FY2019 with 72.0 million subscribers, and broadband penetration was 35.2% with 74.0 million subscribers in FY2019. The industry's revenue increased from PRs116.8 billion in FY2004 to PRs488.7 billion in FY2018 (the contribution to the national exchequer was PRs148.0 billion in FY2018) (Pakistan Telecommunication Authority 2019).

Intense competition following deregulation among cellular companies resulted in a steep fall in tariffs. Consumers benefited through a reduction in prices; other beneficial effects included setting up vendor supply chains and connection services, income generation and employment creation, and connectivity reaching the poor.

Banking. Opening up banking led to impressive performances in the sector, making it attractive to foreign investors. From 1991 to 2004, five banking licenses were auctioned to domestic and foreign investors, and four state-owned banks—Habib Bank, United Bank, Allied Bank, and Muslim Commercial Bank—were fully privatized after cleaning up their balance sheets. Shares of National Bank of Pakistan were sold in the market.

As a result, the sector attracted $6.4 billion investment from FY1990 to FY2017 (State Bank of Pakistan 2019). The gain in technical efficiency from electronic transactions increased the operating performance of banks, which led to increased profits and assets.

Sources: Authors and State Bank of Pakistan. 2019. *Foreign Investment in Pakistan by Countries and Sectors.* Karachi; Pakistan Telecommunication Authority. Telecom Indicators. Islamabad. https://www.pta.gov.pk/en/telecom-indicators/8.

4.2 Impediments to Foreign Direct Investment

This section examines why FDI still underperforms despite the 2013 Foreign Investment Policy.

Poor risk assessment. Country risk is a key factor influencing the decision to invest in a country. The risk ratings of credit insurance group Credendo ranks Pakistan's currency inconvertibility and transfer restriction risk, medium to long term political risk, and political violence risk at 6 out of 7 (7 being the riskiest score). Under the Organisation for Economic Co-operation and Development's risk classification, Pakistan is C—an above-average risk country.

Weak political stability. Political stability and security are critically important for foreign investor confidence because they ensure consistency and continuity in economic policies. From 1988 to 1999, four elected governments were dismissed on charges of corruption and misgovernance. The years 2008–2017 saw abrupt changes in policies and programs that unsettled foreign investors. The security situation remains fragile in the major growth areas, including Karachi and Punjab. Northern Pakistan, from 2008 to 2015, was affected by the war on terrorism, which deterred FDI there. In general, however, the security situation has markedly improved since early 2016.

Inconsistent policies. Consistent economic policies provide certainty and reassurance to foreign investors. The government has tried to deliver on this, but abrupt changes in policies and their ineffective implementation, weak regulation, complex procedures, and mechanisms to resolve disputes are common. The pressure to raise revenue and changing rules on incentives, among other conflicting objectives, have led to inconsistencies in investment and industrialization policies. Statutory regulatory orders, which can amend laws, heightens this uncertainty. Although the Federal Board of Revenue can no longer issue these orders, the Economic Coordination Committee of the Cabinet can.

Difficult business environment. This is one of the main constraints to attracting FDI and private investment. Pakistan ranks 108th in the World Bank's 2020 Doing Business Report out of 190 economies, second from the bottom among comparable economies (World Bank 2020).[2] Pakistan's distance-to-frontier score has only marginally improved in recent years, from

[2] Bangladesh (168), India (63), Indonesia (73), Malaysia (24), the Philippines (95), and Viet Nam (70).

52.90 in 2011 to 51.65 in 2017.[3] This is well below most South Asian economies and fares poorly compared with the steady progress made by other economies in Asia.[4] Policy inconsistencies in different sectors have dented investor confidence.[5] Pakistan is also ranked low in the World Economic Forum's Global Competitiveness Index (WEF 2017).

4.3 Mobilizing Domestic Savings

Lack of affordable capital has constrained growth and is a reason for the country's episodic growth performance, as Chapter 1 made clear. Financial intermediation is not mobilizing sufficient financial resources to provide growth capital for the economy, and the little that is generated goes to the government. FDI and foreign borrowing are critical for financing economic growth in small open economies such as Pakistan in the short and medium term. In the long term, however, domestic savings should take over to finance the sustained growth and expansion of these economies. This indicates that sustained growth depends on high domestic savings. Poor countries need FDI and official development assistance to enhance their productive capacity to set the stage for socioeconomic development and for unleashing their growth potential. But because these countries are far from technological frontiers, they need capital flows from economies at and close to these frontiers to be able to adapt to and adopt technological innovation. The following section examines the evidence-based rationale for high domestic savings in developing economies and then uses the Keynesian income equilibrium model to explain why domestic savings are low in Pakistan.

Poor economies have country and economic risks that can deter private capital inflows, particularly in the absence of local savings, that can act as equity capital to absorb and mitigate these risks for foreign investors. Aghion et al. (2006) find that domestic savings are important in poor economies because, through them, local financial institutions can cofinance projects and attract foreign investments. They find domestic savings to be significantly associated with

[3] The distance-to-frontier score shows the average extent to which an economy's regulatory performance has progressed toward international best practice in each of the 10 Doing Business indicators. It is a measure of the distance an economy has moved toward the frontier, scored on a scale of 0 to 100, where 0 is the worst performance and 100 the frontier with the best practice.

[4] Bangladesh (40.99), India (60.76), Indonesia (66.47), Malaysia (78.43), the Philippines (58.74), the PRC (65.29), and Viet Nam (67.93).

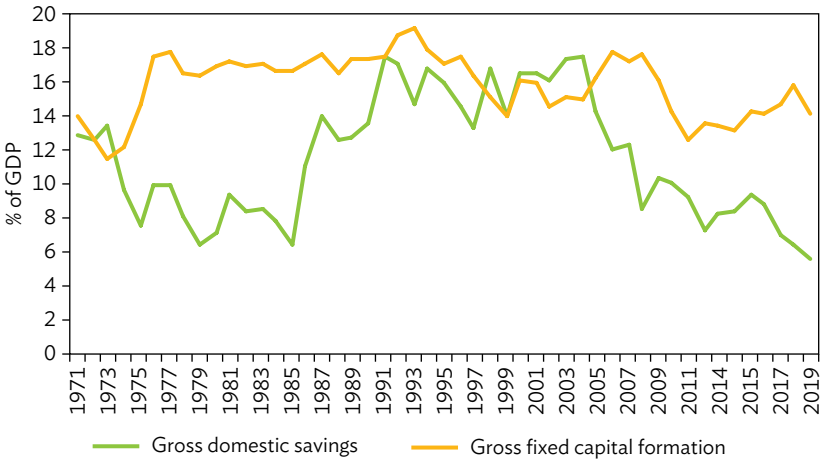
[5] The standoff between independent power producers and the government in the late 1990s, litigation over the Reko Diq mining lease and contract enforcement issues with Engro Fertilizer Ltd., among other incidents, have dented investor confidence in Pakistan.

growth in the total factor productivity of poor economies and no evidence of this in rich ones. World Bank (2011), assessing domestic savings in Turkey, concluded that they are vital for sustaining growth in emerging economies. Low domestic savings mean increased reliance on foreign money, which can expose emerging economies to the risks of capital flow reversals and its associated severe effects on real economic output and asset prices. Yazdani, Tayebi, and Harvie (2013) find that capital flow reversals can account for a loss of more than 10% in a country's GDP. Moreno (2012) finds that foreign capital flows are more volatile than economic activity, causing unpredictable spending behavior and severe financial imbalances for emerging economies. Domestic savings are not necessarily a substitute for foreign money but are rather a complementary and attractive factor that works as a guarantee and lever of foreign money.

Domestic savings are determined by the decisions of citizens to sacrifice current consumption for future consumption. People tend to save, invest, and build capital when the socioeconomic environment is stable and conducive, when institutions support and encourage savings and real returns are attractive, when laws are perceived to be just, and when macroeconomic policies maintain low inflation and prudent government spending. Thus, economic factors alone cannot determine the level of domestic savings. This is influenced by the social and institutional environment, which directly or indirectly affects people.

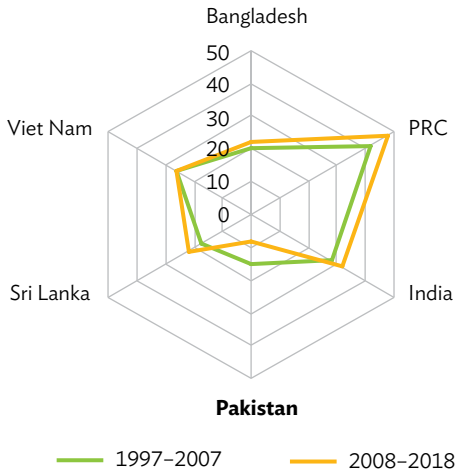
Figure 4.4 shows that Pakistan's domestic savings as a percentage of GDP—at a record high of 17.6% of GDP in FY2004—have been shrinking, and were at 5.5% in FY2018. Domestic savings in other countries in the region have grown and, consequently, their economies expanded, unlike Pakistan's (Figure 4.5). Several factors can explain the changes in Pakistan's savings behavior. These are summarized in the income-expenditure model in the following section to guide the analysis of this behavior.

Figure 4.4: Investments and Domestic Savings, 1997–2019



GDP = gross domestic product.
Note: Years are fiscal years, ending 30 June.
Source: World Bank. World Development Indicators Database.

Figure 4.5: Domestic Savings as Percentage of Savings in Selected Asian Countries



PRC = People's Republic of China.
Source: World Bank. World Development Indicators Database.

4.4. Theoretical Framework and Analysis

The income-expenditure model holds that national income equilibrates when aggregate supply equals aggregate demand. Aggregate supply represents national income, and aggregate expenditure is represented by aggregate consumption, government spending, investments, and net exports. This is symbolically written as

$$Y=C+G+I+(X-M), \qquad (1)$$

where Y is national income/GDP, C is aggregate consumption, G is government spending, I is investment spending, X is export income, and M is import spending.

If S denotes national savings and T tax receipts, it can also be shown that national income is distributed among consumption, taxes, and savings, as in the following equation:

$$Y=C+T+S. \qquad (2)$$

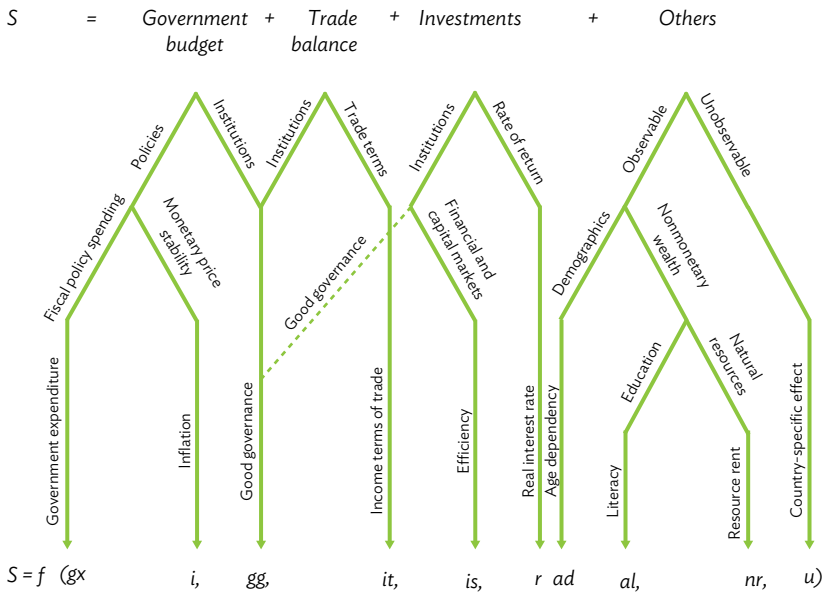
Solving the two equations together to derive the savings equation, gets

$$S=(G-T)+(X-M)+I. \qquad (3)$$

Equation (3) shows that national savings are determined by the government budget, the trade balance, and investment. Because savings are a portion of income that is not consumed, they will be induced by income. Composite income consists of permanent and transitory income. No attempt is made to decompose this since the focus is on other determinants of national savings. It is assumed that the government budget is determined by policies and institutions, the trade balance by trade terms, and investments by institutions and rates of return. It also assumes that institutions are a function of good governance, which is measured by the World Bank's Worldwide Governance Indicators. The other determinants are added to arrive at the possible predictor variables of national savings in Figure 4.6.

The model shows that, besides the unobservable factor (u), there are nine important factors that influence the mobilization of savings in a country. The unobservable factors could, for instance, be religion, culture, race, and geographical location, and differences in these factors can cause savings levels to change over time. Assuming the unobservable factors are constant, the

Figure 4.6: Hypothesized Determinants of National Savings



Source: Authors.

model classifies the determinants into governance, economic, and social and environmental categories. The governance category comprises two indicators: governance implementation and checks and balances. The economic category consists of real GDP per capita, government spending, debt, inflation, real interest rates, interest rate spreads, and terms of trade. The social and environmental category has three variables: education, the dependency ratio, and natural resource rents. Supported by evidence from other studies and applying the model to Pakistan's case explains the reasons for the country's low savings.

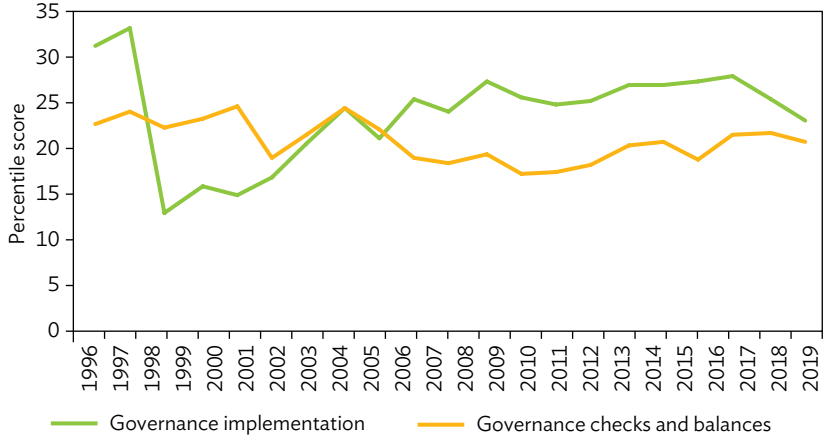
Good governance factors

Good governance is an institutional arrangement that protects property rights, reduces corruption, and practices high-quality regulations and the rule of law in effective and efficient ways. It is a cross-cutting variable that can affect all the other factors for mobilizing savings. Good governance promotes inclusive and stable environments that encourage people to maintain and invest their savings (thus, good governance is associated with high savings). Easterly

(2003), in his analysis on whether foreign aid can buy growth, concludes that the answer largely depends on good governance. He finds that developing countries with sound fiscal and monetary policies can boost savings and investments through foreign aid, but foreign aid has either a negative or no effect on growth in poorly managed economies.

For ease of analysis, the World Bank's Worldwide Governance Indicators are grouped into two measures.[6] First, governance implementation, which is an average of percentage scores for control of corruption, government effectiveness, regulatory quality, political stability, and rule of law. And second, governance checks and balances, which is the percentage score for voice and accountability. The percentage scores range from zero (lowest performance on the governance indicator) to 100 (best performance). Figure 4.7 shows that Pakistan's is below the median value. On checks and balances, the country is slowly improving, with its percentile score increasing from 21.2% in FY2007 to 25.6% in FY2018. This is because elections are held regularly, which gives voters a voice in choosing their representatives and expressing their approval or disapproval of sitting representatives. The level of governance implementation, however, slightly decreased from 22.3% in FY2007 to 21.8% in FY2018.

Figure 4.7: Governance Performance as Determinant of Domestic Savings, 1996–2019



Notes: Years are fiscal years, ending 30 June. Scoring: 0 = lowest, 100 = highest.
Source: World Bank. Worldwide Governance Indicators Database.

[6] The indicators are control of corruption, government effectiveness, regulatory quality, political stability, rule of law, and voice and accountability.

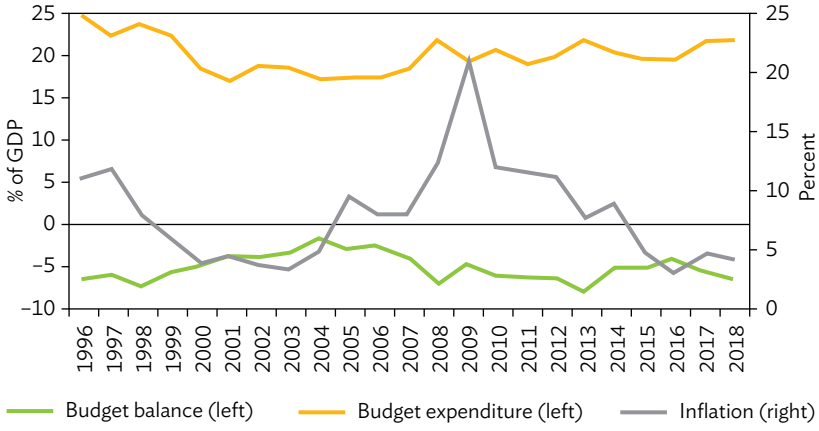
Economic factors

Domestic savings are influenced by public finance, inflation, trade, banking efficiency, and real returns. Government spending is a tax on the economy: it reduces the capacity to save and so is negatively associated with national savings. Three major views are often used to analyze the relationship between domestic savings and government spending. The Ricardian equivalence economic hypothesis argues that when government spending is financed by debt, people tend to save more in preparation for anticipated tax increases to eventually pay down the accumulated government debt. Government spending financed by taxes reduces disposable income and, consequently, savings. Under the Ricardian equivalence hypothesis, debt-financed government expenditure can increase domestic savings.

The neoclassical view holds that government budget deficits cause lower savings, which are replenished by foreign borrowing as capital is perfectly mobile, assuming perfect capital mobility and a small, open economy. The assumption of perfect capital mobility does not hold in developing economies, however. And persistent foreign borrowing to replenish declines in domestic savings is not sustainable. The Keynesian view holds that government spending, and particularly budget deficits, can improve employment, investment, and consumption. Increased investment and employment following expansionary fiscal policy are expected to eventually raise aggregate savings. In Pakistan, government expenditure averaged 20.3% of GDP over FY2010–FY2018, with small variations from the mean, while the budget deficit remained high to average about 6.2% of GDP over the same period (Figure 4.8). Pakistan's long-standing budget deficits will not support the mobilization of savings.

Inflation erodes the purchasing power of savings. People will be incentivized to save more when prices are stable and inflation low. High inflation is associated with low savings. Inflation can especially negatively affect the savings of individuals who depend on contractual and fixed earnings. But high inflation can stimulate inflation-hedge savings in equities and home mortgages. From FY2003 to FY2009, average inflation in Pakistan accelerated from 3.1% to 20.8%, before decelerating to 7.4% in FY2013 and 3.9% in FY2018 (Figure 4.8). Long periods of high inflation, combined with a sizable budget deficit, tend to dampen domestic savings. In FY2009 and FY2012, years of high inflation in Pakistan, domestic savings fell to 10.3% and 7.1% of GDP, respectively, from 17.4% in FY2003, a year of moderate inflation (Figure 4.4).

Figure 4.8: Macroeconomic Efficiency as Determinant of Domestic Savings, 1996–2018

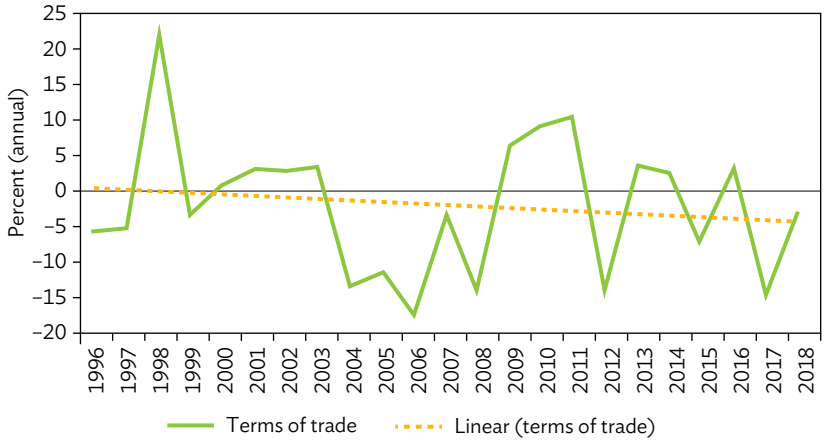


GDP = gross domestic product.
Note: Years are fiscal years, ending 30 June.
Sources: State Bank of Pakistan. 2016. *Handbook of Statistics on Pakistan Economy*. Karachi; State Bank of Pakistan. 2019. *Statistical Bulletin: November 2019*. Karachi.

Trade can generate surpluses that can be retained and reinvested in the economy. The more a country exports goods and services, the more purchasing power for imports it acquires (hence, it enjoys more gains from trade). This is particularly true for developing countries that depend on intermediate and capital goods imports to modernize their economies. Thus, countries can save more by spending less of their export receipts to get more imports. High-income terms of trade are associated positively with savings. Pakistan's income terms of trade have been trending downward, implying a decline in the price of exports relative to imports. This is having an adverse impact on domestic savings and the capacity to repay foreign savings (Figure 4.9).

Efficient intermediation plays an essential role in mobilizing savings. It is assumed that highly developed financial and capital markets will be highly efficient, and their efficiency should be seen in high resource mobilization and reduced transaction costs—for example, reduced interest rate spreads. The lower is the interest rate spread, the more efficient is the financial and capital market, and therefore more savings are mobilized. Interest rate spreads tend to be large in underdeveloped financial markets and in banking industries dominated by oligopolies. Figure 4.10 shows Pakistan's declining interest rate spreads.

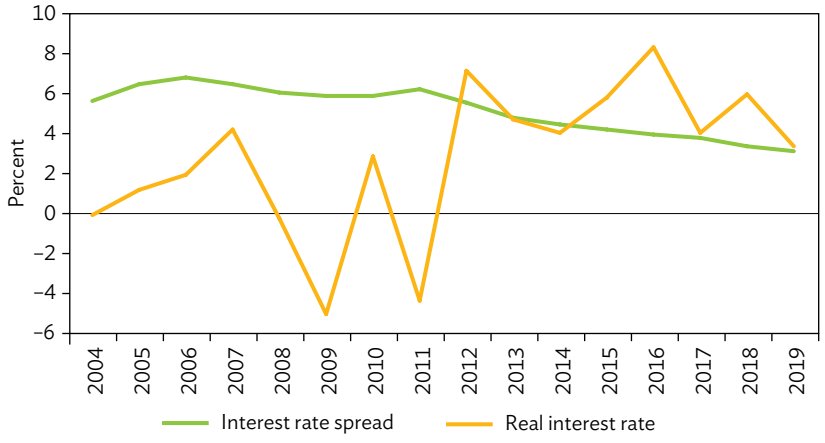
Figure 4.9: Income Terms of Trade as Determinant of Domestic Savings, 1996–2018



Note: Years are fiscal years, ending 30 June.
Sources: State Bank of Pakistan. 2016. *Handbook of Statistics on Pakistan Economy*. Karachi; State Bank of Pakistan. 2019. *Statistical Bulletin: November 2019*. Karachi.

Economic agents have more incentive to save when the real returns on their savings are positive and adequately compensating. Real interest rates are assumed here to represent the real rates of return on investments. Savings can be mobilized with increased or decreased real interest rates, depending on the effects of income and substitution. High rates of return mean additional income for savers and lower prices for future consumption. In this case, savers can increase their future consumption by saving more and consuming less. This is the substitution effect. The income effect works when savers use the additional income from increased real interest rates to increase both present and future consumption, and, consequently, save less. It is possible to find no impact of the real interest rate on savings if the substitution and income effects cancel each other out. Fischer (1974) states that "savings bring us to the nature of capital" and that "capital is future income discounted or capitalized." The higher the discounted income is, the lower interest rates are. Thus, higher interest rates can lead to lower savings. This could be the situation in Pakistan, where the real interest rate has been rising (Figure 4.10) in the presence of falling domestic savings (Figure 4.4).

Figure 4.10: Real Interest Rate and Spread as Determinant of Domestic Savings, 2004–2019



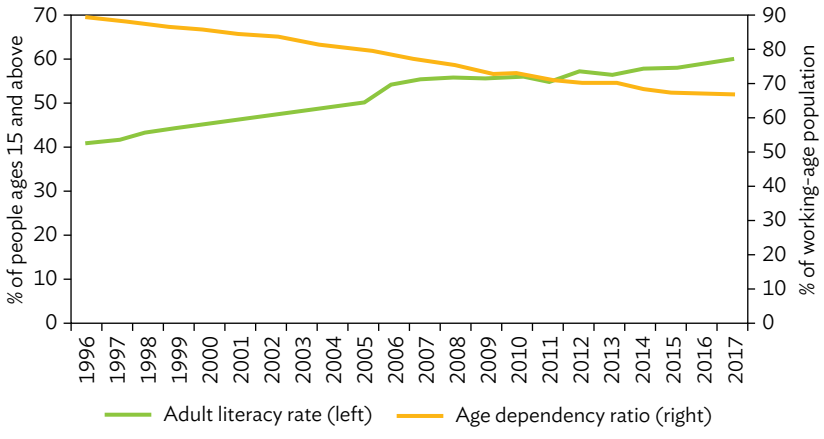
Note: Years are fiscal years, ending 30 June.
Source: World Bank. World Development Indicators Database.

Social and environmental factors

Educational attainment, dependency, and other social determinants have a profound impact on the saving behavior of economic agents. Similarly, environmental resources that can be converted into financial resources have direct effects on a country's financial surplus level. Education is the nonmonetary wealth of a nation. It generates income through ideas, innovation, employment, and entrepreneurship. High educational attainment is generally also associated with high financial literacy and high human capital. Thus, high educational attainment is assumed to be the nonmonetary wealth determinant of savings. Solomon (1975) argues that lifetime savings rise with educational attainment. The better educated are expected to have more advanced decision-making skills in financial management. Solomon finds the effects of education on savings to be indirect through income increases and preference improvements. Higher education improves the earning capacity of individuals; this means staying longer in years of schooling. This indicates low time preference, and as a result, individuals with low time preference do not heavily discount the future. This implies they prefer the future to the present—and so they save for the future. The adult literacy rate has been increasing in Pakistan and was at 59% in FY2017. But this is far lower than the average of South Asia countries, at 72% (Figure 4.11).

The dependency ratio has a direct effect on consumption and hence indirectly on savings. It is estimated here as the sum of the number of people ages 15 and under and over 64 divided by the working-age population (ages 15–64). This is a crude way to measure the national age burden of people who are not earning and need others to take care of them—crude because not all those ages 15–64 are employed, earning, and sustaining themselves. In many developing countries, unemployment is very high and a burden on thinly employed people. For data limitations, this albeit crude measure is used to reflect the age dependency burden. Here, it is assumed that the high dependency ratio is associated with high consumption and reduced savings. Leff (1996) argues that birth controls are needed to boost domestic savings, and to promote economic growth and modernization in developing countries. He concludes that the dependency ratio is a critical determinant of domestic savings. Kim and Zang (1997) revisit this question from a causation perspective and reach the same conclusion. Their findings indicate that a higher dependency ratio adversely affects domestic savings in developed and developing economies. Keho (2012) arrives at similar results for sub-Saharan African economies. In Pakistan, the dependency ratio is declining but remains very high, at 65% in FY2017 compared with the average of 53% in South Asian countries (Figure 4.11). This implies that Pakistan will consume more and save less than the other countries.

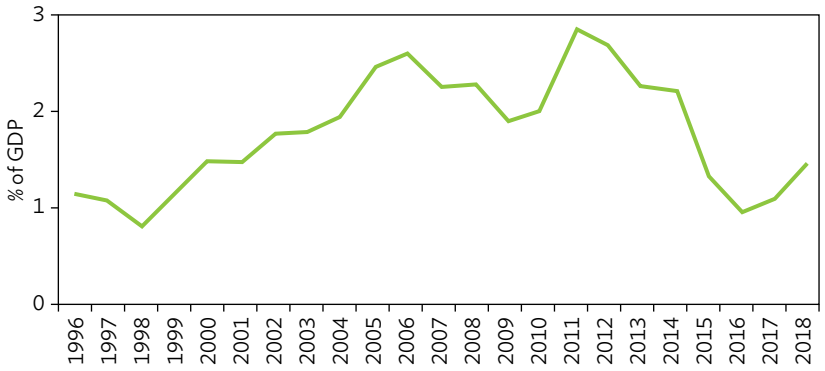
Figure 4.11: Literacy Rate and Age Dependency as Determinant of Domestic Savings, 1996–2017



Notes: Years are fiscal years, ending 30 June. To fill in the missing values for the literacy rate, data are linearly interpolated.
Source: World Bank. World Development Indicators Database.

Resource-rich countries can build savings by trading their natural resources for financial resources, which can then be retained as savings in the economy. These savings can then be converted into valuable monetary wealth to generate income that increases both consumption and savings. Natural resource rents are used to represent natural wealth in this model. Countries with high natural wealth are assumed to have high national savings. In FY2016, Pakistan had the second-lowest natural resource rent as a percentage of GDP after the PRC in Asia—and this has consistently fallen after peaking at 2.8% of GDP in FY2011 (Figure 4.12).

Figure 4.12: Natural Resource Rent as Determinant of Domestic Savings, 1996–2018



GDP = gross domestic product.
Note: Years are fiscal years, ending 30 June.
Source: World Bank. World Development Indicators Database.

4.5 The Way Forward

Mobilizing savings requires sustainable changes in social, macroeconomic, financial, and governance structures. The findings in this chapter show that Pakistan's good macroeconomic variables, including inflation and the state of the government budget, could have been conducive to domestic savings. But the trade sector is a constraining factor because Pakistan's export earnings are increasingly being spent on imports. Similarly, savings are hampered by a high dependency rate, low adult literacy, low banking efficiency, and weak governance. To encourage domestic savings, the government should take policy actions to increase banking efficiency, do better in combating corruption, and improve regulatory quality, political stability, and the rule of law. The social changes needed to reduce age dependency and improve adult literacy are critical social factors for increasing domestic savings.

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CHAPTER 5

Reforming the Power Sector

Neil McCulloch, Lotis Quiao, Sardar Mohazzam, and Daryll Naval*

A reliable power sector that ensures access to the entire population is essential for a country's long-term sustainable development. Pakistan is failing to provide this. Pakistan experienced an electricity crisis, which peaked in FY2013 when urban areas had an average 8 hours of load shedding a day and exceeded 16 hours a day in some rural areas (USAID 2013). Although there has been a significant improvement in supply since then, there was still a shortage of about 1,400 megawatts (MW) in FY2019, resulting in average load shedding of 2 hours daily (NEPRA 2020).

Several challenges confront the power sector. It faces a persistent shortfall in energy supply due to the rapid depletion of indigenous natural gas and the limited exploration of other indigenous energy sources. Because of this, Pakistan depends on expensive imported fuels for one-third of its total electricity generation. This has implications not only for the cost of generation but also on the country's foreign exchange reserves. Pakistan's generation assets are inefficient, either because of inadequate fuel or water inflows, dilapidation, or constraints in the transmission and distribution network resulting in supply shortages. Insufficient transmission and distribution infrastructure have resulted in idle generation capacity, high technical losses, and frequent outages. Access to the grid remains limited, especially in rural areas where extending the grid can be expensive. Electricity subsidies have been provided, supposedly to give access to electricity to the poor. However, the subsidy is based on electricity consumption and does not effectively target the poor.

* This chapter benefited from comments and discussions with Maria Rowena M. Cham, senior economics officer, Asian Development Bank.

The biggest problem facing the power sector is the recurrent circular debt, which is caused by nonpayment of receivables all along the power value chain. Power tariffs are set below the full cost recovery level, leading to escalating deficits and the accumulation of circular debt. This has not only had a big impact on the government's fiscal position but also on the country's macroeconomic performance. The high level of circular debt diverted a significant share of the budget away from spending on development. The circular debt problem was supposed to have been solved in 2013 after the government cleared it through a one-time payment. But the flows of circular debt continued because revenue from electricity sales did not cover costs—and the debt accumulated. Although improvements to the tariff methodology have been made, and surcharges incorporated in the tariff, revenue still does not cover costs, which has implications for the ability to make payments along the entire power supply chain.

This chapter examines the challenges in Pakistan's power sector and offers recommendations to tackle them. Section 5.1 provides a brief sector overview. Section 5.2 discusses the key challenges and 5.3 delves deeper into the problem of circular debt. Section 5.4 presents ongoing power sector reforms in Pakistan, section 5.5 summarizes lessons on reforms based on international experience, and section 5.6 offers recommendations to address the sector's immediate and long-term challenges.

5.1 Power Sector Overview

Structure of the power sector

Power sector reform in Pakistan started in 1992 with a plan for unbundling and privatizing the Water and Power Development Authority (WAPDA), which was then a government-owned integrated utility. This led to the Power Policy 1994, which allowed private independent power producers (IPPs) to participate in the sector.

In 1995, a new power sector regulator, the National Electric Power Regulatory Authority (NEPRA), was established and approved by Parliament 2 years later. This was followed by the sector's unbundling: WAPDA's hydroelectric generation was separated from its thermal operations, which were then split into four government-owned generating companies (GENCOs).[1]

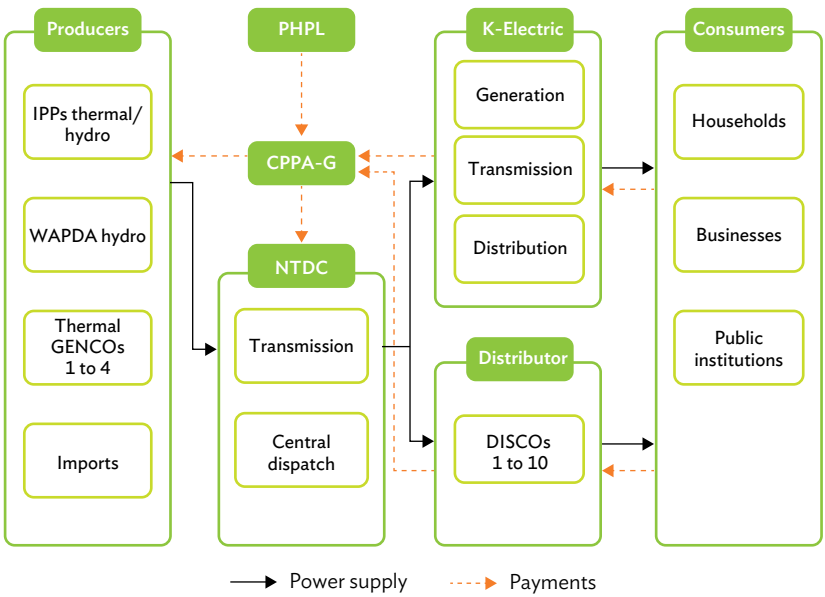
[1] These are the Jamshoro Power Company (GENCO-I), Central Power Generation Company (GENCO-II), Northern Power Generation Company (GENCO-III), and the Lakhra Power Generation Company (GENCO-IV). In this chapter, GENCOs refer to the four government-owned GENCOs.

A new company, National Transmission & Despatch Company (NTDC), was set up to manage the grid and 10 public distribution companies (DISCOs) were established to provide electricity to customers in different parts of the country, except Karachi, whose power generation, transmission, and distribution are managed by privately-owned K-Electric Ltd. under a license granted by NEPRA.

In 2015, the Central Power Purchasing Agency Guarantee Ltd. (CPPA-G) was separated from the NTDC to act as the system operator responsible for being the single buyer of electricity from the GENCOs and seller to DISCOs, while the NTDC focused on managing the transmission and distribution system.

Another key player in the power sector is the Power Holding Private Ltd. (PHPL), a wholly owned government entity established for the purpose of injecting liquidity into the power sector. PHPL uses government guarantees to borrow from commercial banks with the proceeds used to reduce CPPA-G's liabilities to producers. Figure 5.1 illustrates the structure of the power sector.

