



ECONOMIC CORRIDOR DEVELOPMENT IN PAKISTAN

CONCEPT, FRAMEWORK, AND CASE STUDIES

FEBRUARY 2022

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On the cover: Economic corridor development is a critical step for export-led economic growth. Political commitment at the highest government levels is essential to incorporate economic corridor development in a country’s overall economic plan (photos from the ADB Digital Media Library).

Cover design by Mike Cortes.

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Foreword


Sustained economic growth is a prerequisite for creating quality jobs and reducing poverty. Despite its immense potential, Pakistan has not yet been able to attain a sustained growth path to move beyond its historic lackluster and stop-and-go pattern, characterized by “booms and busts” every 3 to 4 years. This growth cycle stems from nascent private sector development, which is evident from the fact that the services sector’s share, mostly non-tradable, dominates gross domestic product (GDP). The manufacturing sector share has been approximately 13% of GDP compared with a 30% average for comparable economies.

Many Asian developing countries that have successfully transformed their economies from low-income to middle- and high-income status have relied on exports as the main growth engine. Through market reforms, Pakistan needs to transform its economy into an export-led growth trajectory. In addition to improving the economy’s competitiveness and productivity with a vibrant private sector, it is critical to attracting domestic and foreign investments to support this transformation.

Pakistan has undoubtedly great opportunity and promises with a unique potential to become the regional hub of economic activity due to its strategic geopolitical location at the crossroads of South Asia and Central Asia. The country has already begun applying its potential by adopting and implementing an economic corridor development (ECD) strategy as part of its core development and growth framework. The ECD aims to achieve spatial transformation, urban development, and agglomeration. A well-planned and implemented ECD strategy can promote rapid industrialization by removing infrastructure bottlenecks, improving access to markets, and stimulating trade and investment. ECD will help businesses realize economies of scale, network externalities, and agglomeration benefits.

It is pertinent to note that these potential ECD benefits mask the hard reality that ECD implementation will require a complex and cross-sectoral development strategy. This report describes the strategic framework for ECD in Pakistan and draws lessons learned from other countries. It offers possible policies to unleash potential benefits from ECD. Although ECD is a necessary condition, it is not sufficient for transforming the economy to export-led growth—private sector development and a fair and efficient tax system are indispensable as well.

Development partners will continue to work closely with the Government of Pakistan to adopt and implement the ECD strategy as part of its overall socioeconomic framework. ECD can be one of the most credible ways to help the government achieve its socioeconomic objectives of reaching the upper-middle-income status by 2025.



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Abbreviations

ADB	Asian Development Bank
BRI	Belt and Road Initiative
BOA	Board of Approval
BOI	Board of Investment
BECZ	border economic cooperation zone
BRT	bus rapid transit
CAREC	Central Asia Regional Economic Cooperation
CPEC	China–Pakistan Economic Corridor
DMC	district municipal corporation
ECD	economic corridor development
EPZ	export processing zone
FDI	foreign direct investment
FTA	free trade agreement
FTZ	free trade zone
FY	fiscal year
GDP	gross domestic product
GST	general sales tax
GPN	global production network
GVC	global value chain
GST	goods and service tax
GMS	Greater Mekong Subregion
GIFF	Growth Identification and Facilitation Framework
ICT	information and communication technology
IT	information technology
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
km	kilometer
KMC	Karachi Metropolitan Corporation
LWMC	Lahore Waste Management Company
NETDZ	National Economic and Technological Development Zone
NHTDZ	National High-Tech Development Zone
NSW	national single window
PRC	People’s Republic of China
PFTZ	pilot free trade zone
PTA	preferential trade agreement
PSDF	Punjab Skills Development Fund
PSE	public sector enterprise
PPP	public–private partnership
RCI	regional cooperation and integration
ROK	Republic of Korea

R&D	research and development
SEZ	special economic zone
SEZA	SEZ Authority
SMEs	small and medium-sized enterprises
SEZ	special economic zone
sq km	square kilometer
SBP	State Bank of Pakistan
SLNA	state-level new area
SROs	statutory regulatory order
TEVT	Technical and vocational education and training
TEVTA	Technical Education and Vocational Training Authority
UK	United Kingdom
US	United States
WTO	World Trade Organization
ZSP	Zhongguancun Science Park

Glossary

<i>qingchi</i>	motorcycle-driven six-seater carriage
<i>tonga</i>	horse-drawn cart
<i>katchi abadis</i>	slums

Highlights

Economic corridor development (ECD) aims to promote economic growth by connecting different economic agents along defined geographic areas. When successfully implemented, ECD supports economies of scale and scope as well as agglomeration. ECD induces economic transformation and diversification through foreign direct investment (FDI).

ECD typically goes through the stages of physical infrastructure development. First, a transport corridor—including highways and a multimodal transportation system—is developed. While physically connecting geographic areas, a transport corridor also expands economic activities. Second, a trade corridor is developed. In this stage, facilities to support domestic and international trade are set up, such as storage, warehousing, trucking, insurance, and freight management in conjunction with simplifying, standardizing, and using information and communication technology to support international trade. Trade facilitation is an important element for a trade corridor, and it entails investment in hard infrastructure and capacity development for customs. For this purpose, the government can adopt cross-border trade agreements as well as free trade agreements. At a larger scale, a country can join a regional trade bloc. Finally, an economic corridor is developed as special economic zones, and policies are established to create an enabling environment for private sector development. Public infrastructure like schools and health facilities are indispensable in an economic corridor.

The use of ECD is not new. It is often adopted to achieve regional cooperation as in the Greater Mekong Subregion project. ECD has three pillars: (i) infrastructure development, (ii) urban development, and (iii) industrial development. These developments go hand in hand and do not occur in a particular sequence. There are four key drivers for ECD: (i) economic aspects of local competitiveness; (ii) institutions and regulations; (iii) inclusion of environment-friendly and gender equality conditions and sustainability of poverty reduction; (iv) and external factors of FDI and remittances. This study concludes that Pakistan should focus on these three pillars and four drivers to successfully implement ECD. Infrastructure also plays a pivotal role in facilitating the smooth transformation of transport and trade corridors into economic corridors.

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. Pakistan's economy is characterized by a lack of exports. Its major exports are low value-added items like textile and foods. Also, the composition of export items has remained stagnant since the mid-1980s.

Almost all Asian countries experienced export-led growth. Initial conditions such as high literacy rates and low-income inequalities have contributed to industrialization in East Asia. Technology and innovation have played a fundamental role in sustaining growth. FDI often brings in innovation and productivity gains for recipient economies. A legal framework also affects private sector activities, leading later on to economic transformation. Many countries often find that joining the World Trade Organization eliminates trade restrictions like export subsidies and prohibitively high tariffs, thus helping to promote structural change.

This study proposes horizontal and vertical interventions to achieve structural transformation. The horizontal intervention involves improving the regulatory framework for the business environment, increasing infrastructure investments, and enhancing market access and compliance. Vertical interventions, on the other hand, include promoting entrepreneurship and innovation for industrial diversification, promoting linkages across private sector players, and increasing value addition through human capital development.

Instead of promoting one sector over another, this study recommends a systematic framework to identify the constraints on private sector development. The government should address impediments and correct market failures by formulating policies rather than subsidizing one sector at the expense of the other.

The first step of ECD in Pakistan is to identify necessary transport corridors. This study has identified four pilot corridors on which to operationalize ECD: (i) Motorway M4, (ii) National Highway N70, (iii) National Highway N50, and (iv) Expressway E35. These transport corridors have economic potential for better scale and diversification.

To unleash that potential, the government needs to invest in public infrastructure. Another important policy intervention is to streamline trade facilitation processes that harmonize customs procedures and transit rules to achieve the smooth flow of freight traffic along domestic and international routes. To develop economic corridors, the government could also consider establishing special economic zones (SEZs) along transport corridors. It should give special consideration to local endowments, such as the skills mix of labor, availability of raw materials, local market conditions, and access to amenities like electricity, water, and sewerage in the industrial estates. In addition, it must establish a regulatory framework to provide proper financial and other incentives for businesses to operate in these SEZs.

Pakistan will need to develop a master plan for the identified transport corridors. The plan should be based on the analysis to (i) identify the infrastructure gaps, (ii) make policy recommendations for synchronizing institutional and regulatory arrangements, and (iii) mobilize internal and external resources as well as private sector investments.

SEZs can be a powerful platform for attracting domestic investment and FDI, especially when addressing structural, institutional, regulatory, and infrastructural barriers. SEZs can foster export-led industrialization for jobs and welfare gains. In the world, there are about 4,300 SEZs in more than 130 economies in 2015. In the People's Republic of China (PRC), SEZs contributed about 60% to the country's total FDI and exports, 30% to GDP, and 6.3% to employment in 2015.

SEZs share two common structural characteristics. First, they are typically located in the designated areas in the national territory. Second, SEZs are legal spaces with a set of investment, trade, and operating rules that are more liberal and administratively efficient than those prevailing in the rest of the national territory. Additionally, the administration of SEZs requires dedicated government offices.

There are four key reasons for the success of many SEZs in the PRC. First, the government has demonstrated firm commitment and support for market-oriented development. Second, a well-designed legal framework and consistent, transparent, and clear rules are implemented. Third, a robust procedure for the selection and approval of SEZs is followed. Fourth, SEZ operations are

managed by an effective and independent government body. In addition, policy interventions like waiver of taxes are helpful in developing SEZs, especially at the beginning stage.

If successful, SEZs can develop into economic corridors. However, the government must identify the potential pitfalls before implementing SEZs. First, SEZs are prone to mushrooming growth without an overarching development strategy. Second, SEZs must have defined goals. Third, without vision and goals, there is no metric to gauge their success. Fourth, even though labor productivity matters for the success of businesses, some firms in SEZs pursue only access to cheap labor alone. Fifth, SEZs tend to compete for arable land for other purposes. Hence, the government must carefully plan the construction and implementation of SEZs. Sixth, there is often a lack of localized strategy. Multinational firms usually conduct their research and development in their home countries, and little technology transfer occurs at SEZs.

For a smooth transition from SEZs into economic corridors, this study suggests that the Pakistan government pay attention to improving trade facilitation, relaxing the regulatory regime, and increasing transparency. In addition, improving the business climate would reduce both direct and indirect transaction costs. The government should establish a consistent and transparent SEZ regulatory framework with solid leadership and commitment. An SEZ should be part of the national or regional development strategy. Beyond SEZs, the government should install the national single window to facilitate trade. Wherever possible, a financing modality like public-private partnerships should also be utilized to encourage private sector participation.

In 2014, the Government of Pakistan launched the China–Pakistan Economic Corridor (CPEC) project. The CPEC’s planned investments amount to about \$62 billion by 2030. If CPEC is successfully implemented, Pakistan can harness its strategic geopolitical location, improve its regional and international economic connectivity, enhance industrial development, and become an economic hub for Central, South, and West Asia.

The CPEC is an initiative to build economic connectivity and regional integration between the PRC and Pakistan. However, the CPEC alone will not bring optimal results. Structural reforms for private sector development are needed as well. Also, tax reforms are essential to broaden the tax base and enhance the perceived fairness of the tax system. Infrastructure built under the CPEC should be fully utilized to expand trade and regional cooperation. Furthermore, the government should expedite the development of the nine SEZs planned along the CPEC routes.

Urban development and ECD are inextricably linked, with urban centers being the focus of labor, capital, technology, knowledge, innovation, and structural transformation. Therefore, a successful ECD strategy should aim to harmonize industry development and urbanization. As cities become urbanized and industrialized, addressing challenges such as infrastructure deficits, overstretched public services, and environmental stress will be crucial. While cities in Pakistan are still vibrant, they are becoming increasingly disorderly, complex, and congested, making it imperative to identify and address the constraints on building well-performing urban centers and integrating infrastructure public service systems.

The Government of Pakistan implicitly treats urbanization and industrialization as separate processes and has designated different governance systems to manage them. Furthermore, local government units generally do not consider local economic development as part of their mandate and therefore do not actively promote industrialization.

This study offers the following policy suggestions to unleash the socioeconomic benefits of urbanization and industrialization. First, the government should develop an evidence-based targeted strategy for delivering affordable and reliable public services, including the public transport system, water supply, and sanitation facilities, solid waste management, education, and skills development. Second, it should ensure access to affordable housing for factory workers and the low-income labor force. Third, the roles and responsibilities of the federal, provincial, and local governments need to be streamlined, and vertical governance imbalances in revenue generation should be reduced. In this way, essential public services like education and health can be fully provided. Also, adopting a public-private partnership strategy could fill the gap for fiscal space. Fourth, SEZs should be fully utilized as a spatial economic unit to create synergy between urban and industrial development processes. SEZ-based industrial and urban development has become one mode of expanding urban spaces in several countries. In city spaces, SEZs can play a significant role in the urban dynamics, driving urban expansion to bring forth new business opportunities and residential development.

1. Economic Corridor Development: Conceptual Framework and Rationale

Kiyoshi Taniguchi and Dewan Mustaq

1.1 Concept

Economic corridor development (ECD) is a spatial development concept that organizes and connects different economic agents along defined geography to promote economic activities' clustering. ECD occurs along with defined geographic space. ECD helps reduce transaction costs by achieving economies of scale, economies of scope, and positive externalities through agglomeration, typically leading to economic transformation and diversification. ECD also hinges on enhancing businesses and markets' density and expanding their links within national and across international economic clusters. It overlaps naturally with urban development as it supports the growth of large, typically urban economic clusters. It improves links among urban clusters and between urban and rural areas through well-developed networks of the transportation system, including major arterial and secondary roads as well as other infrastructure necessary to attract private investment (De and Iyengar 2014). ECD coverage can be national, such as the East Coast Economic Corridor in India; regional such as the Almaty–Bishkek Economic Corridor under the Central Asia Regional Economic Cooperation (CAREC) program; and/or international, such as the New Eurasian Land Bridge in the People's Republic of China (PRC), which extends across Eurasia.