Figure 5.1: Structure of the Power Sector



CPPA-G = Central Power Purchasing Agency Guarantee, DISCO = distribution company, GENCO = generating company, IPP = independent power producer, NTDC = National Transmission & Despatch Company, PHPL = Power Holding Private Ltd., WAPDA = Water and Power Development Authority.
Source: Authors and Asian Development Bank. 2018. *Sector Assistance Program Evaluation for the Pakistan Power Sector*. Manila.

Energy supply and demand

Pakistan is endowed with reserves of oil, natural gas, coal, and renewable energy. As of FY2018, the balance of recoverable reserves of oil was 347.9 million US barrels and 19.5 trillion cubic feet for gas. Given current production, oil reserves will last for 11 years and gas reserves for 13 years. Pakistan has significant reserves of coal, estimated at 186 billion tons as of 2018. Indigenous coal is classified as lignite and sub-bituminous, the type of coal with the lowest carbon content and heat value.

Pakistan produces gas, oil, coal, hydropower, and nuclear power. In 2018, commercial energy production totaled 31.7 million tons of oil equivalent (Mtoe).[2] Nearly 60% of energy production was gas, although its volume has been shrinking since mid-2000. Hydropower and nuclear power comprised 19.8% of production, oil 15.6%, and coal 5.7%.

In 2018, Pakistan met only half of its energy needs from indigenous sources. During 2010–2018, primary production of commercial energy declined 10.7%, from 35.5 Mtoe to 31.7 Mtoe.[3] Gas production declined from 27.0 Mtoe in 2010 to 18.7 Mtoe in 2018 due to a long lull in sizable discoveries and depleted resources. Investment for exploitation was inadequate due to regulatory challenges, weak incentives for production, and security issues, especially in the hydrocarbon-rich regions of Khyber Pakhtunkhwa and Balochistan. It was only recently that extensive exploration activity in the upstream sector began, with 45 exploratory and 36 development and appraisal wells being drilled, resulting in 14 discoveries, mostly of gas and condensate. Excessive consumption due to underpricing has depleted the limited supply. Domestic gas was priced 36% below the international benchmark in FY2016 (Bacon 2019). Oil production has been growing at a slow pace, at 4% a year since 2010. No significant increase in oil production is expected in the next few years. The exploitation of coal progressed gradually until production increased at the Thar coalfield in Sindh province in 2014.

Pakistan's primary commercial energy supply grew from 62.9 Mtoe in FY2008 to 86.3 Mtoe in FY2018—an average of 3.4% a year (HDIP 2018). Fossil fuel (gas, oil, coal) constitutes more than two-thirds of the country's energy supply. Since FY2008, the energy mix has become more diversified with the introduction of imported liquified natural gas (LNG) and the increased use of

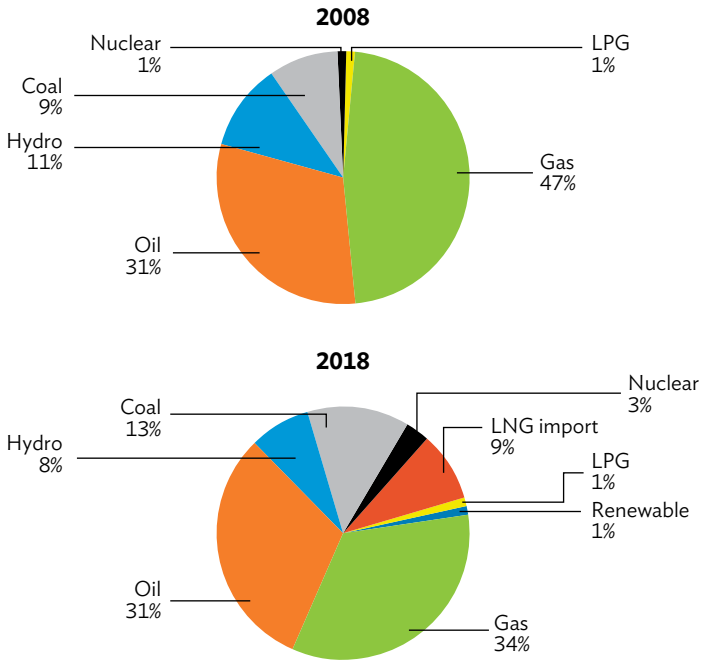
[2] Commercial energy includes gas, oil, coal, hydropower, nuclear, and renewable electricity, but excludes biomass.

[3] Footnote 2.

renewable energy since 2014. Notable changes have taken place in the shares of each fuel type in the energy mix, with indigenous gas declining from 47% in FY2008 to 34% in FY2018, coal increasing from 9% to 13%, and hydropower decreasing from 11% to 8% (Figure 5.2). The declining share of hydropower implies the government has not been successful in investing in sustainable sources of energy. Pakistan has instead veered toward the increased use of coal, with imports meeting two-thirds of coal demand.

In 2018, energy imports (37.1 Mtoe) were higher than domestic production (31.7 Mtoe). Oil accounted for 52% of energy imports, and coal and gas for 24% each. Crude oil imports from July 2018 to March 2019 fell by 18% from a year earlier. Meanwhile, coal imports have grown rapidly in recent years—the biggest increase was in 2017, up 95% from the previous year (from 4.6 Mtoe to 9.0 Mtoe).[4]

Figure 5.2: Primary Energy Supply Mix, 2008 and 2018

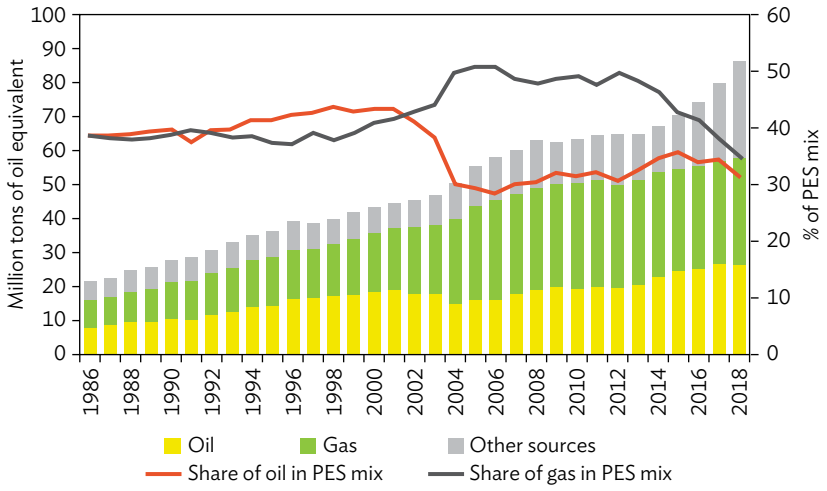


LNG = liquified natural gas, LPG = liquified petroleum gas.
Notes: Gas refers to indigenous gas. Years are fiscal years, ending 30 June.
Source: Hydrocarbon Development Institute of Pakistan. 2018. *Pakistan Energy Yearbook 2018*. Islamabad.

[4] Data from Enerdata. https://www.enerdata.net/ (accessed 18 May 2020).

Since the 1980s, Pakistan has relied on oil and gas for 75%–80% of its energy supply. Reliance on oil peaked during FY1998–FY2001, when oil supplied 43.5% of the country's energy needs. The decline in its share to 31% during FY2008–FY2018 is a welcome development since it implies a reduced fiscal burden. The share of indigenous gas peaked at 50.4% in FY2006 and was at 34.6% in FY2018. The decrease can be partially attributed to declining natural gas reserves, lower consumption of gas in the transport sector, and the introduction of LNG imports. The declining share of gas and the increasing share of oil from FY2011 to FY2015 reflects the government's stopgap strategy of importing oil to respond to the depleted domestic supply of gas (Figure 5.3).

Figure 5.3: Oil and Gas Share in Primary Energy Supply, 1986–2018



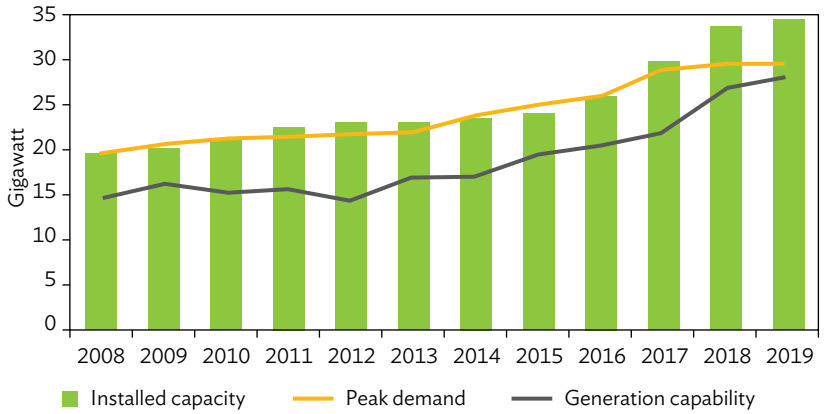
PES = primary energy supply.
Notes: Years are fiscal years, ending 30 June. Oil excludes petroleum products exports and bunkering.
Source: Hydrocarbon Development Institute of Pakistan. Various years. *Pakistan Energy Yearbooks.* Islamabad.

Pakistan's final energy consumption rose by an average of 4% a year from FY2008 to FY2018, rising from 39.4 Mtoe to 54.9 Mtoe (HDIP 2018). Industry was the biggest consumer (35% of the total), largely using gas. Transport accounted for 30%, predominantly using oil. Residential consumers (20%) mainly used gas and electricity for cooking and lighting.

Electricity generation and consumption

Pakistan's installed electricity capacity grew by 3.3% a year from FY2008 to FY2019. Following the completion of power plants by IPPs and through China-Pakistan Economic Corridor projects, installed capacity increased by 14% a year in FY2017 and FY2018, and by 2% in FY2019 to reach 34.3 gigawatts (GW). Electricity generation, however, has increased by 4% a year since around 2010. With peak demand rising steadily, the average electricity deficit was about 5.0 GW a year during FY2008–FY2018 (Figure 5.4).

Figure 5.4: Installed Capacity, Peak Demand, and Generation Capability, 2008–2019



Note: Years are fiscal years, ending 30 June.
Sources: Planning Commission. Forthcoming. *12th Five-Year Plan*. Islamabad; Hydrocarbon Development Institute of Pakistan. Various years. *Pakistan Energy Yearbooks*. Islamabad; National Electric Power Regulatory Authority. Various years. *State of Industry Report*. Islamabad.

By FY2019, the demand–supply deficit during peak hours was 1,062 MW in the NTDC system and 334 MW in K-Electric's. The combined deficit of 1,396 MW was equivalent to 5% of the total generation capability. The energy not served in FY2019 totaled 114 GWh in the NTDC system, a sharp decrease from 469 GWh in the previous year. This was 2.7 GWh in K-Electric's system, a slight decline from previous year's 2.6 GWh (NEPRA 2020). Moreover, average load shedding in the 10 distribution areas ranges from 20 minutes to 6 hours per day. Among DISCOs, Hyderabad Electric Supply Company and Lahore Electric Supply Company recorded longer durations of load shedding in FY2019 compared with the previous year. Hyderabad Electric Supply Company's service area suffered the worst load shedding, lasting about 6 hours in a day in FY2019 (Table 5.1).

Table 5.1: Average Daily Load Shedding, 2016–2019
(hour)

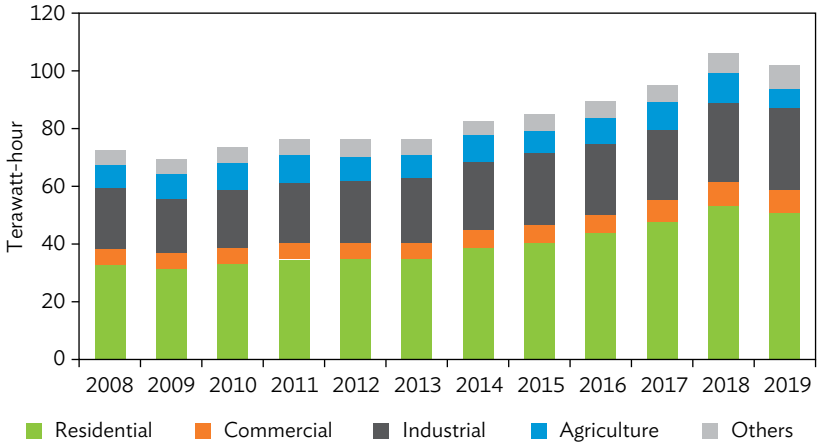
DISCO	2016	2017	2018	2019
PESCO	2.30	3.20	3.25	1.55
IESCO	3.43	3.33	3.13	1.63
GEPCO	4.00	3.25	11.00	0.50
LESCO	1.67	2.00	1.70	2.40
FESCO	3.50	3.23	0.74	0.32
MEPCO	3.20	3.35	1.30	0.43
HESCO	3.33	4.50	3.75	5.50
SEPCO	1.00	2.25	2.25	2.25
QESCO	2.83	3.88	5.80	...

... = data not available. DISCO = distribution company, GEPCO = Gujranwala Electric Power Company, FESCO = Faisalabad Electric Supply Company, HESCO = Hyderabad Electric Supply Company, IESCO = Islamabad Electric Supply Company, LESCO = Lahore Electric Supply Company, MEPCO = Multan Electric Power Company, PESCO = Peshawar Electric Supply Company, QESCO = Quetta Electric Supply Company, SEPCO = Sukkur Electric Power Company.
Note: Years are fiscal years, ending 30 June.
Source: National Electric Power Regulatory Authority. 2020. *State of the Industry Report 2019*. Islamabad.

Total electricity consumption has continuously increased by an average of 3% a year since FY2008, reaching 101.8 terawatt-hours in FY2019. Residential consumers were the biggest consumer of electricity. Their share of consumption increased from 45.6% in FY2008 to 50.2% in FY2019, with growth driven by higher electricity consumption per household. From FY2013 to FY2019, residential consumers rose from 20.4 million to 26.8 million, with average electricity consumption per household rising from 2,340 kilowatt-hours (kWh) to 2,519 kWh. The continual decline in the share of agriculture in electricity consumption reflects the sector's lackluster growth. Among economic sectors, energy-intensive industry was hardest hit by electricity supply shortages. Data for June 2018–March 2019 show, however, an increase in industry's share of electricity consumption, signaling a possible recovery in the sector's performance that was undermined by frequent load shedding in previous years (Figure 5.5).

According to the NTDC, electricity consumption is expected to increase by 5% a year to 188,749 GWh in 2025 under a low-growth scenario, and by 7% per year to 214,788 GWh under a high-growth one (NTDC 2019). Peak demand in the NTDC system, which was 25,627 MW in FY2019, is expected to grow by an average 4% a year to reach 35,422 MW in 2025. Peak demand in K-Electric's system, at 3,530 MW in FY2019, is expected to grow by an average 7% a year to 5,356 MW in 2025.

Figure 5.5: Electricity Consumption by Sector, 2008–2019



Notes: Years are fiscal years, ending 30 June. "Others" account for consumption by public lighting and bulk supplies.
Source: National Electric Power Regulatory Authority. Various Years. *State of Industry Reports*. Islamabad.

5.2 Power Sector Challenges

The power sector is critical to Pakistan's economic growth—and the sector's poor performance is estimated to have reduced GDP growth by 2% a year (World Bank 2017). Power shortages have disrupted the operations of enterprises and caused significant losses. This section identifies power sector challenges that the government needs to tackle effectively to ensure the sector's sustainable development and, in turn, support Pakistan's economic development.

Expensive and unsustainable power mix

Pakistan has been experiencing severe gas shortages, estimated at 2 billion cubic feet per day (Ministry of Finance 2020) and expected to triple to 6 billion cubic feet per day by 2025 (Zhang 2018). In response, the government rationed the limited supply of gas, and, since 2005, has prioritized residential consumers and fertilizer producers. To address the limited supply of gas, several oil-based IPPs entered the generation market. From FY2009 to FY2015, oil which is largely imported, dominated the power mix, accounting for about 36% of total generation during this period. With steep increases in international oil prices, especially from 2010–2014, oil generation has become

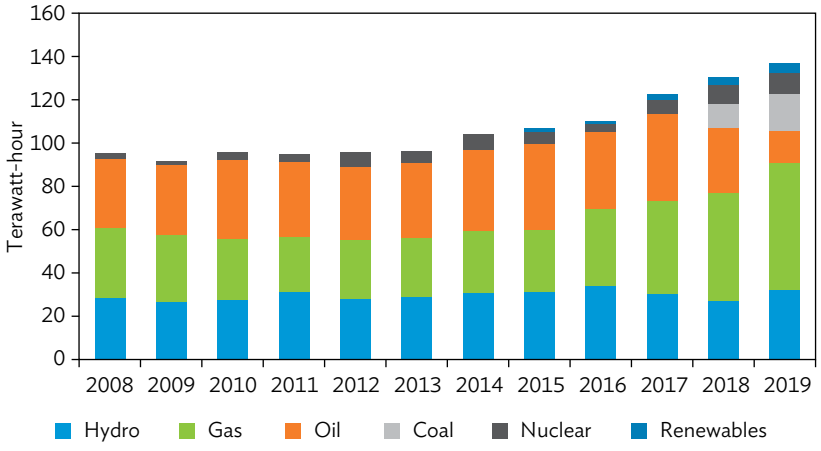
the most expensive source of electricity. The generation cost from oil-fired power plants is PRs13.19/kWh compared with PRs7.62/kWh from gas power plants (Fatima and Nasim 2019). Pakistan's generation mix became the most expensive in the region, and this is one of the factors that started the circular debt (Bacon 2019).

With gas- and oil-fired power plants accounting for about 65% of installed capacity, persistent shortfalls in gas and expensive oil have resulted in about 5,000 MW of unutilized generation capacity (Zhang 2018). The Jamshoro and Muzaffargarh plants, for example, are designed to run on both gas and furnace oil. But because of a limited supply of gas since 2007, they have been running solely on furnace oil at below 50% of their installed capacities (NEPRA 2017a).

The National Power Policy 2013 promulgated the use of less expensive energy sources by converting expensive oil-fired power plants to gas or coal, diverted indigenous gas to the power sector, and provided incentives for the development of hydro, nuclear, coal, and biomass. The power mix has become more diversified, with the use of LNG and coal increasing from FY2018. The share of renewables has only slowly increased since FY2016 (Figure 5.6). Oil remained a significant source of power in FY2019, accounting for 22% of generation. Pakistan's fuel import bills have been a big drain on its dwindling foreign exchange reserves. Although Pakistan imported less crude oil in FY2019 (6.6 million tons, compared with 7.8 million tons in FY2018), higher international oil prices raised the oil import bill to $3.4 billion from $2.9 billion in FY2018 (Ministry of Finance 2018, 2019a). The oil import bill is expected to decline following the fall in oil prices since March 2020 due to the COVID-19 pandemic.

Pakistan imports LNG and coal to create additional capacity, save resources, and boost efficiency. LNG imports increased from 20.2 million cubic feet (MMcf) in FY2017 to 291 MMcf in FY2019. Imported LNG is fed to the Bhikki, Haveli Bahadur Shah, Balloki, Halmore, Orient, Rousch, Kot Addu Power Company, Saif, and Sapphire Bhikki power plants. Generation from LNG accounted for 23% of total generation in FY2019, a big jump from 1% in FY2017. At the same time, new coal-fired power plants are being built under the China-Pakistan Economic Corridor. As of May 2020, three power plants with 4,000 MW capacity are operating using imported coal, accounting for two-thirds of the total capacity built under the China-Pakistan Economic Corridor (Table 5.2). Coal imports comprised about 80% of total coal supply in FY2018 and FY2019 (Table 5.3). Imports are mostly bituminous coal, which is of higher quality than domestic coal.

Figure 5.6: Electricity Generation by Source, 2008–2019



Note: Years are fiscal years, ending 30 June.
Source: National Electric Power Regulatory Authority. 2019. *State of Industry Report 2018*. Islamabad.

Table 5.2: Operational China-Pakistan Economic Corridor Energy Projects as of May 2020

Project Name	Province	Primary Energy Input	MW	Estimated Cost ($ million)	Date of Project Completion/ Operation
Quaid-e-Azam Solar Park	Punjab	PV Solar	400	520	August 2016
Hydro-China Dawood Project	Sindh	Wind	50	113	April 2017
Sachal Wind Farm	Sindh	Wind	50	134	April 2017
UEP Wind Farm	Sindh	Wind	99	250	June 2017
Sahiwal Power Plant	Punjab	Coal (imported)	1,320	1,912	October 2017
Port Qasim Power Plant	Karachi	Coal (imported)	1,320	1,912	April 2018
Three Gorges Project[a]	Sindh	Wind	100	150	July 2018
Engro Power Project[b]	Sindh	Coal (local)	660	995	July 2019
HUBCO Power Project	Balochistan	Coal (imported)	1,320	1,912	October 2019
Total			**5,318**	**7,899**	

HUBCO = Hub Power Company, MW = megawatts, PV = photovoltaic, UEP = United Energy Pakistan.
[a] Gorges 2nd and 3rd project.
[b] Includes the Thar Coal Field Project (Block-II) with a projected yield of 3.8 million tons/year.
Source: China-Pakistan Economic Corridor. n.d. CPEC-Energy Projects. http://cpec.gov.pk/energy.

Table 5.3: Domestic and Imported Coal Supply, 2018 and 2019

	2018		2019 (estimated)	
Source	**Million tons**	**%**	**Million tons**	**%**
Domestic coal production	4.3	23.9	4.9	23.7
Coal imports	13.7	76.1	15.7	76.3
Total supply	**18.0**	**100.0**	**20.6**	**100.0**

TOE = tons of oil equivalent.
Note: Years are fiscal years, ending 30 June.
Source: Ministry of Energy. 2019. Energy Chapter. In *Pakistan Economic Survey 2018–2019*. Islamabad.

Dependence on imported fuels makes the cost of power generation vulnerable to international fuel prices and exchange rate fluctuations. A depreciation of PRe1 against the dollar increases Pakistan's fuel import bill by PRs4 billion a year (NEPRA 2017b). Over the longer term, however, the commitment to expand coal-fired generation may lock Pakistan into a higher cost source of fuel. It is also inconsistent with most countries moving away from coal due to its large contribution to global warming and air pollution.

Pakistan has huge hydroelectric and solar potential. Both have the energy security advantages of coal and the potential for providing energy at a much lower long-term marginal cost. From FY2013 to FY2018, 1,325 MW of hydroelectric capacity was added to the grid.[5] As of May 2020, the Dasu (4,320 MW), Khyel Khawar (128 MW), and Kurram Tangi (83.4 MW) hydropower projects are under construction, and the Mangla and Warsak dams are being rehabilitated. Other hydropower projects have been canceled by NEPRA due to the security situation; remoteness of the areas for development; and lack of resources to conduct assessments of topography, hydrology, and geological conditions. Significant hydropower investments are being planned, but the additional capacity will take time to come online.

The government is expected to implement policies on its nationally determined contributions under the Paris climate change agreement with a gradual shift to cleaner energy. The National Power Policy 2013 promotes the development of renewable energy, including solar, wind, and small hydropower as a strategy for a cleaner, sustainable power supply. So far, however, investment in grid-connected solar power is relatively small, and solar power is projected to become a shrinking share of the fuel mix in the next few years due to the lack of a clear policy on how private investors can participate in solar projects.[6] It

[5] See Ministry of Finance (2017) for details of power plants started since 2015.

[6] This does not include off-grid solar, which is reported to have significant penetration, but good data on this are not available.

is hoped that the Alternative Renewable Policy 2019 will provide direction on how the private sector can participate in these other green-energy projects (Government of Pakistan 2019). The policy aims for at least a 20% share of renewables in the energy mix by 2025 and at least 30% by 2030. The government envisages that this will be achieved with the participation of the private sector.

Inefficient generation, transmission, and distribution assets

The installed capacity of power plants managed by the Pakistan Electric Power Company and WAPDA was 38,375 MW in FY2019. Total electricity generated, however, is only 140,992 GWh, translating into a capacity factor of only 41.9%. GENCOs have the lowest capacity factor of only 28.2%, compared with IPPs (42.2%) and WAPDA (37.9%) (Table 5.4).

Capacity factors differ depending on the age of equipment, rate of deterioration, fuel availability, and site conditions, among other things. Most GENCO and WAPDA power plants are old and inefficient. About 30% of the installed capacity of GENCOs are power plants operating beyond their useful lives, and about 50% of WAPDA's generation units are over 30 years old (Table 5.5). Poor maintenance is accelerating the deterioration of power plants. GENCOs often fail to conduct timely overhauling and annual maintenance routines. The seasonality of hydropower resources contributes to the low capacity factor of hydropower plants. The capability of these plants falls by 50%–60% during winter from their peak output in summer. Reduced load operation also means high unit costs of electricity production.

Power plants owned by IPPs are newer, most of them are 0–20 years old. They are likely to have combined cycle units rather than the traditional single-cycle combustion turbine. So in general, these plants operate at higher capacity. But even after controlling for their physical and technological attributes, the power plants of GENCOs are less efficient than IPP plants. They consume 17%–28% more fuel to produce a unit of output compared with IPP plants. Also, even after controlling for differences in merit order, GENCO plants consume 20% more fuel than IPP plants (Zhang 2018).

Table 5.4: Installed Capacity and Capacity Factor, 2019

Generation Unit	Installed Capacity (MW)	Actual Generation (GWh)	Capacity Factor (%)
Total Hydroelectricity	**9,769**	**32,577**	**38.1**
WAPDA hydroelectricity	9,387	31,145	37.9
IPP hydroelectricity	382	1,432	42.8
Total Thermal	**25,192**	**89,591**	**40.6**
GENCOs to PEPCO	5,497	13,590	28.2
KE owned	2,295	10,727	53.4
IPPs to PEPCO	16,911	62,570	42.2
IPPs to K-Electric	489	2,704	63.1
Total Nuclear	**1,415**	**9,168**	**74.0**
CHANUPP	1,345	9,038	76.7
KANUPP	70	130	21.2
Total Renewables	**1,999**	**5,208**	**29.7**
Solar	400	665	19.0
Wind	1,235	3,167	29.3
Bagasse	364	890	27.9
Import from Iran		486	
Total	**38,375**	**140,992**	**41.9**

CHANUPP = Chashma Nuclear Power Plant, GENCO = generating company, GWh = gigawatt-hour, IPP = independent power producer, KANUPP = Karachi Nuclear Power Plant, MW = megawatt, PEPCO = Pakistan Electric Power Company, WAPDA = Water and Power Development Authority.
Note: Capacity factor is the ratio of a plant's actual generation to its maximum potential generation.
Source: National Transmission & Despatch Company. 2020. *Power System Statistics*. March. Islamabad.

Table 5.5: Power Plants by Age, 2019

Generation Unit	Total Number of Generation Units	Age Breakdown of Generation Units			
		0–20	21–30	31–40	40+
WAPDA	93	31	6	12	35
GENCO 1	15	0	8	3	4
GENCO 2	16	3	3	8	2
GENCO 3	21	4	7	0	10
IPPs	941	804	40	7	0
Total	**1,086**	**842**	**64**	**30**	**51**

GENCO = generating company, IPP = independent power producer, WAPDA = Water and Power Development Authority.
Notes:
1. Total for WAPDA includes 9 generation units with no age data; total for IPPs includes 64 generation units with no age data and 26 generation units under construction.
2. Power plants in Pakistan are owned and operated by WAPDA, three GENCOs, and IPPs.
Source: Computed using data from National Transmission & Despatch Company. 2020. *Power System Statistics*. March. Islamabad.

The inefficiencies in generation are because of weak incentives—and this is the case regardless of whether plants are publicly or privately owned. Power purchase agreements include cost-plus pricing and a guaranteed return over

the life of the plant. This means that generation companies are paid their actual cost plus a margin, and receive a fixed capacity payment under long-term take-or-pay contracts. Return on equity is guaranteed regardless of the plant's performance. This policy, combined with the heavy use of oil for generation, is thought to have started the circular debt (Bacon 2019).

Pakistan needs to pay PRs800 billion in 2025 in capacity charges alone. Each increase of PRe1 in capacity costs adds roughly PRs160 billion to the total liability (Rahim 2019). On the tariff side, NEPRA, in June 2019, promulgated a domestic consumer tariff hike across the 10 DISCOs by a uniform rate of PRs1.5/kWh until December 2019 with the aim of recovering an additional PRs189.6 billion over 15 months. According to the DISCOs, a demarcation of costs to be recovered shows about 82% of arrears arising from the capacity purchase price. In addition to these costs, the removal of net hydroelectricity profits from recovery calculations and delays in collecting arrears (before FY2018 in most cases) are expected to push tariffs into a similar band (i.e., PRs1.5–PRs2.0/KWh).

The participation of IPPs in China-Pakistan Economic Corridor projects and renewable generation created additional capacity of 8,500 GW since FY2016. However, the constraints in the transmission and distribution network have resulted in available generation being underused, particularly renewable energy plants. Some generation from wind power plants in the Hyderabad Electric Supply Company's area and its Port Qasim coal power plant, and from power plants in Chakdara, Dera Ismail Khan, Bannu, and Nowshehra in Khyber Pakhtunkhwa, were curtailed due to constraints in the transmission network. The transmission and distribution network is old and needs significant upgrading. The network has few substations and limited transmission-line capacity, its supervisory control and data acquisition system is not yet complete, and its operational procedures are outdated.[7]

The NTDC is responsible for the transmission of electric power nationwide except for Karachi. As of June 2019, it operates 16,500 kV grid stations with a transformation capacity of 22,950 megavolt-amperes, and 45,220 kV grid stations with a transformation capacity of 30,970 megavolt-amperes (NTDC 2020). The performance of the power network is poor. About 57% of transformers (24 out of 42) at the 500/220 kV level, 44% (69 out of 128) of 220/132 kV lines of the NTDC system, and 21% (438 out of 274) in the

[7] Moreover, a dispute between Southern Sui Gas Company and K-Electric in Karachi resulted in extensive load shedding in 2018 because of the nonpayment of arrears for gas supplied by K-Electric. This was caused, in part, by the nonpayment of bills by the Karachi Water and Sewerage Board, one of the main users. This is an example of the way in which circular debt leads to poor service for customers. See K. Husain. 2018. Load-Shedding Returns to Karachi. *Dawn*. 12 April.

systems of DISCOs are overloaded by more than 80% of rated capacity (NEPRA 2020). Technical losses in the NTDC system were at 2.8% in FY2019 and 17.0% in DISCO systems (NTDC 2020).

Table 5.6 compares Pakistan's average transmission and distribution losses with those of other countries in South Asia. Pakistan's were higher than in Bangladesh and Sri Lanka, but lower than India in 2018. Among DISCOs, Peshawar Electric Supply Company (37.1%), Sukkur Electric Power Company (37.0%), and Hyderabad Electric Supply Company (29.5%) reported the highest losses in FY2019. Two of the 10 DISCOs recorded higher losses in FY2019 than in the previous year (NTDC 2020). Transmission and distribution losses in K-Electric's system improved from 28.0% in FY2018 to 19.1% in FY2019 (NTDC 2020). The NTDC's system has shown little to no improvement since FY2017 amid continuing forced outages. The poor state of Pakistan's power system is evident in the increasing number of forced outages in both NTDC and K-Electric systems, although the duration of these outages has been significantly reduced (Table 5.7).

Table 5.6: Transmission and Distribution Losses, 2018

Country	Losses (%)
Bangladesh	9.4
India	18.3
Pakistan	**16.5**
Sri Lanka	3.5

Note: Data sourced from Enerdata for comparability.
Source: Enerdata. https://www.enerdata.net/ (accessed 23 May 2020).

Table 5.7: Number and Duration of Forced Outages, 2017–2019

System	2017	2018	2019
NTDC 500 kV Lines			
Outages (number)	122	145	119
Total duration (minutes)	29,463	50,551	64,896
Maximum duration of a single outage (minutes)	3,894	7,407	23,063
NTDC 220 kV Lines			
Outages (number)	336	451	461
Total duration (minutes)	141,619	273,037	317,331
Maximum duration of a single outage (minutes)	13,854	43,411	38,542
K-Electric 132 kV Lines			
Outages (number)	45	26	46
Total duration (minutes)	8,792	2,451	4,997
Maximum duration of a single outage (minutes)	970	362	469

kV = kilovolt, NTDC = National Transmission & Despatch Company.
Note: Years are fiscal years, ending 30 June.
Source: National Electric Power Regulatory Authority. 2020. *State of Industry Report 2019*. Islamabad.

NEPRA (2015) estimates the NTDC will require over $9 billion to install transmission lines and substations for power evacuation from the planned large hydropower, coal, and nuclear power projects. Major investments are already being made to improve the network, resulting in a substantial decline in overloading in recent years. Even so, the overall system performance is still very poor. NEPRA set performance standards for DISCOs using the System Average Interruption Frequency Index (SAIFI) and the System Average Interruption Duration Index (SAIDI).[8] NEPRA's rules allow a SAIFI of 13 minutes and a SAIDI of 14 minutes. Only one DISCO has met these standards (Islamabad Electric Supply Company). In FY2019, four of the 10 DISCOs had a SAIFI of over 100 minutes (Sukkur Electric Power Construction Corporation's was 516 minutes), and all but two DISCOs had a SAIDI of over 1,000 minutes (Multan Electric Power Company's was 31,419 minutes) (NEPRA 2020). Inefficiencies in the transmission and distribution subsector have aggravated the problem of circular debt. DISCOs with high transmission and distribution losses are unable to recover the cost of these inefficiencies and so are unable to make full payment to generation companies—and this is discussed in more detail in the next section.

Poorly targeted electricity subsidies and limited access to the grid

Residential consumers paid lower tariffs than commercial and agricultural consumers in 2019 (Table 5.8). They account for more than 85% of total consumers, and half of the total electricity consumption. Despite preferential pricing, electricity was less affordable for households in FY2016. The share of household expenditure on electricity increased to 11.7% in FY2016 from 10.8% in FY2014. The increased spending on electricity was more pronounced for urban households, who have better access to supply, than rural ones (Figure 5.7).

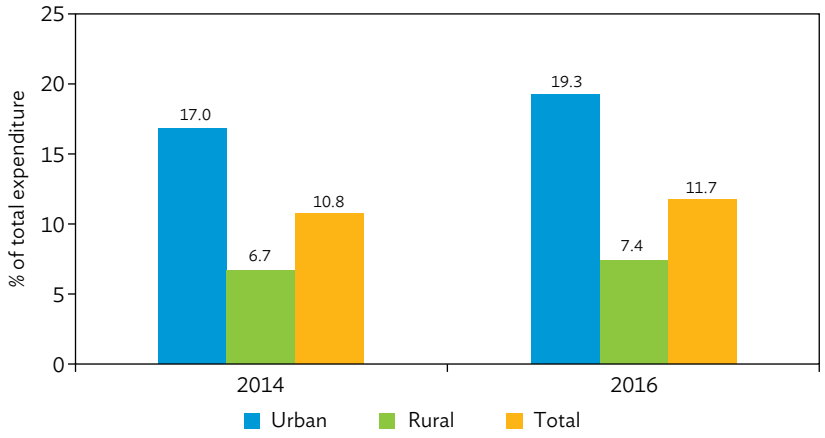
Table 5.8: Power Tariff Rates
(PRe/kWh)

Consumer Group	5 August 2013	11 October 2013	1 October 2014	10 June 2015	21 March 2018	2019
Residential	10.3	12.0	12.0	11.6	11.6	17.2
Commercial	16.1	16.1	16.1	16.1	16.1	17.7
Industrial	15.0	15.0	15.0	15.0	15.0	16.7
Agricultural	9.5	11.9	12.1	11.1	11.1	17.7

kWh = kilowatt-hour, PRe = Pakistan rupee.
Notes: Dates are effectivity dates of tariff rates. Tariff rates are based on simple average of variable charges only.
Source: National Electric Power Regulatory Authority. Various years. *State of Industry Reports*. Islamabad.

[8] SAIFI is the total number of interruptions divided by the number of customers; SAIDI is the total duration of interruptions divided by the number of customers.

Figure 5.7: Household Expenditure on Electricity, 2014 and 2016

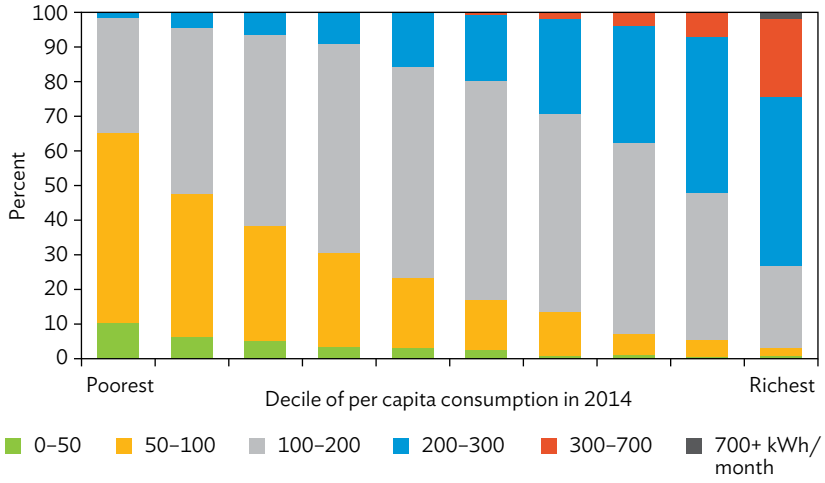


Note: Years are fiscal years, ending 30 June.
Source: Pakistan Bureau of Statistics. 2017. *Household Income and Expenditure Survey 2015–16*. Islamabad.

The rationale for subsidizing the price of electricity is that it provides greater access to electricity to the poor. But under the subsidy's current structure it is not primarily the poor who benefit. Subsidies are provided by charging customers in different consumption bands a different tariff. Customers, however, get charged the rate below their consumption for all units up to the limit of that band and then the residual at the rate of the band in which they fall into. Consequently, the precise value of monthly consumption determines the extent to which consumers are subsidized or not. All bands below 700 kWh a month are subsidized (i.e., the tariff is below the cost of provision, but the size of the unit subsidy decreases as the consumption band rises).

For this method to be an effective way of subsidizing the poor, the poorest households should be in the lowest consumption band and the richest households in the top consumption band. But this is not the case. Walker et al. (2016), in their analysis of the electricity subsidies, show that while a larger share of households in the bottom deciles of consumption per capita are in the lowest two or three consumption bands, a large share of those in all the remaining deciles also have consumption in those bands. Consequently, the subsidy that is nominally intended for the poor is in fact being consumed primarily by those with middle incomes (Figure 5.8).

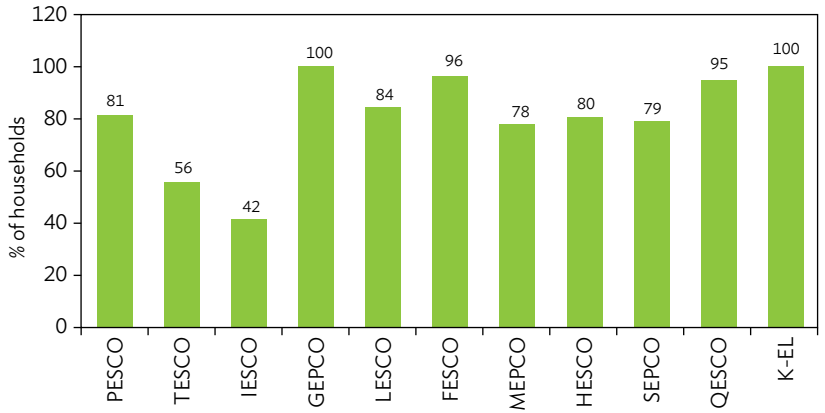
Figure 5.8: Residential Electricity Expenditure by Decile of Consumption per Capita, 2014



kWh = kilowatt-hour.
Notes:
1. Year is fiscal year, ending 30 June.
2. Data based on Pakistan Social and Living Standards Measurement.
Source: T. Walker, E. Canpolat, F. K. Khan, and A. Kryeziu. 2016. Residential Electricity Subsidies in Pakistan: Targeting, Welfare Impacts, and Options for Reform. *Policy Research Working Paper*. No. 7912. Washington, DC: World Bank.

The subsidy's regressive structure also does not take into account that many poor households do not receive the subsidy because they are not connected to the grid. About 15% of villages (27,786 villages), which are most likely to be home to poor households, are not on the grid. The disparity in electrification rates across distribution areas is huge. More than 90% of villages covered by Gujranwala Electric Power Company, Faisalabad Electric Supply Company, Quetta Electric Supply Company, and K-Electric are electrified. While, only 42% of villages in the Islamabad Electric Supply Company's area and 56% in the Tribal Areas Electric Supply Company's area are electrified (Figure 5.9). People in unelectrified villages rely mainly on firewood, dung cakes, and gas for heating, lighting, and cooking. Unelectrified villages are mostly in remote rural areas where grid extension is considered to be an expensive and unviable solution. DISCOs cite technical, financial, and economic impediments to extending their services to these areas. In recent years, expanding coverage to rural areas has been done through renewable energy sources under the village electrification program by the Alternative Energy Development Board.

Figure 5.9: Electrification Rates by Distribution Companies, 2019



GEPCO = Gujranwala Electric Power Company, FESCO = Faisalabad Electric Supply Company, HESCO = Hyderabad Electric Supply Company, IESCO = Islamabad Electric Supply Company, K-EL = K-Electric, LESCO = Lahore Electric Supply Company, MEPCO = Multan Electric Power Company, PECO = Peshawar Electric Supply Company, QESCO = Quetta Electric Supply Company, SEPCO = Sukkur Electric Power Company , TESCO = Tribal Areas Electric Supply Company.
Notes: Years are fiscal years, ending 30 June. QESCO data for FY2018.
Source: National Electric Power Regulatory Authority. 2020. *State of Industry Report 2019*. Islamabad.

For enterprises, getting an electricity connection is slow and the cost restrictive. A survey of enterprises shows the process of getting an electricity connection takes 73 days in Lahore and 134 days in Karachi, and the associated cost is more than 500% and 1,600% of gross national income per capita, respectively (Table 5.9). It takes more time to get a connection in Pakistan than in India and Nepal, and it is more expensive to get a connection in Pakistan than in India and Maldives.

Table 5.9: Electricity Connection Time, Number of Procedures, and Cost for Commercial Users in Selected South Asian Countries, 2019

Country	Connection Time (days)	Procedures	Cost (% of income per capita)
Bangladesh	125	9	1,746
India (Delhi)	53	4	29
Maldives	75	6	235
Nepal (Kathmandu)	49	5	786
Pakistan (Lahore)	**73**	**6**	**538**
Pakistan (Karachi)	**134**	**6**	**1,610**
Sri Lanka	100	5	664

Source: World Bank. 2020. *Doing Business*. Washington, DC.

5.3 Understanding the Circular Debt

The biggest obstacle in Pakistan's power sector is the huge and recurring circular debt. This is basically the amount of cash shortfall within the CPPA-G that it cannot pay to power supply companies. The main factors behind the circular debt are: (i) the difference between the actual cost and the tariff determined by NEPRA; (ii) the delayed or nonpayment of subsidies by government; and (iii) delayed determination and notification of tariffs. More importantly, unbudgeted subsidies and delays in tariff notifications account for almost over 40% of the debt accumulation (IMF 2019). The circular debt initially surfaced around 2007. The problem is that DISCOs are not able to collect enough revenue to cover their costs due to tariffs that are set below the cost of supply—and this problem is coupled with electricity theft and customers not paying their electricity bills. In turn, DISCOs failed to fully remit their revenue to the CPPA-G, the single buyer of electricity. Consequently, the CPPA-G is not in a position to pay power suppliers, including GENCOs and IPPs, in full. The power suppliers, in turn, delay payments to their fuel supplier—government-owned Pakistan State Oil.

When the circular debt becomes too high, fuel suppliers fail to recover revenue from GENCOs and IPPs for their fuel deliveries, which then limits the amount of power that can be generated and supplied to households. Ultimately, these revenue shortfalls push power sector entities into short-term debt to service their working capital and reduce their capacity to invest in improved facilities. The large stock of power sector arrears represents a significant quasi-fiscal risk that combined with dated infrastructure adversely affect economic activity and potential GDP growth.

Although various governments have tried to tackle the circular debt, this effort has largely been restricted to injecting cash into the power sector. This provided only a temporary relief, and the circular debt continues to accumulate. The shortfall in revenue affects the entire energy supply chain—from electricity generation to fuel suppliers, refiners, and producers—resulting in not enough fuel to supply GENCOs, a reduction in the power generated by IPPs, and increased load shedding (USAID 2013).

In 2013, the government decided to clear the entire PRs450 billion stock of circular debt by setting up a special purpose vehicle—PHPL—to which this debt was transferred. PHPL is backed by government-issued bonds or sukuk.[9] The intention at the time was to change the tariff methodology to ensure the

[9] Sukuk is an Islamic financial certificate whose terms and structure comply with Islamic religious laws.

circular debt could not build up again, and to diminish the stock of circular debt through privatization and the sale of some DISCOs. Although changes were made to the tariff mechanism (notably the introduction of surcharges), these did not enable revenue to cover the full costs, resulting in a renewed buildup of the circular debt. This has been accumulating by about PRs23 billion a month. So, from zero in FY2013, the circular debt was at PRs2.21 trillion (or about 4% of GDP) in June 2020.

In addition to being a significant fiscal liability, the circular debt has widespread negative impacts on the power sector. This makes it difficult for government-owned DISCOS and GENCOS to attract finance and invest in improvements when they are losing a great deal of money each year. Similarly, IPPs are not willing to invest without payment guarantees for the power they produce, and fuel suppliers take a similar position. Thus, solving not just the stock but also the ongoing flow of the circular debt will be vital for putting the sector on a sustainable footing.

Tariff methodology and its implication on the circular debt

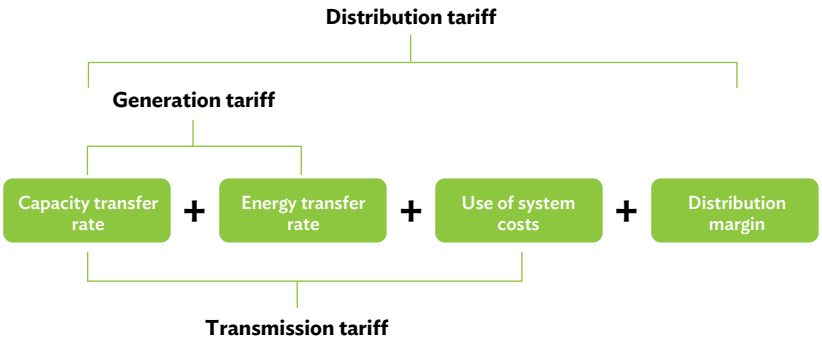
It is important to explain how the electricity tariff is determined in Pakistan to understand how this has contributed to the accumulation of the circular debt. NEPRA's guidelines for determining the consumer-end tariff lays out the tariff methodology in detail (NEPRA 2015). Figure 5.10 shows the tariff's components. The generation tariff is the tariff awarded to the power generators. It consists of two components: the capacity transfer rate and the energy transfer rate. The capacity component is a fixed cost based on engineering, procurement, construction, and administrative costs; land purchases; and return on equity, among other costs. The energy component is a variable cost that primarily consists of the costs of fuel and operation and maintenance. To these costs, NEPRA adds the system costs for using the national grid to get the transmission tariff and market operator fee. This tariff is then augmented with a distribution margin to reach the distribution tariff.

The tariff determination process consists of four stages:

Stage 1: Petition for a tariff. Each year, DISCOs submit a petition for a tariff to NEPRA. Here, they lay out their full costs and request NEPRA to set a tariff that covers these costs.[10]

[10] All tariff petitions are on NEPRA's website. www.nepra.org.pk.

Figure 5.10: Components of End-User Tariff



Source: PRIME Institute. 2016. *Circular Debt: State Incentives or Market Rules.* Islamabad.

Stage 2: Determination of tariff. NEPRA, after considering the DISCOs' petitions, conducts its own calculation and comes to a view about each of the cost elements claimed, a reasonable level of losses to be allowed, and the rate of return to be given. NEPRA then announces the "determined tariff."

After this, DISCOs can raise objections if there are any and request a review. This is conducted by NEPRA, which either confirms the original determination or modifies it. If DISCOs are still dissatisfied with the tariff, they can go to the appellate tribunal, as has happened on several occasions. The tribunal ensures the process has been followed correctly and reasonably, and makes a ruling. This must be applied by NEPRA and the DISCO concerned. The delay caused by this litigation has its own cost, which adds to the circular debt.

Stage 3: Notification of the tariff. After a tariff has been determined by NEPRA (and reviewed or completed in a judicial process if necessary), the government publishes the tariff in the Official Gazette. This is the tariff legally applied to customers.

The way in which the government notifies the tariff has important implications for the circular debt. NEPRA provides a determination of the tariff for each customer category and each DISCO. The government, however, has decided that each customer category should pay the uniform tariff throughout country. All DISCOs are cross-subsidized under the uniform tariff regime. This clearly benefits customers living in areas where the cost of providing electricity to that customer category is more expensive, but it discourages DISCOs to improve their systems' efficiency.

Stage 4: Calculating the subsidy and surcharge. To overcome the gap between the determined and notified tariff, the government has committed to pay DISCOs a tariff differential subsidy. The subsidy for the power sector was PRs464 billion (2.3% of GDP) in FY2012, but it has been steadily reduced. It was at PRs171 billion in FY2016 (Ministry of Finance 2016) and PRs149 billion in FY2019 (Ministry of Finance 2019b).

The reductions in the power sector subsidy happened because of the federal government's decision not to cover the gap in full by using the tariff differential subsidy. Instead, it used the provision in the Regulation of Generation, Transmission and Distribution of Electric Power Act of 1997 (henceforth NEPRA Act) to apply a surcharge on customers. The surcharge was intended to recover the cost of providing electricity and develop new power projects after the application of the subsidy. Under the 2018 Regulation of Generation, Transmission and Distribution of Electric Power (Amendment) Act (henceforth NEPRA Amendment Act), this is no longer possible.

This process was designed to ensure that DISCOs get the same revenue as they would have done had they applied the determined tariff through the notified tariff, tariff differential subsidy, and the surcharge. Even so, the circular debt continues to accrue. The fundamental reason for this is that the revenue is still not enough to cover costs, leading to a growing liability that ultimately falls on the government. This raises two key questions, what are the causes of the high costs incurred by DISCOs and what are the causes of their low revenue? Both are examined in the following sections.

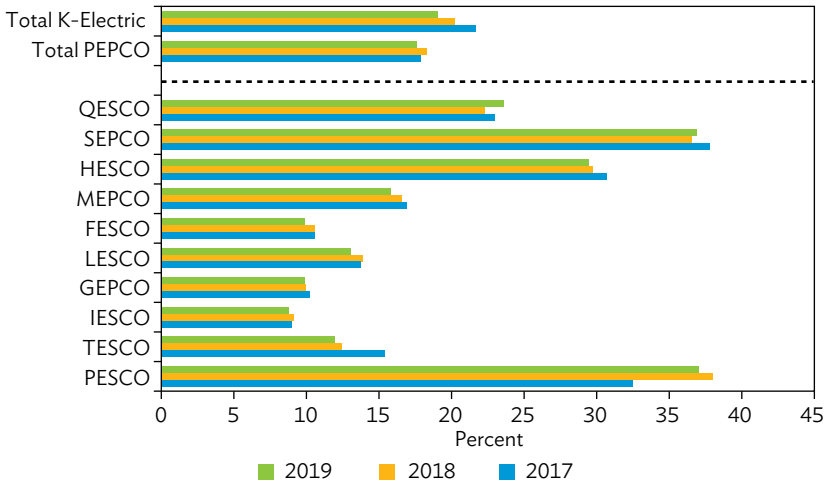
High costs incurred by distribution companies

The fundamental idea behind the process of tariff setting is that tariffs should cover all legitimate costs plus a reasonable return on capital. In Pakistan, the issue of what should be considered legitimate costs and what sort of return is reasonable is the subject of an intense debate between market players and NEPRA. On the cost side, three issues are particularly important: transmission and distribution losses, rising capacity rates and the capacity trap, and failures of merit order dispatch and poor load loss management.

Transmission and distribution losses. These are the difference between the amount of electricity supplied and what is actually billed. These losses happen for two reasons. First, the quality of the transmission and distribution network can lead to differing levels of technical losses along the line, particularly in low-voltage 11 kV lines. And second, in some areas, electricity is routinely stolen

from the distribution network. The performance of DISCOs on this measure varies dramatically. The losses of the Faisalabad Electric Supply Company, Lahore Electric Supply Company, and the Tribal Areas Electricity Supply Company are under 15%, and those of Islamabad Electric Supply Company and Gujranwala Electric Power Company are under 10%. The losses of Peshawar Electric Supply Company and Sukkur Electric Power Company are over 30% percent (Figure 5.11).

Figure 5.11: Distribution Company Transmission and Distribution Losses, 2017–2019



GEPCO = Gujranwala Electric Power Company, FESCO = Faisalabad Electric Supply Company, HESCO = Hyderabad Electric Supply Company, IESCO = Islamabad Electric Supply Company, LESCO = Lahore Electric Supply Company, MEPCO = Multan Electric Power Company, PEPCO = Pakistan Electric Power Company, PESCO = Peshawar Electric Supply Company, QESCO = Quetta Electric Supply Company, SEPCO = Sukkur Electric Power Company, TESCO = Tribal Areas Electricity Supply Company.
Note: Years are fiscal years, ending 30 June.
Source: National Electric Power Regulatory Authority. 2019. *State of Industry Report 2018*. Islamabad; NEPRA. 2020. *State of Industry Report 2019*. Islamabad.

In determining the tariff, NEPRA takes into account the widely differing circumstances of the DISCOs, and allows different levels of losses for different DISCOs. However, to encourage DISCOs to improve their performance, NEPRA allows a level of losses that is lower than current reported losses. This can lead to large discrepancies between actual losses and those allowed by the regulator (Table 5.10). Since NEPRA only takes the allowed level of losses into account, the tariff that it determines may not cover a DISCO's costs if they do not, or are not able, to make the necessary performance improvements. In

FY2018, only one DISCO, Islamabad Electric Supply Company, managed to achieve the level of losses allowed by the regulator.

Table 5.10: Reported and Allowed Distribution Losses for Distribution Companies, 2018

DISCO	Reported Figures (%)	Allowed in Tariff Determination (%)
IESCO	9.1	9.2
PESCO	38.1	27.6
GEPCO	10.0	10.0
FESCO	10.5	9.7
LESCO	13.8	11.8
MEPCO	16.6	15.0
QESCO	22.4	17.5
SEPCO	36.7	28.2
HESCO	29.8	21.2
K-Electric	20.4	19.8

DISCO = distribution company, GEPCO = Gujranwala Electric Power Company, FESCO = Faisalabad Electric Supply Company, HESCO = Hyderabad Electric Supply Company, IESCO = Islamabad Electric Supply Company, LESCO = Lahore Electric Supply Company, MEPCO = Multan Electric Power Company, PESCO = Peshawar Electric Supply Company, QESCO = Quetta Electric Supply Company, SEPCO = Sukkur Electric Power Company.
Note: Year is fiscal year, ending 30 June.
Source: National Electric Power Regulatory Authority. 2018. *Performance Evaluation Report Distribution Companies 2017–18*. Islamabad.

Rising capacity rates and the capacity trap. The rapid increase in generation capacity that has resulted in large increases in capacity payments is a growing concern. The latest NEPRA determinations suggest these now total PRs664 billion, implying a capacity charge of PRs5.17/kWh. Moderating the growth of the capacity charge requires large increases in electricity delivered. However, the failure to invest sufficiently in the transmission and distribution network means that it is not possible to use all the power from the generators. The CPPA-G warns that Pakistan is in a "capacity trap" in which it will be forced to pay the costs for the additional generation. But because of the weak transmission and distribution system, the country is not able to fully benefit from these investments to increase electricity supply to consumers (Mohazzam 2018).

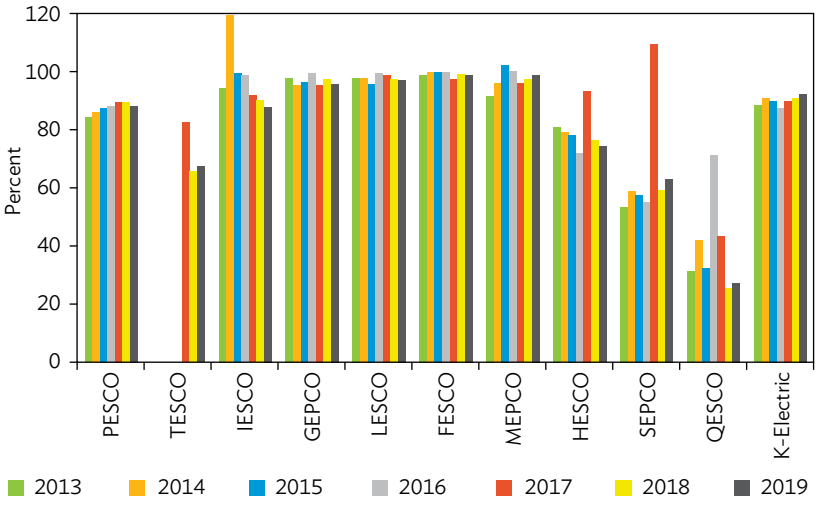
Failures of merit order dispatch and poor load loss management. A key part of cost management is the merit order dispatch of power in which the lowest cost sources of power are used before higher cost sources to ensure that the overall cost is minimized. NEPRA (2020), however, states that the economic merit order ranking was unilaterally changed to provide an undue

advantage to specific power plants for several reasons, such as system and fuel constraints. This action by the system operator increases the overall cost of production to the disadvantage of consumers and adds to the circular debt in cases of nonpayment. The Ministry of Energy also has a policy of revenue-based load shedding (i.e., where load shedding occurs, it should happen first and most often on high-loss lines). Doing this both minimizes waste and incentivizes DISCOs with high losses to invest in improvements to avoid frequent blackouts. This policy, however, does not appear to have been followed in all circumstances.

Gap between the uniform tariff and costs. The core reason for the accumulation of circular debt is the poor governance of the power sector; this results in low tariff recovery, which is not sufficient to cover costs. In principle, the gap is supposed to be covered by the tariff differential subsidy. In practice, the size of the subsidy is dependent on budget constraints. The government has tried to eliminate the gap between tariffs and costs by allowing DISCOs to charge surcharges. But as mentioned earlier, this is no longer possible under the NEPRA Amendment Act. Instead, NEPRA is obliged to calculate and determine a uniform tariff for each customer category. NEPRA has expressed strong opposition to calculating a uniform tariff since it institutionalizes cross-subsidies across DISCOs, thereby reducing the incentives for efficiencies. In theory, this uniform tariff should cover the prudent costs incurred. In practice, notified tariffs have not covered these costs. This is because tariff increases are politically sensitive, and because of this the government has frequently chosen to delay or moderate proposed increases. While the government may well have good reasons for adopting particular tariffs, the failure to compensate for the resulting gap between revenue and costs—either through increasing the tariff differential subsidy or other measures—is causing the circular debt to accumulate.

Low recoveries by DISCOs. The second critical component of NEPRA's tariff determination is the expected recovery rates from consumers (i.e., the percentage of bills that NEPRA believes that DISCOs should recover from consumers). NEPRA's position is that DISCOs should recover all the revenue that they bill, and, as such, it sets an allowed recovery rate of 100% for this. Five DISCOs are achieving this rate or are close to it—some, however, are far from this rate (Figure 5.12). Aggregate performance improved gradually from FY2013 to FY2017, but has deteriorated since FY2018. There was evidence of improvement in some of the worst-performing DISCOs in FY2017, but this was not sustained in most cases. Because NEPRA's tariff assumes 100% collection, poorly performing DISCOs inevitably receive a determined tariff that does not cover their full costs.

Figure 5.12: Distribution Company Recovery Rates on Electricity Bills, 2017–2019



GEPCO = Gujranwala Electric Power Company, FESCO = Faisalabad Electric Supply Company, HESCO = Hyderabad Electric Supply Company, IESCO = Islamabad Electric Supply Company, LESCO = Lahore Electric Supply Company, MEPCO = Multan Electric Power Company, PESCO = Peshawar Electric Supply Company, QESCO = Quetta Electric Supply Company, SEPCO = Sukkur Electric Power Company, TESCO = Tribal Area Electric Supply Company.
Notes: Years are fiscal years, ending 30 June. No data for TESCO for FY2013–FY2016.
Source: National Electric Power Regulatory Authority. 2018, 2019 and 2020. *State of Industry Reports*. Islamabad.

The weak governance of DISCOs has also contributed to their poor commercial performance. Political appointments of top management have undermined reforms at the corporate level (USAID 2013). Because of weak management structures, DISCOs are not run on a commercial basis. For example, the composition of Lahore Electric Supply Company's board until 2016 was not according to the Public Sector Companies Corporate Governance Rules of 2013. In terms of corporate governance, the company was not at par with the international benchmark (Bacon 2019).

Delays in determination and notification. One of the most prominent complaints of the DISCOs is the length of time it takes the government to notify a tariff change. Until mid-2018, DISCOs were using FY2016's tariff because that was the latest tariff to be notified. There are several reasons for the long delays, including:

- NEPRA can take several months to determine a tariff after petitions have been submitted (PRIME Institute 2016).
- DISCOs frequently request a review of the tariff determination because they are not satisfied with the initial decision.
- DISCOs have, on several occasions, challenged the determination in court. This can result in long delays as the court goes through the legal process.
- The government is supposed to notify the tariff within 15 days of determination. In practice, it can take several months (or longer) for the government to do this. The recommendation is made by the Ministry of Energy, but it is the country's top decision-making body, the Council of Common Interests, that makes the final decision.

The delays in determining and notifying tariffs have major implications for the DISCOs, since their costs continue to increase while they are compelled to operate on the old tariff. As a partial solution to this problem, the NEPRA Act was changed to allow for an automatic fuel price adjustment. Because the energy purchase price is the major cost element for thermal generation, this mechanism allows for tariffs to be changed on a monthly basis to take account of changes in international fuel prices. The other component of the tariff—the capacity charge—is not adjusted frequently, however. This can be a major problem for generating companies, where hydroelectric and other nonfuel-based sources of power are an important part of their costs. The recent move toward multiyear tariffs goes some way to resolving these issues.

Tax disputes. Because electricity is subject to general sales tax (GST), DISCOs are required to charge this on their bills. To ensure the maximum revenue is collected, the Federal Revenue Board withholds the full amount of the tax from the DISCOs. This poses two problems for them. The first is that it adds to the problem of incomplete collection: if a DISCO only collects 71% of the bills it sends out, then it also only collects 71% of the tax due—but it is liable for the full amount. While this provides a further incentive for ensuring customers pay their bills, it also worsens the financial position of DISCOs. The second are the disputes in some areas with the federal government over the applicability of taxes.

Policies for special regions and groups. Some regions have different arrangements for electricity tariffs. For the former Federally Administered Tribal Areas, which was merged into Khyber Pakhtunkhwa in May 2018, challenges of geography and security concerns mean that bill collection is near impossible in these areas, and electricity is effectively provided for free. A

subsidy for providing electricity to these areas is included in the government budget. The effective zero price of electricity means this subsidy often does not cover the value of consumption.[11]

Tube-well owners in Balochistan also get a subsidy. In this remote and dry province, access to groundwater is essential, and the government provides support for farmers by subsidizing electricity for pumps. This support has traditionally been a monthly flat rate of PRs6,000 per tube well, regardless of consumption. If farmers consume PRs6,000–PRs75,000 of electricity a month, the bill is paid by the federal government and Balochistan's provincial government. Consumption over PRs75,000 is paid by the farmer. The government increased the monthly contribution from farmers to PRs10,000 per tube well. Failure to pay this (and the excess over PRs75,000) results in disconnection. Amounts between PRs10,000 and PRs75,000 are split 50:50 between the provincial and federal government (PRIME Institute 2016). It is not yet clear whether this arrangement will work. The Quetta Electric Supply Company's claim for the agricultural tube-well subsidy in the FY2018 budget was PRs188 billion (Quetta Electric Supply Company 2017). The federal government and Balochistan's provincial government are beginning to implement a longer-term solution to the problem by replacing conventional electricity-powered tube-well pumps with solar pumps.[12]

Government nonpayment. An important reason for the accumulation of the circular debt is that the federal government and provincial governments are not paying their electricity bills. These arrears are significant. They represent an off-budget subsidy to the federal government and provincial governments, and are increasing the liabilities of DISCOs. Table 5.11 shows the accumulated receivables of the DISCOs totaled PRs1.02 trillion at the end of FY2019. Most are from the private sector (reflecting losses and undercollection).

[11] It is not clear how the merger of the Federally Administered Tribal Areas into Khyber Pakhtunkhwa will affect this issue.

[12] Although this may reduce the need for subsidies in the long term, it is important to note that it does not solve the broader issue of groundwater availability, which is particularly problematic in the region.

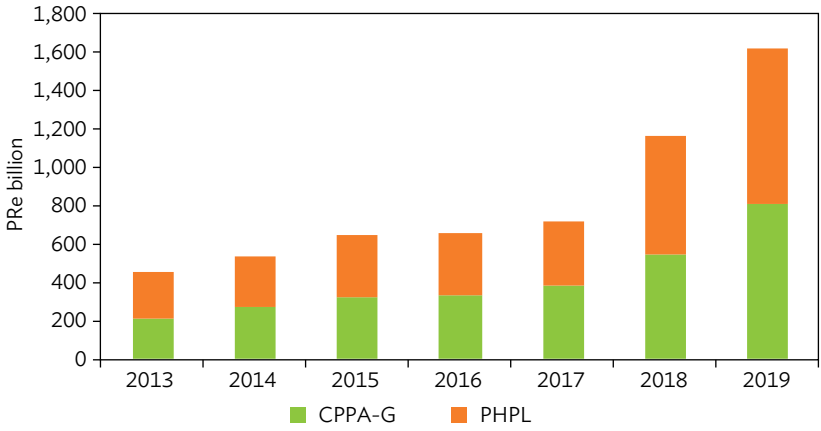
Table 5.11: Receivables of Distribution Companies, 2018 and 2019
(PRe billion)

Category	2018	2019
1. Federal Government		
Federal governments departments	1.5	2.5
Local bodies under federal government	0.7	1.4
Autonomous bodies under federal government	2.2	2.6
Defense	0.8	4.7
Water and power	2.1	2.5
Subtotal	7.2	13.7
2. Provincial Government Departments and Agencies		
Punjab	3.2	4.3
Khyber Pakhtunkhwa	19.5	20.3[a]
Sindh	6.1	11.9
Balochistan	11.5	16.4
Subtotal	40.4	52.9
3. FATA (domestic consumers)	26.9	32.6
4. Agricultural Tube Wells in Balochistan		
a. Government of Pakistan's share	23.9	31.5
b. Government of Balochistan's share	20.1	28.4
c. GST subsidy for agricultural tube well	0.1	0.1
d. Consumers' share	188.4	222.7
Subtotal	232.5	282.7
5. Private (including 3 + 4)	670.7	856.9
6. Independent Power Producers	0.2	3.0
7. K-Electric	78.4	91.7[b]
Total	**796.9**	**1,018.2**

FATA = Federally Administered Tribal Areas, GST = general sales tax, PRe = Pakistan rupee.
Note: Years are fiscal years, ending 30 June.
[a] Includes PRs18.6 billion assessed for Khyber Pakhtunkhwa consumers for the period 5 September 2008 to 15 September 2010 on account of the tariff differential.
[b] Reconciled and agreed receivable by the Central Power Purchasing Agency Guarantee in August 2018 with K-Electric to PRs51.0 billion from PRs78.4 billion.
Source: National Electric Power Regulatory Authority. 2020. *State of Industry Reports 2019*. Islamabad.

Figure 5.13 shows the accumulation of the circular debt since FY2013. Of the total PRs1.62 trillion debt in FY2019, PRs812 billion is accumulated in the CPPA-G as payables to GENCOs and IPPs, and PRs806 billion in PHPL as payable to banks due to loans taken in the past.

Figure 5.13: Amount of Circular Debt, 2013–2019



PRe = Pakistan rupee.
Note: Years are fiscal years, ending 30 June.
Source: International Monetary Fund. 2019. Pakistan: First Review under the Extended Arrangement under the Extended Fund Facility and Request for Modification of Performance Criteria. Statement by the Executive Director for Pakistan. Country Report No. 19/380. Washington, DC.

The amount of new circular debt in FY2019 was PRs465 billion. More than a third of this amount is attributed to inefficiencies in the DISCOs—that is, DISCOs not being able to raise enough revenue to cover the cost of supply due to operational and collection inefficiencies. More than 40% of the circular debt is accounted for by policy decisions on tariff adjustments and subsidies, while the rest is due to financial costs generated by the existing stock of circular debt, including significant late payment fees payable to producers (IMF 2019) (Table 5.12).

Table 5.12: Composition of New Circular Debt, 2019

Category	Amount (PRe billion)	Percent
DISCO inefficiency	171	37
Delayed tariff adjustments	119	26
Unbudgeted subsidies	82	18
Financial costs	93	20
Total	**465**	**100**

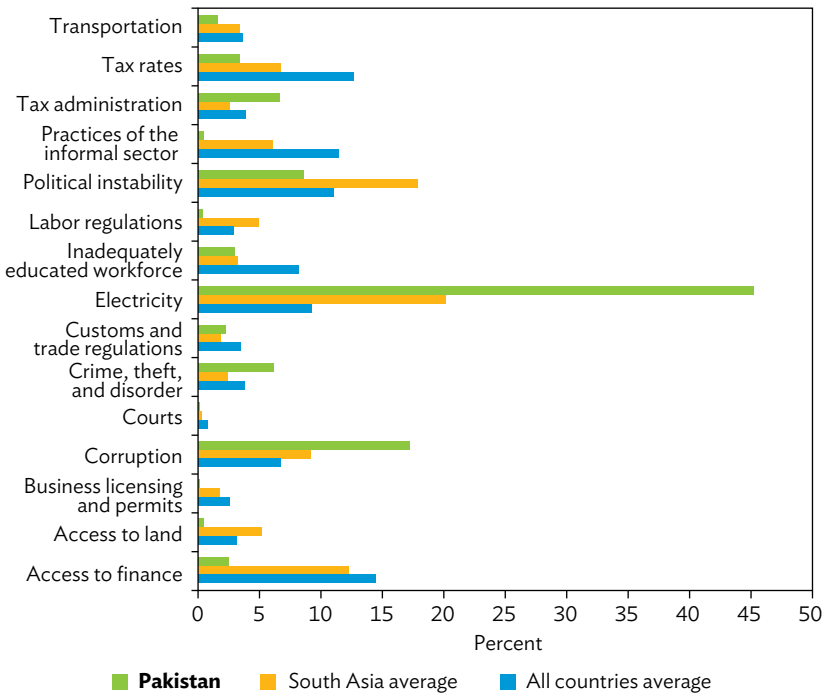
DISCO = distribution company, PRe = Pakistan rupee.
Note: Fiscal year, ending 30 June.
Source: International Monetary Fund. 2019. Pakistan: First Review under the Extended Arrangement under the Extended Fund Facility and Request for Modification of Performance Criteria. Statement by the Executive Director for Pakistan. Country Report No. 19/380. Washington, DC.