The primary objective of ECD is to enhance the competitiveness and productivity of economies to promote a higher, more sustainable, and inclusive development process. Once ECD is successfully installed, ECD becomes a sound industrial and diversified regional base by attracting investments into sectors, such as manufacturing, for both domestic and export markets. Through the process, countries with successful ECD become competitive and productive, which results in poverty alleviation through job creation. Increased connectivity across underdeveloped regions and the rest of the country can potentially narrow development gaps, helping them grow through network externalities and agglomeration benefits (ADB 2016).

ECD can bring about the following perceived benefits:

- Improved national and regional connectivity resulting from faster, cheaper, and easier movement of people and goods within and across borders;
- Reduced cost of national, regional, and global trade, thus enhancing the competitiveness of national and regional production networks and promoting greater investment;
- Greater national, regional, and global integration, and thus more rapid economic growth;

- Reduced poverty as a result of improving poor people's access to economic opportunities, lowering the cost of goods and services they consume, and providing better access to essential infrastructure services such as electricity;
- Narrowed development gaps among regional economies as access to regional markets and production networks are opened for small, poor, landlocked, and remote economies, thereby stimulating investment, trade, and economic growth in those areas;
- Facilitated development of special economic zones (SEZs), leading to industrial development coupled with sectoral, regional, and export diversification.

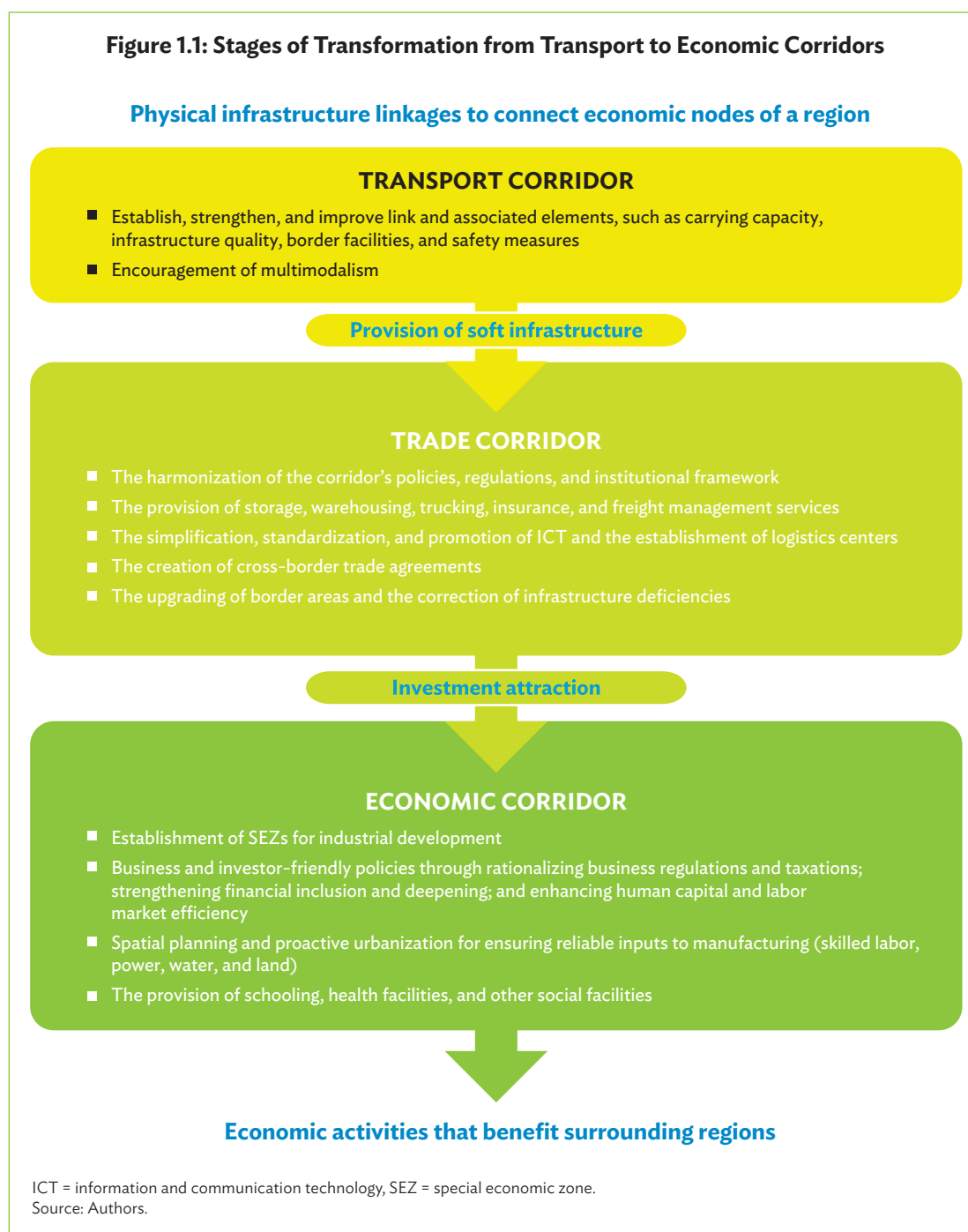
The experience suggests that the following factors are critical for ECD to succeed:

- (i) **Latent economic potential and prospects.** An economic corridor thrives and rides on the inherent economic potential of a region to attract private investment. The starting point for ECD is selecting and prioritizing a geographic area based on identified and bankable existing and future economic potential.
- (ii) **Robust economic and technical analysis.** This analysis is conducted to (a) identify ways to build on economic potential and develop strategies to prioritize the most productive way to allocate scarce resources; and (b) identify business opportunities, infrastructure needs, and policy and regulatory requirements.
- (iii) **Political commitment and coordination among multiple stakeholders.** Political commitment at the highest levels of the government and coordination among the diverse government agencies are essential to incorporate ECD in a country's overall economic plan.
- (iv) **Sustained commitment over the long term.** Since ECD typically requires public and private investment in infrastructure, projects will take substantial time and resources to complete and yield dividends. The growth of firms along the corridor can also take time.
- (v) **Crowding in of investment.** ECD is not based exclusively on public investments; it should also encompass complimentary private investments. Ideally, public investments should focus on maximizing the multiplier for private investment.

1.2 The Evolution of Economic Corridors

Transport Corridor

ECD usually begins with a transport corridor linking effectively and efficiently the main economic nodes of a region—its cities, industrial zones, and international trade gateways (Figure 1.1). This stage involves (i) strengthening physical facilities needed for smooth transportation by establishing and revamping transport links; (ii) improving the infrastructure quality to increase carrying capacity and deal with related safety issues; (iii) upgrading infrastructure associated with priorities such as rural agriculture, agroindustry, manufacturing, and tourism; (iv) encouraging multimodal structures; and (v) upgrading border area facilities. The infrastructure requirements typically comprise primary and secondary roads, railways, ports, airports, energy, information and communication technology, urban infrastructure, and SEZs.



Soft infrastructure is an essential element to develop a trade corridor. Soft infrastructure includes the overall framework and strategy for corridor development, institutional and governance arrangements, enforcement of rules and regulations, and the provision of necessary human capital.

Trade Corridor

The transport corridor transforms into a trade corridor when (i) the soft infrastructure has harmonized corridor policies, regulations, and institutions for moving people and goods more effectively and efficiently; (ii) the provision of storage, warehousing, trucking, insurance, and freight management, and related services is expedited; and (iii) sanitary and phytosanitary regimes have improved. Good logistics will entail implementing cross-border trade agreements, simplifying, standardizing, and harmonizing customs with immigration and quarantine procedures, promoting information and communication technology (ICT), and establishing a logistics center.

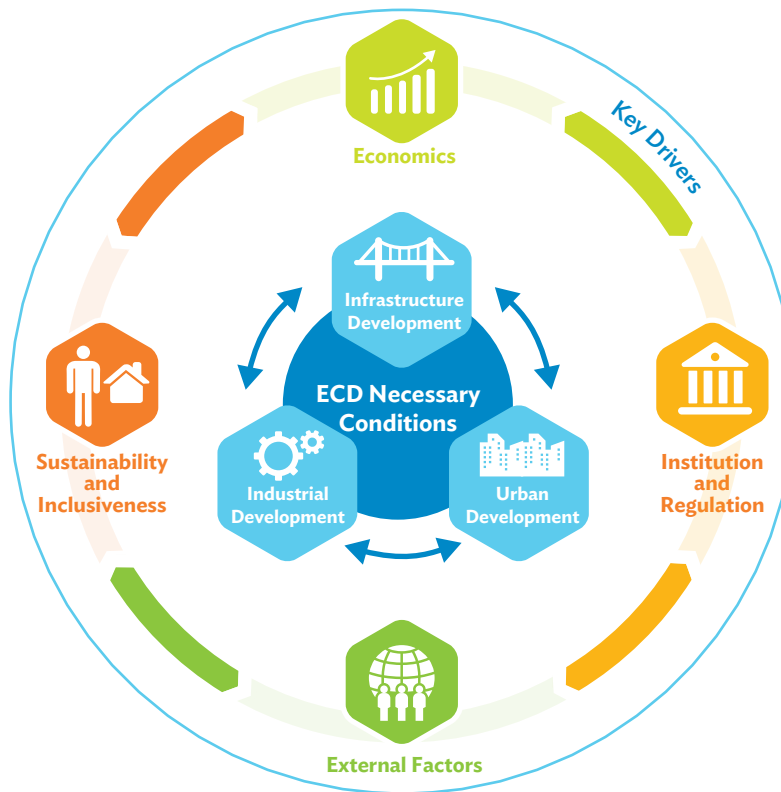
Economic Corridor

A trade corridor transforms into an economic corridor when it attracts investment and generates economic activities that benefit the surrounding regions and when the existing and new infrastructure, policies, and institutions are combined. This stage is achieved by promoting investments near the corridor, such as those pertaining to agroindustry and manufacturing, as well as natural resource-based enterprises, small-scale industries, trade (including planned roadside shops), tourism (i.e., rest houses and hotels), schooling, and health facilities. At this stage, the government could provide some measures to enhance an economic corridor by (i) promoting innovative trade techniques such as trade fair products and investment forums; (ii) establishing full-fledged SEZs; (iii) publicizing investment policies, rules, and regulations; (iv) providing microfinancing and loans to the small- and medium-sized enterprises; (v) implementing streamlined measures for approving business licenses quickly and efficiently; (vi) enforcing property rights; and (vii) addressing infrastructure deficiencies such as inadequate water and power.

1.3 Framework for Economic Corridor Development

The use of ECD as a planning tool is not a novel concept. Turning it into a multidimensional instrument for planning spatial economic development emerged in the early 1990s in Asia and Europe (Whebell 1969). The Greater Mekong Subregion (GMS) project of the Asian Development Bank (ADB) for regional cooperation and the Maastricht Treaty to integrate Europe played a pivotal role in transforming the old concept of transport and urban corridors into economic corridors (Priemus and Zonneveld 2003).

Drawing from experience and the relevant literature on transport and economic geography, we define a successful ECD framework as having three pillars and four drivers (Figure 1.2). The three pillars are infrastructure development, urban development, and industrial development, while the four key drivers consist of economic potential, institution and regulation, sustainability and inclusiveness, and external factors such as diaspora.

Figure 1.2: Framework for Economic Corridor Development

ECD = economic corridor development.
Source: Authors.

Pillars of Economic Corridor Development

Pillar 1: Infrastructure Development

Infrastructure development is the backbone of ECD. ECD is typically developed along a multimodal transport network within a defined geography, linking economic and urban clusters with domestic and international economic clusters. As a result, average times and transport costs may decrease, and variability of times may ease, thereby improving productivity and increasing trade and economic opportunities.

Pillar 2: Urban Development

Urban development is the second pillar of ECD. Urban centers are major markets for goods manufactured in production centers or imported through international gateways and a source of labor, capital, technology, knowledge, and innovation.

Pillar 3: Industrial Development

Industrial development and clustering form the most important part of ECD and usually entails the development of an SEZ to produce goods and services for domestic consumption and for exports. Box 1.1 explains causes for failing SEZ.

Box 1.1: Why Some Special Economic Zones Fail

Wrong positioning. Vision and position define the goals and strategies of a special economic zone (SEZ). However, over-ambition and unenthusiastic pursuit are often two common mistakes in developing SEZs, which usually stem from the host city's unrealistic assessments of its potential and existing conditions. Apart from the apparent impractical aspiration of a third- or fourth-tier city to become a national or regional economic center, imperceptible positioning problems arise as economic conditions change.

For instance, many SEZs in Asia aspire to engage in new emerging industries, such as telecommunications, computers, and software, and provide new materials such as those used in energy supply and advanced equipment manufacturing or biopharmaceuticals as part of their industrial plan. These aspirations can either be successful with a clear industrial and technological development strategy or become wishful thinking.

Competitive and/or comparative advantages may also be overlooked, which may lead to suboptimal development, and consequently, SEZs end up paying substantial costs as development and growth stagnate with low return on investment.

Industrial islands. SEZs should not be designed as industrial islands that are not linked to business and commerce and, more importantly, with no amenities to make them livable. It is a paradox that industrial- or manufacturing-led parks are being developed in modern urban economies, in which services are increasingly becoming important. An industrial park with no living accommodations, such as the Airbus Park in Tianjin, People's Republic of China (PRC), will not attract high-skilled labor, thereby limiting production and growth.

Rent-seeking and policy competition. SEZs use preferential policies, which may lead to policy competition among them. For example, in 2000, to attract firms and investment, some cities close to Shanghai announced an "X+1" plan for policy support; these cities offered one form of policy support in addition to that offered by Shanghai (X). In response, Shanghai expanded the planning area of the economic and technological development zones from 67 square kilometers to 173 square kilometers to compete with firms. In the meantime, when policy support imposes no costs on firms, firms may turn footloose and seek rent.