Impact of the circular debt

The circular debt has a huge impact on Pakistan. This section considers the impact on producers and consumers, and the wider fiscal and macroeconomic impact. It then examines who receives the implicit subsidy associated with lower-than-cost electricity prices and the opportunity cost of this resource-allocation choice.

Impact on producers and consumers. In 2013, electricity was ranked by firms operating in Pakistan as the biggest problem they faced. Figure 5.14 shows the ranking of these problems from the World Bank's 2013 Enterprise Survey. Over 45% of the firms surveyed said that electricity was the biggest constraint (75% said it was a major obstacle)—well above the average for both South Asia and globally.

Figure 5.14: Biggest Problems Faced by Firms According to World Bank's 2013 Enterprise Survey



Note: Percentage of firms stating that these issues were their biggest business-environment obstacle.
Source: Author's calculations based on data from World Bank Enterprise Survey, https://www.enterprisesurveys.org/en/data/exploreeconomies/2013/pakistan (accessed May 2020).

World Bank (2017) estimates that constant load shedding has cost Pakistan about 2% of GDP a year. Grainger and Zhang (2017) estimates that a 10% increase in the duration of outages decreases firms' total revenue by 0.14% and value added by a 0.36%, based on a survey of 4,500 manufacturing firms in Punjab in 2011. The impact of outages varies across types of firms—the most energy-intensive manufacturing firms, such as those engaged in metal products, are severely affected.

Significant power sector investments since around 2015 have considerably reduced load shedding. Pakistan's performance on the World Bank's Doing Business indicator of getting electricity improved from an index score of 43.4 in 2015 to 64.0 in 2020. The index measures, among other things, the reliability of supply and tariff transparency (0 = worst, 8 = best), where Pakistan scored 5.0 in 2020, up from 0 in 2015. Still, Pakistan's score is below the PRC's 7.0, India's 6.5, and Sri Lanka's 6.0 (World Bank 2020).[13] The poor quality and reliability of electricity has a major impact on households. Walker et al. (2016), in wide-ranging focus group discussions, found that respondents were extremely frustrated with the unreliability of the electricity supply. This significantly disrupts productive activities in the household (e.g., sewing and water pumping for agriculture) and places a large additional burden on women who have to spend much more time on household chores when a lack of electricity prevents appliances from being used.

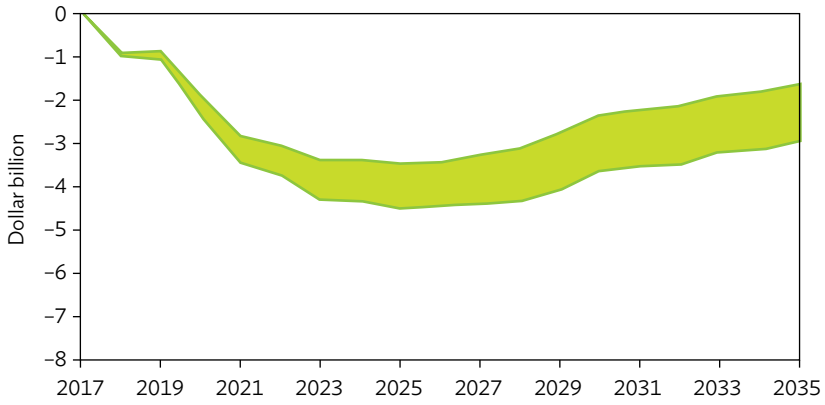
Impact on the fiscal position and macroeconomy. The fiscal burden of the circular debt is large. The government has steadily reduced the budgetary outlay on subsidies to the power sector in recent years, and has introduced a surcharge to try to cover the full cost of providing electricity. The surcharge, however, does not yet fully cover costs, resulting in about PRs100 billion in liabilities accumulating on the books of DISCOs each year.[14] This poses a policy dilemma for the government since the problem can only be solved in two ways. Either the financial performance of the power sector must be significantly improved, which is likely to entail reducing costs, improving recovery, increasing tariffs, and enabling companies to fulfill their payment obligations, or the government will need to consider another write-off of the circular debt, as was done in 2013. With a debt-to-GDP ratio of 87.2% in FY2020, Pakistan's room for maneuver in accumulating further debt is limited. Moreover, another write-off poses the danger of moral hazard and is likely to discourage power companies from taking the measures necessary to reduce costs.

[13] World Bank Doing Business Database. https://www.doingbusiness.org/en/custom-query (accessed May 2020).

[14] Ironically, these appear in the form of assets in the balance sheets (i.e., as receivables) even though they are never likely to be received.

The government's debt situation is likely to be strongly influenced by the major investments that have been made in energy infrastructure projects since 2017. Figure 5.15 shows the International Monetary Fund's estimates of the likely balance-of-payments flows due to these investments, which include China-Pakistan Economic Corridor and other energy investments.

Figure 5.15: Estimated Balance-of-Payments Flows from China-Pakistan Economic Corridor and Other Energy Investments, 2017–2035



Notes:
1. Years are fiscal years, ending 30 June.
2. International Monetary Fund estimates based on data from various Pakistan official sources, including the National Electric Power Regulatory Authority and authors' calculations. Estimates are based on projects that are either implemented or in an advanced planning stage. The range of estimates corresponds to different plausible assumptions about the rate of displacement of furnace oil–based electricity generation, rate of profit repatriation, energy demand growth, fuel prices, and capacity utilization.
Source: International Monetary Fund. 2017. *2017 Article IV Consultation*. Washington, DC.

Generating the foreign exchange resources needed to finance these investments will require careful management of these reserves, a significant improvement in the business climate for exports, and, critically, stopping the buildup in the circular debt (IMF 2017). The accumulating circular debt affects the macroeconomy through its effect on domestic bank credit. In Pakistan, the total advances of the banking sector in FY2017 were PRs6.2 trillion of which PRs1.0 trillion (17%) was for the energy production and distribution sector (State Bank of Pakistan 2018). Large-scale borrowing by power sector players from the domestic banking sector to cover working capital and liquidity challenges increases the fragility of the banking sector and reduces the availability of credit for other sectors.

It is debatable whether subsidies to the power sector are the most effective way of improving the welfare of Pakistan's population. The government has allocated PRs250 million of subsidies to the power sector in FY2020, representing about 90% of total subsidies for the year. Table 5.13 shows the budget allocations for expenditure and subsidies for FY2019 and FY2020.

Table 5.13: Budget for Expenditure, 2019 and 2020
(PRe million)

Classification	2019	2020
Subsidy to WAPDA/PEPCO:	**189.9**	**191.0**
Inter-DISCO tariff differential	130.0	162.0
Tariff differential for agriculture tube wells in Balochistan	4.9	8.0
To pick up WAPDA/PEPCO receivables from merged districts of KP	12.0	18.0
Subsidy to WAPDA on account of tariff differential	43.0	3.0
Subsidy to KESC	**40.5**	**59.5**
To pick up KESC's tariff differential	15.0	25.0
For tariff differential for agriculture tube wells in Balochistan	0.5	0.5
Subsidy to DISCOs and K-Electric	25.0	0
To KESC for industrial support package	0	10.0
Subsidy to LNG sector for providing gas on lower rates to industry	0	24.0
Total Electricity Subsidy	**230.3**	**250.5**
Total Subsidies (all sectors)	**255.0**	**271.5**

DISCO = distribution company, KESC =Karachi Electric Supply Company, KP = Khyber Pakhtunkhwa, LNG = liquified natural gas, PEPCO = Pakistan Electric Power Company, PRe = Pakistan rupee, WAPDA = Water and Power Development Authority.
Note: Years are fiscal years, ending 30 June.
Source: Ministry of Finance. 2019. *Budget in Brief 2019–2020*. Islamabad.

5.4 Ongoing Power Sector Reforms

This section examines the reforms that the government is taking to tackle the challenges in the power sector. The government is trying to solve the problem of the circular debt in several ways. In addition to measures to fix the legal and process impediments that cause lengthy delays in tariff notifications, the government is working on a wider reform agenda that may have an indirect but potentially important impact on the accumulation of the circular debt. In June 2019, the government launched the Pakistan Energy Sukuk, an Islamic financial certificate, to help pay off arrears in the power sector. In November 2019, a debt reduction plan was agreed with the International Monetary Fund to reduce the circular debt to PRs75 billion in FY2023.

Implementing multiyear tariffs

A major transition from a yearly tariff regime to a multiyear tariff was made in FY2016. Initially, Islamabad Electric Supply Company, Lahore Electric Supply Company, and Faisalabad Electric Supply Company were made to switch to multiyear tariffs with the intention of gradually bringing the other DISCOs under this tariff regime. Multiyear tariffs will facilitate longer-term planning of investments and provide greater certainty over future tariffs. For this, NEPRA approves an investment plan for expanding the power distribution network to facilitate the integration required and to meet the demand for electricity. This plan contains complete details of the activities for the tariff control period and becomes a basis for tariff determinations.

Amending legislation to improve regulatory and fiscal regimes

Key changes in the NEPRA Amendment Act included the introduction of competition into the wholesale market, shifting responsibility for calculating a uniform tariff to NEPRA, and requiring NEPRA to comply with the National Electricity Policy and the National Electricity Plan.[15]

The NEPRA Amendment Act is controversial and being interpreted by different stakeholders in different ways. NEPRA and several other stakeholders see it as an attempt to reduce their independence and authority. NEPRA sees the requirement to calculate a uniform tariff as a de facto reversal of the power sector's unbundling. It argues that calculating a uniform tariff in effect entails cross-company subsidies requiring the underlying entities to be under the control of an overall body, as was the case with WAPDA. Moreover, while NEPRA has said it has no problem complying with the National Electricity Policy, the NEPRA Amendment Act requires NEPRA's adherence to the National Electricity Plan, raising concerns that the government will attempt to constrain NEPRA's activities under the plan.

The Ministry of Energy argues that this is not a correct interpretation of the NEPRA Amendment Act. It holds that NEPRA is simply being asked to do the calculation of the necessary surcharge to cover costs and come up with a uniform tariff to achieve this. The ministry argues that removing the section

[15] The National Electricity Policy, passed in 2013, aims to develop an efficient and consumer centric power generation, transmission and distribution system that meets the needs of the people and supports economic growth. A National Electricity Plan has been formulated, as has the NTDC's Indicative Generation Capacity Expansion Plan 2018–2040.

of the NEPRA Amendment Act that allows surcharges is because, currently, surcharges may only cover regulatory costs, whereas a uniform tariff could be set at a level that exceeded costs (e.g., if the government wanted to factor in large new long-term investments or reduce the stock of circular debt).

In addition to the disagreement on the application of the uniform tariff, concerns have been raised that the NEPRA Amendment Act brought in new concepts, such as the National Electricity Policy and the National Electricity Plan, without clarifying or elaborating on this with NEPRA (Mohazzam 2018). For example, no parameters for the National Electricity Plan have been specified, nor have the functions and role of the electricity trader licensee. And the plan's statutory provisions do not explicitly provide for the treatment of consumer-end tariffs under the NEPRA Amendment Act (NEPRA 2018a).

Increasing market competition

Bringing more competition into the wholesale market for electricity is another component of the government's reform agenda. The CPPA-G currently operates as a single buyer of electricity from generation companies. Good practice internationally often allows competition in the wholesale market by allowing large electricity users to buy electricity directly from generators. With this in mind, the government has set a target for wholesale competition by 2020.[16] The NEPRA Amendment Act provides for this competition, and the CPPA-G is developing a market trading plan with generation companies. Under the act, the CPPA-G became the wholesale market operator from June 2018.

The NEPRA Amendment Act also splits distribution into separate wire and sales businesses— introducing electricity traders, who manage distribution, to electricity suppliers, who sell electricity to customers. The act also removed the territorial exclusivity previously enjoyed by distribution license holders.

In addition to the wholesale electricity market, greater competition is likely to be introduced into the procurement process through competitive bidding and reverse auctions. The government has taken note of the extraordinary success of reverse auctions for solar power in the Middle East, which have attained very low prices per kilowatt-hour. The government intends to move away from "upfront" tariffs (i.e., feed-in-tariffs) toward prices determined by competitive

[16] The CPPA-G estimates that, in practice, competition will be ready for implementation by 2022.

bidding.[17] In Sindh province, for example, the World Bank is assisting with the design of a reverse auction process for a 50 MW solar plant.

Some stakeholders are skeptical about reverse auctions, however. Tariff setting for large fossil fuel-based plants are still largely based on cost-plus calculations that include a guaranteed 17%–18% return.[18] Introducing more competitive mechanisms for price determination in renewables is likely to result in more competitive prices, which will be good for consumers. But it could disadvantage renewables relative to fossil fuels, which are typically not subject to competitive auctions. Given the imminent power surplus and the grid's inability to handle large amounts of intermittent power, some stakeholders believe that a tightening of returns to renewables is designed to reduce the rate at which intermittent power is brought into the system.

Giving a larger role to provincial governments

The 18th Constitutional Amendment, in 2010, moved toward greater shared responsibility between the federal and provincial governments. For the power sector, it enabled provinces to plan and execute power projects of over 50 MW; this was previously restricted to the federal government.

The amendment holds both opportunities and risks for the power sector. On the one hand, provinces are more attuned with the immediate needs of their citizens and may be more responsive to their demands. This could lead to more proactive planning and implementation of power projects. On the other hand, it will be important for provinces to be consistent with the overall process of integrated planning at the federal level. It will also be essential to have measures to ensure that provincial governments cannot build up major liabilities at the state level, which might result in liabilities being returned to the federal government. The success of this amendment has yet to be seen. Because provincial governments are perceived to be less reliable than the federal government, only a few small hydropower plants have been sponsored by provincial governments (Bacon 2019).

[17] Upfront tariffs are tariffs determined by the regulator.

[18] A 2018 NEPRA consultation paper shows how to calculate future rate of return (NEPRA 2018b).

5.5 International Experiences with Electricity Subsidy Reform

Electricity subsidies and tariff reform has a long history of being problematic in many countries, and the literature on this is large. Much of it focuses on the broader issue of power sector reform, since tariff reform and an associated reduction in subsidies is just one component of successful power sector reform. Studies on this broader set of issues include Gratwick and Eberhard (2008) and Eberhard et al. (2016), who examine the challenges of power sector reform in sub-Saharan Africa, and Dubash and Rajan (2001) and Tongia (2003), who examine power sector reform in India. Victor and Heller (2008) examine the politics of reform in five major developing economies. Scott and Seth (2013) provide a literature review of electricity distribution reforms in developing countries, and Kojima, Bacon, and Trimble (2014) review the literature on reforms of power sector subsidies.

Several key lessons emerge from this extensive literature, including for sector-wide reform. Until the early 2000s, the approach taken in Organisation for Economic Co-operation and Development countries on power sector reform crystallized into a "standard model" or "textbook" approach to restructuring the sector in developing countries. This aimed at fully unbundling and liberalizing the sector following a logical sequence of distinct steps: corporatization, commercialization, legislation, regulation, restructuring, privatization, and competition (Hunt 2002; Joskow 2006; Littlechild 2006; Gratwick and Eberhard 2008). Applying the standard model in developing countries yielded modest results because it faced significant political barriers (Choynowski 2004; Besant-Jones 2006).

The consensus in the literature is that the standard reform model failed for three main reasons. First, it often did not take account of the vastly different circumstances prevailing in developing countries from those in Organisation for Economic Co-operation and Development countries, where it was first implemented. For example, the standard model for power sector reform did not always take in small countries, where the necessary degree of competition in generation could not be obtained due to the small size of the power system and insufficient generation capacity (Barnett 2014). Second, the standard model struggled to map out a feasible pathway for reform. As Victor and Heller (2006) put it, "The standard textbook for reform focuses on the end point, namely an unbundled, privately owned and competitive power sector, not on the steps that governments need to take towards that end." In practice,

governments have tried a wide variety of approaches to reach the end point, not all of which were successful (Chikuni et al. 2011).

Third, and perhaps most important, many power sector reform attempts failed to understand or at least take into account the underlying political constraints facing decision-makers. Power sector reform is an extremely sensitive area almost everywhere. Electricity is part of the development vision of countries and brings significant political benefits to leaders who can control the price of and access to this vital service. Economies of scale mean that large financial flows are involved in procuring power production, and in transmission and distribution systems. The centralized nature of the technology concentrates control in the hands of a relatively few powerful entities.[19] As a result, the location of transmission and distribution lines can be driven by electoral considerations, power may be rationed to influence voters, and power generation may fluctuate with the election cycle (Mesquita and Smith 2009; Tripp 2012). Utilities have historically been used to serve the broader patronage system and became large employers (Barnett 2014). Because power sector reforms often emphasize restructuring utilities, reforms have faced strong resistance from labor unions (Dubash and Rajan 2001; Eberhard 2004). They have also encouraged cost-reflective pricing, but the associated price increases have resulted in popular uprisings in several countries, including Argentina, India, Indonesia, Ghana, and South Africa (Dubash and Rajan 2001).[20]

The results of power sector reform have therefore turned out somewhat different than intended. A wide variety of "hybrid" structures have been formulated, especially from around 2000 (Eberhard et al. 2017). In each case, these reflect the outcome of a complex and context-specific contest both between domestic actors (utilities, IPPs, regulators, finance and energy ministries, and political leaders) and between domestic and international actors (IPPs and donors and other financiers).

Because of this, development partners since around 2010 have attempted to take a more case-by-case approach to supporting countries' power sector reforms. A major study on this by the World Bank holds that "one size does not fit all" and argues for the need for context-sensitive approaches to reform (Besant-Jones 2006).

[19] There is, of course, a lively debate on how developing countries can "leapfrog" Western centralized power systems by adopting technology that allows a more distributed form of production, transmission, and distribution.

[20] See McCulloch, Sindou, and Ward (2017) for a more detailed review.

One aspect of this context sensitivity relates to options for achieving financial sustainability. Lack of this is often the root of problems faced by power sectors in developing and transition countries. Without financial sustainability, it is difficult—and in certain cases impossible—for utilities to make the necessary investments to provide for future growth in demand for electricity, and to provide for the adequate maintenance of assets to ensure high-quality supply. The traditional view of development partners is that financial sustainability is best achieved by ensuring that electricity tariffs cover the cost of supply. But this puts the burden of achieving sustainability on tariff increases, which can be politically sensitive. Recent studies from outside Asia suggest that it may be better to take a more holistic view on how to achieve financial sustainability. For example, Trimble et al. (2016) show that a large part of the reason for sub-Saharan Africa's unviable utilities is their very high costs. The several reasons for this include structural ones, such as geography and natural resource endowments that determine the fuel mix; high technical losses, which are often due to aging or poorly maintained equipment; and large commercial losses and theft, which are often due to extensive nonpayment by key users and poor billing and collection systems.

As numerous reform programs have shown, it is also extremely important to consider the impact of tariff reform on the poor and on vulnerable communities. This has led to significant experimentation with compensation mechanisms that can help to minimize the impact of tariff increases on those least able to bear them. To identify beneficiaries, Indonesia uses a national database of the poor (Beaton, Lontoh, and Wai-Poi 2017) and India uses biometric identification.

Governments that have taken reforms to improve the financial sustainability of their power sectors often adopt complementary policies. Some of these were taken to enhance the effectiveness of other sector reforms. For example, countries facing capacity shortages will often institute complementary programs that encourage energy efficiency or metering to minimize demand. Similarly, where trust in the government is an obstacle to getting reforms accepted, some reform packages explicitly build in dialogue with civil society. Fundamental differences in what constitutes public participation among stakeholders have sometimes got in the way of meaningful dialogue on reform (Wood 2005). Often the reason for this lack of trust has been the widespread perception of corruption in the power sector—often supported by compelling evidence. The governments that are genuinely attempting to resolve problems in their power sectors are engaging with civil society on corruption issues.[21]

[21] See Abdyrasulova, Kravsov, and Sulaimanova (2013) for an example from the Kyrgyz Republic.

Where there is a very large gap between the current revenue of the power sector and its costs, efforts to achieve financial sustainability—either through cost reductions or tariff increases—can potentially release large domestic resources for other purposes. Some reforms have been successful because they drew on these resources to deliver goods or services outside the power sector that are highly valued by the public. In Indonesia, for example, removing subsidies on gasoline and some diesel subsidies released $15.6 billion—an extraordinary amount—for development purposes. This was achieved in part precisely because of a political commitment to spend a portion of these funds on health, education, and infrastructure—all politically popular expenditure (Pradiptyo et al. 2016).

The key message from the literature is that country context matters and that individual reform programs need to be carefully designed with these realities in mind.

5.6 Policy Recommendations

This section offers policy actions that could be taken to address the immediate, medium, and long term challenges in Pakistan's power sector. The recommendations draw on experiences of other countries that have been successful in reforming their power sectors. The complicated issue of the recurring circular debt needs to be addressed to ensure the financial sustainability of key sector stakeholders.

Reforms to help lower the cost of generation, improve the efficiency of transmission and distribution, and improve regulatory and fiscal regimes should be prioritized to help resolve the circular debt. This should be supplemented with a review, from time to time, of the current tariff structure to ensure that only the poor will benefit from the subsidies provided by government and that users with the capacity to pay are charged according to their electricity consumption. Other related initiatives include the need for clear policies, especially on the taxation of electricity bills, and a program for a sustainable funding mechanism for tribal areas.

In the medium to long term, a strategy on how to reduce Pakistan's expensive and unsustainable power mix will have to be put in place. The government needs to encourage the development of sustainable energy resources, such as wind and solar, in partnership with the private sector. Technical inefficiencies should be resolved by preparing a program for investing in the operation and maintenance of generation assets, retiring old power plants, and expanding and

improving the transmission and distribution infrastructure. Attaining universal access to electricity using both grid and off-grid solutions should continue to be pursued to help improve socioeconomic conditions in rural areas.

Pursue measures to reduce capacity payments

Because the government faces rising capacity payments from IPP contracts that contribute to the worsening fiscal situation, it needs to adopt measures with the end view of reducing the net cost to electricity consumers. The government should review its power sector policies to establish clear and transparent guidelines based on key principles, especially for new IPP contracts covering capacity payments and even tariff setting. It should ensure that IPP contracts are soundly designed and conducted in a transparent environment. Such contracts have the potential to promote open competition, thereby reducing the cost of developing generation plants. Extending the debt repayment period of power producers and readjusting their tariffs accordingly, reducing the spreads for long-term debt repayments, and retiring older inefficient power plants and IPPs can provide some immediate relief and reduce annual capacity payments. The government should also review its power sector policies to establish clear and transparent guidelines based on key principles, especially for new IPP contracts covering capacity payments and even tariff setting. Another measure that can be explored is the possibility of negotiating IPP contracts that have been ongoing for some time or nearing maturity whose financing arrangements are suboptimal and where opportunities exist to lower financial costs—and thereby also reduce the costs paid by the government to IPPs.

Commercialize and professionalize distribution companies

A big challenge facing DISCOs is making the transition from being large state-owned utilities to modern, professionally run state-owned companies. Some DISCOs have appointed senior managers and chairs from outside the sector to sharpen the commercial orientation of their operations. Other DISCOs, however, are still vehicles for political patronage, employing a large staff far beyond the levels necessary for effective service delivery and applying noncommercial criteria for enforcing bill collection. A key element for reducing costs should be professionalizing the management of DISCOs and ensuring they operate on a commercial basis. The NEPRA Amendment Act put an age limit on appointees to the regulator and requires that they have a minimum level of experience. This is consistent with the desire to hire people with experience from outside the sector into senior positions at the regulator.

The same initiative can be done for the DISCOs. The main criteria should be whether appointees have the commercial and business skills needed, and, critically, whether they are given the mandate to make the necessary changes.

Improve the regulatory and fiscal regime

There is a pressing need to simplify regulatory processes and enhance coordination between the federal government and NEPRA to limit the circular debt buildup on these accounts. Facilitating tariff determinations and notifications through the early resolution of legal challenges, providing adequate tariff subsidies and enabling their faster disbursements, facilitating and simplifying tax refund claims, and rationalizing cross-subsidies and heavy taxes on some sectors are the more immediate measures that need to be pursued to help reduce the buildup of circular debt

Ensure all branches of government pay their electricity bills

Government institutions not paying their electricity bills is a significant drain on DISCOs and a major contributor to the circular debt. Even though not paying these bills is, of course, merely a transfer from one part of government to another, the power sector is nevertheless effectively providing a subsidy—and primarily to provincial governments. The government already has a well-established and agreed mechanism for determining transfers to provinces through the National Fiscal Commission award. So the implicit subsidies provided through the power sector are not in line with the shares determined by the award (Fatima and Nasim 2013).

The solution is to make subsidies to provincial governments explicit and put at least part of them in the budget for transfers to the provinces. This would require an increase in the transfer to provincial governments through the addition of an explicit lump-sum subsidy for their electricity bills. In return, provincial governments would be expected to pay their electricity bills in full and on time, with the DISCOs given the right to cut off power to provincial government institutions that fail to do this.[22] Doing this could also help to promote energy efficiency since the size of the subsidy could be dependent on provincial governments investing in improved energy efficiency.

[22] Another approach would be deductions at source, as has been proposed before. See Ghauri (2014).

Clarify policies on the taxation of electricity bills

The Federal Board of Revenue withholding the tax billed by DISCOs regardless of whether the bills are actually paid by consumers has resulted in a large backlog of claims by DISCOs to the bureau. It should be made clear that DISCOs are only responsible for remitting the tax that has been paid by consumers.

The Federal Board of Revenue and DISCOs are also in dispute over the liability for tax of payments from the federal government, including the tariff differential subsidy and other grants. The bureau claims these should be taxed because they are income; DISCOs claim this is a definitional issue and that the purpose of the subsidy is to fill a financial gap created by government policy and so it does not constitute income. Again, it is important that the tax arrangements on these transfers are clear since they affect the financial position of DISCOs and, in turn, the accumulation of the circular debt.

From an administrative perspective, it is understandable why the bureau wants to use established billing mechanisms to levy tax, but there should be a limit on the extent to which this is done. Policy should make this clear, otherwise there is a tendency for ad hoc levies and charges to accumulate.

The process of getting tax rebates from the tax authorities is extremely bureaucratic and time consuming. According to an IPP interviewed for this study, getting a rebate on sales tax required 174 meetings with the tax authorities, and that some claims for tax rebates are still pending resolution in the courts. The government could make it easier to get tax rebates by clarifying and streamlining the policies and processes for taxation in the power sector.

Link savings from tariff increases to politically popular poverty reduction programs

The challenges facing the power sector in Pakistan are broad and complex and cannot be solved simply by changes to tariffs or tariff methodology. Most of the following recommendations are designed to improve the financial viability of sector actors and to reduce their costs—and achieving this will reduce the need for tariff increases. Even so, the root of the circular debt problem lies in the power sector's inability to cover its costs, and a key part of this has been the difficulty that policy makers have had in charging tariffs that reflect the sector's underlying costs. So, although raising tariffs is far from the only or even the main solution to the sector's difficulties, it will not be possible to arrive at a long-term solution without tariff increases.

Electricity subsidies in Pakistan, both explicit and implicit, are still large—and they present both a challenge and an opportunity. Increasing tariffs, although extremely unpopular, significantly reduces the size of these subsidies. This suggests that a significant part of their reduction could be returned to the people in the form of support for politically popular development programs, while still delivering a fiscal improvement for the government. This approach has been highly successful in some countries. Iran made large reductions to fuel subsidies in 2010 by offering free universal health care, and Indonesia, in 2015, dramatically reduced subsidies by promising (and delivering) a health and education card that entitled households to specified services (Pradiptyo et al. 2016). Although cheaper electricity is obviously popular, it is not always the best use of public resources. So, in principle, it is possible to strike a bargain with consumers in which they receive something else that they value more highly in return for higher tariffs.

The precise "offer" that will be most appropriate for Pakistan needs to be closely examined and debated. One possibility is expanding the Benazir Income Support Programme, the current social security scheme. Experience from other countries shows that in addition to measures targeted to the poorest, it is often important to direct resources to services that are consumed by a large swath of the lower half of a country's income distribution, since this tends to make reforms more politically palatable. Given the regressive nature of Pakistan's electricity subsidies, there are many ways to redirect resources that would be more progressive, developmentally beneficial, and politically popular. The government should facilitate a wider debate on the fairest and most effective ways of reducing electricity subsidies, and adopt the mechanism that it believes will best achieve its goals for the power sector and that has widespread public support.

Electricity subsidies should be targeted to the poorest households. As prescribed by Walker et al. (2016), the government should consider the National Poverty Registry, a database of poverty scores, as a starting point for identifying beneficiaries. The database can be refined by allowing those who are genuinely poor to request a review of their poverty scores through a grievance redressal mechanism. The refined list can be merged with the utilities billing database. It is important to ensure that households without access to electricity are not left behind. A targeted cash transfer, though expensive, would achieve better coverage.

Find a sustainable solution for a long-term funding mechanism for the former Federally Administered Tribal Areas

Because security considerations make it unfeasible to collect electricity bills in some tribal areas, the federal government budgets an electricity subsidy; this totaled PRs10 billion in FY2018. This, in effect, is providing free electricity, which results in wasteful consumption. The potential for accumulating losses because of potentially unlimited consumption is an incentive for the Tribal Areas Electricity Supply Company to undertake extensive load shedding. The result has been a very poor quality of service for the people living in the former Federally Administered Tribal Areas and growing receivables for the Tribal Areas Electricity Supply Company.

The government should develop a plan whereby households and businesses in tribal areas, or at least tribal urban areas, pay for electricity at a gradually increasing rate in return for a commitment for better service. Historically, achieving such an arrangement has proved highly contentious, but a solution needs to be found that meets the legitimate development needs of these areas, while enabling the Tribal Areas Electricity Supply Company to move toward a more commercial and financially sustainable model of operation. Hopefully, the merger of the former Federally Administered Tribal Areas into Khyber Pakhtunkhwa province will facilitate this.

Invest heavily in improving the efficiency of existing power plants and the quality of the grid

In addition to increasing generation capacity, it is important to invest in improving the efficiency of power plants operating at very low capacity. One way of doing this is to ensure adequate resources for the rehabilitation and maintenance of assets. As prescribed by NEPRA, old power plants need to be retired and an objective merit order of dispatch implemented (NEPRA 2020). A concern over a significant expansion of intermittent renewable power is that the transmission and distribution system is not yet designed to handle this kind of power. The government, together with international partners, is investing in system improvements, but much more needs to be done. Policy has focused on expanding generation capacity and minimizing load shedding. This should change: improving the transmission and distribution system and increasing the NTDC's capacity are vital for enabling the additional generation capacity to reach consumers. This would also be an opportunity to modernize the grid so that it is capable of absorbing a much larger share of renewable energy. Thus, the shift to renewable sources of energy and investment in the grid are

complementary, with the former providing additional capacity and the latter ensuring more efficient use of all capacity on the grid.

Devote more resources to sustainable energy sources

The government has made remarkable progress in recent years in building additional generation capacity. The shift from furnace oil to gas- and coal-fired generation improves energy security and potentially reduces costs. Coal-fired generation can be viewed as an immediate strategy to address the electricity supply gap. But this strategy may run the risk of locking Pakistan into a fuel mix that may not be in the country's long-term interests. The government should see generation from renewable sources as a long-term solution, for four reasons. First, the marginal cost of generation from renewable sources is extremely low because renewables do not require fuel. Hence, investment in renewables is likely to have a greater impact on reducing costs in the long term than further investment in coal. Second, smaller renewable power generation can help reduce the risk of overcapacity and address the burden of capacity payments.

Third, Pakistan has made commitments under the Paris climate change agreement. A shift to greater use of renewables is consistent with these commitments and puts Pakistan on the same path as most countries in the effort to develop sustainable sources of electricity. Fourth, more use of renewables will lessen the air pollution caused by thermal generation. Air pollution in Pakistan is already extremely high, and it is well established that the burden of disease from rising coal-fired generation is likely to be considerable.[23] When the additional cost of excess mortality and morbidity is factored into the cost of electricity, it is often the case that seemingly cheap coal-fired generation is no longer cheaper than renewable alternatives.[24]

The government needs to address the fast depletion of indigenous natural gas by adjusting the price of domestic gas so that it is at par with prices in Asia. Proper pricing will encourage investments in upstream exploration and production, and the efficient use of gas resources. The government should commission an independent study on the full cost of different energy sources to help it move to a power mix that is aligned with the country's best long-term interests. Pakistan is blessed with abundant hydroelectric and solar resources.

[23] See Khwaja et al. (2012) for evidence of additional morbidity in Karachi. The Pakistan Air Quality Initiative provides data for selected locations throughout the country. https://medium.com/pakistan-air-quality-initiative/lahoresmog-just-how-bad-is-it-81c0623cdb02. See Koplitz et al. (2017) for evidence from Southeast Asia.

[24] See Attwood (2017) for an example from Indonesia.

The latter, in particular, has barely been exploited. Other countries in the region and in the Middle East have shown that it is possible to make significant advances in grid-connected solar power in a relative short time. This would mitigate pollution, support efforts to reduce climate change, and provide a low-cost source of domestic energy for the future.

Invest in reaching unserved populations to achieve universal access

Providing electricity to all households is a core responsibility of all governments and this is a Sustainable Development Goal. Pakistan has made good progress in recent years in expanding coverage in rural areas through the work of the Alternative Energy Development Board and other agencies. Because most unconnected households are likely to be in remote areas and more costly to connect, it may not make sense for all of them to be connected to the grid. But Pakistan is now at a point where it can make a credible political commitment to provide access to all households.[25] This would entail devoting significant resources to do this either through grid or off-grid solutions for particular communities.[26]

It is important to recognize that meeting unserved demand needs to be an explicit initiative with separate funding. The DISCOs have little incentive to extend services, particularly to remote areas where consumption will be small—and therefore likely to be loss-making. International experience suggests that more rapid progress takes place when access is made an explicit political objective under a specific agency tasked and resourced to achieve clear targets for this. The work of such an agency should be closely coordinated with work on extending and modernizing the grid, and conducted under the auspices of strengthened and integrated capacity for least-cost planning and performance monitoring.

[25] See IRENA (2018) for detailed recommendations on renewable energy development in Pakistan.

[26] See Ahmad, Khan, and Zaffar (2017) for research on low-cost models for decentralized delivery in Pakistan.

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CHAPTER 6

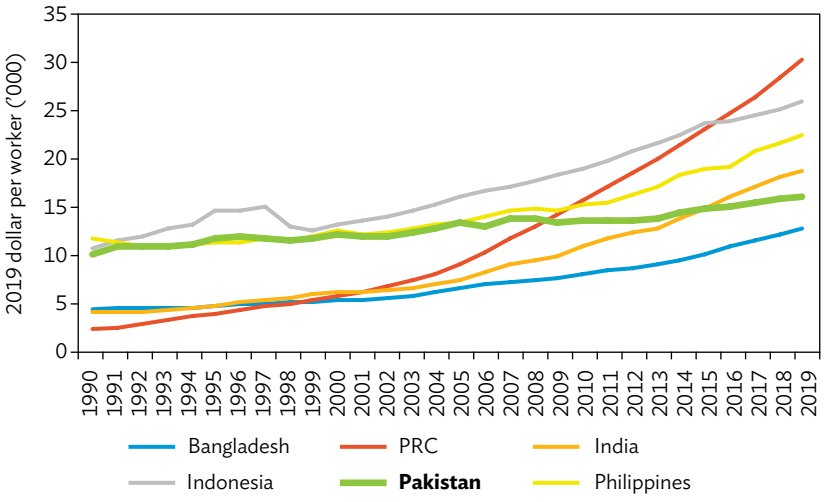
Nurturing Human Capital Development in the Education and Health Systems

Kiyoshi Taniguchi, Safiya Aftab, and Ammar Aftab

This chapter looks at the challenges faced by Pakistan's primary and secondary education and health systems from the lens of human capital development and economic growth—and offers policy actions that could be taken to broaden the reach and quality of both systems. It is hoped that the analysis and recommendations will be useful for policy makers in their efforts to promote inclusive growth, given that education and health are core determinants of labor productivity, which itself is an engine of economic growth.

Pakistan's labor productivity has remained stagnant for decades (Figure 6.1). Labor productivity in peer countries in South Asia and Southeast Asia has surpassed Pakistan, which needs to increase investment in social development, including education and health, to boost productivity. UNICEF (2019) notes that even though major investments are being made, and education budgets have been gradually increasing, Pakistan nonetheless has the second highest number of out-of-school children in the world. Access to education has wide variations at the provincial, regional, gender-based, and socioeconomic levels. Even though the overall health status in Pakistan has improved since the 1990s, the progress has been much slower than in neighboring countries (World Health Organization 2013).

Figure 6.1: Labor Productivity in Selected South Asian and Southeast Asian Countries, 1990–2019



PRC = People's Republic of China.
Source: The Conference Board. Total Economy Database.
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6.1 Role of Human Capital on Economic Development

In the neoclassical growth model, population growth and technological progress are seen as engines of growth (Solow 1956). Although the Solow model does not specifically account for education and health, the underlying conditions provide the rationale for this chapter's focus on education and health. This is because a growing population that is educated and healthy is indispensable for improving productivity through technological innovation. Nelson and Phelps (1966) made the link explicit by demonstrating that workers need to have a good education and be healthy to utilize new technologies. The endogenous growth models of a few decades later placed the central role of human capital in technological development and economic growth. According to these models, the accumulation of human capital through health, education, and vocational training improves labor productivity, promotes technological innovation and adaptation, and reduces fertility to fast-track economic growth (Lucas 1988; Romer 1990; Mankiw 1992; Barro and Sala-i-Martin 1997).

Many cross-country empirical studies have established a positive correlation between human capital and economic growth. Azariadis and Drazen (1990) find that a country's literacy rate in 1960 was a significant determinant of gross domestic product (GDP) per capita growth during 1960–1980. Literacy rates and initial GDP per capita in 1960 together accounted for 38% of the variation in economic performance in the 20-year period. Barro (1991), using school enrollment as a measure of human capital, finds that primary and secondary school enrollment rates are positively linked to economic growth and investments while being negatively linked to fertility rates. Mankiw, Romer, and Weil (1992) find the elasticity of GDP per capita to the enrollment rate is 0.66 for non-oil exporting countries and 0.76 for Organisation for Economic Co-operation and Development countries. The authors show that differences in enrollment rates can explain the non-convergence in incomes during 1960–1985.

Applying the Mincerian specification, Barro and Lee (2010) estimate that increasing the average years of schooling by 1 year would increase GDP per capita by 1.7%–12.1%, depending on the specification (i.e., random versus fixed effects regressions). Cohen and Soto (2007) calculate that long-term returns to income by an additional year of schooling at 12.3%–22.1%. Testing the impacts of the quality of schooling on growth, Hanushek and Woessmann (2007) find that a unit increase in a country's average cognitive test scores raises its GDP per capita growth rate by 1.2–2.0 percentage points. Increasing average math and science scores by one unit increases this by 2.0 percentage points on average and by 2.3 percentage points for low-income countries. Evidence shows that a 10% improvement in health outcomes could raise economic growth by 0.4 percentage points annually (OECD 2004). Overall, these studies find that education and health are significantly and positively correlated with economic growth. And they show that causation runs from education and health to growth in line with human capital growth models. Some studies, however, indicate the causation could be from growth to education and health (Bils and Klenow 2000; Krueger and Lindahl 2001).

Irrespective of the causation, Ventura (2018) argues that the socioeconomic rate of return on investment in education could be high globally—19% for primary education, 13% for secondary education, and 11% for tertiary education. The productivity gains, as captured by incomes for individuals, are even higher—26.6% for primary education, 17.0% for secondary education, and 19.0% for tertiary education. Because the social returns to investment in primary and secondary education are potentially much higher than in tertiary education, Nowak and Dahal (2003) recommend that countries invest in the early stages of education due to its higher potential direct and indirect benefits.

In Pakistan, evidence suggests that monthly household incomes increase with educational attainment. Nazar and Chaudhry (2017) analyzed the return on investment for education by focusing on the quality and quantity of education based on 850 wage earners in Multan. Their study concludes that wages increased with educational attainment and that the effect on wages of the number of years of schooling for women is "remarkably higher."[1] In line with several other similar studies, Jamal (2015), using the standard Mincerian approach, concludes that each additional year of schooling leads to productivity gains, as captured by wage increases. The rate of increase is lower at the secondary level, however, since this level does not offer employable skills on its own. Farooq (2011), in a study on the disparities between male and female education, finds that primary education alone does not provide any specific skills or training for the labor market. The low rate of return to primary education is attributed to an excess supply of workers with low levels of education. Investing in the primary and middle stages of education makes economic sense since it would increase the pool of higher-educated workers and therefore reduce the larger pool of workers with unemployable skills.

Estimating conclusive quantitative evidence for the link between investment in primary and secondary education and productivity gains is challenging because of the interlinkages of indicators and externalities. That said, some attempts have been made to capture the indirect benefits of primary and secondary education to economic growth. World Bank (2004) argues that the socioeconomic benefits of investing in primary education, such as effects on social cohesion and democratic institutions, could be requirements for creating the right conditions for economic stability and growth. Primary education could also lay the foundation for a healthier and productive labor force by promoting literacy and numeracy, as well for secondary and tertiary education, and vocational training.

World Bank (2005), using literature spread over several decades and across geographical areas, shows that businesses put a higher value on workers with secondary education than those with primary education. Employers believe that workers with secondary education have a better ability to learn and adopt new technologies that can enhance productivity and profitability. World Bank (2005) also argues that secondary education could be crucial for creating a virtuous circle of economic growth in the context of a globalized knowledge economy. A large pool of workers with secondary education can generate knowledge spillovers that can help attract foreign direct investment and imports of technologically advanced capital goods. Both enhance an

[1] Overall, the returns on investment in education for men is 12.2% and 19.3% for women.

economy's productive capacity for achieving higher growth. Secondary education is also a bridge to higher education. Here, the knowledge and skills acquired and accredited in secondary education may determine the prospects and choices of students for tertiary education. Evidence from a household study in rural Tanzania suggests that completing secondary school could result in better health outcomes and bridge gender-inequality gaps to promote more inclusive growth (Lupeja and Gubo 2016).

6.2 Constraints to Primary and Secondary Education

Pakistan has a complex education system, which has different categories of government and private schools, as well as religious seminaries (madrassas). Because of this, it has often been unclear what age group, class, or grade each level of education refers to. This analysis adopts the definition used by the Ministry of Federal Education and Professional Training in its National Education Policy 2017–2025. While acknowledging the inconsistencies in education taxonomies, the policy classifies primary education in Pakistan as being from class 1 to 5 with the age group of 5–9 years (i.e., children ages over 5 and under 10). Secondary education is classified from class 6 to 12, middle secondary (class 6 to 8), high secondary (class 9 to 10), and higher secondary (class 11 to 12).

The provision of free, compulsory, and universal primary and secondary education has long been a stated objective of Pakistan governments, and the country is a signatory to the 1948 Universal Declaration of Human Rights, whose Article 26 is the right to education (Khan 2010). Successive governments have launched campaigns to increase the quality and reach of primary and secondary education—but with limited success. Since the 18th Constitutional Amendment in 2010, the provision of free, compulsory, and quality education to children ages 5–16 has been a constitutional obligation (Ministry of Federal Education and Professional Training 2017).

Despite these efforts, primary and secondary education is beset by low quality and reach. There are many reasons for this: a high level of poverty, long distances from schools, high education costs, the low literacy of parents, social taboos, lack of teacher commitment and high teacher absenteeism, an unattractive school environment, the harsh treatment of children in schools, lack of schools and basic facilities, natural disasters, lack of coordination among different types of primary and secondary institutions, and budgetary constraints (Ministry of Federal Education and Professional Training 2017). A consistent concern is that primary and secondary education is being neglected

because of the government's focus on tertiary education, and this problem is most acute in rural areas (Ahmad et al. 2013). There are parallel primary and secondary school systems, but these mostly benefit the elite.

Pakistan's weak education and health systems are binding constraints to human capital development and hence to economic growth. Their low level of access and quality is why the country remains one of the region's lowest performers in human capital development. As Table 6.1 shows, Pakistan, in 2018, was ranked lowest among South Asian countries in the Human Development Index for life expectancy at birth, years of schooling, and the Global Hunger Index, which captures the multidimensional nature of hunger (i.e., undernourishment, child wasting, child stunting, and child mortality). Pakistan now has the world's eighth-highest number of stunted children, with 45% of children under age 5 having this condition (UNICEF 2017).

Table 6.1: Human Capital Indicators in South Asian Countries, 2019

Countries	Human Development Index Rank	Life Expectancy at Birth	Years of Schooling	Global Hunger Index Rank
Sri Lanka	71	76.8	14.0	66
Maldives	104	78.6	12.1	–
India	129	69.4	12.3	102
Bhutan	134	71.5	12.1	–
Bangladesh	135	72.3	11.2	88
Nepal	147	70.5	12.2	73
Pakistan	**152**	**67.1**	**8.5**	**94**

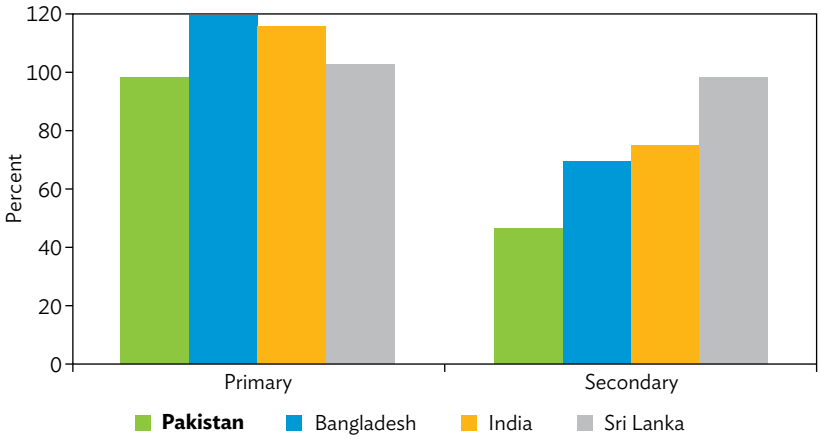
– = not included in the Global Hunger Index.
Note: Index values are for 2018.
Sources: United Nations Development Programme. 2019. *Human Development Report 2019*. New York; International Food Policy Research Institute. 2019. *Global Hunger Index*. Washington, DC.

Low school participation

Although Pakistan has made progress in improving access to primary and secondary education, this remains below regional and global standards. At both levels, enrollment rates are low and dropout rates high. Indeed, Pakistan's gross enrollment ratio is the lowest among comparator countries (Bangladesh, India, Sri Lanka) in South Asia, and there are stark gender differences. Although gross enrollment for secondary schools grew from 12.2 million in FY2017 to 12.9 million in FY2018, the gross enrollment rate was still the lowest among comparator countries (Figure 6.2). In primary schools, gross enrollment was 22.9 million in FY2018, up 5.5% on the previous year.

Pakistan's high dropout rate is a big concern, especially at higher stages of education, with students in classes 6–10 three times more likely to drop out than those in classes 1–5. The nonprofit education organization Alif Ailaan notes that 68% of primary-school-age children were out of school and just over 60% of enrolled students completed class 5 in FY2012 (Alif Ailaan 2014).

Figure 6.2: Gross Enrollment Rate in South Asian Countries, 2018

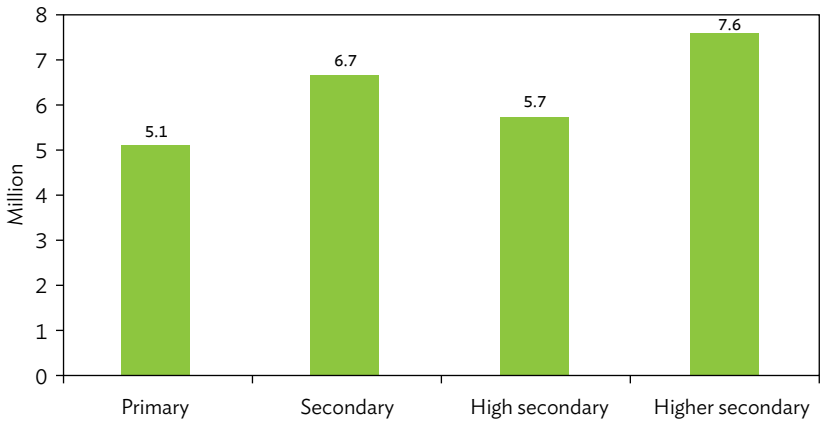


Source: United Nations Development Programme. 2018. *Human Development Report 2018*. New York.

Low enrollment and the high dropout rate contribute to the high number of out-of-school children in Pakistan—the world's second-highest at over 25 million children ages 5–16 (UNICEF 2019). Figure 6.3 shows the proportion of children not in school is rising at higher levels of education (Alif Ailaan 2014). About 55% of out of school children are girls who belong to the poorest families and live predominantly in rural areas.

The regional and socioeconomic differences in access to education show disparities across the country. Children in Balochistan are nearly twice (47%) as likely to have never been to school than in Punjab (24%). The percentage of rural areas is 37% and 19% for urban areas (IDEAS 2016). Alif Ailaan (2014), which reports on district rankings for a range of education indicators, shows Punjab generally has the highest-ranked districts for primary education, followed by Khyber Pakhtunkhwa, Balochistan, and Sindh. The same trend is observed for secondary education.

Figure 6.3: Out-of-School Children by Education Level, 2014



Note: Year is fiscal year, ending 30 June.
Source: Alif Ailaan. 2014. *25 Million Broken Promises: The Crisis of Pakistan's Out-of-School Children.* Islamabad.

Gender disparities in primary and secondary education are narrowing, but they remain high. The literacy rate for girls increased from 42% in FY2014 to 52% in FY2018; the rate for boys increased from 67% to 72%. The primary school enrollment rate for girls increased from 67% to 71% in the same period; the rate for boys rose from 77% to 82%. For girls in secondary school, the enrollment rate rose from 31% in FY2014 to 40% in FY2018, and from 41% to 49% for boys. Balochistan and Sindh have consistently had the lowest enrollment (WEF 2018). Because of gender disparities, the labor force participation of women—just 26%, compared with 85% for men—and their level of productivity remains low. The average monthly income for women is PRs9,700, compared with PRs15,800 for men (Pakistan Bureau of Statistics 2019). If Pakistan can close the gender gap, its GDP could rise by 30% through an expanded workforce and increased output and productivity (IMF 2018).

Poor quality of education

Increasing enrollment by reducing the gender gap in education—important though this is—will not be enough to transform lives. The quality of education, which is not captured by these quantitative measures, is a vital determinant for building human capital and a highly skilled and productive workforce to spur economic growth (Hanushek and Woessmann 2007, 2008). Quality education reduces poverty and income disparities, which are major barriers

to school attendance and learning (Hanushek and Woessmann 2012). Better educated parents, especially mothers, translate into fewer maternal deaths, better health and nutrition in children (e.g., lower stunting), higher school participation, and better cognitive development in children (ADB 2019a).

In Pakistan, investment in education has generally not translated into better learning outcomes. Many factors seem to be the cause of this. The main ones are poor teaching; an outdated curriculum and poor-quality textbooks; obsolete teaching methods that promote rote learning and cramming instead of conceptual clarification; lack of coordination among public and private schools and madrassas; and lack of community involvement. Consequently, the poor quality of primary and secondary education is undermining economic growth and competitiveness, especially in today's highly globalized and technology-driven world. An empirical analysis for Pakistan shows that a one standard deviation increase in cognitive skills is associated with a 25% increase in earnings (Behrman, Ross, and Sabot 2008).

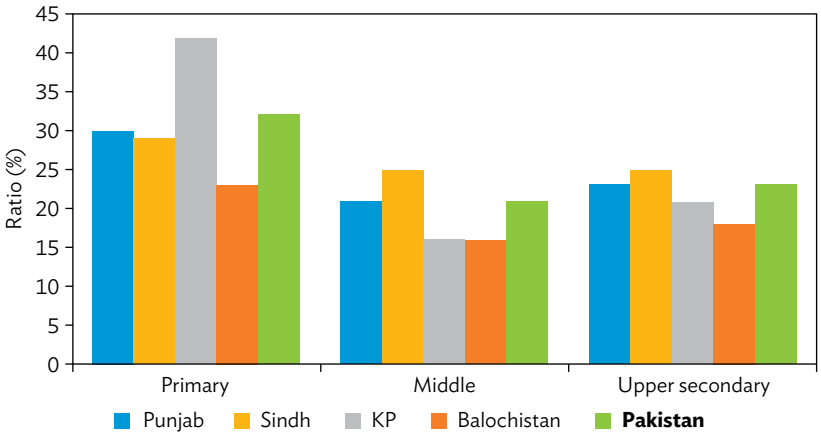
The lack of qualified, competent, and committed teachers hampers providing better-quality education. Most primary and secondary school teachers lack the capability to explain basic concepts, and are therefore unable to impart knowledge effectively to their students. Exactly what makes a good teacher is not clear cut, but there is wide agreement that of all school inputs, good teaching is the most important factor in influencing student learning outcomes (Hanushek and Woessmann 2012). Although learning is influenced by many other factors, motivated teachers capable of not only imparting knowledge but also supporting students to develop their cognitive and noncognitive skills, especially to weak learners, play an important role in learning (Hanushek, Kain, and Rivkin 2009; Goldhaber and Brewer 1999). Evidence suggests that about one-half to two-thirds of the variation in student achievement in many countries can be attributed to school-specific factors, such as teacher quality and school resources (Dundar et al. 2014).

The quality of education is also affected by a very high teacher absenteeism rate—13% in FY2016—that reflects a lack of motivation (SAFED 2016). This and the paucity of well-trained teachers results in learning being mainly procedural. Consequently, most students not only lack the skills to express thoughts in their own words but are also unable to apply the concepts to real life.

The quality of primary and secondary education systems is also hampered by a high pupil–teacher ratio that is highest in primary education (Figure 6.4). This ratio expresses the relationship between the number of students enrolled in

a school and the number of full-time equivalent teachers employed by the school. A high pupil–teacher ratio means that the workload of teachers is such that they may not be able to provide individual attention to students for quality learning.

Figure 6.4: Pupil–Teacher Ratio, 2017



KP = Khyber Pakhtunkhwa.
Note: Year is fiscal year, ending 30 June.
Source: Ministry of Education and Professional Training. 2018. *Pakistan Educations Statistics. 2016–17.* Islamabad.

Assessments and exams are an integral part of an education system. Pakistan has significant gaps and inconsistencies in both (and at different class levels). Since the 1950s, the examination system for secondary education includes province-wide annual exams at class 10 (matriculation) and class 12 (intermediate). There are four provinces but 28 provincial government-funded Boards of Intermediate and Secondary Education and one private provider of nationwide secondary-level exams—the Agha Khan Examination Board, which is responsible for designing, managing, and coordinating annual exams for affiliated public and private schools.[2] The quality of these exams is below global standards because the examination system encourages rote learning and cramming. This promotes the pursuit of high marks rather than education as a means of developing intellectual power through learning.

[2] The boards have a wider responsibility than exams since they also administer intermediate and secondary education.

Some elite private schools are affiliated with international examination boards, such as the United Kingdom's International General Certificate of Secondary Education, Cambridge International Examinations (ordinary and advanced level exams), and the International Baccalaureate. The work of these boards is coordinated by Pakistan's Inter-Board Committee of Chairmen, which acts as a platform for discussions on setting exam papers, the curriculum, and examination standards. Other functions performed by the committee include maintaining uniformity across the boards and providing equivalency certifications for foreign-qualified degree holders. The Boards of Intermediate and Secondary Education provide some uniformity in the structure and mandates of the different provincial boards. But having many different examination boards, even within a province, makes establishing equivalency difficult—and the standards across the boards vary considerably. The boards also lack financial and technical capacity, and skills. Board research centers, which are mandated to do research and analysis for improving the examination and assessment systems, are for the most part not working properly. Consequently, little effort has been made by the provinces to reform their Boards of Intermediate and Secondary Education. The reform approach to raising teacher standards and for evaluating teacher performance, and curriculum and textbook development, has been fragmented. A feature of exams in Pakistan are the media reports of cheating, unfair practices, and poor results. Increasingly, however, more attention is being paid to modernizing and standardizing the examination and assessment systems, especially in secondary education and particularly in Punjab and Sindh (ADB 2019a).

The responsibilities of preparing, reviewing, and approving the curriculum, and the contents of textbooks, were transferred to the provinces following the 18th Constitutional Amendment. This was done, however, without building the capacity of provinces to perform these functions. Since the adoption of the National Curriculum 2006, all provinces have put together their own legal and implementation frameworks for curriculum and textbook development, although some provinces have done this by making only minor changes to their old curriculum. Because there was little consultation with principals and teachers on the National Curriculum 2016, its implementation remains weak. Another challenge to getting a consensus on the development of textbooks and implementing the national curriculum is the continuing debate on the medium of instruction in school. Although Urdu is the national language, it is the native language of only 7.5% of the population (Pakistan Bureau of Statistics 1998). English, a universal language, is often demanded by parents as the medium of instruction. The Punjab government has issued notifications to declare English as the medium in all schools, but this has been difficult to implement. The disconnect between language policy, its implementation

in schools, its use in textbooks, and enabling teachers to teach the assigned language are some of the major challenges for improving the quality of primary and secondary education.

Provincial governments provide free textbooks to about 23 million students in public sector schools. The system for procuring, publishing, and distributing textbooks is riddled with inefficiencies (Ministry of Federal Education and Professional Training 2017). Evidence suggests there are problems in the lack of accountability in publishing and paper procurement, the quality of book production, and the use of just a small number of contractors. Budgets for textbooks are not adequately prepared, and there are production and delivery problems. Provincial governments have been trying to implement the 2007 textbook policy by working with the private sector, given its large presence in the publication of textbooks. But resistance from the Curriculum and Textbook Boards, corruption, a shortage of good authors, and low private sector capacity are key obstacles to implementing the textbook policy. Targeted policy actions could be needed to attain efficiency, cost, and quality gains.

Insufficient education financing

The quality and reach of Pakistan's education system have consistently suffered from a low level of government investment. Insufficient financing, coupled with poor governance, has resulted in not enough schools, low enrollment, poor facilities, a high dropout rate, and a shortage of competent teachers, among other problems. Even though public spending on education as a percentage of GDP rose from 1.5% in FY2002 to 2.4% in FY2018 (Ministry of Finance 2019a), it is still considerably lower than in some other countries in the region (UNESCO 2019) (Figure 6.5).

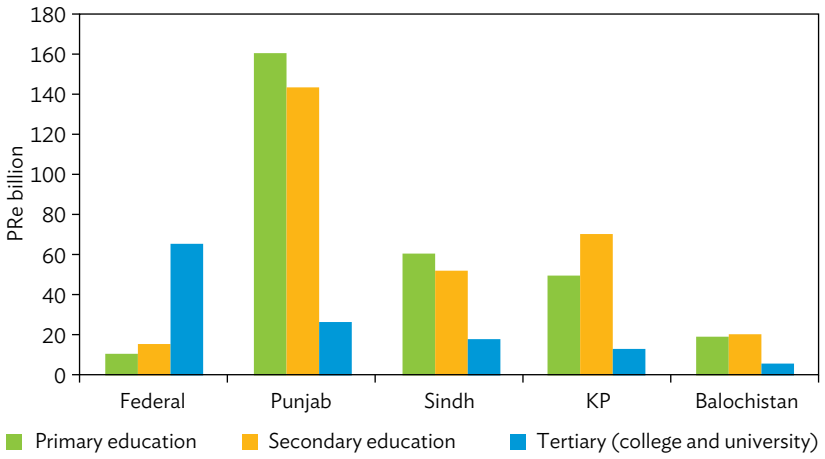
After the 18th Constitutional Amendment, tertiary education became the domain of the federal government, and primary and secondary education became primarily the responsibility of provincial governments. The federal government allocates a large chunk of its education budget (72% in FY2018) to tertiary education, while 11% goes to primary education and 16% to secondary education (Ministry of Finance 2019b).[3] Provincial governments also allocated more budgetary resources for primary and secondary education relative to tertiary education (Figure 6.6).

[3] Reported tertiary expenditure is only for colleges and universities.

Figure 6.5: Education Expenditure in Selected Asian Countries

FY = fiscal year, GDP = gross national product.
Note: Pakistan estimates for FY2018 and FY2017 for the others.
Source: UNESCO. 2019. *Global Education Monitoring Report 2019*. Paris.

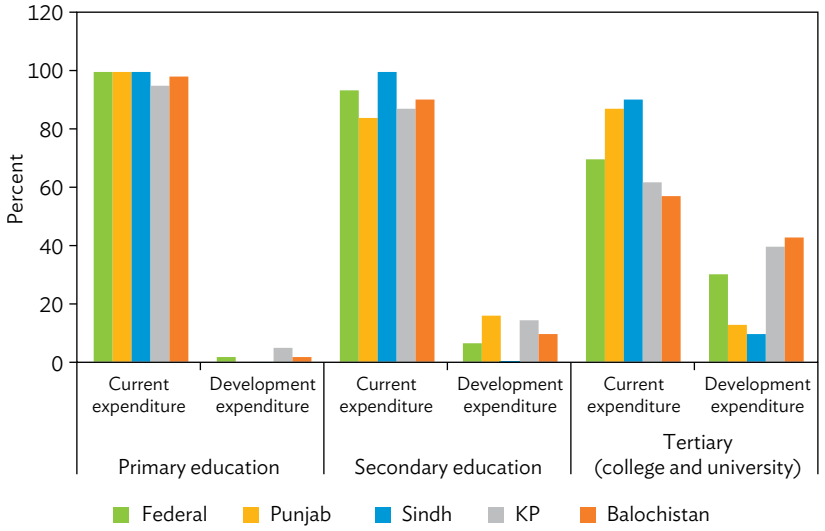
Figure 6.6: Federal and Provincial Education Expenditure, 2019



KP = Khyber Pakhtunkhwa, PRe = Pakistan rupee.
Notes: Year is fiscal year, ending 30 June. The figure does not include the funding allocated for professional and technical education, and teacher and vocational training.
Source: Ministry of Finance. 2019. *The Poverty Reduction Strategy Paper Budgetary Expenditures*. Islamabad.

An analysis of education funding at the federal, provincial, and district levels shows that current expenditure, such as salaries, accounts for most of this spending at all tiers of education. This suggests that district education departments and school management committees for primary and secondary schools get only limited annual funding for development, such as for building and upgrading facilities, teacher training, developing the curriculum, and monitoring and supervising education (Figure 6.7).

Figure 6.7: Federal and Provincial Current and Development Education Expenditure, 2019



KP = Khyber Pakhtunkhwa.
Notes: Year is fiscal year, ending 30 June. The shares exclude funding allocated for professional and technical education, and teacher and vocational training.
Source: Ministry of Finance. 2019. *The Poverty Reduction Strategy Paper Budgetary Expenditures*. Islamabad.

Despite increases in allocations after the 18th Constitutional Amendment, budget execution—the ratio of actual expenditure to funds allocated—continues to be low in Pakistan. It is actual expenditure, rather than mere allocations, that is essential for improving the quantity and quality education inputs. Budget execution rates for overall primary and secondary education expenditure were 84% in Punjab and 94% in Sindh (ADB 2019a). These rates, however, include salaries, which are usually either fully or near fully disbursed. Even more telling is the budget execution rates for development expenditure—these are typically spent on education infrastructure, equipment, and repairs and maintenance. Actual development expenditure for secondary education falls far short of allocations in all provinces, but it surpasses allocations for

primary education. In Sindh, only 10% of development expenditure allocated for secondary education was spent in FY2016. The budget execution rates were better in Punjab at this level, with almost half of the allocated development expenditure being spent in the same year.

There are several reasons for the low budget execution rates. Although these have not been systematically investigated, one of them is the capacity constraints facing provinces in spending allocated funds, especially given the demands created by the devolution of planning and spending (ADB 2019a). A major share of allocated development expenditure is also earmarked for education infrastructure, which requires provincial education departments coordinating with the federal government, which often leads to delays and planning and coordination problems.

Private education

Private schools in Pakistan include low-cost fee-paying schools, elite schools, and schools supported and run by provincial education foundations, philanthropists, and nongovernment organizations. They play an important role in the education system. In FY2017, the private sector accounted for 31% of schools and 35% of total enrollment. Some 13% of preprimary and primary schools, and 62% of secondary schools, are private (Ministry of Education and Professional Training 2018). These figures, however, are estimates since there has been no census on private schools since 2005.

The role of private schools has grown considerably since 2010, with the share of enrollment in private primary schools increasing by about 10 percentage points to 38% in FY2015 (Pakistan Bureau of Statistics 2017). In Punjab, almost half of all children in primary classes attend private schools, and the share is similar for secondary education. This trend reflects the widely acknowledged reality that households are increasingly willing to pay for education due to the poor quality of and inadequate access to public schools (Social Policy and Development Centre 2015). Enrollment in private primary schools is much higher in urban areas than in rural ones (Alif Ailaan 2017). This disparity reflects the low level of subsidies provided by the government to the private sector to run schools in rural and poor areas.

Evidence suggests the quality of education and the general functioning of Pakistan's private schools are much better than its public schools. According to World Bank (2007), students from private schools have higher test scores in all subjects, in part due to better teaching. The study finds the "differences

between public and private schools are so large that it could take public school students between 1.5 to 2.5 years of additional schooling to catch up to where private school students were in Class 3." The study concludes that private school teachers perform better since they are paid according to local conditions, and their pay is based on performance. The pay structure for public school teachers is based on qualifications, seniority, and experience, rather than performance.

As noted earlier, private schools include schools that charge high fees for wealthier students, offering better facilities. Even so, low-cost private schools, when classified separately, still have a higher percentage of students attaining better basic learning levels compared with public school students, reflecting a higher quality of teaching, among other things. SAFED (2018) shows that children in Pakistan's private schools are better at languages and math. It should be noted, however, that irrespective of the type of school, the language and math skills of a high percentage of primary and middle-school children are well below what they should be (Niwaz et al. 2014).

6.3 The Way Forward

Pakistan's education policy has generally focused on improving the reach of primary and secondary education. Further investment and reforms are needed at both levels to improve access, quality, and governance. Doing this will be essential for attaining better education outcomes, which will be needed to help secure strong and inclusive economic growth so that Pakistan's high regional, socioeconomic, and gender disparities are not perpetuated.

Although access to primary and secondary education has improved due to the relatively large involvement of the private sector, the government needs to consider the ramifications of this for equity. Even low-cost private schools are expensive for poor households. To remedy this, the government could partner with the private sector to subsidize education for children from poor households to achieve a cost-effective solution. Public–private partnership (PPP) schools should be substantially scaled up, particularly in areas where public schools either do not exist or are too small. Interim measures, such as evening classes in primary schools being used for classes 6–8 and other shifting measures, could have an immediate impact on participation and transition rates.

The level of government spending on primary and secondary education is too low for Pakistan to meet its constitutional obligation under the 18th

Constitutional Amendment of providing free and quality education to children ages 5–16. Although all provinces have considerably increased allocations to education since around 2015, this is unlikely to be sufficient to meet the targets for education in the Sustainable Development Goals. Most provinces have education policy plans. These plans, however, should be properly budgeted and thought through when the federal government's National Finance Commission Award is made to the provinces. The allocation of public funds to non-salary expenses, such as operating expenses and supplies, is meager and should also be examined. Indeed, doing this could be critical, given the urgent need for expanding and rehabilitating education infrastructure. Non-salary operating expenses are also important for improving the quality of education through, for example, teacher training.

Although salary budgets are usually spent in full, budget execution rates are very low for non-salary budgets, especially for development budgets in primary and secondary education. Thus, increasing non-salary budget allocations will be pointless unless they are accompanied by significantly higher execution rates. Because most of the development budget is spent on infrastructure, the reasons for the low level of spending in primary and secondary education compared with their allocations should be investigated. Doing this could shed useful light on the constraints and challenges so that policy actions can be taken to tackle them. For example, if delayed fund releases are a major reason for low budget execution, better coordination with finance departments may be needed.

Given the fiscal constraints, productive PPP modalities should be used to fill the financing gap for enhancing the reach and quality of primary and secondary education. Various PPP modalities have been tested and adopted by provincial governments. For instance, the Punjab Education Foundation and Sindh Education Foundation, established in 1991 and 1992, are autonomous bodies that promote different vehicles for education in their provinces. The Punjab Education Foundation supports PPPs to increase access to education for poor communities. It provides financial assistance to schools and offers incentives to deserving schools, teachers, and students. Some of its projects include teacher training for private schools that charge relatively low fees, financial support for schools in less affluent areas, and education voucher schemes. The Punjab Education Foundation has established specific criteria that qualify schools, students, and teachers for its support (ADB 2019a). The Sindh Education Foundation also focuses on remote and underdeveloped areas, providing loans and grants to schools, teacher training, and developing PPPs (ADB 2019a). Among the bigger challenges associated with PPPs are maintaining clear lines of responsibility for standards and increasing the

capacity of government institutions to uphold standards. In terms of quality, PPPs tend to deliver better education than public schools.

Increasing access to quality education across gender, regions, and social groups could reduce disparities in school attainment and outcomes. The government could advance this agenda by equitably deploying trained teachers across regions and communities to reduce these gaps. Using information and communication technology tools for classroom and distance learning could tackle geographical disparities in the quality of education. Empowering local governments and rural communities to demand and support better learning outcomes could also contribute to reducing regional disparities. Scholarships and stipends for students from socially or economically disadvantaged families could help reduce educational gaps across social groups. Promoting adult education and alternative learning can especially help mothers and students in communities where learning outcomes and school participation are particularly low.

Investments could be made to upgrade and monitor educational quality for attaining better learning outcomes. Here, improving the quality of teaching through training to help students develop both cognitive and noncognitive capabilities could improve learning outcomes. Teachers should be well equipped to engage students in classroom discussions, develop critical thinking, and effectively handle weak learners. Periodic assessment of the performance of teachers and students could motivate teachers to improve the quality of their teaching. In addition to traditional monitoring and assessment channels, the use of information and communication technology for this could be considered. Standards for recruitment and deployment must be transparent, and investing in the continual professional development of teachers is needed for building a quality teaching force.

The public sector Boards of Intermediate and Secondary Education could be rationalized and reformed by reducing their number and building their capacity to become more efficient, so they are better able to set and administer high-quality exams that adhere to provincial standards. The public sector boards need more qualified staff and technical capacity building. The boards should consider including technical positions, rather than using consultants for their technical work. It is important that technical staff are hired using transparent and merit-based procedures. Contract staff and consultants used by the boards for test development and scoring also need to be selected using rigorous procedures. The regular access to professional development courses, whether for test development, scoring, or data analysis and research, could be provided for board staff. Board research cells could be set up and staffed with technical

personnel. The boards should focus on improving test administration by using software to score papers and reduce cheating and biases in grading. Credible examination results will help students get into leading tertiary institutions that will improve their job prospects. All these interventions may require a sustained increase in funding for the boards, highlighting the need to reduce their number, and to use financial and human resources more effectively and efficiently.