Land uses. Governments may claim large amounts of land for setting up SEZs. As an incentive, landowners usually provide land at a below-market price. Large tracts of arable land are utilized in some cases, forcing many farmers off their land and increasing land compensation. Such has been a salient issue for SEZs in India, where prime agricultural land has been sometimes utilized for zones. In the PRC, 55% of the developed park area in 2003 was claimed from arable land. In other cases, only a small fraction of the land allotted is actually utilized by SEZs.

Lack of localized strategy. Most SEZs aim to attract foreign direct investment (FDI), especially in the initial stages. Overreliance on FDI is risky given the sensitivity to labor and land costs. Some SEZs, however, do not have effective plans to develop local production capacity by making the best use of opportunity and spillover effects of FDI on technological promotion and upgrading of industrial value chains. Technological spillover is often lesser in foreign companies than in domestic ones, perhaps because foreign companies are reluctant to build research and development departments overseas, are afraid of divulging technological secrets, or face a shortage of local talent, and have poor amenities for expatriate staff. For instance, it could be challenging to find good international schools nearby. Relying on foreign companies rather than developing locally embedded production networks can result in very few connections among SEZ firms.

Source: ADB. 2015. *Asian Economic Integration Report 2015: How Can Special Economic Zones Catalyze Economic Development?* Manila.

Drivers of Economic Corridor Development

ECD has four key drivers: economic, institution and regulation, poverty and inclusivity, and external factors.

Driver 1: Economic Aspects

ECD must be tailored to local competitive and comparative advantages while retaining the overall framework of national development priorities. ECD is designed to build on existing strengths and economic endowments of the region along the corridor to identify, develop, and promote economic clustering and activities. A comprehensive economic analysis should be conducted to assess the attractiveness of existing industries with regard to industry profitability, the stage of development, and size. The strategic fit needs to be examined as well as the potential to diversify the production mix, create jobs, and leverage existing resources to support growth and national priorities.

The flow of public and private investments is critical in the growth of ECD. The majority of ECD focuses on a steady inflow of private sector investments. Even though the flow of private investment eventually determines the ECD's success (see Box 2.1 for designing investment incentives), the role of the public sector is critical to support infrastructure and industrial developments. Assistance from multilateral or bilateral development partners can play an important role, especially for countries with limited fiscal space. Similarly, private financing for infrastructure and industrial developments could also be tapped through robust public-private partnerships (PPPs). In addition to implementing projects, anchor investors must also participate in consultations with the government during corridor development planning (ADB and CAREC 2014).

To attract investment and develop industrial clusters in ECD, the following key economic factors must be considered (see Figure 1.3):

- (i) **Location.** Geographic proximity to ports, airports, highways, logistics and distribution facilities, urban clusters and other related utilities, national and international markets, and resource endowments are key factors in deciding on the type of industries to set up.
- (ii) **Human resources, knowledge transfer, and labor market efficiency.** The availability of a sufficiently skilled labor force is crucial to meet the skill sets industries need to set up along the routes.
- (iii) **Financial inclusion and deepening for capital formation.** An investment-conducive environment could be created by strengthening institutional and regulatory frameworks of the capital market to enable a greater role for the private sector, especially in mainstreaming PPPs.
- (iv) **Fiscal and performance-based incentives** such as duty-free capital imports, tax exemptions, and credit facilities are essential to attract domestic and foreign investments and drive sector and regional development.
- (v) **Horizontal and vertical supply chain linkages.** Industrial clusters need to connect to local and international industries upstream and downstream of global production networks and global value chains. These connections are critical to facilitate the exchange of know-how, technology, and market information. Evidence also suggests that manufacturing firms that have foreign consumers are more likely to achieve product and process innovation (Machikita and Ueki 2012). The Leipzig-Frankfurt Economic Corridor demonstrates how an innovation network and cluster develop strength as part of deliberate regional integration policies and investments (Brunner 2013).

- (vi) **Trade facilitation and logistics** impact competitiveness and productivity in global markets. Some interventions may provide efficient storage, warehousing, trucking, insurance, customs procedures, freight management services, and establishing logistics centers.
- (vii) **Streamlined business regulations and tax and tariff structures** directly impact the cost of doing business.

Figure 1.3: Key Economic Factors for Investment and Industrialization



Source: Authors.

Box 1.2: Guidelines for Designing Investment Incentives

Carefully designed incentives can be quite effective in attracting investment, while poorly designed incentives can create perverse incentives and may result in huge unproductive fiscal costs. Investment incentives should (i) be simple and transparent, (ii) have measurable objectives, (iii) be easily administered, and (iv) have limited room for bureaucratic or political discretion.

Blanket incentives, such as tax holidays and sweeping duty exemptions, should be discouraged. The set of incentives and privileges for all zone types should be consistent to prevent competing zone regimes and ensure a level playing field. Performance-based incentives need to be integrated within the national tax code rather than through special legislation. Ideally, fiscal incentives should be linked to the process of capital formation, such as investment tax credits and exemption of duties on capital goods.

All incentives should have a predefined sunset clause so that industries can invest appropriately and achieve competitiveness by the time the incentives come to an end. Pakistan's policy makers have consistently failed in this area, leading a number of major industries—such as automobiles and textiles—to become perennially lethargic to innovation.

Since investors tend to evaluate any country's investment incentives against the incentives offered by economies in the region, all investment incentives should be competitive with the region or with other locations/origins where the targeted product or industry is doing well. Incentives must also be benchmarked against international standards. On the one hand, they can take the investment regime to a more progressive direction, and on the other hand, they can aid potential investors in better evaluating their business case across different markets.

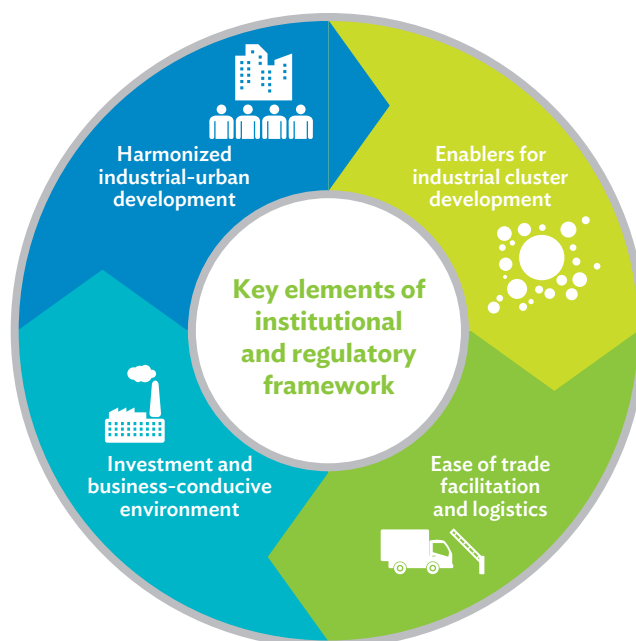
Source: Authors.

Driver 2: Institutions and Regulations

As ECD typically involves multiple government agencies, a robust institutional and policy framework is imperative for its success. Establishing an appropriate institutional and regulatory mechanism helps to avoid issues in planning, coordination, prioritization, and financing. Key institutional and regulatory interventions will be needed in relation to (i) ports, shipping, and trade facilitation; (ii) an easier process of setting up and closing a business; (iii) streamlined business regulations; and (iv) synchronized industrial–urban development to ensure that jobs are available and people's living needs and aspirations are met (Figure 1.4). For instance, limited synergies across plans for regional development could adversely impact urban center development through, for example, land acquisition and consolidation.

Concrete strategies and action plans to develop economic corridors will entail building necessary physical, urban, and industrial infrastructure along the corridor and developing an integrated industrial–urban agglomeration. The coordination of related development initiatives along an economic corridor becomes more difficult as more areas get involved and the range of institutional factors is widened.

An institutional framework that will coordinate the planning, prioritizing, and developing of corridor infrastructure projects among government ministries and agencies should be established to ensure optimum deployment of available resources and harmonize project commissioning. A central corridor planning and development agency must be duly empowered and tasked with the overall development and management of the corridor and its industrial nodes.

Figure 1.4: Regulatory Framework for Economic Corridor Development

Source: Authors.

Box 1.3: Institutional and Regulatory Frameworks for Economic Corridor Development in Malaysia and India

Malaysia's corridor development is part of its overall regional strategy for integrated spatial development and includes five economic corridors implemented through its national plans. Of these corridors, three are in Peninsular Malaysia: the Northern Corridor Economic Region, East Coast Economic Region, and Iskandar Malaysia. Each corridor has a central planning agency and its own implementing authority (e.g., the Northern Corridor Implementing Authority and the East Coast Economic Region Development Council). Each authority was established through legislative acts of Parliament to coordinate the implementation of respective corridor development across different government agencies at the central and provincial levels. The corridor development authorities are organized in the form of an apex steering entity, which is co-chaired by the Prime Minister and a chief minister, the head of provincial government, and focuses on legislative and policy issues to support the corridor's development. Another entity provides support by managing approval processes. It is headed by the chief minister, with participation from the central and provincial governments. It acts as a "one-stop center" for private investors.

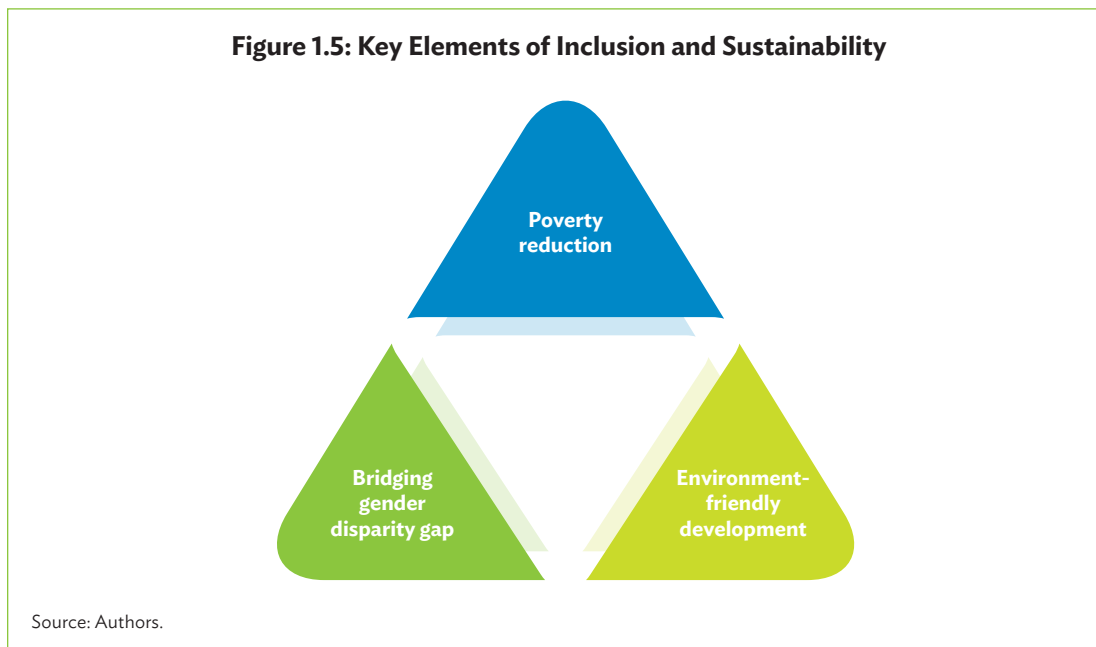
In India, the Delhi–Mumbai Industrial Corridor grew out of an initial vision of the Government of India to develop a 1,483-kilometer dedicated freight corridor between the two cities, offering high-speed rail connectivity for heavy-axle load wagons. Corridor plans call for investments exceeding \$80 billion–\$90 billion.

India has adopted a four-tiered structure for the governance of the corridor. A steering authority is headed by the minister of finance with concerned central ministers and chief ministers of respective states as members. Below this is a corporate entity, referred to as the Delhi–Mumbai Industrial Corridor Development Corporation, and state-level coordinating bodies. Finally, special purpose vehicles were set up as corporate entities at the project level to implement the individual project components of the corridor.

Source: ADB and CAREC. 2014. *Operationalizing Economic Corridors in Central Asia: A Case Study of the Almaty–Bishkek Corridor*. Manila.

Driver 3: Inclusion and Sustainability

The third driver of ECD is incorporating the inclusion and sustainability aspects of the social economy to ensure optimum long-term economic dividends and welfare improvements. The government must provide complementary and targeted measures for private sector development (Figure 1.5). Those measures should induce allocating jobs, promoting the small businesses of local people, and providing public utilities such as schools, health-care units, hospitals, and improved sanitation. Women’s financial coverage and business opportunities will reduce social gender disparities along the corridors and ensure an environment-friendly development. It is also imperative to focus on effective and efficient land, water, and ecosystem management to develop and sustain food and water security in the regions encompassing the economic corridors. As the effects of climate change intensify, development plans must incorporate climate resilience as an essential component. Environment-friendly ECD entails resource-efficient strategies with a low-carbon footprint that alleviate poverty, suppress socioeconomic and gender disparities, conserve ecosystems, and prevent biodiversity loss.