The capacity of the Curriculum and Textbook Boards could be enhanced by improving the design and content of the curriculum. Although the provinces have developed their own curriculum implementation frameworks that clearly demarcate roles and responsibilities, their implementation remains slow. Extensive capacity building is needed for these boards to be able to fully understand how to develop the curriculum, prepare textbooks based on the curriculum, and for monitoring their curriculum implementation frameworks. A key area of support should be developing the capacity of board staff for curriculum and textbook development—ideally, with the close collaboration of academia and private think tanks. A review and analysis of student learning outcome data could be useful to guide needed modifications to the curriculum. The research and content development cells within the curriculum wings and assessment and examination systems need to work together to ensure curriculum content is guided by research and data.

Provincial governments should prioritize implementing the National Textbook and Learning Materials Policy and Plan of Action 2007 to establish more transparent procedures for publishing textbooks, allow greater competition in the sector, and to get better-quality textbooks published. Provincial governments need to take a firm stand on which language to use as the medium of instruction for which classes to enable teachers to be well trained and textbooks to be developed in the chosen language. It is equally important to decide on when to introduce other languages, such as Urdu and English, as second languages. International research increasingly points to the use of the native language at the elementary level as the best practice. While each province needs to make its own decision on this, it is important that textbooks, teacher guides, and teacher training are adequate in the chosen language of instruction.

Social protection programs, such as the Benazir Income Support Programme, the country's largest social safety net program, and the government's Ehsaas program, could be used to develop localized and district-specific schemes for enhancing access to and the quality of primary and secondary education.

The current reforms to modernize madrassas by providing financial assistance, teaching English and science, and building science laboratories to increase employment opportunities for graduates should be expedited. The government bringing about 30,000 madrasas under the Ministry of Federal Education and Professional Training is a step in the right direction, as have been other actions emanating from these reforms.

Although this chapter's analysis on strengthening the education system focused on primary and secondary education, increased investment and policy reforms are also needed in tertiary education and skills training. In Chapter 1's analysis on the causes of Pakistan's episodic growth performance, the dismal state of all these education sectors was identified as a prime reason behind the country's poor human capital development. To overcome the poor access, participation, and relevance of tertiary education and skills training, the following reforms are recommended:

- Clearly define the roles and responsibilities of key institutions in higher education and skills training. This has become particularly important since the 18th Constitutional Amendment. Overlapping roles between federal, national, and provincial levels, and within provincial governments, need to be redefined. This may in some cases involve restructuring public sector institutions and reviewing how higher education and skills training are financed.
- Encourage the private sector to develop and deliver market-driven courses and set up graduate placement systems. The private sector should be given incentives to participate in symbiotic relationships with higher education and skills training institutions.
- Improve institutional accountability for higher education and skills training institutions, and gradually increase the autonomy of the institutions, particularly in skills training, to respond to local demands for labor.
- Include higher education and skills development as integral parts of national and provincial economic growth strategies.

6.4 Constraints to the Health Sector

This economic analysis of Pakistan's health sector identifies the most critical constraints to enhancing its reach and quality, and offers policy suggestions for tackling both. Better health outcomes can play a major role in Pakistan's efforts to achieve inclusive growth because they could generate more employment

opportunities, foster gender equality, and increase the coverage of health services. All are necessary to promote a better quality of life.

Pakistan's poor health outcomes are generally considered to be a major factor in its poor performance on the World Bank's Human Capital Index (HCI), which measures the amount of human capital that a child born today can expect to attain by age 18.[4] Pakistan's HCI value of 0.39 means that only 39% of that potential human capital is attained by that age. Such a low HCI value has significant repercussions for the country's potential growth. As noted earlier, human capital development in Pakistan is very low compared with comparator countries in South Asia.

Chapter 1 made an early attempt to assess and make projections for the economic and social impact of the COVID-19 pandemic. Before discussing the constraints to the health sector, the following is an early assessment of the pandemic's impact on Pakistan's health sector, which was already significant at the time of writing. A study by the Asian Development Bank done in May 2020 suggests that Pakistan could spend more than 1% of its GDP on testing for COVID-19 and treatment alone (ADB 2020). Pakistan, in late June 2020, was among the top five countries in terms of active COVID-19 cases, which had risen from an average 1,000 daily cases in early May to 5,000 by late June. At this rate of infection, Pakistan's health sector could be overburdened by rising cases.

The hardest hit regions in terms of confirmed cases, as 23 June 2020, were Sindh (71,092 cases) and Punjab (68,305), the most populous province. Khyber Pakhtunkhwa had the next highest (22,633). This region also had the highest death rate (3.72%). Islamabad had the lowest death rate (0.94%).

The 18th Constitutional Amendment, which resulted in the rapid decentralization of the health sector, has meant that provincial governments can formulate their own policies, including those on tackling COVID-19, such as imposing lockdowns and setting lockdown conditions. But as just noted, stark differences exist in the death and recovery rates across provinces, which have been at least partly caused by provinces setting their own COVID-19 polices. Setting up a centralized response system would enable the government to manage the pandemic better, because it would be able to monitor and implement interventions to tackle COVID-19 regardless of the location.

[4] World Bank. Human Capital Index. https://datacatalog.worldbank.org/dataset/human-capital-index.

Information technology is being used to strengthen response measures. For example, the federal government launched an app to track the availability of hospital beds, depending on a patient's location, and to provide data on the number of cases in a certain radius. In response to COVID-19, the federal government has launched telemedicine portals so that people are able to seek medical attention without visiting a health care facility. Several private sector organizations have stepped up efforts to provide digital health care and home testing, not just for COVID-19 but also for other diagnostics.

Once the pandemic passes, Pakistan will not only have to face the damage to health caused by COVID-19, such as the cancelation of elective surgeries, but also emerging health challenges. Policies are needed to compensate workers who lost income from falling ill from COVID-19 in the health care and other industries. Conditional cash transfers and other demand-side financing measures will be needed to stimulate aggregate demand, including in health care services.

A smooth transition to a world after COVID-19 will require federal oversight for the health care system across provinces. At the time of writing, there were global concerns of a second COVID-19 wave. The government should prepare for standard operating procedure guidelines to prevent or minimize a second wave.

The following looks at the constraints to the health sector that were evident before the pandemic and that will need to be addressed to strengthen a noticeably weak sector.

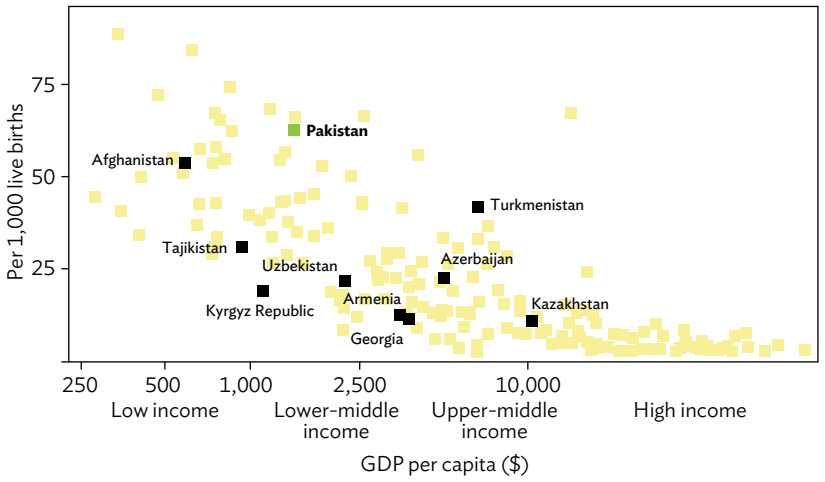
Poor child health

Two factors in the HCI—the survival and healthy growth of children—are critical to whether they do well in life and become productive members of society. The main indicators of the performance of these two factors are the mortality rate of children aged under 1 year, the percentage of stunting in children aged under 5 years, and the likelihood of survival to age 5. Pakistan's infant mortality rate is significantly above the global trend line, and it is one of the highest in the Central Asia and South Asia (Figure 6.8).

Although the infant mortality rate per 1,000 live births fell from 88 in 2000 to 57 in 2018, a 35% decrease, the progress was much slower compared with the global trend in this period. A major reason for Pakistan's slower decline is the continued low literacy rate among women. Even though other factors, such as wealth, play an important role, other countries with lower GDP per capita than

Pakistan have been able to reduce their infant mortality rates, showing that the education of women plays a central role in this process (Shehzad 2004). Effective early childhood development programs are lacking because financing for social sectors has not been increased.

Figure 6.8: Infant Mortality Rate in Selected Countries, 2017

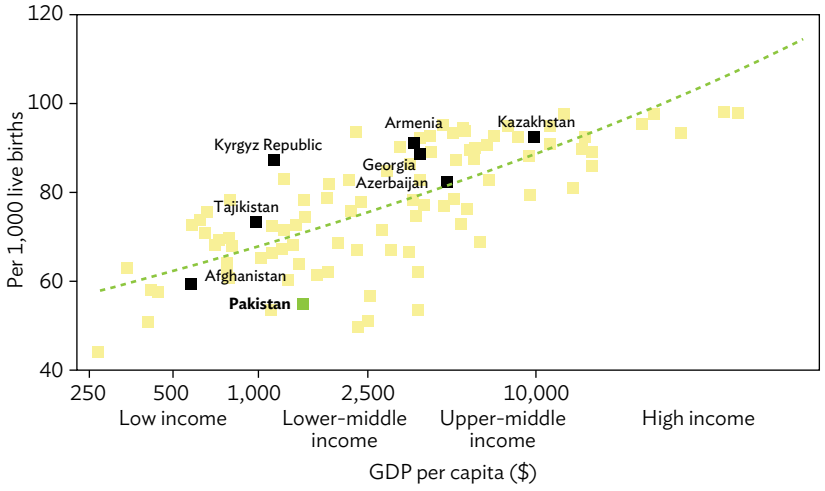


GDP = gross domestic product.
Source: World Bank. World Development Indicators Database.

Pakistan has one of the world's highest incidence of child stunting, with only 55% of children under age 5 not stunted (Figure 6.9). Stunting is correlated with a child's delayed physical and mental growth (Sudfeld et al. 2015). Many stunted children do not reach their full potential in early childhood education and in later life. Malnutrition is the primary underlying cause of child stunting in Pakistan, and the country's leading cause of disability-adjusted life years (DALYs). (The World Health Organization defines DALYs as the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability.) According to USAID (2019), as much as 60% of Pakistan's population of 113 million people is food insecure.

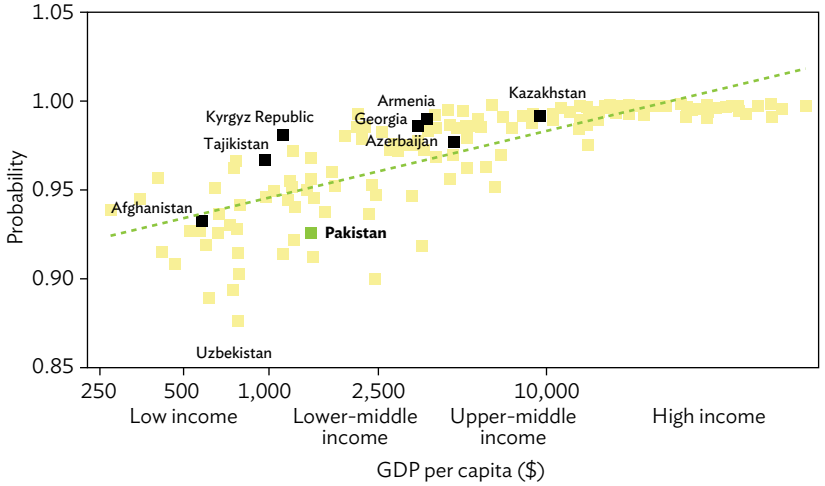
The probability of survival to age 5 in Pakistan, at 0.92, is among the lowest in the world and even lower than in some conflict-affected countries (Figure 6.10). In Central Asia and South Asia, Pakistan has the lowest likelihood of a child surviving to age 5, and even lower than countries with GDP per capita below Pakistan's (World Bank 2019).

Figure 6.9: Children Under Age 5 Not Stunted in Selected Countries, 2017



GDP = gross domestic product.
Source: World Bank. World Development Indicators Database.

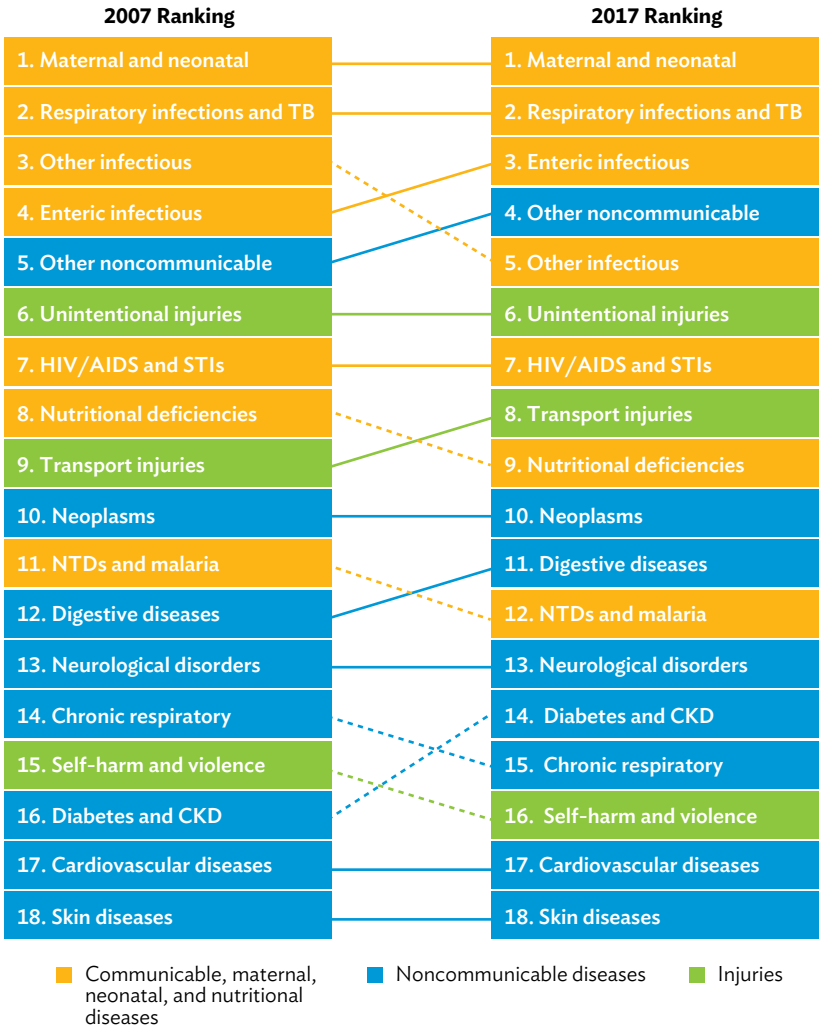
Figure 6.10: Probability of Survival to Age 5 in Selected Countries, 2017



Source: World Bank. World Development Indicators Database.

Figure 6.11 shows that respiratory infections, tuberculosis, and enteric infections, such as diarrheal diseases, are among the leading causes of deaths in children below age 5 in Pakistan. All these diseases are treatable.

Figure 6.11: Top Causes of Death in Children Under Age 5, 2007–2017



CKD = chronic kidney disease, NTD = neglected tropical disease, STI = sexually transmitted infection, TB = tuberculosis.
Note: Data for both sexes, ranked according to their percentage of total deaths.
Source: Institute for Health Metrics and Evaluation. Global Health Data Exchange. http://ghdx.healthdata.org/ (accessed 15 June 2019).

Most urban and rural areas still do not have a proper connection to a piped sewer system. Just 36% of the urban population is connected to a piped water source and only 16% of the rural population. The lack of both is the cause of the high prevalence of diarrheal diseases, which disproportionately affects children. Piped sewer lines are usually uncovered and are a cause of mosquito-borne diseases. In Pakistan, there are two main types of sewer pipes: those made of solid material and those made of nonsolid material that do not last in torrential rain or flooding.

In most rural areas, people tend not to visit the doctor for colds or flu-like symptoms, which in children can develop into lower respiratory tract infections since they are likely to have weaker immune systems. When children do develop an acute respiratory infection, only 48% of rural households seek treatment immediately (NIPS 2019). Injuries also account for a large percentage of premature deaths in children in Pakistan. No law prevents children from traveling in the front passenger seat of vehicles, which puts them at high risk in an accident.

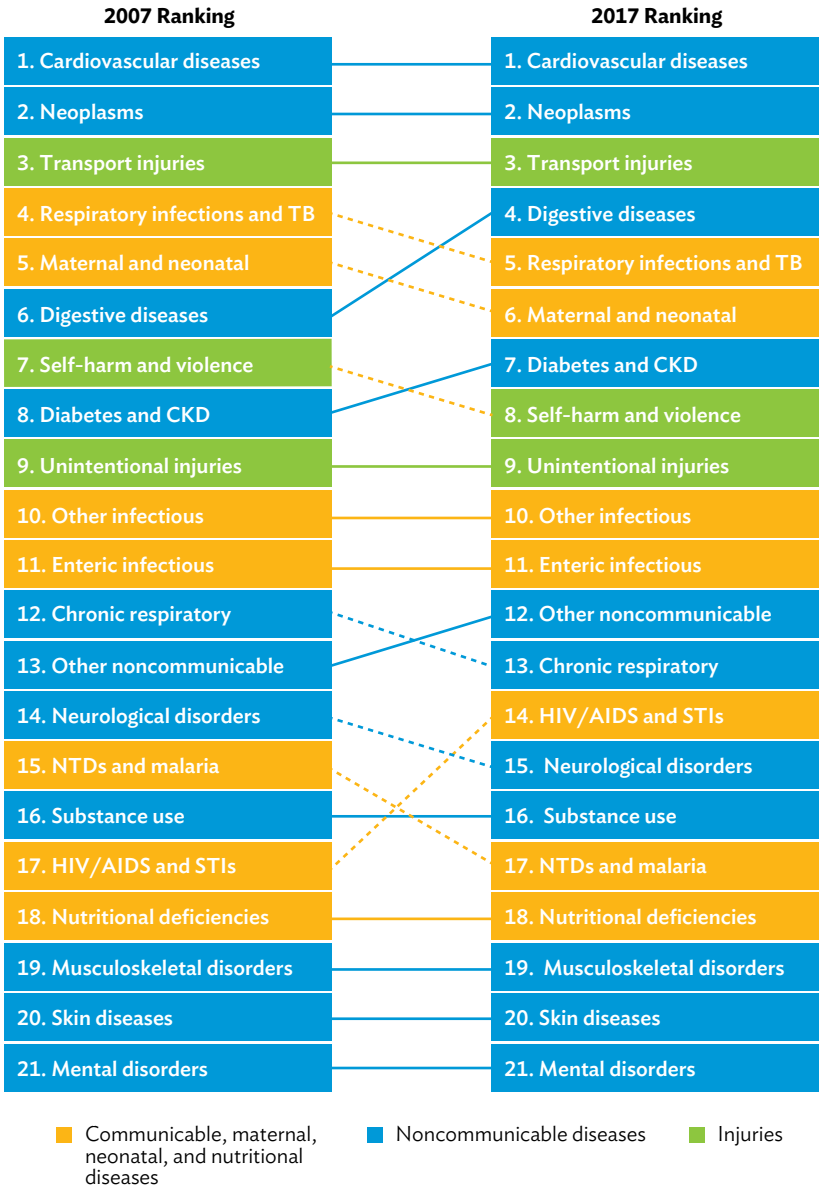
Weak adult health

Figure 6.12 shows a substantial decrease in deaths related to communicable diseases in the 15–49 age group over 2007–2017, but an increase in noncommunicable disease-related deaths and deaths from road accidents (the latter rising 12% in the period) (Institute for Health Metrics and Evaluation 2019). Pakistan has a generalized epidemic of hepatitis C virus (HCV) infection and one of the highest prevalence rates in the world, with 8 million–11 million people with active HCV (Chhatwal et al. 2019). Research suggests that scaling up HCV testing and treatment will quickly lead to savings in treatment costs in Pakistan (Chhatwal et al. 2019). Because the high HCV prevalence has an impact on the economy, a lower HCV burden would help increase productivity and income gains.

Neither preventive measures nor healthy lifestyles feature much in Pakistan. City planning does not pay much attention to promoting healthy lifestyles (jogging paths, for example), and western-style fast food outlets have led to increased consumption of junk food among adults and children.

Although the number of DALYs attributable to malnutrition fell by almost a quarter over FY2007–FY2017, malnutrition remains the leading contributor to DALYs (Figure 6.13). DALYs from dietary risks, however, have significantly increased over this period, by just over 30% (Jetter, Laudage, and Stadelmann

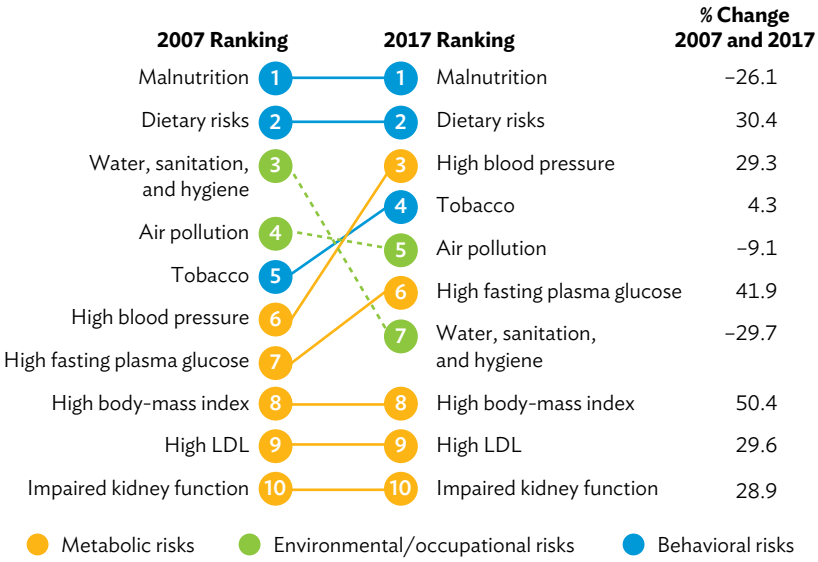
Figure 6.12: Top Causes of Deaths in Ages 15–49, 2007–2017



CKD = chronic kidney disease, NTD = neglected tropical disease, STI = sexually transmitted infection, TB = tuberculosis.
Note: Data for both sexes ages 15–49, ranked according to their percentage of total deaths.
Source: Institute for Health Metrics and Evaluation. Global Health Data Exchange. http://ghdx.healthdata.org/ (accessed 15 June 2019).

2016). The government and the United Nations jointly estimate that malnutrition costs the economy $7.6 billion a year, or 3% of GDP, in terms of lost labor, lower productivity, and increased health care costs. An estimated 10 million working adults with anemia experience chronic weakness and fatigue, reducing economic output in industry, agriculture, and other manual jobs, at an estimated cost of $657 million a year in FY2016 (Ministry of Planning, Development and Reforms 2017).

Figure 6.13: Leading Causes of Disability-Adjusted Life Years, 2007 and 2017



LDL = low-density lipoproteins.
Source: M. Jetter, S. Laudage, and D. Stadelmann. 2016. The Intimate Links between Income Levels and Life Expectancy: Global Evidence from 213 Years. *IZA Discussion Papers*. No. 10015. Bonn: IZA Institute of Labor Economics.

High blood pressure, impaired kidney function, bad cholesterol, high body-mass index, and high fasting plasma glucose are all related to dietary risks in a country where traditional foods make heavy use of spices, oil, and frying, and the consumption of fruit and vegetables is low. Although malnutrition mainly affects children, dietary risks primarily affect adults. Indeed, the leading causes of deaths in Pakistan—ischemic heart diseases, stroke, diabetes, cirrhosis—are all related to an unhealthy diet and a sedentary lifestyle. Deaths related to cirrhosis have increased with HCV being a leading cause of cirrhosis. If no progress is made on reducing HCV, the disease is expected to account for 13 million DALYs from 2018 to 2030 (Chhatwal et al. 2019).

Research shows that one of the major determinants of child health is the mother's level of education (Fuchs, Pamuk, and Lutz 2010). Educated mothers are much more likely to use modern medicine, be more knowledgeable about child health, and, most importantly, take preventive measures. As most health indicators show, Pakistan needs to step up early childhood development programs to improve human capital development. Box 6.1 looks at the relationship between a healthy population and human capital accumulation.

Box 6.1: Health and Human Capital Accumulation

Pakistan's poor health performance negatively affects the accumulation of human capital, which adversely affects long-term labor productivity and hence economic growth. This predominantly occurs due to the reduction in productive capacity from the high burden of treatable diseases among children and lower life expectancy in adults.

Jetter, Laudage, and Stadelmann (2016) find that countries with higher life expectancy tend to have higher economic growth.[a] Even though the positive correlation between health and economic growth is well established, the relationship is highly complex due to the inherent endogeneity between the variables.

Health affects economic growth through changes in potential growth from the physical and mental well-being of the population. But there is also a strong reverse causality: economic growth also leads to better health and well-being. Even though the reverse causality makes it difficult to find the precise impact of health on economic growth, it can surely be said that improved health leads to sustained economic growth. It also promotes a virtuous cycle.

A healthy population leads to higher productivity that increases gross domestic product, which in turn leads to higher income per capita that feeds back into the economy through increased consumption and improved health. Conversely, an unhealthy population can lead to a sustained cycle of reduced growth—and the fact that Pakistan has not attained annual gross domestic product growth of 10% since FY1980 can be linked to a lack of improvement in the country's health indicators. A notable feature of the country's poor health outcomes has been the failure to curtail stunting, which continues to decline at a slower-than-expected rate.

[a] M. Jetter, S. Laudage, and D. Stadelmann. 2016. The Intimate Links between Income Levels and Life Expectancy: Global Evidence from 213 Years. *IZA Discussion Papers*. No. 10015. Bonn: IZA Institute of Labor Economics.

Low financing and weak governance

Pakistan's financing for its health sector is too low. Health expenditure as a share of GDP was only about 1% in FY2018 (Ministry of Finance 2019c). Given this low level of spending, it is not surprising that out-of-pocket expenditure on health accounts for 65% of total health expenditure in Pakistan. As a target for health for all, expenditure of at least 5% of GDP on health is generally recommended to reduce the burden of out-of-pocket payments on households (WHO 2017). More worrisome was FY2020's budget for health expenditure, which, at PRs11.1 billion, was lower than FY2019's PRs13.9 billion (Ministry of Finance 2020).

Since the 18th Constitutional Amendment, large parts of Pakistan's public health sector have been devolved. The overall responsibility for policy planning now lies with the provinces and local governments. Administrative functions and roles are divided between the federal government and provincial governments. This allows the federal government to retain oversight on the provision of health services and their standardization (Table 6.2). Six major functions have been devolved to the provinces: health planning, financing, human resources, service delivery, health information systems, and governance. For health planning, the federal government manages international agreements, and provincial governments are responsible for health policies, strategies, and legislation. For governance, the federal government sets standards, but strategic purchasing, regulations, and accountability are delegated to provincial governments.

Table 6.2: Federal and Provincial Division of Health Sector Roles

Function	Federal	Provincial
Health planning and financing	International agreements and targets Cofinancing preventive vertical programs (interim arrangement) Insurance regulations	Policies, strategies, plans, and legislation Curative and preventive program financing Financing arrangements
Human resources	Licensing HR production	HR planning, deployment, and management
Service delivery and drug supply	Oversight on international agreements Licensing and registration pricing	Services menu, programming, and implementation Market surveillance and supply systems
Health information systems	Research and surveillance	Monitoring, evaluation, and surveillance
Governance	Setting standards	Strategic purchasing, regulations, and accountability

HR = human resources.
Sources: Federal Legislative List Parts I and II; S. A. Zaidi, M. Bigdeli, E. V. Langlois, A. Riaz, D. W. Orr, N. Idrees, and J. B. Bump. 2019. Health Systems Changes after Decentralisation: Progress, Challenges and Dynamics in Pakistan. *BMJ Global Health*. (4) 1.

For human resources for health, the federal government is responsible for licensing medical workers, and the provinces and local governments for human resources planning and management. The swift decentralization of this aspect of public health services meant that provinces and local governments did not have enough time to build the needed capacity to handle this function. This led to problems in managing human resources for health that included a rural–urban imbalance of health workers, a weak human resources management system, a brain drain, human resources not being included in health information systems, a lack of a coordination mechanism for human resources stakeholders, a lack of quality control for standardizing health care, and an unregulated private sector in health care that operates primarily in urban areas (WHO 2018). Many local governments still do not yet have the capacity to handle planning and management. This has fragmented Pakistan's health system, leading to overlapping responsibilities and a lack of clarity over roles. Not enough qualified lower-level staff, and the absence of institutional and regulatory frameworks, have led to the inconsistent enforcement of decentralized roles and functions (ADB 2019b). All of this is further complicated by the existence of multiple parallel health systems—for example, those being run by the Department of Health, local governments, and the armed forces, to name just a few. Having a fragmented and complex health system makes planning and coordination difficult across departments, which means resources are not spent as best as they could be in an already underfinanced health sector.

One of the main reasons for the shortage of doctors in Pakistan is that the government has still not been able to tackle the "doctor brides" phenomenon, which severely hampers the participation of women in the health sector and, more generally, the economy.[5] The government spends PRs2.4 million on each medical student who goes to a medical college on a general merit seat. The country produces about 14,000 doctors a year of which 70% are women, but almost half of these women do not work as doctors after graduating (Junaidi 2014). This not only worsens the shortage of doctors in rural areas but also means there are far fewer female doctors for women in rural areas. According to the Pakistan Demographic and Health Survey 2017–18, some 44% of people living in rural areas travel more than 10 kilometers to go to the nearest female doctor, who is generally a general practitioner with a basic medical degree (NIPS 2019).

[5] Becoming a doctor is used for getting a better marriage proposal, but these women do not practice as doctors after marriage.

The disparity of doctors in rural and urban areas remains wide—and for most people living in rural areas seeing a specialist means traveling to a town or city. There is no requirement for publicly financed medical students to provide compulsory services in rural areas for a certain period before they either graduate or are licensed. This system is used in many other countries and has been shown to have had a positive impact in Indonesia, Puerto Rico, South Africa, Thailand, and Turkey (Annette and Arellano 1981; Lehmann, Dieleman, and Martineau 2008; Erus and Bilir 2007; Reid 2003). Because of the bottlenecks caused by devolution, and demand- and supply-side issues for human resources for health, the government should consider developing a policy for this aspect of the public health system.

Table 6.3 shows regional disparities in the health initiatives undertaken by provincial governments since the 18th Constitutional Amendment. Before devolution, only four health policies in over 6 decades were implemented by the provinces. Since devolution, provinces have tried to plan and develop health strategies, although some provinces have more capacity to do this than others (Zaidi et al. 2019). Khyber Pakhtunkhwa has made the most progress by developing a sector and district-level health strategy and a road map for primary care. Balochistan, which has made the least progress, has developed only a sector strategy.

Private operators form a major part of the health sector in Pakistan (Pakistan Bureau of Statistics 2018), but having a large and unregulated private sector operating in health care is a concern. Yet, the potential for the private sector to develop the health sector could be huge if the government put in place rules and regulations for encouraging PPPs in health care, and fostered the development of the PPP modality for the sector. Even though PPP frameworks should define operational strategies and consumer protection for health care, lack of transparency and accountability, and inadequate guidelines and legislation, hamper developing the potential of health care PPPs (Ahmed and Nisar 2010). Although there have been a few PPPs in the sector, this modality, without proper government guidelines and involvement, will not be able to contribute to Pakistan's efforts to achieve the health targets in the Sustainable Development Goals. The government could adapt successful PPPs models used in other countries, such as those in Iran, Lesotho, and Turkey, to fit Pakistan's particular circumstances (Sadeghi et al. 2016).

Table 6.3: Provincial Government Health Initiatives since the 18th Constitutional Amendment

Province	Planning	Regulatory Authority	Service Delivery Integration	Private Sector Harnessing
Punjab	Sector strategy developed Roadmap for primary care in place	Established and functional	Functional integration into three programs	Regulatory health commission Contracting out of equipment and technology maintenance Contracting out of medicine and supplies delivery Contracting out of facilities maintenance
Sindh	Sector strategy and district action plans developed	Notified	Functional integration proposed Not implemented	Regulatory health commission Contracting out management of secondary facilities in nine districts Contracting out ambulance services in selected districts
Khyber Pakhtunkhwa	Sector strategy and district action plans developed Roadmap for primary care in place	Established and functional	Single integrated project, but parallel programs coexist	Regulatory health commission Contracting out started for district health systems in six districts rolled back
Balochistan	Sector strategy developed	Under consideration	Functional integration proposed Not implemented	Under consideration

Source: S. A. Zaidi, M. Bigdeli, E. V. Langlois, A. Riaz, D. W. Orr, N. Idrees, and J. B. Bump. 2019. Health Systems Changes after Decentralisation: Progress, Challenges and Dynamics in Pakistan. *BMJ Global Health.* (4) 1.

Weak universal health care and welfare programs

Universal health coverage embodies three main principles: equity in access to health care services, better quality services, and financial-risk protection from out-of-pocket health expenses. The universal health coverage index of service is a widely used measure to understand the level of coverage to provide essential health services to all in a country. Pakistan's four provinces all made progress on the index from FY2001 to FY2014 for the coverage of their health services and financial protection from catastrophic payments (Khalid et al. 2017).[6] Sindh ranked highest on the index in FY2001, followed by Punjab, Khyber Pakhtunkhwa, and Balochistan. In FY2014, Punjab had overtaken Sindh and Balochistan significantly lagged behind the other provinces. Khyber Pakhtunkhwa made the most progress, coming from a very low index ranking in FY2001 to almost the same level as Punjab in FY2014.

The Ehsaas program complements other social safety net initiatives, such as the Benazir Income Support Programme (BISP) and the Sehat Sahulat card program, a government-financed micro-insurance scheme for health coverage. Ehsaas is the most ambitious poverty reduction program in Pakistan's history and consists of 115 policy actions (BISP 2019). This shows the government recognizes that as the country develops and income levels increase, a greater focus is needed on welfare programs to ensure the population has access to better health and education.

In 2018, 15.4 million people—7.5% of the population—were enrolled in Sehat Sahulat.[7] The program aims to increase the access of the underprivileged to quality medical services and protect them from catastrophic health bills. Coverage is higher in rural areas and for the lesser-educated. Sehat Sahulat covers 65.6% of Punjab's eligible population, 59.2% of Khyber Pakhtunkhwa's, 57.2% of Sindh's, and 51.9% of Balochistan's. Note that Balochistan and Sindh are the two poorest provinces. More hospitals are enrolled in the program in Punjab (58.5%) than in the other provinces. Although Punjab is the most populous province, it is the least poor. Only 6.2% of Balochistan's hospitals are enrolled. Clearly, a better allocation of Sehat Sahulat's resources could significantly improve its benefits for the underprivileged, especially if more hospitals in poorer areas were enrolled.

[6] The index includes diphtheria pertussis tetanus (DPT3) vaccine coverage, prenatal and postnatal consultation, use of improved sanitation facilities, skilled birth attendance, treatment of diarrhea with oral rehydration salts, percentage of households with no catastrophic health expenditure, and percentage of households with no impoverishing health expenditure.

[7] Sehat Sahulat data from Government of Pakistan (2019).

Sehat Sahulat has leakage problems. Only people living in 23 priority districts and earning less than the equivalent of $2 a day are meant to be program beneficiaries. But people from middle-income and upper-middle-income groups are benefiting, suggesting the program is being improperly implemented (Pakistan Bureau of Statistics 2018) (Table 6.4). Another major drawback is that Sehat Sahulat is only for inpatient services, which encourages people to seek medical assistance only when they are at a stage that they might need to be admitted to the hospital.

Table 6.4: People Ages 15–49 and Never Married Covered by Sehat Sahulat, 2018

(% of wealth quintile)

Wealth Quintile	Male	Female
Lowest	0.0	1.1
Second	0.0	1.1
Middle	0.6	0.7
Fourth	1.0	0.3
Highest	1.5	0.2

Note: Year is fiscal year, ending 30 June.
Source: National Institute of Population Studies. 2019. Pakistan Demographic and Health Survey 2017–18. Islamabad.

BISP covers 8% of men and 9% of women (NIPS 2019). The Nationwide Poverty Scorecard Survey, which enables BISP to identify eligible households, identifies 7.7 million eligible households, of which 5.7 million were active BISP beneficiaries in FY2016 (BISP 2018). Khyber Pakhtunkhwa and Sindh have the largest number of beneficiaries. Punjab, which has the fewest poor, has the lowest percentage of its population benefiting from BISP. The program struggles with logistical issues. Balochistan, which has the highest incidence of poverty, has the lowest percentage of its population (79.4%) covered in the Nationwide Poverty Scorecard Survey. Sindh and Punjab, however, have more than 86% of their population covered in the survey. Balochistan had the highest number of beneficiaries who report not receiving a single BISP payment in the last 12 months: 12% of Balochi beneficiaries reported this to be the case versus a sample average of 5%. Balochistan also had the lowest amount transferred per beneficiary. This could be due to Balochistan's remoteness, which leads to a lower reach of banking services and a greater distance that needs to be traveled by beneficiaries to use those services (Oxford Policy Management 2016).

The lack of a specific program focusing on primary and preventive health care results in a high number of HCV cases being diagnosed at later stages, which

usually lead to death. Of particular concern was the outbreak of HIV/AIDS in 2019, particularly in Rato Dero, Sindh, where 900 children were tested positive for HIV in a month due to the reuse of syringes. Reports suggest there were also outbreaks in at least five districts of Punjab (Wahid 2019). Cases of HIV/AIDS and other sexually transmitted infections are still underreported in Pakistan due to the taboo associated with them and the lack of testing. This suggests that in many cases people are not even aware of the disease since they do not go for testing and are never diagnosed. Moreover, many dentists and physicians use the same equipment on multiple patients without sterilization, often claiming they do not have the resources to do this.

6.5 The Way Forward

The government's Ehsaas program and the Asian Development Bank's Strategy 2030, the bank's long-term strategy, share the view that developing Pakistan's health sector will help foster inclusive and sustained economic growth. Policy action and investments in reducing the prevalence of major diseases and encouraging a healthy lifestyle will have significant benefits for the economy. And because malnutrition in Pakistan primarily affects women, improving nutrition and lowering dietary risks will advance gender equality. Reducing dietary risks will also help lower out-of-pocket payments on health care, which in turn can help reduce poverty.

For increasing the likelihood of adult survival, programs are needed to increase awareness of a healthy lifestyle, and the early detection of certain high-burden diseases, including cirrhosis and heart problems. This is important because Pakistan does not have a universal health care program, although the government envisions one, and so the population has no financial protection against these risks. Falling ill can push households into poverty and deepen poverty for those who are already poor. A strengthened primary care program would encourage preventive care visits and testing for diseases, such as heart disease and HCV. Most of these tests do not cost much, and the return on this investment would be high.

Early childhood development programs will also be essential for improving human capital. Research shows that because most of a child's brain develops before age 3, these programs can help curtail stunting and wasting (low weight for height) in children—and this in turn could improve the economy's long-term outlook (Harvard University 2019). There are three main ways that early childhood development could be implemented in Pakistan through programs

targeting health, nutrition, and education. Doing this could yield high returns at a relatively low cost.

Child health programs should focus on ensuring that children get the proper vaccines and early treatment for diarrhea and pneumonia. Both are fully treatable but are the leading causes of deaths in children in Pakistan. Several developing countries have special budget allocations for child health programs, which are necessary for increasing the likelihood of survival to age 5 and lowering the infant mortality rate. Nutrition programs are already in place in several developing countries and are highly cost-effective. In Pakistan, nutrition programs would help reduce malnourishment rates among children, especially those from disadvantaged backgrounds, which would result in the highest marginal benefits from a long-term socioeconomic perspective. Preschool programs are another way of improving the nutrition of disadvantaged children. These programs can also increase the school enrollment rate in early years since Pakistan has no legislation in place to do this. Getting this legislation passed, combined with preschool programs, could significantly add to the total years of schooling, thereby increasing human capital.

Conditional cash transfers (CCT) to promote health and education could also be used. Their use in some countries has improved the health of disadvantaged and vulnerable groups, particularly by addressing the demand-side of health financing and getting more people from these groups to use health services. BISP has a health-related CCT program for immunization (BISP 2018). But the program is not nationwide, which creates a gap in the demand side of health financing, especially from the lack of preventive measures among rural residents, which leads to diseases only being diagnosed at later stages. BISP's education CCTs have been shown to increase school enrollment rates. A health-focused CCT program using the same targeting method as the education program could be swiftly implemented and could increase the use of primary care and testing centers. A health CCT program could provide cash in return for preventive care visits, antenatal care checkups, and diagnostic tests. This would make it easy to diagnose and treat diseases at an early stage.

Better accountability is needed to curb the leakages from the Sehat Sahulat program to ensure that only the eligible benefit. That said, more eligible people need to be covered; if not, the program's welfare returns will be minimal. More focus is needed on primary care. That 78.7% of the FY2020 health care budget is for hospital services suggests that primary care is not a priority (Ministry of Finance 2020). Because Sehat Sahulat's inpatient program has been shown to provide better quality coverage and access to health care services, expanding

it to primary care could significantly improve the quality of health for the disadvantaged. To this end, the government could consider setting up a Sehat Sahulat card program that focuses solely on improving primary care.

Improving the capacity of primary health care centers to detect high-burden noncommunicable and communicable diseases would catch diseases in early stages and improve survival. Investing in this area of health care would yield high returns, as strengthening primary health care costs would be less than the far higher cost to the economy of premature mortality and morbidity. Because the Sehat Sahulat program does not provide primary care, people are reluctant to see health providers for common infections. Pneumonia, for example, is a leading cause of death among children that often happens because parents put off seeking primary care. The Demographic and Health Survey 2017–18 shows that for less than 50% of children under age 5 with an acute respiratory infection, treatment was sought the same or the next day, and less than 50% took prescribed antibiotics. As noted earlier, the government could tackle these issues in conjunction with demand-side health financing programs and schemes focusing solely on primary health care.

Decentralization was aimed at providing a more efficient health care system, but the lack of standardization could increase disparities in quality and access to care within provinces. To rectify this, the federal government should introduce regulations on minimum service delivery standards to ensure provinces are making steady and sustainable progress toward developing and achieving their health sector strategies. Although Khyber Pakhtunkhwa and Punjab have set up regulatory agencies for their health care systems, Sindh and Balochistan have yet to do this.

None of these initiatives will be possible unless there is adequate government spending on health. The current expenditure is not sufficient for the programs recommended in this chapter to be launched, let alone sustained. These initiatives will require increased long-term government spending on health—and only then will Pakistan's performance on the HCI improve. Current expenditure on health is significantly below the 5% threshold that WHO recommends as a percentage of national budgets. Similarly, out-of-pocket payments in Pakistan are more than three times higher than the 20% threshold recommended by WHO. The country's education expenditure is among the lowest in the Central Asia and South Asia, but it is still four times higher than for health expenditure. More is spent on some other sectors, including debt servicing, than health. Prioritizing health could also increase budget allocations to social sectors. The government should expand the fiscal space for health

by prioritizing health in the budget and introducing alternative sources of health financing, such as PPPs, sin taxes, and external financing for health, among other possibilities. In the end, Pakistan needs to make a determined effort to increase human capital that, in line with the Ehsaas program and the Asian Development Bank's Strategy 2030, will require increased investment in social sectors.

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CHAPTER 7

Harnessing the Economic Potential of Urbanization

Syed Hasan and Kiyoshi Taniguchi

The world has experienced rapid urbanization since 1950, with the share of the global urban population growing from 30% (751 million) of the total population in 1950 to 55% (4.2 billion) in 2018 (UNDESA 2019). This is projected to increase to 60% (5.2 billion) by 2030 and to 68% (6.7 billion) by 2050. Rapid urbanization has provided cities with opportunities to become engines of economic growth through productive investments and innovation, well-paying jobs, and access to institutions and services for a good quality of life (ADB 2019a). Evidence suggests that while cities account for only 2% of the world's land, they contribute 70% to the global gross domestic product (GDP) (ADB 2019a). This is mainly because cities, if properly planned, developed, and managed, can facilitate greater efficiency in the production of goods and services due to their concentration of capital and workers, entrepreneurial and managerial skills, and access to markets and consumers. This helps to realize economies of scale and scope, and urban agglomeration benefits, to make infrastructure development, industrialization, and the delivery of urban and social services more efficient and effective.

Urbanization is a key feature of modern development (ADB 2013). The typical development pattern in Asia is to transfer workers out of agriculture into activities that result in higher productivity and upgrading of the economic structure. Urbanization and GDP per capita tend to move in sync as countries develop, thus creating a consuming class that drives demand. However, urbanization is a necessary condition for growth but not a sufficient condition. Pakistan has so far not been able to fully realize the socioeconomic benefits of urbanization. Rapid and uncontrolled urbanization brings many challenges. These include growing infrastructure deficits, stretched public services, environmental stress, increasing risks of climate change impacts and natural disasters, growing inequality, violence and crime, and escalating

threats from terrorism and cyberattacks (ADB 2019b). These challenges appear to predominantly stem from poor governance, lack of robust spatial and economic planning, and the poor use of land that obstructs cities from benefiting from the socioeconomic gains offered by urbanization.

Aligned with the global trend, Pakistan's urban population grew at a very brisk average annual rate of 3.2% from FY1998 to FY2017—one of the fastest in South Asia (Pakistan Bureau of Statistics 2018). This trend is expected to continue, with the share of the urban population to the total population projected to increase from 36.7% in FY2018 to almost 50% in FY2025 (UNDESA 2019). The main drivers of Pakistan's urban growth are a high birth rate, reclassification of areas from rural to urban, and high migration to urban areas by people in search of better jobs and access to basic services.

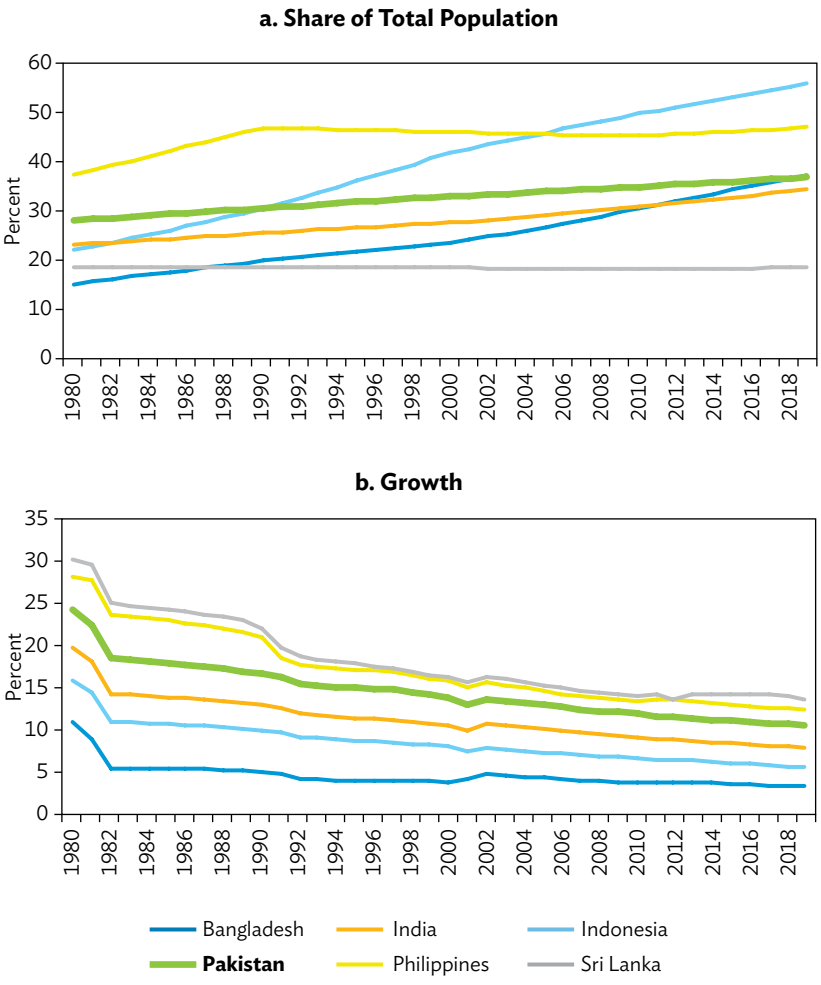
Weak governance, a distortionary land-use model, and restrictive zoning regulations have promoted unsynchronized and unproductive urbanization policies. These have caused significant difficulties in dealing with the congestion brought about by the pressure of population on land, housing, transport, education, jobs, health care, water, energy, and the environment. These problems lie at the heart of the lack of livability in Pakistan's cities. Policies have generally fostered haphazard urbanization that has constrained the socioeconomic benefits offered by powerful agglomeration economies. Consequently, Pakistan's cities have contributed much less to the economy than in comparator countries like Bangladesh, India, Indonesia, the Philippines, and Sri Lanka. Its cities constitute about 37% of the total population and account for 55% of GDP. By contrast, the share of India's urban population to the total population is 2 percentage points lower than Pakistan's, but with a higher contribution to the economy of 3 percentage points (UNDP 2019).

7.1 Urbanization Trends

Pakistan is the most urbanized country in South Asia in terms of the share of the urban population to the total population (Figure 7.1, panel a). Compared with Southeast Asian countries, Indonesia and the Philippines are more urbanized than Pakistan. Although Bangladesh started out on a low level of urbanization, it has experienced very rapid growth in its urban population. From FY1980 to FY2018, the share of Bangladesh's urban population to the total population increased by 22 percentage points to 36.6%—only 0.1 percentage point lower than Pakistan's. India has also been urbanizing swiftly, but the share of its urban population share to the total population was 34% in FY2018, lower than Pakistan's and Bangladesh's. Sri Lanka's share has been stagnant at

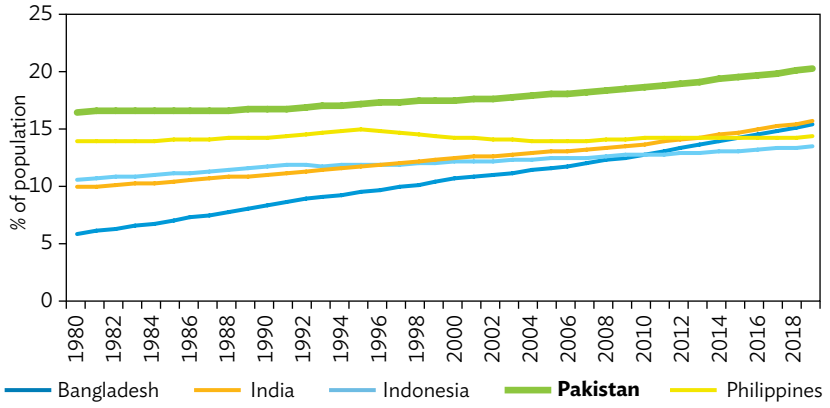
18.4% on average from FY1980 to FY2018. The growth rate of Pakistan's urban population has been declining over this period, as it has in the other countries shown in Figure 7.1, panel b. Of these countries, Pakistan has the highest share of the population for residents in cities with a population of more than 1 million (Figure 7.2). And Pakistan's megacities—those with populations of more than 1 million—are growing faster than the megacities of the comparator countries.

Figure 7.1: Urban Population Share and Growth in Selected Countries in South Asia and Southeast Asia, 1980–2019



Source: World Bank. World Development Indicators Database.

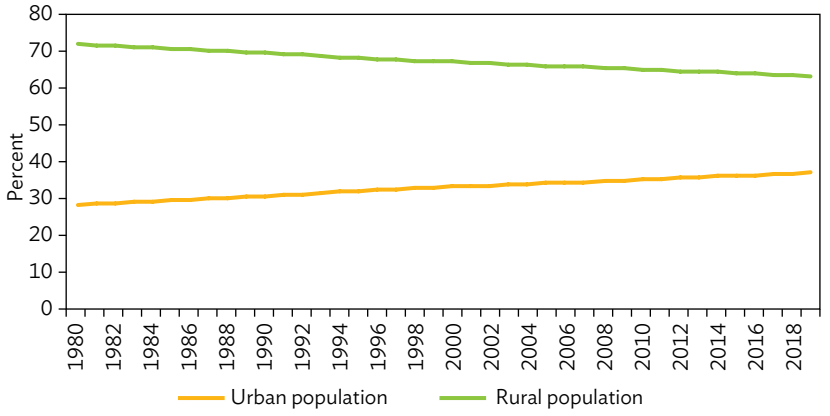
Figure 7.2: Population in Urban Agglomerations of 1 Million Plus in Selected Countries in South Asia and Southeast Asia, 1980–2019



Source: World Bank. World Development Indicators Database.

Figure 7.3 shows the upward trend of the share of Pakistan's urban population and the downward trend of its rural population since FY1990. According to the linear trend prediction, the urban and rural population shares will be 50% in FY2079 if the trend continues.[1]

Figure 7.3: Urban and Rural Population Shares, 1990–2019



Years are fiscal years, ending 30 June.
Source: World Bank. World Development Indicators Database.

[1] The rural population is calculated as the difference between the total population and the urban population. Hence, the rural population is reciprocal of the urban population.

Cross-country urbanization comparisons can be challenging because countries differ in the way they define their urban populations. Typical measures include population density; governmental, administrative, and political boundaries; and economic functions. Under Pakistan's current definition, areas with a municipal corporation, town committee, or cantonment board are classified as urban. Table 7.1 shows that since FY1951, the percentage of the population living in urban areas of Pakistan has more than doubled, from 17.7% to 36.4% in FY2017 (Pakistan Bureau of Statistics 2018). Thus, while the urban population increased by about 13 times over this period, the rural population grew only five times. Balochistan experienced the most rapid urbanization, despite coming from a very low base, followed by Sindh, Khyber Pakhtunkhwa, and Punjab.

Table 7.1: Rural–Urban Population Distribution by Province, Census Years 1951–2017

Province	1951		1981		1998		2017	
	Population million	%	Population million	%	Population million	%	Population million	%
Punjab								
Urban	3.6	17.4	13.1	27.6	23.0	31.3	40.4	36.7
Rural	16.9	82.6	34.2	72.4	50.6	68.7	69.6	63.3
Sindh								
Urban	1.8	29.2	8.2	43.3	14.8	48.8	24.9	52.0
Rural	4.3	70.8	10.8	56.7	15.6	51.2	22.9	48.0
KP								
Urban	0.5	11.1	1.7	15.1	2.9	16.9	5.7	18.8
Rural	4.1	88.9	9.4	84.9	14.8	83.1	24.8	81.2
Balochistan								
Urban	0.1	12.4	0.7	15.6	1.6	23.9	3.4	27.5
Rural	1.0	87.6	3.7	84.4	5.0	76.1	8.9	72.5
Pakistan								
Urban	5.9	17.7	23.8	28.3	43.0	32.5	75.6	36.4
Rural	27.7	82.3	60.4	71.7	89.3	67.5	132.2	63.6

KP = Khyber Pakhtunkhwa.
Note: Years are fiscal years, ending 30 June.
Source: Pakistan Bureau of Statistics. 2018. *Pakistan Population Census*. Islamabad.

Table 7.2 shows the spatial and temporal trend of urbanization in Pakistan. During the 1950s and 1960s, Sindh had the fastest pace of urbanization. The rate of urbanization converged for Sindh, Khyber Pakhtunkhwa and Punjab from the early 1980s to the late 1990s. Since then, Sindh experienced the slowest pace of urbanization, while Khyber Pakhtunkhwa's urbanization rate has rapidly increased. This trend needs to be thoroughly investigated

for its implications on development policy and labor market dynamics. The implications are currently mostly seen through the lens of political unrest, anti-terrorist operations, and natural calamities, such as floods and earthquakes.

Table 7.2: Urban and Rural Growth by Province, Census Years 1951–2017

	Percentage Increase during:				
	1951–1961	1961–1972	1972–1981	1981–1998	1998–2017
Punjab					
Urban	53.5	67.5	42.2	76.4	75.5
Rural	17.8	42.2	20.5	47.8	37.6
Sindh					
Urban	79.1	80.8	43.8	80.1	67.9
Rural	21.5	62.1	28.0	44.6	47.3
KP					
Urban	52.0	57.9	39.2	79.0	91.6
Rural	22.7	44.7	30.7	56.9	68.1
Balochistan					
Urban	64.3	73.9	70.0	130.9	116.6
Rural	10.8	79.6	80.3	36.6	78.8
Pakistan					
Urban	61.1	71.9	43.7	80.5	75.6
Rural	16.1	51.2	24.0	47.9	48.0

KP = Khyber Pakhtunkhwa.
Note: Years are fiscal years, ending 30 June.
Source: Social Policy and Development Centre. 2018. *A Study of Intergovernmental Fiscal Transfers in India and Pakistan.* Karachi.

For the pattern of urban growth in Pakistan's 10 largest districts, Table 7.3 shows that within these districts, rural areas experienced faster annual growth rates than urban areas since the late 1990s. This indicates that migrants moving to these districts are settling in the outskirts of these urban areas. So, although the surrounding areas of these urban areas have become suburbs, they have yet to be classified as rural in the official count. The 2017 census showed that Lahore had the country's highest urbanization rate, with the entire district, declared urban.

Gaps remain in the supply of public services between urban and rural areas (Figure 7.4). Full access to electricity was achieved in urban areas by 2017 (99.8% in 2016 and 100% in 2017), but only 54.1% of the rural population had access. In the same year, 94.2% of the urban population used basic drinking water services, compared with 89.9% of the rural population.

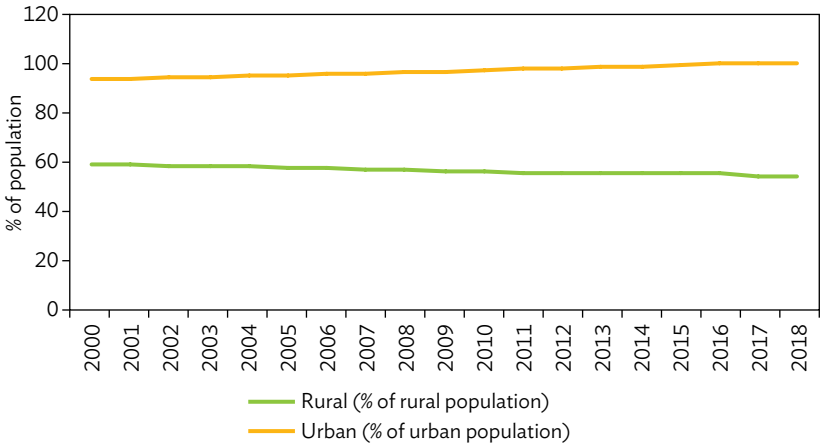
Table 7.3: Urban and Rural Population Distribution in the 10 Largest Districts, Census Years 1998–2017

	Population (million)		Percent of Population in Urban/Rural Area (%)		Annual Growth Rate (%)	Sex Ratio
District	1998	2017	1998	2017	1998–2017	2017
Karachi						
Urban	9.5	14.9	95.9	92.9	2.4	111.0
Rural	0.4	1.1	4.1	7.1	5.6	113.0
Lahore						
Urban	5.2	11.1	82.2	100.0	4.1	110.0
Rural	1.1	...	17.8	0.0	...	...
Faisalabad						
Urban	2.3	3.8	42.7	47.8	2.6	106.0
Rural	3.1	4.1	57.3	52.2	1.5	104.6
Rawalpindi						
Urban	1.9	2.9	56.7	53.2	2.2	106.0
Rural	1.5	2.5	43.3	46.8	2.9	99.6
Gujranwala						
Urban	1.9	2.9	55.2	58.8	2.4	103.0
Rural	1.5	2.1	44.8	41.2	1.6	100.0
Peshawar						
Urban	0.9	2.0	48.5	46.1	3.7	108.0
Rural	1.0	2.3	51.5	53.9	4.2	104.0
Multan						
Urban	1.4	2.1	45.8	43.4	1.9	106.0
Rural	1.7	2.7	54.2	56.6	2.5	105.0
Hyderabad						
Urban	1.3	1.8	84.4	83.3	1.9	109.0
Rural	0.2	0.4	15.6	16.7	2.4	107.0
Quetta						
Urban	0.6	1.0	73.0	44.0	3.1	112.0
Rural	0.2	1.3	27.0	56.0	9.9	109.0
Islamabad						
Urban	0.5	1.0	63.0	50.6	3.5	114.0
Rural	0.3	1.0	37.0	49.4	6.9	108.0

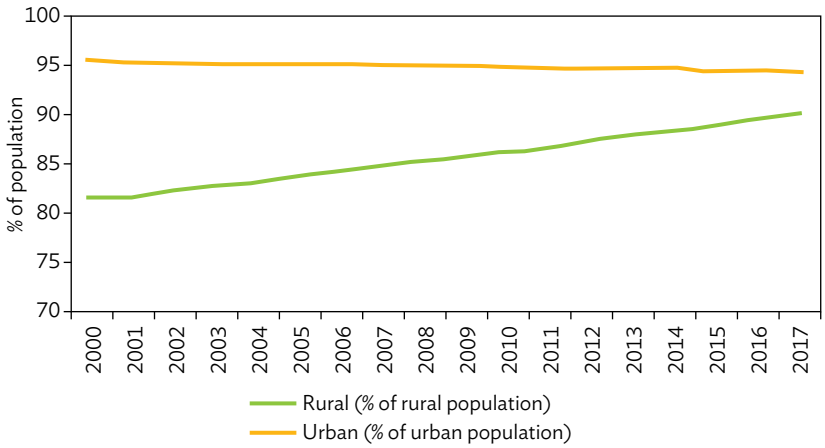
... = not available.
Note: Years are fiscal years, ending 30 June.
Source: Social Policy and Development Centre. 2018. *A Study of Intergovernmental Fiscal Transfers in India and Pakistan*. Karachi.

Figure 7.4: Rural–Urban Access to Electricity and Basic Drinking Water Services

a. Access to Electricity



b. Access to Basic Drinking Water Services



Source: World Bank. World Development Indicators Database.

7.2 Constraints to Effective Urbanization

Complex urban governance structure

The structure of urban governance in Pakistan is complex. It comprises multiple processes and institutions that influence and manage urban areas, resulting in a lack of coordination between these parallel and sometimes competing management entities. This complicates urban management and often results in the weak delivery of services (World Bank 2016a). Under the 18th Constitutional Amendment provinces were required to devolve political, administrative, and financial functions to local governments (Centre for Peace and Development Initiatives 2018). Local government is a three-tier system comprising the district, *tehsil*, and union councils, with each having its own functions and service responsibilities. The district government is responsible for managing agriculture, community development, education, and health; *tehsil* government is responsible for municipal infrastructure, and union councils oversee community services (Centre for Peace and Development Initiatives 2018).

Local governments are administered by provincial civil servants. Since legislation on local government is separately formulated by each province, the scope and scale of devolution vary. Khyber Pakhtunkhwa is the most devolved province, with power delegated as far as village and neighborhood union councils. In the other provinces, the smallest government structure is the union council (Table 7.4). Local government functions vary by province. Union councils assist village and neighborhood councils responsible for proposing projects (World Bank 2016a). District councils in rural areas and metropolitan corporations in urban areas are the highest tier of local government in every province. In provincial and federal capitals, mayors head metropolitan corporations; in all other metropolitan regions of districts, municipal committees are in place, headed by a chairman.

In addition to the three-tiered system, multiple parallel institutions operate in most cities. For instance, development authorities are autonomous bodies operating under provincial governments and are designated to formulate urban action plans (Ahmed and Bhatti 2018). These authorities also undertake public works, water, and sewerage projects, and develop land for urban expansion. Cantonment Boards have jurisdiction over military cantonments, under the control of the Military Lands and Cantonments Department and the Ministry of Defence (Commonwealth Local Government Forum 2015). The Defence Housing Authority is the army's real estate agency that governs housing and municipal services in defense areas across cities.

Table 7.4: Local Government Structure by Province

Item	Punjab	Sindh	Balochistan	Khyber Pakhtunkhwa
Act	Punjab Local Government Act 2013	Sindh Local Government Act 2013	Balochistan Local Government Act 2010	Khyber Pakhtunkhwa Local Government Act 2013
Urban areas	· Metropolitan corporation (only for Lahore) · Municipal corporations · Municipal committees	· Metropolitan corporation (only for Karachi) · District municipal corporations · Municipal corporations · Municipal committees · Town committees · Union committees	· Metropolitan corporation (only for Quetta) · Municipal corporations · Municipal committees	· City district council (only for Peshawar) · Town municipal councils · Neighborhood councils
Rural areas	· District councils · Union councils	· District councils · Union councils	· District councils · Union councils	· District councils · Tehsil councils[a] · Village councils

[a] The second-lowest tier of local government in Pakistan.
Source: Centre for Peace and Development Initiatives. 2018. *Budget Making Process and Development Project Implementation at District Level in Pakistan*. Islamabad.

Basic urban services, such as water supply management, are the responsibility of municipalities in small and medium-sized towns, the water and sanitation agencies in five cities in Punjab and one in Balochistan, and the Karachi Water and Sewage Board. Solid waste management is assigned to municipalities and handled by public and private operators. Provincial government and municipalities share responsibility for road building, with the former building main and outer roads and the latter building inner and small roads. Provincial government and the private sector provide public transport in urban areas. The rest of this section examines the urban governance structure of Pakistan's two largest and most urbanized cities, Karachi and Lahore. Although these cities have different urban governance structures, they face largely similar urbanization problems.

Karachi

Karachi, the capital of Sindh province and Pakistan's largest city, is an ethnically diverse megacity on the Arabian coastline. Although a precise estimate of Karachi's contribution to GDP is not available, estimates suggest that it was

11%–20% in 2017 (World Bank 2018). The city contributes 55% to federal tax revenue, 35% to direct national tax revenue, and 65% to indirect national tax (Ministry of Climate Change 2018). From 2005 to 2015, poverty was substantially reduced, with the incidence falling 14% over this period, making Karachi the country's third least-poor district (World Bank 2018). Karachi's average income per capita is PRs56,000, significantly higher than the average urban income in Pakistan of PRs46,000 (Ministry of Climate Change 2018).

The city has a complex urban management framework comprising multiple institutions; this often leads to coordination problems resulting in haphazard urbanization (Ahmed 2010). The Karachi Metropolitan Corporation and six district municipal corporations manage local government functions.[2] An elected mayor heads the corporation; local governments are run by elected chairpersons. The Sindh Local Government Act, passed in 2013, specifies the composition, function, scope, and other related matters of the province's local governments. Municipal commissioners and civil servants are appointed by the Sindh provincial government, and have most of the executive authority. The provincial government also has significant powers to oversee and regulate Karachi's local governments (World Bank 2016b). In addition to Karachi Metropolitan Corporation, numerous authorities control and manage land and housing in Karachi.

Under the Sindh Local Government Act, Karachi's solid waste management is primarily the responsibility of district municipal corporations and the Karachi Metropolitan Corporation. Each district municipal corporation is responsible for collecting waste and transporting it to designated Karachi Metropolitan Corporation dumpsites. In addition to providing dumpsites, Karachi Metropolitan Corporation is tasked with providing transportation support to district municipal corporations (Wardah et al. 2016). The Sindh Solid Waste Management Board, a provincial body, set up in 2014, is responsible for the collection and disposal of solid waste in the province's major urban centers. For water management, local government and the Planning and Development Department develop and operate water supply projects, with the Karachi Water and Sewerage Board producing and distributing potable water (Government of Sindh 2016).

Numerous bodies directly or indirectly operate in Karachi's transport sector. These include the province's Transport and Mass Transit Department, Karachi Metropolitan Corporation, Karachi Public Transport Society, and the Karachi Development Authority's Engineering Bureau. The role of the metropolitan

[2] They are District Central, District West, District East, District South, Malir, and Korangi.

corporation and the district municipal corporation are restricted to roads, streets, parking, and some transit-route permitting (World Bank 2018). The lack of an authority that could bring these agencies together leads to coordination problems that often result in the inefficient and ineffective provision of transport services (IEED 2015).

Lahore

Lahore, the capital of Punjab, contributed 13.2% to GDP in FY2017. Although, it is the country's second largest economy, its share of total federal tax revenue is only 15%. Lahore's main industries include food and beverage, textiles, paper and paper products, rubber and plastic products, and machinery and electrical products. Its income per capita income is PRs60,000, significantly higher than the average urban income in Pakistan (PRs46,000) (Ministry of Climate Change 2018).

Like Karachi, Lahore also has a complex urban management framework—and a chaotic pattern of urbanization. The Lahore Development Authority is responsible for building and maintaining infrastructure, and urban development. It has three main wings: the Urban Development Wing, the Water and Sanitation Agency, and the Traffic Engineering Planning Agency (Ahmad and Bhatti 2018).

In addition to the development authority, multiple agencies manage land and housing development in Lahore. The Housing, Urban Development and Public Health Engineering Department is responsible for policy, planning, and allocating land and housing for rural and urban areas. At the district level, the Lahore Metropolitan Corporation approves spatial plans and development projects. It also manages municipal infrastructure and services, and acts as an environmental control and regulatory body. The corporation is divided into nine zones, towns, and *tehsil* municipal administrations that have jurisdiction over their respective towns (Samanabad, Aziz Bhatti, Ravi Town, Shalimar Town, Nishter Town, Data Gunj Bakhsh, Wagha, Gulberg, and Allama Iqbal Town). Other agencies, including the Cantonment Board, Defence Housing Authority, Model Town Society, and Walled City Development Authority, formulate and implement development plans for their respective areas and for zoning, building, land subdivision, and development in these areas. The overlapping functions and jurisdictions of different agencies is hampering effective and efficient urban development (Niaz and Anjum 2012).

The Lahore Water and Sanitation Agency plans, designs, and constructs water supply, sewerage, and drainage facilities. In addition to the agency, the Lahore Cantonment Board, Walton Cantonment Board, Defence Housing Authority, Model Town Society, Pakistan Railways, and numerous private housing schemes are responsible for supplying water to their areas. The provincial Public Health Engineering Department is responsible for implementing water supply projects in Lahore's rural areas (WWF 2014). The Lahore Waste Management Company is responsible for waste collection, storage, transportation, and disposal (Government of Punjab 2018). Coordination between departments is lacking because of their overlapping and unclearly defined responsibilities and roles, which impede effective water conservation and management strategies.

The Punjab Mass Transit Authority plans, builds, operates, and maintains the mass transit systems in the province's major cities, and operates the Lahore Metro Bus System. The Lahore Transport Company is another authority operating as a regulatory body responsible for transport in Lahore (Niaz and Anjum 2012). A concern is that the unclear demarcation of tasks and duties could promote the development and implementation of unsynchronized and ineffective transport policies and plans, leading to productivity losses.