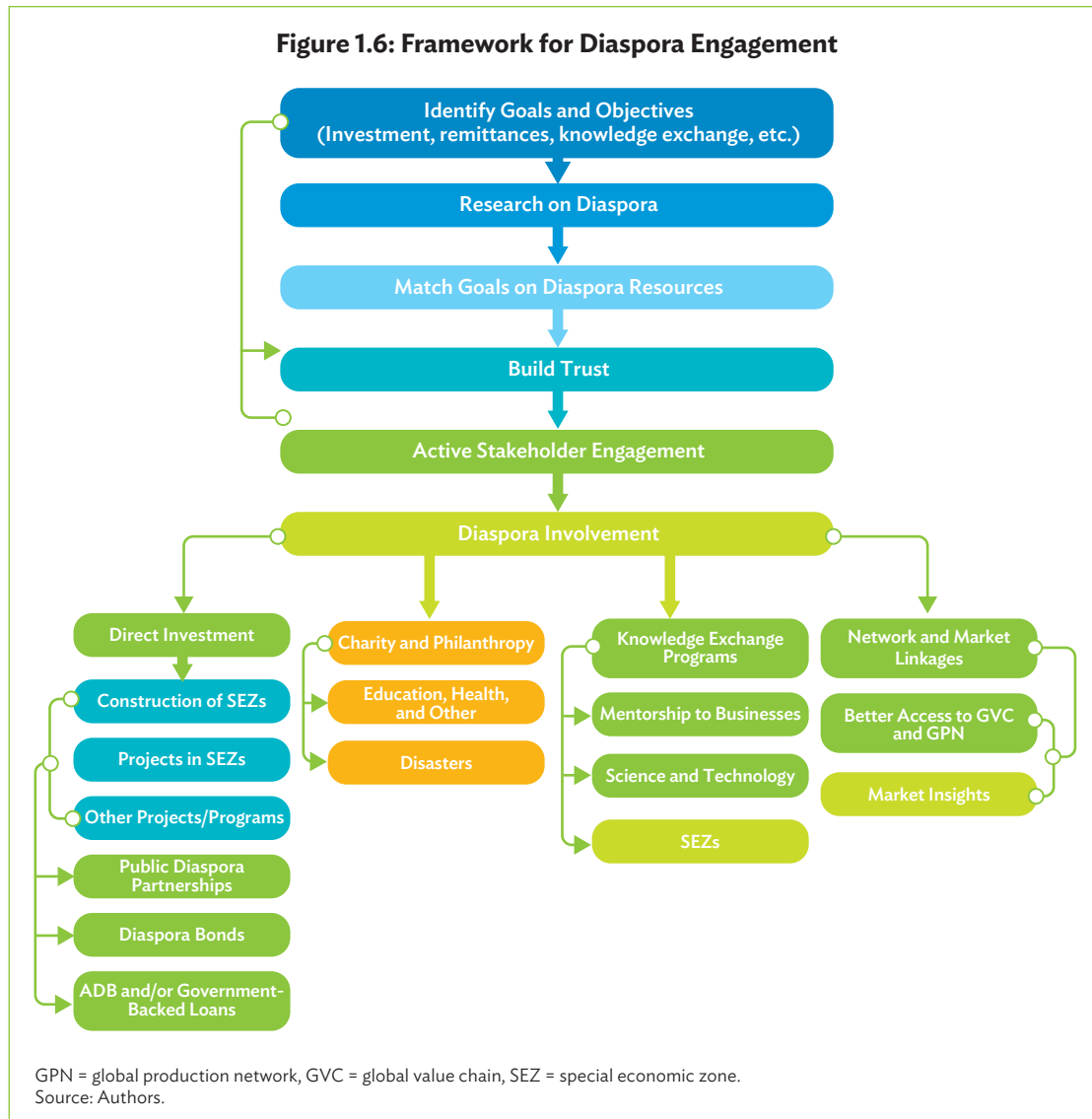


Driver 4: External Factors

Pakistan has a low level of capital formation attributable to a low saving rate, high population growth, burgeoning debt, and a lack of managerial and technical skills (Azam and Khattack 2005). Therefore, foreign direct investment (FDI) and remittances play an enormous role in capital formation and ECD. They bring in the latest technology, facilitate infrastructure improvements, offer foreign capital, and stimulate job creation. FDI simultaneously widens the knowledge horizon and enhances the quality of knowledge. It enables domestic firms to benefit from the technology and knowledge of foreign firms and learn new, more efficient techniques (Rivero [2007]; Hermes and Lensink [2003]). However, stable FDI inflow is dependent on macroeconomic and political stability, ease of doing business, a robust domestic financial system, good law and order situation, and the availability of low-cost energy and a skilled workforce. These crucial prerequisites are often missing in Pakistan, impeding FDI growth.

While Pakistan strengthens its capacity to attract high levels of FDI, it can tap into potential benefits which the diaspora could provide in the short to medium term. The diaspora can promote trade, create businesses, spur entrepreneurship, and transfer new knowledge and skills beyond their well-known role as senders of remittances. A 1% increase in the migration stock from country A in destination country B increases the portfolio investment from country B to country A by 0.2% or an average of \$450 per migrant (Leblang 2009). This is because migrants and diaspora members often have substantial savings in the aggregate. The savings of diaspora originating from developing countries amounted to around \$400 billion in 2009, which corresponds to 2.4% of regional GDP (Dilip and Sanket 2011). This amount is significant given that it roughly equates to remittance flows in the same year. However, any administrative obstacles need to be removed before the diaspora is involved in providing human and capital investments. To capture the benefits and opportunities which the diaspora could potentially provide, the government must clearly define goals and targets for what the country could benefit from the diaspora. Once the goals and targets are defined, the government needs to assess skills possessed by the diaspora and foster a trustful relationship. According to the plans and targets, the government can utilize the diaspora's benefits and encourage the diaspora to contribute to ECD (Figure 1.6).

Figure 1.6: Framework for Diaspora Engagement



1.4 Conclusion

Based on the framework presented in this study, successful ECD planning and implementation in Pakistan must focus on the three pillars—infrastructure development, urban development, and industrial development—and the four key drivers: economic potential, institution and regulation, sustainability and inclusiveness, and external factors as described above. Infrastructure improvements play a pivotal role in facilitating easier, faster, and smoother movement of goods, promoting trade by reducing transportation costs, and increasing regional interconnectivity. Infrastructure development must be accompanied by the development of urban centers and the creation of SEZs to broaden the country's production and export capacity. For maximum efficacy, the design of SEZs should keep in view the region's competitive and/or comparative advantages, be linked to businesses and commerce, and include all living amenities to attract skilled workers. A comprehensive economic analysis needs to be undertaken to evaluate the viability of existing industries in the country in terms of profitability, the stage of development, and size. As a long-term goal, SEZs should plan to augment local production capacity and foster locally embedded production networks through technological promotion and upgrading of industrial value chains.

The role of the private and public sectors in supporting infrastructure and industrial developments is equally important, thus justifying a case for strong PPPs to organize the financing. The Pakistani diaspora's contribution to bolstering ECD in the country is also critical in terms of encouraging entrepreneurship, supporting start-ups in their infancy, and introducing new knowledge and skill sets. Therefore, the government must eliminate administrative hurdles to maximize the benefits from the human and capital contributions of the diaspora. Assistance from bilateral and multilateral partners can reinforce these contributions further.

As ECD entails extensive coordination and collaboration among various government bodies, the importance of a sound institutional and policy framework must also be underscored. An institutional framework that coordinates the planning, prioritizing, and developing of corridor infrastructure projects among government agencies should be established to ensure optimum allocation and mobilization of available resources. Last, to ensure that ECD benefits are long-lasting and far-reaching, plans to expand ECD must pay close attention to inclusive growth, gender equality, sustainability, climate change resilience, and environmental preservation.

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Appendix: The Experience of Europe, Africa, and Asia in Economic Corridor Development

Trans-European Transport Network

The Trans-European Transport Network (TEN-T) aims to enhance economic connectivity and integration to increase competitiveness and employment in the European Union (EU). This policy-led initiative focuses on developing the missing infrastructure links in road and rail routes to support the free movement of people and goods within the EU. This multimodal network allows users to select the most suitable mode for their specific purpose. The network includes the concept of Motorways of the Sea to connect peripheral states as a viable and cost-effective alternative to saturated overland corridors. The initiative also introduces significant information technology advances, such as the Galileo project for satellite radio navigation for route planning.

Trade and Transport Facilitation in Southeastern Europe

The Trade and Transport Facilitation in Southeastern Europe (TTFSE) is primarily designed to enhance regional development and trade competitiveness. It considerably streamlines cross-border processes to release the benefits of regional economic cooperation and integration. The original TTFSE program was involved in improving customs procedures for more efficient crossing and inland terminals as well as developing physical infrastructure. The TTFSE supports trade facilitation by ensuring the effective collaboration of all active departments at border crossings such as customs, road administrations, border police, and phytosanitary and veterinary controls. It aims to increase trade competitiveness in the region by deploying adequate logistics services that will connect the region and its neighbors, as well as regional and global markets. This project will provide infrastructure and technical assistance, while strengthening the capacity of the private sector to provide logistics services.

Transport Corridor Europe–Caucasus–Asia

The central objective of the Transport Corridor Europe–Caucasus–Asia (TRAECA) program is to support the transition of participating states into market-oriented economies. The TRAECA initiative is a multimodal transport cooperation program encompassing all major modes of transport (air, rail, road, inland waterway, sea, and pipelines) in the EU and in 14 member states of Eastern Europe, the Caucasus, and Central Asia. TRAECA commenced as a multimodal transport corridor project and subsequently made improvements in hard and soft infrastructure and the physical transport infrastructure along identified corridor routes. It also harmonized transport policies and/or legislation and border controls. TRAECA connects to the TEN-T and TTFSE corridors in Europe at its western end, and to the CAREC corridors in Central Asia at its eastern end, effectively creating a corridor network that stretches from Europe to the People's Republic of China border. It is now commonly known as the Silk Road of the 21st century.

Nacala Corridor

The Nacala Corridor aims to stimulate development and foster regional integration. It is 1 of 17 corridors under the New Partnership for Africa's Development, envisioned to drive development within the zone. Designed to unlock the development potential of the hinterlands of the Port of Nacala, Malawi, and Zambia, the corridor is expected to promote competitiveness by unleashing economies of scale. Its specific objectives are to (i) link Malawi, Zambia, and the interior of

Mozambique by land to the Port of Nacala, thereby improving transport services and reducing transport costs and delays at border crossings; (ii) increase the sustainability of road investments by controlling axle loads; and (iii) enhance the access of the zone's economic actors to markets and upgrade social services to reduce poverty.

Maputo Development Corridor

The main objective of the Maputo Development Corridor (MDC) is to generate economic growth by tapping into the country's unrealized economic potential. Launched in 1996 through a new investment strategy devised by the South African government, the MDC became known as a strategic development initiative. It has four key development objectives: (i) rehabilitate primary infrastructure including road, rail, port, and border posts along the corridor; (ii) maximize investments in inherent corridor potential by attracting global capital for regional economic integration; (iii) maximize social development and employment opportunities and increased participation of historically disadvantaged communities; and (iv) ensure sustainability by developing policies, strategies, and frameworks to ensure an environment-friendly approach to development.

India's Dedicated Freight Corridors

The core objective of India's Dedicated Freight Corridors (DFCs) is to achieve cost-effective, efficient, and low-carbon, long-distance movement of freight to raise competitiveness and productivity. These DFCs include plans for long-distance corridors to overcome transport bottlenecks. Although large sections of national highways that form part of these routes have already been upgraded to expressways, these DFCs are expected to promote rail as a cost-effective and low-carbon mode to transport freight over long distances. These corridors are anticipated to (i) reduce the unit costs of transportation; (ii) create rail infrastructure that will carry a higher throughput per train; and (iii) improve overall efficiency of the national rail network.

Delhi-Mumbai Industrial Corridor

The Delhi-Mumbai Industrial Corridor (DMIC) aims to enhance the performance of export-oriented industries and manufacturing. The DMIC consists of nine industrial zones, a high-speed rail freight line under the DFC program, three ports, six airports, a six-lane (intersection-free) expressway, industrial estates and clusters, and other infrastructure. This corridor is supported by other infrastructure, such as power stations, to serve up to 14% of the country's population. With no international border crossings along the route, the soft infrastructure aspect will focus more on modernizing and harmonizing institutional and regulatory arrangements between state and federal governments to attract the desired levels of private investment essential to India's socioeconomic development. The DMIC approach to corridor development aims to unleash the proven but underutilized development potential of India's economy.

The Northern Corridor (East and Central Africa)

The strategic aims of the Northern Corridor in East and Central Africa are to improve physical access to markets, increase trade, and enhance competitiveness. The Northern Corridor is the busiest transport corridor in East and Central Africa, linking the Kenyan seaport of Mombasa with Uganda, Rwanda, Burundi, Democratic Republic of the Congo, and Southern Sudan. This multimodal transport corridor is designed to (i) enhance trade and movement of people in domestic, regional, and international markets; (ii) stimulate economic and social development of participating

countries by attracting investments; and (iii) enable strategies for accelerated economic growth along the corridor, while ensuring environmental sustainability.

Greater Mekong Subregion Economic Corridors

The main objectives of the Greater Mekong Subregion (GMS) economic corridors are to promote economic cooperation and facilitate trade between the participating countries. The GMS corridors were originally designed as transport corridors, providing hard infrastructure for developing intraregional transport routes. To convert the transport corridor into trade corridors, the right soft infrastructure harmonized corridor policies, regulations, and institutions for moving people and goods more effectively and efficiently. These actions enhanced trade, expanded investment opportunities, and increased synergies through the clustering of projects.

The Almaty–Bishkek Economic Corridor

The Almaty–Bishkek Economic Corridor (ABEC) is the pilot economic corridor project under the CAREC program. Its central objective is to connect the cities of Almaty and Bishkek and integrate their economies, leading to efficiency gains through the realization of network externalities and economies of scale, and mutually beneficial socioeconomic outcomes. The two cities are only 240 kilometers apart, with relatively high economic density concentrated in services in the cities and agriculture in their hinterlands. The historic Silk Route, the mountain ranges, and Lake Issyk-Kul highlight the potential for tourism. But trade between the two countries, especially in agricultural goods and services, has remained below potential because of the regions' inability to become one economic space. ABEC aims to shorten the economic distance between the two cities, thereby reducing travel times and creating one competitive market not only for health, education, and tourism services but also for aggregate agricultural produce in wholesale markets, and tapping on their export potential. For example, in agriculture, the challenge is to create sufficient scope and scale to overcome high transaction costs by reducing distance and trade barriers. Inadequate scope and scale increase average unit costs of factors of production such as transportation, certification, branding, and processing of agricultural goods. And in the health sector, tertiary hospitals and laboratories do not need to offer the full range of services on both sides of the border for the small domestic markets; instead, services could be coordinated, and further specialized across ABEC.