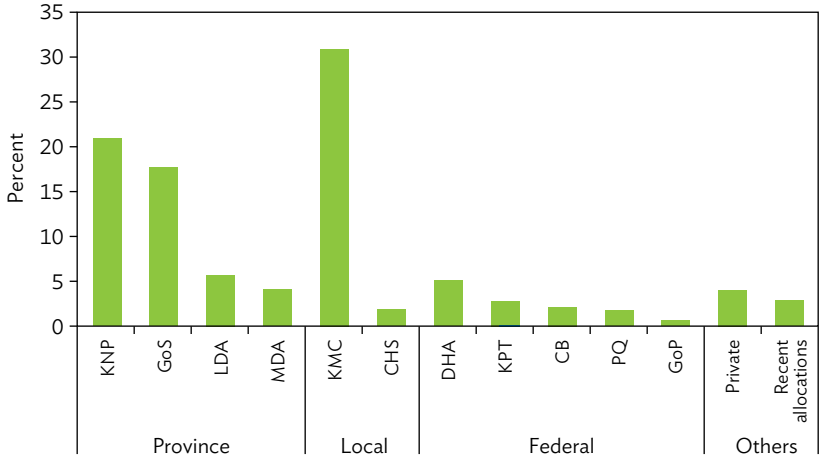
Uncoordinated urban land use management policies

Pakistan is the world's fifth most populous country with an average population density of 255.6 people per square kilometer of land, compared with the global average of 59.0 (World Bank 2018). Its rapidly growing urban population is putting increased pressure on land, causing rapid land use conversion. Effective land use management is needed to make the most out of scarce resources for promoting sustainable urban development to help achieve higher economic growth, social inclusion, and environmental sustainability. Globally, public policy on land use is informed by the development of spatial and land use plans, and environmental and building code regulations (OECD 2017). In Pakistan, these are done by multiple landholding agencies, such as the Cantonment Boards and the Defence Housing Authority, that control and manage land, and carry out planned development. These agencies have their own bylaws, zoning regulations, allotment, and development processes. The uncoordinated approach to urbanization due to cumbersome regulations promotes urban sprawl and congestion, which affect livability and constrain growth and employment.

Karachi

In Karachi, master planning falls under the domain of the Sindh Building Control Authority. The Karachi Building and Town Planning Regulations 2002 lay down the framework for managing the built environment in designated locations of the city (IEED 2013). Land control and ownership is fragmented across federal, provincial, local, and private institutions (Figure 7.5). Neither the Karachi Metropolitan Corporation nor the Karachi Development Authority, which is mandated to oversee development in the entire metropolitan area, has legal or administrative control over other development agencies—a situation that could result in cluttered urbanization due to unsynchronized approaches.

Figure 7.5: Distribution and Ownership of Land in Karachi



Notes: CB = Cantonment Board, CHS = cooperative housing society, DHA = Defence Housing Authority, GoP = Government of Pakistan, GoS = Government of Sindh, KNP = Kirthar National Park, KMC = Karachi Metropolitan Corporation, KPT = Karachi Port Trust, LDA = Lyari Development Authority, MDA = Malir Development Authority, PQ = Port Qasim.
Source: Karachi City District Government. 2007. *Karachi Strategic Development Plan 2020.* Karachi: Master Plan Group of Offices. http://www.shehri.org/2020.pdf.

The Karachi, Lyari, and Malir Development Authorities have historically acquired land for urban development. The Karachi Development Authority allocates various types and sizes of plots in the city for land acquired from the Board of Revenue. It initiates the process of converting rural land to urban land through a request to the board, which then issues notifications for conversion, removes any bottlenecks, and hands over the land to the respective authority (i.e., the Karachi, Lyari, and Malir Development Authorities). Once the land is

transferred, the Karachi Development Authority plans, ballots, and transfers the land to individuals (Arif 2015).

Lahore

Under a 2012 amendment to the Lahore Development Authority Act, the authority draws up Lahore's land management policies in accordance with its master plan and 2014 land use rules. The latter classifies land use into different categories, including residential, commercial, industrial, institutional, mixed-use, peri-urban, special development zones, agricultural, and notified areas (Government of Punjab 2014). These rules stipulate the types of buildings that are allowed in each classification. Land use reclassification involves demarcating boundaries, topographical and land use surveys, documenting infrastructure, assessing traffic volume, and collecting data on utility services and transportation. When land use is classified, the draft order is shared for public consultation. Where there is no objection, approvals are obtained from the director of metropolitan planning and the chief metropolitan planner of the Lahore Development Authority.

In practice, the supply and allocation of land are far from transparent and are blighted by nepotism, favoritism, political pressure, and financial interests. Senior board members of landowning bodies, such as the Board of Revenue, can influence decisions (Wardah et al. 2016). In Karachi, Lahore, Islamabad, and other large cities where population density is high and real estate commands high prices, there have been cases where land has been allotted to powerful special interest groups without consulting stakeholders. And in some cases, plots intended for civic infrastructure have been sold as residential plots (Wardah et al. 2016). In the 1980s, for example, despite Islamabad's I-8 sector being reserved for developing transport infrastructure, such as a railway station or bus terminal, it was converted into residential use. Similarly, plots intended for building hospitals in Islamabad's G-11 and F-7/2 sectors were converted to commercial use (Niaz 2018). Where land is controlled by powerful agricultural interests, procurement for development purposes can be difficult. This is particularly true for Lahore, whose outskirts are agricultural. Powerful lobbying by transportation companies and the real estate industry tend to influence city planning (Planning Commission of Pakistan 2011).

Illegal commercialization of land use

The commercialization of land is the conversion of residential properties for commercial use. In 2011, the Lahore Development Authority classified

58 roads as commercial under its commercialization policy. In Karachi, 22 roads have been classified as commercial under the city's Land Use Policy and Master Planning Bylaws 2003. Since the commercialization of land use is subject to a hefty fee, this could be used by local authorities to raise revenue to encourage the development of unplanned and unproductive commercial ribbons (Rizwan and Nadeem 2006). The illegal commercialization of land use is common in both cities, which has resulted in irregular and periodic evictions and demolitions that undermine business confidence and value-adding commercial activities.

Lack of standardized zoning regulations

Pakistan does not have standard zoning laws to regulate land use. This tends to promote unplanned and skewed horizontal and vertical urbanization. For instance, zoning regulations, including building height restrictions; ground coverage; rear, front, and side spaces; and floor area ratios differ for major classes of land use in Lahore and Karachi.[3] The requirements are also disaggregated according to plot size.

For residential buildings in Lahore, ground coverage varies from 55% to 85%; in Karachi, it ranges 40% to 85%, with higher values for smaller plot sizes. For these, Lahore's floor area ratio is lower than Karachi's —and vice versa for plots larger than 4,500 square feet.[4] In Lahore, the floor area ratio ranges 1:1.3–1:2.0; in Karachi, 1:1.0–1:20. The height for residential buildings in Lahore is restricted to 436 inches and 420 inches in Karachi. Under Karachi's building laws, the minimum plot size is 720 square feet for large residential schemes, 540 square feet for commercial plots, and 21,780 square foot for flats. Landowning authorities, such as Cantonment Boards, are allowed to set higher limits in their areas. Guidelines for plot shape require plots to be rectangular quadrangles. If a plot is irregularly shaped, approval is required from the authorities.

Building restrictions for commercial areas take into account height and plot size in Lahore, but only plot size in Karachi. For commercial buildings in Lahore built on smaller plots—less than 32,670 square feet—the maximum floor area ratio is 1:60 in the central business district and 1:80 for plots converted under commercialization rules. For larger buildings, the ratio increases in proportion to a building's height and can be up to 1:16.0. In Karachi, the maximum floor area ratio is 1:5.5 for plots larger than 18,000 square feet. Ground coverage for

[3] The floor area ratio refers to the ratio of the total covered area of a building to plot area.

[4] Pakistan uses a mixed metric system. This is a combination of imperial, metric, and Indian (e.g., lakhs and crore) systems.

commercial plots is lower in Lahore compared with Karachi. For industrial areas, the ratio is more restricted in Lahore for smaller plots compared with Karachi, (i.e., 1:2.0 in Lahore for plots smaller than 22,500 square feet compared with 1:2.5 in Karachi). For larger plot sizes (above 27,000 square feet), the ratio restriction is lower in Karachi than in Lahore. Maximum ground coverage is lower in Lahore compared with Karachi, ranging 55%–65% in Lahore and 60%–70% in Karachi.

7.3 Socioeconomic Impacts of Urban Constraints

Lack of law enforcement and monitoring coupled with restrictive zoning regulations have resulted in uncoordinated and unproductive urbanization policies in Pakistan, which, in turn, have resulted in urban sprawl, congestion, and slums. This has prevented cities from getting the most out of the economic opportunities that urbanization can deliver. This is especially the case in Lahore and Karachi, as reflected by their very low rankings in livability indexes. In the Global Livability Index, Karachi ranks 137th out of 140 cities (EIU 2018). On the Mercer Quality of Living Index (2016), Lahore ranks 199th and Karachi 202nd out of 230 cities.

Urban sprawl

Urban sprawl is hindering the economically effective and efficient use of land in Pakistan. It is overtaking vast stretches of fertile agriculture land (and in several instances land on which expensive irrigation has been installed). This is happening predominantly because of Pakistan's weak governance structure and outdated zoning laws that have been unable to keep pace with a rapidly increasing population and rapid urbanization. The outdated zoning laws are, as Punjab's local government puts it, "anti-street, anti-pedestrian, anti-mixed land use, anti-high densities, and anti-public space" (Government of Punjab 2014). Restrictive floor area ratios, building height limits, and density requirements discourage vertical expansion that could lead to unsustainable city growth. Evidence shows that Pakistan's cities have experienced high horizontal growth and low levels of vertical growth—in stark contrast to Beijing; Shanghai; Hong Kong, China; Tokyo; and Dubai (Mahendra and Seto 2019).

Urbanization laws are not properly enforced, and the reason seems to be weak implementation by the authorities and lobbying by powerful interest groups. Building control authorities reportedly lack adequate manpower to inspect buildings, resulting in a large backlog of applications on commercial floor area

ratios awaiting approval (Arif and Hamid 2009). Implementing urbanization laws is also made harder by the overlapping responsibilities of multiple institutions and weak coordination (Mahbub ul Haq Human Development Centre 2014). City zoning is heavily influenced by big land developers, elite housing societies, and others with vested interests, who tend to favor horizontal rather than vertical development because it puts larger tracts of land in their control. This has resulted in zoning and real estate development becoming a "rent seeking game" that hinders economic growth (Rizwan and Nadeem 2006).

Because of the horizontal expansion of Pakistan's cities, the density of population per hectare is much lower than other large cities in the world. Dubai, for example, has 200,000 people per hectare, compared with 6,000 in Pakistan (IGC 2011). Most of Pakistan's cities do not have a city center with densely located commercial, office, residential, and entertainment space. Instead, many cities are growing outward, taking up, as noted earlier, valuable agricultural land. The development of land use patterns in Karachi, which has seen its urban footprint expand 29% since around 2005, suggests the city is becoming spatially unsustainable, inefficient, and unlivable (World Bank 2018). The government's recent policy initiative to promote vertical housing development could help overcome the urban sprawl.

Economic activity is declining in core city areas, which has implications for long-term economic and social development. Karachi is no longer competitive in areas of traditional specialization, especially manufacturing (World Bank 2018). The probable reasons for this decline include power shortages, infrastructure gaps, political instability, and competition from the People's Republic of China and other East Asian economies. Moreover, new development is underway in Karachi's periphery, particularly the Malir and West districts. And while large formal housing schemes are gaining momentum, poor and vulnerable communities on the periphery are becoming denser.

In Lahore, inadequate laws and regulations and their weak enforcement have resulted in unplanned and unstructured city growth. It was envisioned that Lahore would grow in a southern direction toward Raiwind, while the area beyond Ferozepur Road was for agricultural use, where development was prohibited. But there has been urban sprawl east of Ferozepur Road, encroaching on agricultural land in violation of the zoning laws and development plans (Lahore Development Authority 2016). This has also happened in Karachi, where urban land use laws recommended the preservation of peripheral areas in the city's east and north for agriculture

to ensure food and environmental security. These laws have been breached by very large real estate schemes (Ahmed 2016). Low-density urban sprawl has led to increased distances, as people and businesses settle far away from Lahore's city center, resulting in rising travel costs, more time spent traveling, and increasing congestion, all of which negatively affect the economy. Since around 2010, the number of vehicles in Lahore has increased by 30% to 11 million (Abu Bakar 2017).

Pollution

Urban sprawl has intensified pollution, which has adversely affected health, productivity, and economic growth in Pakistan's cities. Particulate matter in Karachi and Lahore far exceeds WHO standards.[5] Lahore has high concentrations of primary and secondary air pollutants, especially sulfur dioxide and fine particulate matter, 38% of which come from vehicle emissions. This is the source of 18% of Karachi's air pollution (World Bank 2014). Urban sprawl and a lack of proper zoning regulations (and the failure to enforce what zoning regulations there are) are the cause of traffic congestion in many of the country's cities. Many of Lahore's commercial and industrial areas have developed outside their designated areas due to commercial activity along most roads and streets in the form of ribbon development (Lahore Development Authority 2004).

Traffic congestion and illegal encroachments are exacerbated by industrial activity not being confined to designated industrial estates, and ad hoc and illegal businesses in areas that do not have the infrastructure or parking to accommodate them. A facet of this problem is the frequent traffic jams caused by loading and unloading by businesses and factories. The space allocated to parking spaces in Karachi is below the demand, resulting in double or illegal parking in the main business districts (World Bank 2018). The lack of an urban design plan at critical locations, such as the Quaid-e-Azam mausoleum, a gateway to the central commercial areas, leads to traffic jams. The traffic on already congested roads has worsened due to the construction of high-rise buildings for which proper feasibility studies on their environmental impacts have not been done (University College London 2018).

Housing shortage and urban slums

Pakistan is short of about 10 million affordable houses (mainly in cities). This is predominantly because the floor area ratio is set below market values and

[5] Particulate matter includes airborne particles of dust, dirt, soot, smoke, and droplets, and is the air pollutant most damaging to health.

a dearth of land in areas suitable for housing (State Bank of Pakistan 2018). Historically, a large share of Pakistan's urban residents live in slums (Table 7.5). One of the main reasons for this is the absence or failure to implement bylaws and zoning regulations to restrict or control land-price speculation. Because of rent seeking, areas that are suitable for building low-income houses experience a considerable price rise and are sometimes classified as commercial areas at the expense of the need for low-income housing. The result has been mushrooming slums and informal settlements (World Bank 2018). This is shown by 74% of Karachi's residential area being formally developed for 38% of its population, while the remaining 26% has been developed informally to cater to the rest of the population (62%) (IEED 2017). Karachi's slums and informal settlements are growing at twice the country's annual urban growth rate (Wardah et al. 2016). In these areas, population density far exceeds the allowable limit, and living standards are extremely low. Between 1,500 to 4,500 persons per hectare live in these areas—a trend that is on the rise (Consortium for Development Policy Research 2016).

Table 7.5: Population Living in Urban Slums
(% of urban population)

1990	1995	2000	2005	2010	2014	2016	2018
51.0	49.8	48.7	47.5	46.6	45.5	40.8	40.1

Source: World Bank. World Development Indicators Database.

Pakistan's urban slums are a socioeconomic problem because the people who live in them face exclusion from economic opportunities, lack sufficient income, and permanent jobs. The quality of infrastructure and public services is extremely low, resulting in poor health and productivity outcomes. And because these residents are deprived of their "rights to the city," they are stuck in cyclical poverty (Rizwan and Nadeem 2006).

Crime

Pakistan's high urban crime rate reflects extreme poverty and the lack of access to basic services (Hasan 1993). Crime has risen sharply in Karachi and Lahore, with the homicide rate in Karachi at 12.3 per 100,000 residents in 2012—the highest in the world's 13 largest cities (Hashim 2012). Karachi reportedly has high rates of street crime, including snatching mobile phones and vehicle theft. In Lahore, one in eight people reported being victims of a crime in 2016, compared with one in 25 in 1991 (Cheema and Hameed 2018). Although the ethnic and sectarian conflict has contributed to increased violence in Karachi,

the conflict has its roots in dysfunctional and inequitable urban development and access to basic services. Besides the precious loss of life, the toll of violence on Karachi's economy has been substantial.

Water and sanitation

The horizontal expansion of Pakistan's cities has made delivering public services difficult due to accessibility issues. This has resulted in service delivery gaps in the peripheral areas of cities. Water supply is a big problem in Karachi, with only 55% of the city's water needs being met (World Bank 2018). Most people living in slums face grave water shortages and a lack of proper sewage systems. Municipal solid waste management systems are inefficient and limited in coverage, with only 40% of Karachi's estimated solid waste reaching dumpsites (Ministry of Climate Change 2018). All households in urban centers have an unmetered water supply, with tariffs based on plot size.

Vulnerability to natural hazards

Inadequate building controls and their weak enforcement, coupled with weak land planning, have resulted in ineffective responses to security and health emergencies, and natural disasters (World Bank 2018). Safety standards set by building codes are not properly enforced due to the limited capacity of implementing agencies. Many buildings lack fire alarms, smoke detectors, sprinklers, fire extinguishers, fire escapes, and emergency exits. Information on safety and disaster risks are not adequately disseminated, and the poor enforcement of building codes increases people's vulnerability to natural disasters. Indeed, a high-intensity earthquake in Karachi would likely cause heavy damage to many structures and have devastating economic repercussions for the city.

7.4 Recommendations

Pakistan faces two choices in its future urban planning. The first is to continue with the same policies that have mostly led to congestion pressures in urban areas, making it harder to exploit agglomeration economies. Staying on this path would likely leave Pakistan on its current trajectory of failing to harness urbanization's opportunities and the problems and risks associated with rapid urbanization worsening. The second choice is to take the difficult but needed policy reforms to alleviate current and future urban congestion pressures, and to make it easier for Pakistan's cities to exploit agglomeration economies.

Doing this could unleash the tremendous untapped potential of these cities, thereby significantly improving the country's prospects for being able to follow the same development trajectory that enabled other countries to achieve upper-middle-income and high-income status.

Granted, achieving this will not be easy—but these policy reforms will be necessary to make Pakistan's cities more livable and for them to become engines of growth and job creation. Developing and implementing these reforms will probably require long-term collaboration between federal, provincial, and local governments, development agencies, international donors, the private sector, and local communities. The following recommendations are offered that focus on the strategic thrust for policy reforms for Pakistan's cities to become more livable and engines of growth and job creation:

Build on urban agglomeration economies. This can be done by improving the management of urban functions and promoting interagency coordination among service providers. This will require streamlining roles and responsibilities at all levels of government (federal, provincial, local) for promoting a synchronized and more effective approach to urbanization.

Strengthen the capacity of local governments. This is needed for them to deliver on their mandates as regulators for (i) developing master plans for urban and transport planning for cities and regions; (ii) monitoring city traffic and travel behavior; (iii) conducting transportation studies for improving mobility; (iv) enforcing transport and land use policies, as outlined in master plans; (v) enforcing traffic and parking regulations to ensure that road capacity is used effectively; and (vi) regulating public transport operators and maintaining a healthy competitive market for providing transport services.

Reduce vertical imbalances in revenue generation. This effort needs to be linked to improvements in the delivery of public services. With the 18th Constitutional Amendment devolving health, education, and basic community services to the provinces, property tax could be decentralized to local governments for improved inducements and resource generation. This could help overcome funding deficiencies, leading to better public services in urban areas.

Create industrial clusters in cities. This could improve their competitiveness and productivity, making a higher and sustained contribution to economic growth and job creation. These clusters could be facilitated by (i) strengthening financial inclusion and deepening, (ii) augmenting human capital development, (iii) improving trade facilitation and logistics, (iv) rationalizing business

regulations and taxation, and (v) enhancing economic connectivity and integration by resolving energy and infrastructure issues.

Promote tourism and the potential of knowledge-driven businesses. This will help to considerably improve livability and boost the economies of Pakistan's cities.

Reduce the spread of urban slums. Land and housing reforms, and fostering innovative housing finance, are needed to overcome the proliferation of urban slums. The government should embrace measures to stimulate the supply of affordable housing and offer more options to both low- and middle-income households. The government's Naya Pakistan Housing Program, which aims to build 5 million low-cost houses from 2018 to 2023, is a step in the right direction. But the program could also be useful for enhancing the supply of affordable housing through more permissive land use and development regulations. Infrastructure to open up land for residential development, easy-to-use land titling and registration systems, and greater access to construction and mortgage finance is needed. Government regulations should be revised to foster more affordable rental housing. Making land management more effective could require cities to build their capacity to guide urban development and provide a framework for planning infrastructure investments that can make them livable and inclusive.

Revise city zoning laws for vertical expansion. Developing more high-rise and mixed-use buildings is needed to overcome urban sprawl. Doing this can generate more housing units and open up more space for schools, shops, and markets. This will increase the supply of services and boost commercial activity. Promoting vertical expansion could also help to secure agricultural land, thereby contributing to food security.

Promote cottage industry entrepreneurship. This could be done through formulating economic policies to, among other things, (i) help leverage bank financing (microcredit) for small businesses through risk-sharing guarantee facilities; (ii) set up urban innovation labs and incubators that focus on low-income urban populations in collaboration with public and private organizations; and (iii) provide technical education, occupational training, and skills development to disadvantaged urban populations in line with market demand to improve their employability.

Prevent building in disaster-prone areas. Urban planners, engineers, and academics could participate in a program to review the design and enforcement of city building codes, regulations, and land use plans to prevent further

construction in high-risk areas and to reinforce structures in these areas to make them resilient to natural disasters and climate change. This could involve various policy tools and incentives to enforce building codes, which may mean extra costs for the government. But this investment can also mitigate costs associated with the aftermath of natural disasters.

Move away from the concept of suburbia. Rather than prioritize cars over people, make cities more people-oriented and incentivize modernization, moderation, and enlightenment.

Strengthen urban–rural synergies and linkages. This means getting more out of existing synergies and linkages and developing new ones for creating better employment opportunities and improving public services in rural areas to reduce the need to move to cities. This could involve creating and deepening the backward and forward supply chain linkages in urban industry and services sectors with rural areas, and providing better education and health services in backward regions. The better integration of urban and rural economies will likely entail investments in education, health, research and development, soil and water management, veterinary and animal husbandry services, cold storage infrastructure, roads and logistics, and refrigerated transportation, among other areas.

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CHAPTER 8

Concluding Remarks

The purpose of this country diagnostic study (CDS) is to support the design and implementation of policies and strategies that can help put Pakistan on a path—so far, an elusive one—to strong, sustainable, and inclusive growth. To do this, it is important to understand the symptoms and causes of the country's episodic growth performance, a decades-long malaise. How can Pakistan finally break these unstable boom–bust cycles? A growth diagnostics framework was used to identify binding constraints to growth, and these were found in the trade performance, the financial and power sectors, and the poor provision of education and health services. Decisive reforms will be needed to unshackle the economy from these constraints, and this is the CDS's broad message.

Research on the CDS was begun months before the outbreak of the COVID-19 pandemic. The core findings and recommendations still stand, but clearly the global economic fallout from the pandemic will affect the short-term outlook for certain sectors, such as savings and investments, domestic vehicle sales, and health impacts. It is important to remember that some of the economic problems that Pakistan faces today have very deep roots, such as import substitution, a now largely discredited economic policy internationally on which the country still relies.

The symptoms of Pakistan's lackluster economic performance are many and varied. They include low-value exports, problems in the power sector, tepid foreign direct investment, and low domestic savings and investment. Fiscal pressures from supporting domestic demand and financing a heavy import requirement have been the cause of recurring balance-of-payments crises and International Monetary Fund programs. Economic policy has generally failed to recognize that the private sector creates wealth and jobs, not the

government. Human capital development is being undermined by the many failings in the country's underfunded and poorly performing education and health sectors. And the manifestations of a rapidly urbanizing Pakistan are congestion, urban sprawl, and poor public services, rather than livable cities and the benefits agglomeration effects.

Despite these problems, the economy is not without opportunities and bright spots. Significant progress has been made in tariff and trade liberalization. The banking sector, in the main, is healthy and Islamic banking growing. For the first time in many years, a surplus supply of energy is expected in 2020. The rice industry, particularly basmati, has considerable potential to flourish. In textiles and apparel, Pakistan has the advantage of having a complete supply chain within the country. And the security situation—although still a significant country risk—has substantially improved since 2016.

The negatives, however, far outweigh the positives. High and persistent fiscal deficits are at the core of Pakistan's macroeconomic problems, and the measures taken by the government to fix these imbalances, such as overvaluing the rupee and increasing taxes on businesses, have eroded the competitiveness of both the export and import-substituting sectors. Fiscal deficits have increased debt and interest payments, and drained reserves. The cross-cutting nature of Pakistan's fiscal problems highlights the need to ensure that remedial reforms in one area do not worsen constraints in other areas, as has happened. For example, government borrowing from the domestic market to tackle fiscal deficits has crowded out private investment, underscoring the need to strengthen fiscal management. Little, however, has been done to reduce government expenditure and staunch the continued losses of state-owned enterprises—at 2% of gross domestic product (GDP) in April 2020. Pakistan's significant fiscal decentralization is also a concern because of its potential to cause macroeconomic and political problems. Managing decentralization will require credible medium-term fiscal consolidation in coordination with the provinces to reduce pressure on external accounts. Rather than impose new taxes for fiscal support, the government should improve revenue collection. Future fiscal reforms need to be coupled with monetary tightening to slow domestic demand and import growth, and to strengthen demand for rupee financial assets.

Pakistan's exports have neither provided a sustained contribution to GDP nor financed the economy's import requirements. This has been the cause of a near continual vulnerability in the balance of payments. Pakistan's exports lack diversity and value addition (the latter is particularly evident in textiles, the country's biggest export earner). Policy responses to changing market trends

and global trading rules have been inadequate. An export-oriented economic growth strategy is needed that allocates resources to develop exports in diverse sectors and to finally make a decisive break with import substitution. More and better-quality exports alone will not be enough to secure strong and sustained economic growth. Policies to strengthen competitiveness must be economy-wide given the increasing interdependency between the domestic and export economy.

Two well-established industries—textiles and apparel, and basmati rice—have been unable to build on decades of local know-how to become the innovation leaders that they should be today. The CDS examines why. Beyond industry-specific factors, a common reason is a lack investment in research and development (R&D) and the insufficient use of modern value-chain approaches. Even so, both industries have considerable potential to boost their contributions to exports if they can become more competitive.

Pakistan has an advantage in cotton production from its geography, climate, and a long history of cotton farming. Yet, these benefits are not being maximized. The quality of cotton needs improving—Pakistan imports high-quality cotton to use in high-end textiles—and the cotton value chain needs modernizing, particularly in pest and quality control, and upgrading aging ginning machinery. The largely cotton-based textile and apparel industry needs to adapt to the global preference for synthetic fibers. The concentration on cotton is understandable for a top cotton-producing country. It nevertheless puts the apparel industry at a disadvantage for moving into higher value-added products using synthetic fibers, such as sportswear. Making the upgrade could help Pakistan both expand its apparel exports to countries with rising middle-classes, as well as to the European Union and the United States, its traditional apparel markets.

Basmati rice should be a major strategic commodity for the country given its high market value and potential to increase exports. But the industry is punching below its weight. Basmati production is volatile and underinvestment in R&D is reflected in low yields and crop diseases. Competitor countries, meanwhile, are improving the quality of their rice and increasing production. Pakistan's rice R&D needs to be driven by stakeholder demand rather than from the supply side, as is now the case. It is frustrating to see that new basmati varieties developed by local researchers, which are claimed to have excellent properties, are not being used commercially. In other words, the research ended in the lab and not farmers' fields. The government should consider "championing" basmati in the same way that Malaysia has supported its palm oil industry.

Although the government wants locally produced automobiles in the export mix, the industry's main source of growth, at least in the medium-term, will likely come from domestic demand. The industry shares characteristics with the poor trade performance of other exports sectors—little innovation, for example—and some specific challenges. These include insufficient economies of scale and industry standards that lag behind other developing countries in the Asia with automobile industries. These challenges can be overcome by raising standards, quality, and cost efficiency. But at a time of rapid technological change in the global automotive industry, Pakistan risks continuing to trail behind other Asian countries that have automobile industries with better production capabilities even if it makes needed changes.

Foreign direct investment (FDI) has in the main been low, averaging just 1.1% of GDP since 1990, and the country is stuck in a growth-damping low-savings, low-investment cycle. Abrupt changes in economic policies and political instability have badly undermined investor confidence. The business environment is difficult (as attested by international doing business and competitiveness surveys), and the security situation, though improved, remains fragile. Increasing domestic savings—which are one of the lowest in lower-middle-income countries—will require social, macroeconomic, financial, and governance reforms. To encourage the population to hold and invest savings, the government needs to do better in combating corruption, implementing the rule of law, and securing political stability. FDI has, however, been responsive to reforms, as happened during FY2002–FY2007, when foreign investment policy was liberalized.

Not enough progress is being made in developing the finance sector, where the lack of affordable growth capital is a major constraint to the economy. The government should reduce its heavy borrowing from the finance sector to finance the budget deficit, a practice that has long crowded out private borrowers. The finance sector needs more exposure to the private sector, especially for long-term project financing. Increasing financial inclusion can mobilize additional savings and funding. Polices and incentives are needed to foster the growth of the nonbank finance sector and equity instruments to provide finance for small and medium-sized enterprises.

The power sector has not been able to meet the economy's growing demand for energy. Generation assets operate at low capacities and technical losses from overloading are high. The sector is grappling with the rapid depletion of local natural gas and the effects of limited exploration of other local energy sources. Energy shortages have impeded economic growth for a long

time. The sector's many problems notwithstanding, considerable progress has been made in reducing energy gaps through large energy investments, especially from the China-Pakistan Economic Corridor collaboration. And as noted earlier, Pakistan is expected to have surplus supply of energy in 2020 as new generation projects come on line. The government is also making a determined effort to move from expensive imported furnace oil to cheaper and more efficient imported liquified natural gas. The planned expansion of coal-fired generation, however, is out of kilter with the global move away from coal because of global warming.

The CDS identifies the circular debt—at PRs2.21 trillion (or about 4% of GDP) in stock and flow in June 2020—as the power sector's biggest problem. Allowing this debt to continue accumulating with no prospect of it being reduced or eliminated would be intolerable. But it is clear that the government has been struggling to stop it from accumulating, even with support from the Asian Development Bank, the International Monetary Fund, and the World Bank. The government faces two choices on the circular debt. Either the power sector's financial situation improves by reducing costs, better recovery, increasing tariffs, and enabling power companies to fulfill their payment obligations or the government will have to consider another write-off. The headroom for a write-off is limited given a debt-to-GDP ratio of 61.4%. And another write-off could discourage power companies from taking the measures necessary to reduce their costs. Lastly, it should be remembered that even though 2013's write-off cleared the stock of debt it did not staunch the flow of debt.

Pakistan's weak education and health systems in terms of access and quality are binding constraints to developing the human capital that is needed for the country to move beyond a low-skilled economy. Some education and health outcomes have improved in recent years—but not enough to change the overall picture, which is dismal for many education and health indicators. To cite just two: Pakistan has the world's second highest number of out-of-school children (over 25 million) ages 5–16 and its infant mortality rate is well above the global trend line. Pakistan will likely miss the education targets of the Sustainable Development Goals.

It will be hard for Pakistan to achieve a better quality of growth unless it can rise to the many challenges facing its education and health systems. This will require a strong focus on policy actions that can improve their reach and quality. Early childhood development programs for education, health, and nutrition would not only get in at the ground floor for improving human

development, but deliver high returns at a relatively low cost. International experience has demonstrated the effectiveness of conditional cash transfers to promote health and education outcomes. The Benazir Income Support Programme already has a conditional cash transfer component for education (the Waseela-e-Taleem program), and a health-focused transfer program, which is currently under preparation, could be implemented in return for preventive care visits, antenatal care checkups, and diagnostic tests.

Many aspects of the public education system are in trouble, including low enrollment, poor learning outcomes, high dropout rates, regional disparities, obsolete teaching methods, and a poor exam performance. Government spending on education—at 2.4% of GDP in FY2018—needs to increase. Given the fiscal constraints to spending on education, the government should make greater use of public–private partnership modalities for primary and secondary education. Funding is needed to improve monitoring and assessment for better education outcomes and teaching quality. The numerous public sector Boards of Intermediate and Secondary Education need streamlining and their capability and capacity increased. Provincial governments should fully implement the 2007 National Textbook Policy to promote the greater competition needed for better quality textbooks. Beyond primary and secondary education, Pakistan faces significant skills shortages and mismatches, and a growing demand for market-relevant skills that tertiary education and skills training institutions are not meeting.

Like education, the health sector suffers from poor outcomes that affect economic development. Among the many indicators of concern, in addition to those mentioned earlier, are rising deaths from noncommunicable diseases, South Asia's highest incidence of child stunting, and poor nutrition. The CDS made numerous recommendations for improving the country's health profile. For children, programs should focus on immunization and early treatment for diarrhea and pneumonia (both are leading causes of deaths in children in Pakistan). The government should consider passing legislation for preschool nutrition programs for disadvantaged children, which, among other benefits, could increase enrollment in early school years. A better allocation of the Sehat Sahulat health program's resources could significantly benefit the disadvantaged, especially if more hospitals in poorer areas were enrolled in the program.

Awareness programs promoting a healthier lifestyle among adults are needed, especially since Pakistan does not have universal health coverage. A strengthened primary care program would encourage preventive care

visits and early testing for diseases, which could be incorporated into a health-focused conditional cash transfer program. None of these and other proposed initiatives will be possible unless government spending on health, at just 0.77% of GDP, is increased. The public–private partnership modality, if properly regulated, has considerable potential, and the government could adapt successful models used in other countries to fit Pakistan's situation.

Pakistan has one of South Asia's fastest growing urban populations. Its cities, however, have not been able to harness the economic benefits of urbanization. Poor policy choices have contributed to the congestion caused by rising demand for land, housing, transport, and the provision of basic services. The urban governance structure and land use policies in Karachi and Lahore—which both score poorly in international surveys on livability—highlight many of these problems. In both cities, multiple agencies are responsible for various aspects of urban management that often overlap, highlighting the need for streamlined approaches.

The urban planning path that Pakistan is on is clearly not working. The country is at a crossroads: it either continues with largely the same urban policies that have clearly not captured the economic benefits of urbanization or takes the difficult policy reforms that will be needed to alleviate current and future congestion and to enable cities to leverage agglomeration effects. These reforms will require, among other things, the long-term collaboration of all levels of government, development partners, the private sector, and local communities. Reforms are needed to strengthen the capacity of local governments for various aspects of urban planning; reduce the spread of urban slums by, for example, stimulating the supply of low-cost housing; tackle urban sprawl by promoting vertical expansion, as the outward growth of cities is taking up valuable agriculture land; and leverage urban–rural synergies through, for example, strengthening the supply chains between urban industries and services and rural areas.

This CDS comes out at an economically challenging time for Pakistan. Assessing the longer-term impacts of the COVID-19 pandemic will be the work of other researchers, but the study does make an early attempt to assess and make projections for the economic and social impact. The biggest economic challenge that Pakistan faces is its limited fiscal space, although there has been some improvement, with the consolidated fiscal deficit of the federal government and provincial governments at 8.1% of GDP in FY2020, down from 9.1% in FY2019. A key message of this CDS is that decisive reforms are needed not only to tackle the underlying causes of the country's external

balances but also the problems (and opportunities) facing the export and power sectors, foreign direct investment, mobilizing domestic savings and investment, the education and health systems, and harnessing the economic potential of urbanization.

Pakistan has shown that it is capable of taking bold reforms, as it did with a wave of liberalization in FY2002–FY2007. The uncertain outlook for the global economy makes it imperative that Pakistan does so again—and quickly.

Pakistan—Reviving Growth through Competitiveness

This country diagnostic study examines the binding constraints to Pakistan achieving strong, sustained, and inclusive growth, and offers recommendations on how to tackle them. Pakistan faces many and varied economic challenges, including a lack of export competitiveness, weaknesses in the power sector, low foreign direct investment and domestic savings, underdeveloped human capital, and uncontrolled urbanization. The study recommends promoting exports in diverse sectors and making established export industries more competitive, improving the business environment to increase investments and savings, reforming the power sector, improving access to and the quality of education and health services to increase labor productivity, and investing in orderly urbanization processes. Pakistan can build on the significant reforms that have been initiated and seize growth opportunities.

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