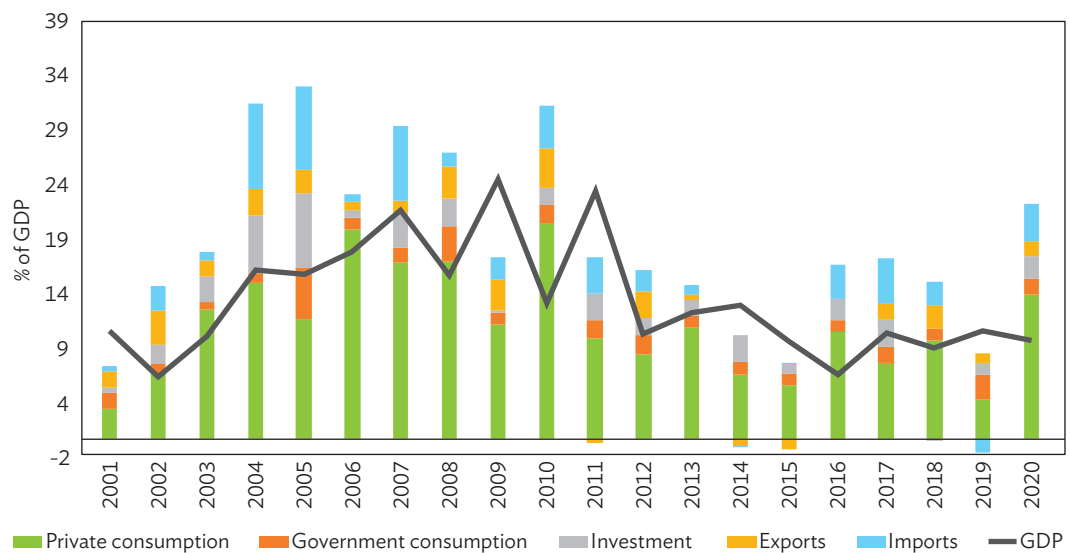
2. Fostering Structural Transformation of Pakistan's Economy

Syed Turab, Nazish Afraz, and Usman Khan

2.1 Background

High and sustained economic growth is recognized globally as a necessary condition for creating quality jobs, reducing poverty, and achieving prosperity for all. Impressive improvements in the welfare of many emerging economies, particularly in Southeast Asia, manifested this premise. Pakistan has experienced periods of high growth marred by quick and successive episodes of faltering (Figure 2.1). The most recent growth spurt in fiscal year (FY) 2016 went bust in FY2019 because of unsustainable and unsynchronized economic policies. The high share of consumption and an overvalued exchange rate led to large and unsustainable fiscal and current account deficits. To tackle policy weaknesses, restore economic stability, catalyze external financial support, and promote strong and sustainable growth, the government entered into the International Monetary Fund (IMF) program worth \$6 billion over a 39-month period in July 2019.

Figure 2.1: GDP Growth Rate and Demand-Side Contribution, FY2001–FY2020

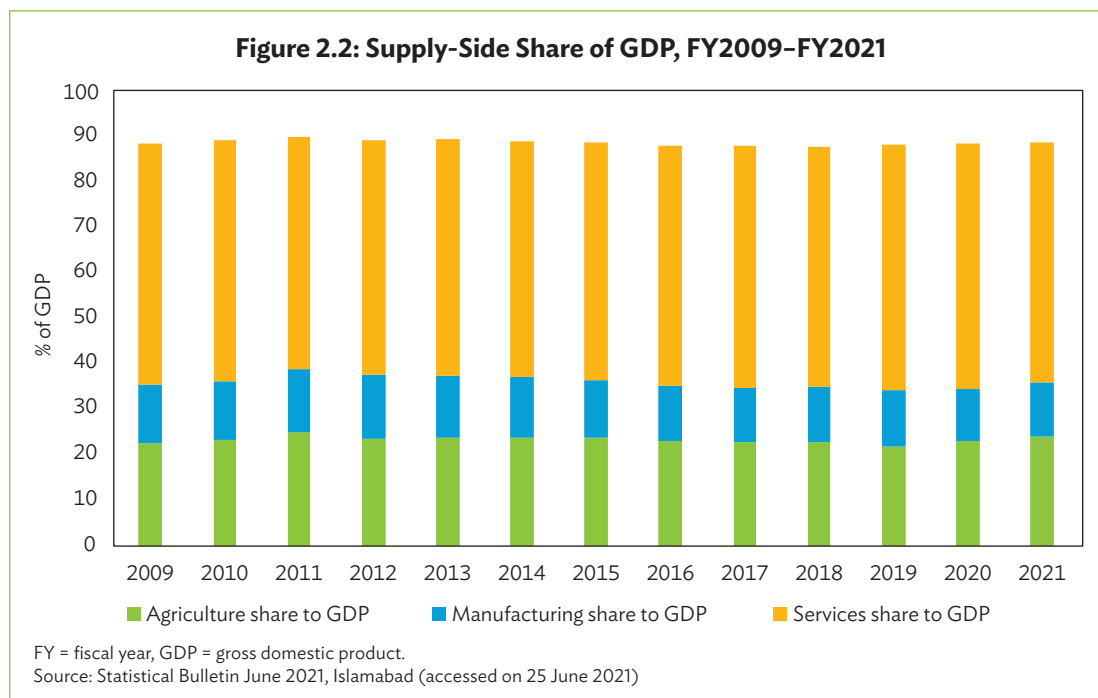


FY = fiscal year, GDP = gross domestic product.

Note: Years are fiscal years, ending 30 June.

Source: Pakistan Bureau of Statistics. 2019. National Accounts New Tables, Table 9. Islamabad.

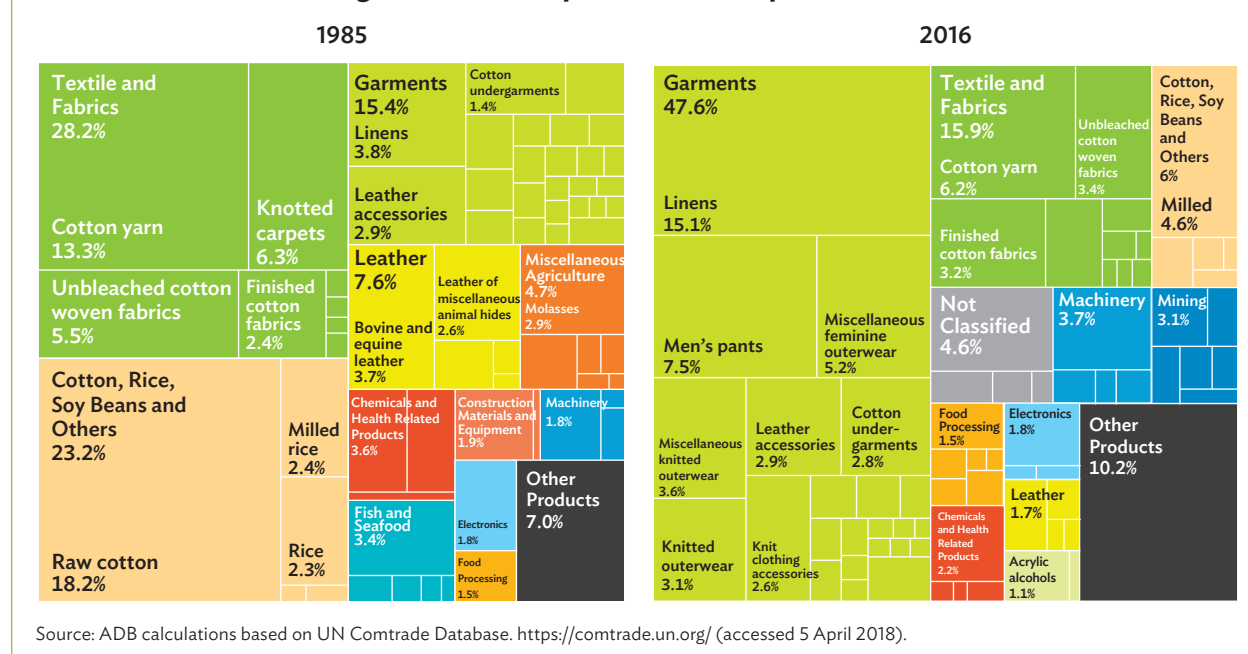
Pakistan should pursue its economy's structural transformation to relax the balance of payment constraints on growth and sustain the high-growth episodes. The country needs to produce higher value-added goods to create jobs and shift its focus on human and capital resources across most sectors. For example, Pakistan could add value to agricultural activities and transfer scarce resources to export-oriented manufacturing, which can both absorb the growing labor force and generate foreign reserves to cushion the economy during rough times. This structural transformation is essential given that its economic structure has remained stagnant and showing visible signs of premature deindustrialization. Overall, the services sector has been having the dominant share of gross domestic product (GDP) with 52.9% in FY2021, which is followed by agriculture's share of 24.2%, as shown in Figure 2.2 (Pakistan Bureau of Statistics 2021a). At the same time, the share of the manufacturing sector largely remained low and stagnant at about 11.8% of GDP in FY2021 compared with a 30% average for Bangladesh, India, and Viet Nam.¹



Pakistan also lagged in exports, with the sector contributing merely 8.6% to the economy in FY2021, almost fourfold lower than the emerging markets' share (Pakistan Bureau of Statistics 2021b). Major exports are heavily concentrated on low-end textiles, indicating low sophistication of its exports basket compared with the highly sophisticated products exported by former comparator countries. For instance, Malaysia shifted its product structure from textiles in 1985 to electronics in 2017 and started producing more sophisticated products.² In contrast, Pakistan's production structure remained almost unchanged during the same period and concentrated on low productivity and less sophisticated garments, textiles, and cereals (Figure 2.3). Consequently, unable to upgrade and diversify to products and services that have a low elasticity of demand, Pakistan has been plagued with the recurring balance of payment problems that often disrupt and eventually break the high-growth trajectory.

¹ World Bank. World Development Indicators. <https://databank.worldbank.org/source/world-development-indicators> (accessed 19 February 2020).

² Atlas of Economic Complexity. <http://atlas.cid.harvard.edu/explore> (accessed 19 February 2020).

Figure 2.3: Tree Map of Pakistan's Export Products

Pakistan needs to enhance its productivity and competitiveness in a highly competitive and evolving global landscape by achieving an export- and manufacturing-based structural transformation. Pakistan will need to (i) create an enabling environment for the private sector and improve its business climate; (ii) develop credible regulatory frameworks and sound fiscal, monetary, industrial, and trade policies; (iii) promote efficient financial intermediation; (iv) deliver critical infrastructure and services; and (v) enhance institutional effectiveness. More significantly, the private sector can bring about structural transformation by exploiting opportunities arising from an improved investment climate.

This chapter provides a framework for Pakistan's structural transformation process. The framework proposes (i) horizontal reforms critical for strengthening the business-conducive environment and (ii) activity-based incentives to drive resources into priority areas. This analysis would be helpful to policymakers in diverting scarce resources toward their most productive uses.

2.2 Literature Review: Global Best Practice

From East Asia's and Latin America's experience, structural transformation requires strategic collaboration between businesses and the government. Therefore, the broader approach for structural transformation policies should be based on continuous interaction between the private and public sectors to serve as a dynamic, flexible, and evolving process of industrial policymaking (Rodrik 2004).

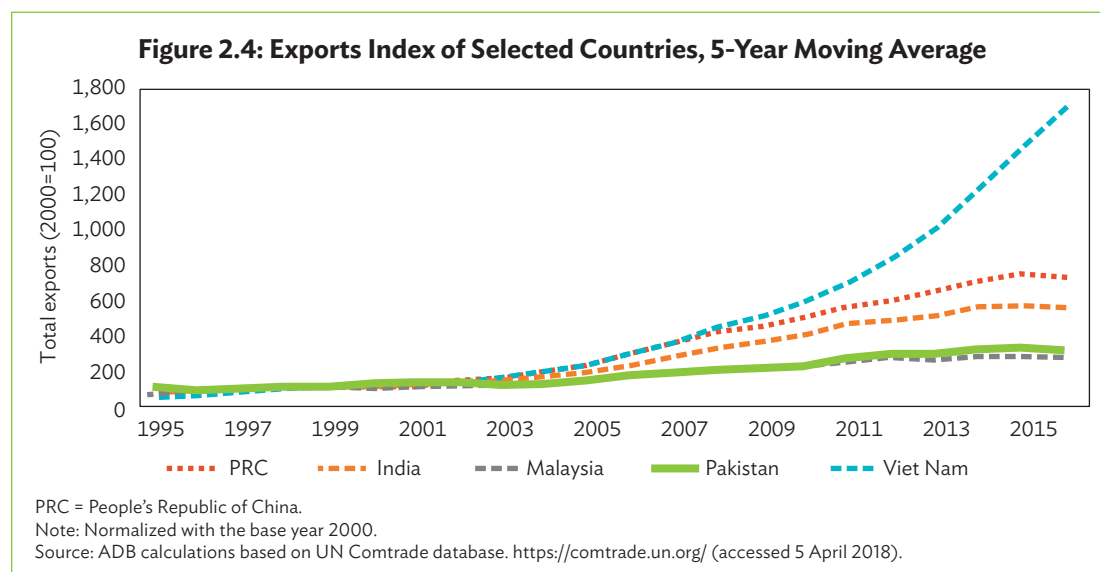
After World War II, most developing countries pursued activist industrial intervention to bring economic transformation and progressive development. Import substitution and protection of the infant industry were the key ingredients of this policy. The state played a primary role in industrialization as the private sector did not have the resources and incentive to invest in key ancillary or intermediate goods industries. The extent of state intervention in these economies

ranged from various input subsidies, tax exemptions, and tariff protection to direct public sector investments in large-scale projects, e.g., steel manufacturing plants in the Republic of Korea (ROK) and Japan (Bruton 1998; Taylor 1996).

These policies had varied success—Latin American countries registered some growth in manufacturing, but it paled in comparison to the performance of East Asian economies. The fundamental difference between the industrial strategy in Latin America and East Asia was that the former focused on import substitution while the latter centered on export promotion. The inward-looking industrialization of Latin American countries could not achieve the scale economies made possible by producing for the world market. Also, the protection afforded to the chaebols (conglomerates) of the ROK, for example, was strictly time-bound and conditioned on these industries exporting their products to the world. Unconditional protection to the industry in some Latin American countries bred inefficiency and rent-seeking activities (Bruton 1998; Rodrik 1995). Favorable initial conditions, such as high literacy rates and low-income inequalities, played a catalytic role in the industrialization of East Asian economies.

Technology and innovation also played fundamental roles in sustaining the remarkably high growth of East Asian countries. Empirical evidence by and large shows that much of the growth in the 1960s and 1970s is explained by “perspiration”—high capital accumulation rates or investment (Rodrik 1995; IMF 2019). However, from the 1980s onward, these economies’ growth was caused more by “inspiration”—indigenous innovation and technological improvements. This is evident in the relatively large number of patents, increased research and development (R&D) expenditures, and the resultant sophistication in exports across various sectors, including electronics and automobiles (IMF 2019).

The role of foreign direct investments (FDI) was also important in Southeast Asian economies such as Malaysia and, more recently, Viet Nam. It allowed these countries to leapfrog technologically. However, it could be argued that the productivity gains in the ROK manufacturing from indigenous innovation were higher and more sustainable than technology spillovers through FDI in Malaysia (IMF 2019). In Viet Nam, a gradual move from an economy dominated by public enterprises to private investment through concerted improvements in the business environment led to a huge increase in the country’s exports during 2007–2017 (Figure 2.4).



In the majority of developing countries, rampant rent-seeking, corruption, and inefficiency of the governments lent skepticism to the effectiveness of the state's role in industrial and economic development. Although market failure or externalities gave a theoretical justification for state intervention, mainstream economists and policymakers became more circumspect of government intervention, stressing the greater propensity and prevalence of government failure as opposed to market failure (Rodrik 1995; Taylor 1996).

The success of structural transformation policies in the ROK and the People's Republic of China (PRC) is also largely attributable to an efficient, facilitative, and independent government. Therefore, addressing government failure, reducing transaction costs, and improving the business and investment environment is a prerequisite for increased investment and growth. Moreover, constrained fiscal space underscores the need for strategizing and prioritizing intervention in key sectors that offer the highest potential returns.

The importance of achieving structural transformation is recognized universally. The remaining differences are how much or to what extent a country can deviate from its comparative advantage. The notion of comparative advantage in neoclassical trade theory is static, i.e., it does not allow the possibility of industrial transformation given current prices and factor endowments present in an economy. The central objective of economic transformation is to diversify the industrial base and move into higher value-added activity. While mainstream economists stress a "step by step" and gradual transition toward higher value-added production in conformity with available technology and factor resources, heterodox economists stress the importance of defying comparative advantage by taking leaps in certain areas that are considered strategic (Lin and Chang 2009).

To facilitate structural transformation, a potential bridge between these various views could be to focus on interventions for facilitating new activities into the industry sector and help existing firms upgrade their products and production methods. A state's facilitation for structural transformation can support businesses by addressing coordination and market failures to promote existing and new products or production techniques. Coordination failures may arise due to spatial impediments like the absence of necessary infrastructures, such as transport and electricity, or the nonexistence of critical complementary investments in the area. Similarly, a market failure hindering a new activity could be in the credit market, either because of a lack of collateral or information asymmetry due to the absence of credit history.

To overcome coordination and market failure, the government may intervene by providing necessary infrastructure and promote suitable financing mechanisms, such as venture capital, to enhance the financing access of new entrants or innovators. Furthermore, the government can employ a policy to alter the existing comparative advantages gradually. For example, investments in education and vocational training should increase skilled labor supply to potentially help firms move up the value chain.

Another critical constraint on structural change promoting policymaking is the restrictive policy space available to countries because of restrictions imposed by the world trading system of the World Trade Organization (WTO). For example, export subsidies, local content requirements, and quantitative restrictions on imports are illegal under the WTO. Moreover, the WTO's Trade-Related Aspects of Intellectual Property Rights Agreement ensures no reverse engineering and copying of goods, which has rendered technology transfer through learning and imitating difficult. Nonetheless, the WTO's institutional mechanism allows developing countries to negotiate for increased policy space.

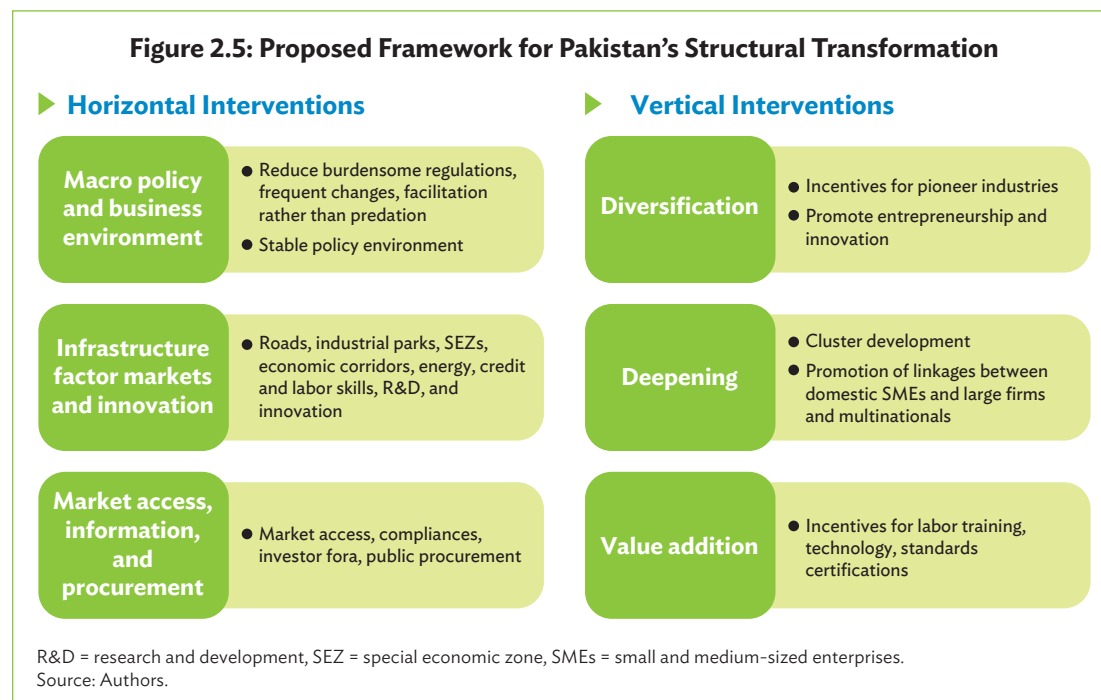
2.3 Pakistan's Structural Transformation Framework

In light of global best practice and local knowledge, the framework is designed to achieve two broad objectives:

- (i) Industrial expansion and deepening, i.e., improving value addition in existing industries, creating more backward and forward inter- and intra-industry linkages; and
- (ii) Industrial diversification, i.e., nurturing new industries and economic activities.

It consists of a two-pronged approach involving horizontal policies and vertical interventions. These policies may enhance the availability of skills, credit, and economic infrastructure; improve the regulatory environment; and create a stable macroeconomic environment through synchronized monetary, fiscal, and trade policies.

Horizontal policies could help create an enabling environment for businesses. On the other hand, vertical measures consist of targeted interventions for a selected subset of firms, which can be defined by sector, geographic area, and/or type of activity. Within the vertical approach, a methodology is proposed to target desirable activities in focus sectors. Focus sectors are selected based on their potential for future economic contribution and Pakistan's current productive capacity to move the economy away from traditional industries that had a comparative advantage to high-productivity and value-added manufacturing and exports. Thus, while the horizontal interventions were deemed necessary, they were considered insufficient to achieve long-term growth. It may also be worth mentioning that the horizontal interventions and vertical measures may not be mutually exclusive. For example, there can be a set of sectoral policies that predicate a particular infrastructure development or a skill, technology, and credit intervention. In fact, in a fiscally constrained environment, it may be more prudent to have such industry-focused interventions rather than broad-based and relatively more expensive cross-sectoral provisions. Figure 2.5 illustrates the proposed framework.



Horizontal Policies: Addressing Crosscutting Constraints

This section discusses the major crosscutting constraints on the productivity, competitiveness, and growth of Pakistan's manufacturing sector and gives recommendations to address them.

Trade Policy

Pakistan's export decline is largely an outcome of low productivity and a lack of competitiveness, but an inconducive trade policy environment also played a key role. An overvalued exchange rate and escalation of tariffs on imported raw materials and intermediate goods could have contributed to the fall of exports, resulting in a consistently large trade deficit, which stood at \$32.8 billion in FY2019. Furthermore, exporters have often faced a liquidity crunch due to nonpayment of sales tax refunds and duty drawbacks. The increase in interest rates to 13.25% in 2019 had substantially raised the cost of capital to firms, which may further dampen investment and exports. Finally, the changes in tariff policy through statutory regulatory orders (SROs) may give rise to uncertainty and increase the trade transaction cost, which in turn will hurt exports and investments.

To promote a business-friendly trade environment, we propose the following recommendations.

- (i) **Streamline the tariff and SRO structure.** The current SROs create economic uncertainty and may only benefit traders or large inefficient firms seeking protection. As a principle, the trade and tariff policy should promote economic activity rather than meet fiscal and revenue targets. It should also be developed in coordination with investment and industrial policies. Therefore, existing SROs will need to be reviewed and consolidated into a single SRO. The consolidated SRO may then be reviewed and approved by the Fiscal Policy Board before it is presented to Parliament for approval. Any new SRO issued as an amendment to the consolidated SRO should be time-bound and pass through the same approval process (Afraz et al. 2019). The elimination of input tariffs and move toward cascading tariffs in the November 2019 approved National Tariff Policy are steps in the right direction. Protection from cascading tariffs (low on inputs and high on finished products) should be contingent upon meeting clearly defined objectives and targets, such as export performance and product quality improvement, to prevent production inefficiencies. The effective implementation of the National Tariff Policy may also require a clear and precise definition of what is considered a final good or higher value addition to avoiding rent-seeking behavior. As a general rule, low and uniform trade tariffs should be established to the extent possible, and they should not be used as instruments for protecting local industry.
- (ii) **Simplify the existing Duty and Tax Remission Scheme.** A central bonded warehouse facility will facilitate the procurement of imported raw materials and intermediate goods for exporters, especially for small and medium-sized enterprises (SMEs) (Afraz et al. 2019).
- (iii) **Harmonize and streamline the process of sales tax refunds and duty drawbacks.** Exporters typically resolve liquidity problems through bank financing, which raises the financial cost to firms and affects the competitiveness of exports. SMEs in particular, are constrained by such liquidity problems as they do not have easy access to bank financing. The State Bank of Pakistan now prioritizes the disbursement of pending payments through an automated system, but technical glitches need to be resolved permanently.
- (iv) **Strengthen customs and border management procedures.** To improve trade competitiveness, Pakistan should maximize the benefits offered by the Central Asia

Regional Economic Cooperation Program (CAREC) and the China–Pakistan Economic Corridor (CPEC). The country ranks 142nd out of 190 economies in cross-border trading—it takes 75 hours for exports to fulfill border compliance procedures compared with 63 hours on average in South Asian countries and 12.5 hours in Organisation for Economic Co-operation and Development economies (World Bank 2020). The Government of Pakistan is developing a national single window (NSW) system to connect trade-related stakeholders, agencies, and institutions within the country through a single information and communication technology (ICT) platform. Through the NSW, all trade-related documentation, such as customs declarations, trade and transit permits, and certificates of origin and trading invoices, will be processed at a single point. The NSW is expected to improve system transparency and efficiency by cutting time and transactional costs. The government should expedite the development and implementation of NSW (Afraz et al. 2019). Moreover, a trade facilitation unit may be set up in the Federal Board of Revenue to map out the steps, documents, and procedures required to import and export goods in Pakistan. This process could also help develop a plan to simplify existing customs procedures and reduce bureaucratic red tape. In addition, a pilot business-friendly trade facilitation and customs clearance unit could be established in one of the dry ports and, if successful, scaled up and replicated across all dry ports (Afraz et al. 2019).

(v) **Realize the expected gains from the concessions granted by partner countries under the free trade agreement (FTA) and preferential trade agreement (PTA).**

Despite market access obtained by the government, Pakistan exporters have not taken full advantage of the concessionary tariffs to increase their share in partner countries' imports. The possible reasons for this could be (a) shallow integration with major products in the concession list; (b) nontariff measures applied by the FTA and PTA partners; (c) lack of awareness in the business community; (d) erosion of preference/concessions available to Pakistan as a consequence of the FTAs and PTAs signed by partner countries with other countries; and (e) declining export competitiveness. The government could do the following to realize the expected gains: (a) create awareness among the business community by launching a well-coordinated, interactive, and targeted campaign to reach out to businesses at home and abroad; (b) develop and enhance the government's in-house research capacity to identify and prioritize products and markets and better negotiate the terms of FTAs and PTAs; and (c) analyze the causes of declining export competitiveness and develop a road map for addressing them.

Tax Policy

Adequate tax collection should create the requisite fiscal space for capital spending that would raise productivity and competitiveness. However, Pakistan has a low tax revenue-to-GDP ratio—in FY2019, this amounted to 11.6% compared with a tax collection potential of about 22% (Ministry of Finance 2019 and IMF 2016). The low tax-to-GDP ratio is due to a narrow tax base, overgenerous tax concessions and exemptions, weak and fragmented revenue administrations, and the economy's structural flaws. Even though Pakistan's Constitution had assigned revenue responsibility to provinces, the provincial governments' share of total tax collection has remained negligible. The composition of tax revenues is highly skewed toward indirect taxes, which account for about 68% of federal tax revenue in FY2019. In contrast, the extensive use of tax concessions and exemptions resulted in a distortionary tax regime (Ministry of Finance 2019). For example, the manufacturing sector bears a disproportionately high tax burden, with its share in tax much higher than its GDP share. High corporate tax rates, together with general sales tax (GST) rates of over 17% are much higher than in comparator countries such as Bangladesh (15%) and Viet Nam

(10%). In addition, taxes between the federal and provincial tax authorities need to be harmonized to avoid double taxation, which would hurt business competitiveness. Furthermore, large amounts of fiscal transfers to public sector enterprises (PSEs) undermine overall fiscal stability and growth. Despite recent reform initiatives, PSEs continue to rely on substantial fiscal transfers and sovereign credit guarantees to remain operational.

As improving tax collection is a top priority for the government, and the government has undertaken major tax reforms, such as (i) eliminating certain exemptions and preferential tax rates; (ii) enhancing the sales tax on petroleum products; (iii) lowering income thresholds; and (iv) rationalizing some income tax credits and incentives. The government also aims to (i) establish a single treasury account system; (ii) build institutional capacity with a view to establishing a macro-fiscal unit in the Ministry of Finance; (iii) streamline corporate income tax laws and regulations; (iv) harmonize service sales tax rates and base in collaboration with the provinces; and (v) roll out the track-and-trace system for cigarette excises. These are essential steps in the right direction, and their implementation should be expedited.

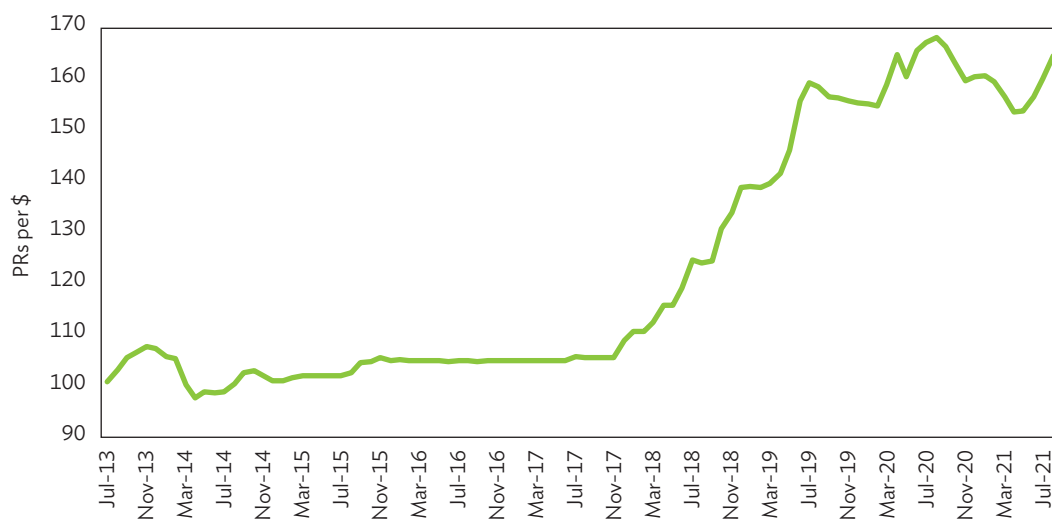
- (i) **Restructure fiscally draining PSEs.** A new PSE law based on the findings of a detailed diagnostic study could be developed and adopted to improve governance and transparency. This would also help attain whole-of-government PSE ownership. The policy, regulatory, and administrative systems will also need reforms to improve service delivery and reduce fiscal burden. The reform and restructuring of PSEs should be carried out professionally and independently without political interference.
- (ii) **Rationalize scarce resources for more targeted development spending.** In particular, reallocation of funds in health, education, energy, and network infrastructure will be needed to stimulate investment and increase manufacturing productivity. Given the tight fiscal space, the government should leverage private sector resources, especially through the public-private partnerships (PPPs). This may require strengthening the government's legal, regulatory, and institutional frameworks and capacity so that bankable PPP projects can be brought to the market.
- (iii) **Further improve tax administration and compliance to enhance the tax net.** This may be critical for generating the financial space to reduce regressive indirect taxes (mainly goods and service tax [GST]) and thereby stimulate business activity. The government should keep taxes low and standardized and avoid broad-based exemptions for specific sectors to reduce distortions and rent-seeking activities. Tax exemptions may be replaced with conditional and time-bound tax breaks and incentives for activities that produce positive externalities, such as labor training and technology acquisition. A uniform tax code and administrative mechanism should be developed and implemented to harmonize and integrate federal and provincial taxes. This may require establishing a national tax service with a clear accountability mechanism and strengthening technical capacity, especially in information technology, automated risk-based audit systems, enforcement, arrears management, and independent appeals function. Moreover, a high-level Constitutional body, similar to India's GST Council, may be established through the Council of Common Interest, with clear accountability to resolve tax-related issues across the country. To support SME development, the government policy to reduce the corporate income tax rate from 25% to 20% for firms with a turnover of less than PRs250 million may be extended to firms with a turnover of less than PRs650 million. For small firms with a turnover of less than PRs100 million, a presumptive tax option can be offered in which their taxable income is calculated at 8% of their total revenue. This scheme should ease the tax compliance and filing process for SMEs and

reduce transaction costs. The government should also implement the recommendations of the Tax Reform Commission and hold regular roundtable conferences with leading tax and legal experts to review existing laws for enlarging the tax base. The government has endeavored to simplify and automate the tax return system, and this has been received well by businesses. Continuing to use technology to reduce compliance costs and improve interprovincial and federal–provincial coordination would help bring firms into the formal sector and generate the fiscal capacity and support the process of structural transformation.

Monetary Policy

Monetary policy instruments and variables, such as interest rates, inflation, credit, and exchange rate, play a fundamental role in facilitating economic structural transformation. Historically, Pakistan's monetary policy has been prone to political influence, which can crowd out private sector borrowing and investment. The exchange rate management policy has mainly subsidized imports, which has kept the exchange rate artificially overvalued at the exporting sectors' cost, resulting in large internal and external deficits. Since November 2017, the defense of an overvalued exchange rate has become untenable due to declining reserves, which led to a 66.9% devaluation against the United States (US) dollar at the peak in August 2020 (Figure 2.6). While complete independence for the State Bank of Pakistan (SBP) and a singular focus on the interest rate and targeting inflation might not be feasible, there must be good coordination between the SBP and the fiscal policy board and operational independence for the SBP. The government's decision to amend the SBP Act for upholding its autonomy, mandate, and governance is a step in the right direction. The amended act seeks to (i) make domestic price stability as a primary objective of the monetary policy; (ii) prohibit the financing of the public sector debt; (iii) remove quasi-fiscal operations following a phase-out period; (iv) introduce statutory mechanisms to allow sufficient capitalization and profit retention; (v) secure stronger protection of the personal autonomy of senior officials; (vi) enhance roles of external auditors, the audit committee, and the internal audit function; (vii) promote mutual decision-making at the executive level; and (viii) provide stronger oversight by the board.

Figure 2.6: Exchange Rate, July 2013–August 2021
(PRs per \$)



PRs = Pakistan rupee

Source: State Bank of Pakistan. 2021. Bank Floating Average Exchange Rates, September 2021. Islamabad.

The government has been the major borrower from commercial banks, and this has had adverse impacts on private sector development and the industrialization process. Credit to the private sector has dropped from its peak of 27% of GDP in FY2007 to 17% in FY2021 (Ministry of Finance 2021). Programs such as the credit guarantee scheme for SMEs and subsidized interest rates to certain export-oriented sectors could help improve reliability, lower cost, and widen access to private sector credit. Additionally, requisite regulatory infrastructure, such as for equity finance, venture capital, and PPP would expand the financial market.

Regulatory Framework

Onerous business regulations impede businesses globally (Figure 2.7). In Pakistan, businesses may be encumbered by inappropriate and outdated regulations and rent-seeking regulatory agency officials. Inefficient institutions and corruption feature on the top of constraints reported by businesses in the World Economic Forum's Global Competitiveness Index and in the World Bank's Enterprise Survey.³



Several countries have succeeded in keeping regulatory burden low while ensuring that consumer safety and environmental standards are not compromised. The Regulatory Guillotine™ approach is a quick and simple method used in Thailand, Egypt, Viet Nam, Mexico, the ROK, Kenya, and Ukraine to reduce regulatory burden by eliminating outdated rules and regulations and simplifying the necessary ones. For example, the ROK eliminated 50% and simplified 22% of the 11,000 regulations within 11 months; and Mexico eliminated 54% and simplified 27% of 2,000 regulations within 9 months. A single legal process is used for the review. Hence there is no need to undertake separate rule-making and legal reviews for each process. The legal arrangement is put in place at the beginning and comes into effect as soon as the review ends. The reform process takes 18–30 months from start to finish and follows these steps:⁴

³ The World Bank. Enterprise Surveys. <https://www.enterprisesurveys.org/en/enterprisesurveys>.

⁴ Jacobs, Cordova and Associates. <http://regulatoryreform.com/regulatory-guillotine/> (accessed 15 June 2019).

- (i) The government counts all the regulations or formalities affecting businesses. This inventory is organized and stored in a database. In many countries, this is the first complete inventory of regulations providing significant benefits.
- (ii) Each rule or formality is reviewed three times, by the government, business stakeholders, and a central unit.
- (iii) Each rule or formality is reviewed against simple filters in a checklist format:
 - a. Is it legal?
 - b. Is it needed?
 - c. Is it business friendly?
 - d. Are fees necessary and reasonable?
- (iv) After the review, each rule or formality is sorted under one of three categories: maintain, simplify, or eliminate.
- (v) The Council of Ministers and Parliament, by an omnibus process, take the necessary steps to either abolish unnecessary regulations or simplify those that are too complex.
- (vi) The remaining rules or formalities are stored permanently in a registry, from which users can find information, download forms, and apply for permits. This registry can be the basis for a one-stop-shop, if desired.

The Regulatory Guillotine™ approach can be useful in removing many outdated and unnecessary regulations. For the remaining regulations deemed necessary, technology and process improvements can be used to lower compliance time and cost. For example, a single online registration portal that consolidates registration data from relevant agencies can expedite the registration process and lessen the time spent moving applications from one department to another. Each firm can be issued a unique identifier through which users can access company information electronically, thus precluding the need to enter the information manually every time. The integration of the Passport Office and National Database and Registration Authority provides useful models of successful service delivery in Pakistan's context. The process of business inspection by government departments can likewise be improved to reduce transaction costs. For example, businesses could be allowed to self-report their regulatory compliance, which the government can verify by spot-checking random samples of firms and imposing high penalties for false reporting.

Investment Laws and Legal Environment

Pakistan's unsynchronized and outdated investment policy and investment laws may deter business investors and impede the structural transformation process. While the existing Investment Policy Framework 2013 could be liberal and fairly open, it is meant to only attract investments. The Foreign Private Investment Act of 1976 and the Protection of Economic Reform Act of 1992 together form the legal basis for investment-related decisions in Pakistan. Three other concurrently active regulations add to investors' confusion of what investment activities are permissible and how the overall incentive structure is organized. There are also discrepancies between the acts and the policy on several issues, such as the type of sectors that are open for investment and the rules pertaining to the minimum requirements for domestic input; the mechanisms governing the issues of national and equitable treatment of foreign investments; and the expropriation and dispute settlement processes. The long duration of court proceedings for resolving standard commercial disputes in Pakistan also lowers business confidence. In the 2017 Perception and Investment Survey of the Overseas Investors Chamber of Commerce and Industry of Pakistan (OICCI 2017), over 50% of investors stated that dispute settlements in the country take an average of 5 years, while 20% said that such cases take anywhere from 3 to 5 years (Table 2.1).

Table 2.1: Average Time to Resolve Contract Disputes in Pakistan Courts
(% of cases)

	1-6 Months	Within 1 year	Within 3 years	Within 5 years	More than 5 years
Filing and service	56	22	12	4	6
Trial and judgment	1	16	26	26	31
Judgment enforcement	8	26	24	17	25
Total time	0	5	19	19	57

Source: Overseas Investors Chamber of Commerce and Industry, 2017. *Perception and Investment Survey 2017*. Karachi.

Furthermore, a few high-profile dispute settlement cases involving the Pakistan government and established foreign investors have raised concerns regarding contract enforcement and protection against expropriation. For instance, Pakistan lost an arbitration case in the London Court of International Arbitration in 2018 in a suit filed by the independent power producers for recovery of dues from the government-owned national grid company, National Transmission and Dispatch Company. On top of the enormous financial burden, such cases could weaken the perception of governance and government credibility and have negative implications on market sentiments. Pakistan's dysfunctional land titling system is also a concern for industrial development, primarily when it restricts the use of land as collateral for credit. Banks in Pakistan are unlikely to advance more than 50% of the assessed property value as opposed to over 90% for banks in comparator countries.

Therefore, the Pakistan government will need to update its investment laws, align them with global best practices, and structure the investment policy document accordingly. For clarity, it would be optimal to consolidate the three documents into a single and comprehensive framework. Another policy action that may create a business-conducive environment is the renegotiation of the older 48 bilateral investment treaties Pakistan had signed with other economies to align them with Pakistan's investment laws. This action will involve the updating and modernizing of (i) minimum standard of applicable laws; (ii) explicit definitions of direct and indirect expropriation; (iii) special applicable clauses involving the balance of payments; and (iv) health, labor, and local requirements. Dispute settlement cases between investors and the Pakistan government should lessen considerably as a result. Since investment is a provisional domain after the 18th Constitutional Amendment, the government could strengthen the coordination among federal and provincial governments and investors, to improve negotiations and enforcement of contracts.

Market Access

One of the main reasons for Pakistan's lag in manufacturing and exports is limited international market access. Textiles comprise more than 60% of total exports, and about 43% of the export market is restricted to only five destinations (Figures 2.8 and 2.9). Trade potential within the region remains considerably underexploited and new markets for exports to the developing world remain untapped.

The following recommendations could help Pakistan improve market access for manufacturing and export products.

- (i) **Expand trade promotion activities, such as trade fairs, exhibitions, and emporia, especially for SMEs.** While larger firms generally have better access and information about foreign markets, SMEs face binding information and financial constraints on accessing

international markets. The government quota for international fairs and exhibitions is often taken up by larger firms in major cities. Because of information asymmetry, SMEs from remote regions miss out on the opportunities despite their good export potential. For example, floriculture in Quetta has tremendous export potential, but the city is disconnected from international markets, such as the United Arab Emirates and Saudi Arabia. Similarly, gems and jewelry and dried and organic fruit in Khyber Pakhtunkhwa are potential export clusters. To support these marginalized clusters, the government should utilize the existing SME quota in trade delegations supported by the Trade Development Authority of Pakistan. To improve SMEs' access to local markets, permanent emporiums may be set up in major cities to exhibit the arts, crafts, and cuisine of all provinces and regions of the country. The stalls in these emporiums could be rented out on a rotational basis and at a subsidized rate to registered small businesses (Afraz et al. 2019).

- (ii) **Promote a cluster-based marketing strategy to reap economies of scale benefits.** Small firms generally do not have the requisite resources to carry out extensive marketing strategies and programs. Therefore, incentives and matching grants could be provided to SMEs for conducting international market research, developing marketing strategies, participating in trade fairs, undertaking promotional and marketing activities, and developing product directories (Afraz et al. 2019).
- (iii) **Improve compliance with World Trade Organization (WTO) standards and international certification.** Pakistani exporters are at a disadvantage in global trade because of their weak standards and conformity infrastructure for dealing with rules imposed by buyers under the WTO's Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS) agreements. There are only a few industry-wide facilities for exporters to achieve compliance and certification. This is doubly troubling for SMEs that are constrained to meet the compliance requirements of TBT and SPS standards on their own because of their small size and limited access to finance. As a first step, national product standards could be developed and enforced to enable industries to operate and trade market-quality products not only across the country but also globally.

Figure 2.8: Top Export Products in 2018
(% of total exports)

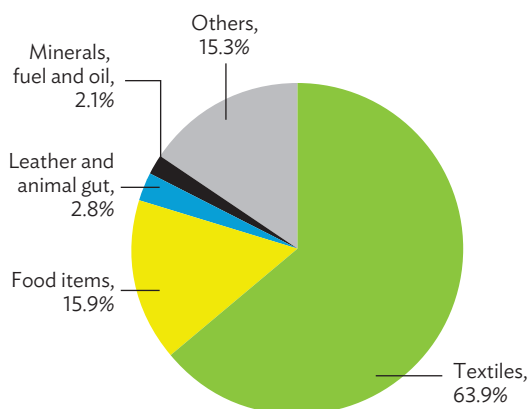
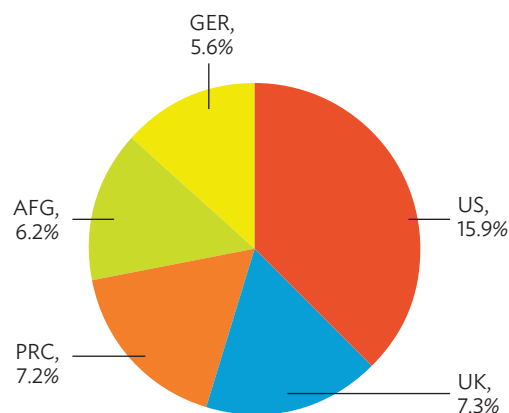


Figure 2.9: Top Five Export Markets in 2018
(% of total exports)



AFG = Afghanistan, GER = Germany, PRC = People's Republic of China, UK = United Kingdom, US = United States.
Note: Data are for fiscal year ending 30 June.
Source: State Bank of Pakistan. 2019. *Export Receipts by Commodities and Countries*. Karachi.

At the same time, when implementing harmonized standards, provincial authorities could also ensure consumer safety. These standards should apply to imported products, especially packaged foods, on which labeling in English or Urdu should be a requirement. A comprehensive review and reform of the Pakistan Standards and Quality Control Authority (PSQCA) and the Pakistan Council of Scientific and Industrial Research may be required to expedite the process followed by manufacturing firms to meet international quality standards. Improvement in PSQCA testing capability could help regulate the sale of substandard and about-to-expire local and imported products. Additionally, internationally recognized certification institutions and/or labs should be established to help manufacturing firms meet global standards. As some of these international standard certifications are expensive to acquire, SMEs could benefit from financial support to meet these costs.

- (iv) **Promote digital platforms and e-commerce.** With the Fourth Industrial Revolution centered on digital technology, traditional business services will require information about markets, access to finance, and logistics. Pakistan's e-commerce market is fairly underdeveloped and is estimated to be about \$100 million–\$600 million—a small fraction of the world market (Afraz et al. 2019). This is a result of gaps in Pakistan's policies and systems, which hinder the growth of digital financial services, e-commerce, payment gateways, and mobile money. Pakistan is not technology-ready to fully leverage information and communication technology (ICT) in daily activities and production processes. While affordability is a virtue, this advantage is wasted because of the lack of skills, higher education, and weak infrastructure. Business usage of ICTs is also low because e-commerce and e-business are in the nascent stage due to a lack of documentation and trust issues. Pakistan's weak regulatory environment also does not allow the growth of ICT usage. Considering these limitations, the Ministry of Commerce is developing a comprehensive e-commerce regulatory framework that covers consumer protection, personal data protection, cross-border online transactions, registration, and taxation. When implemented, this framework will incentivize and facilitate the Online Market Place establishment, which will help businesses sell their products locally and internationally. As payment gateways are the facilitating technology behind the success of e-commerce, the SBP should expedite the approval of applications by local investors to operate such gateways. Also, a digital highway may be required to connect financial institutions to a single platform for easy online payments. The presence of local payment gateways and a digital highway is likely to attract large international players such as PayPal to support e-commerce growth further. Moreover, the Small and Medium Enterprises Development Authority could provide matching grants to information technology start-ups such as those involved in online marketplaces and payment gateways and for training SMEs on the use of such services (Afraz et al. 2019).

Financial Markets

Access to suitable, affordable, and sufficient credit is essential for industrialization. Structural transformation cannot occur without specifically designed financial products that support expansion, technology acquisition, and import and working capital. Pakistan's financial market needs to be deepened and made more inclusive of enhancing the savings and investment rates that support structural transformation. Pakistan's financial sector lags behind other South Asian countries, ranking 108th of 183 countries on the IMF's Financial Development Index in 2018.⁵ Due to

⁵ IMF. Financial Development Index Database. <https://data.imf.org/?sk=F8032E80-B36C-43B1-AC26-493C5B1CD33B> (accessed 22 February 2020).

shallow and underdeveloped financial markets, financing of persistent and rising budget deficits by borrowing from commercial banks can raise the capital cost to crowd out Pakistan's private sector. Policy makers should recognize that it is predominantly private businesses that create jobs and wealth. The analysis shows that a 1% increase in domestic credit to the private sector can increase large-scale manufacturing value-added by 1.08% and SMEs by 0.65%. Doubling SME credit also more than doubles SME employment (Government of Punjab 2019). The interest rate, i.e., the cost of capital, also significantly impacts industrial performance, with a 1% increase in interest rate reducing large-scale manufacturing value-added by 0.6%. When corroborated with industry feedback, these are significant results, suggesting that credit expansion is a key determinant for industrial growth. Moreover, one of the key enabling conditions for structural transformation is the availability of risk capital, e.g., equity finance. Access to risk capital is a major impediment in Pakistan because of stringent rules, regulations, and legal frameworks.

To improve the private sector's access to capital, the advances-to-deposit ratio could be increased to raise commercial banks' liquidity. To facilitate the flow of risk-sharing equity into early start-ups that have yet to comply with the Securities and Exchange Commission of Pakistan rules, they may be allowed to register as limited liability partners. Although the Federal Government has adopted the Limited Liability Partnership Act 2017, provinces need to adopt and implement the act for it to be effective since partnerships are now a provincial domain (Afraz et al. 2018).

Tax incentives to individuals and corporates investing in stocks and shares could also improve the supply of equity funds. For example, in the United Kingdom (UK), individual savings accounts of up to £20,000 are allowed a £2,000 tax-free dividend allowance and no capital gains tax on increases in the value of stocks and shares. Similarly, the UK's Seed Enterprise Investment Scheme provides an upfront tax credit to individuals investing in young companies. It has provisions for capital gains tax deferral for reinvestment, capital gains tax exemption for chargeable gains realized on disposal, and loss relief on favorable terms for capital losses. Tax breaks such as these encourage individuals and corporates to channel their savings toward expanding businesses (rather than toward unproductive real estate, for example).

Crowdfunding is another attractive source of funds for start-ups as it allows individuals with a quite small amount of savings to invest in early-stage unlisted firms in exchange for shares, diversifying the sources of equity finance to include people other than wealthy individuals, venture capitalists, and business angels. This requires an appropriate regulatory framework. Several successful models of platforms can be replicated for crowdfunding. Sweden's FundedByMe program offers both reward-based and equity crowdfunding by linking thousands of investors worldwide with hundreds of companies in different countries.

Skills Development

Human capital development is a critical determinant of the productivity and competitiveness of the manufacturing sector. Evidence suggests that a 1% increase in schooling years can expand large-scale manufacturing value-added by 1.4% (Government of Punjab 2019). At present, the acquisition of technical and vocational skills in Pakistan is a close substitute for schooling rather than a compliment, thus giving it significance in supporting the development of productive human capital. Unfortunately, the technical and vocational skills sector in Pakistan has not performed to its full potential. The manufacturing sector has identified a shortage of technical skills as a constraint on investment, especially the acquisition of new technologies, a major obstacle in moving into high value-added products and technology-intensive industrial activity. The general sentiment among businesses is that the current technical and vocational education and training (TVET) system in Pakistan is not aligned with industry needs.

Hence, the delivery responsibility in the education sector and the technical and vocational education training was devolved to the provinces after the 18th Amendment to the Constitution. Following this change, the Federal Government was made responsible for establishing the standards and regulations for technical and vocational education while the provinces delivered training and skills education. However, even after 10 years of devolution, the institutional arrangements for the delivery of skills training are convoluted with clear overlaps and gaps. The Technical Education and Vocational Training Authority (TEVTA) manages the delivery of skills in provinces. Each province has its own TEVTA; however, Punjab has additional institutions, the Punjab Vocational Training Council and the Punjab Skills Development Fund (PSDF), to deliver technical education in the province. Private sector institutions also exist in all provinces. The TVET delivery institutions need to be registered with the Board of Technical Education or a Trade Testing Board (for vocational courses) as set up in the provinces.

The skills delivery sector and its management in Pakistan need to be overhauled and shift toward creating a balance between basic self-empowering and/or poverty-reducing skills and futuristic and/or growth skills that support industrial growth. The following policy actions may help to overcome the skills shortage in the industry.

- (i) **Restructure and strengthen governing institutions.** Federal entities can be assigned the roles of regulator, quality assurer, and the body defining the national skills standards. The provincial departments should be the primary delivery institutions and empowered financially and technically to deliver quality services. Additional funding to provincial institutions may be provided to cover for upgrading labs and training equipment to meet industry needs. Regulations should also be reviewed and made more conducive for private sector training providers to invest in the TVET sector.
- (ii) **Add more industry-relevant and competency-based programs to the current supply mix.** The provincial governments should consolidate certain institutes and promote sector-specialized institutes to realize economies of scale and specialization benefits.
- (iii) **Support and strengthen research on industry demand and future trends.** Through its Skills Development Councils, the National Vocational and Technical Training Commission should create a research fund for undertaking a projection analysis of occupation demand, focusing especially on skills of the future. This analysis and data would help provincial delivery institutions to modify the courses they offer to meet industry needs.
- (iv) **Promote flexible industry partnerships to generate industry-relevant skills.** Industry partnerships may be framed on flexible terms that allow public sector institutions to work with industry associations and develop courses on a resource-sharing basis. A portion of the National Skills Fund established under the Federal Government's 2018 Skills for Growth and Development Policy may be reserved for cost-sharing partnerships with industries that are trying to move toward higher value-added and technology-based products.
- (v) **The government may mandate provincial governments to establish training centers in all planned special economic zones (SEZs).** These centers can be managed on a cost-sharing basis with industry with the agreement to provide specially trained labor based on industry demand.
- (vi) **Implement skills development fund-type models in all provinces to encourage the growth of private training institutes.** A model like the PSDF has been proven to work with many private training providers, providing them with revenue to build stronger institutions.

- (vii) **Reassess the effectiveness of the Technology Upgradation and Skill Development Company**, to ensure it supports the provision of skills for enabling technology acquisition.
- (viii) **Appoint the heads of TVET organizations based on relevant technical expertise** and not through political nepotism.

Infrastructure

One of the primary reasons for Pakistan's declining share in global trade and its shrinking share of manufacturing in GDP is the poor quality and quantity of roads, railways, ports, and energy. An efficient transport and logistics system lowers business transaction costs and improves productivity and competitiveness. In Pakistan, however, investment in productivity-enhancing infrastructure has remained low amid tight fiscal space. More specifically, the country faces an infrastructure financing gap of about 5% of GDP (ADB 2015). The sector also lacks efficient and requisite management, for example, in railways. The cost of transport sector inefficiencies is estimated at 4%–6% of GDP annually (SBP 2012).

Consequently, on the World Economic Forum's Global Competitiveness Index 2019, Pakistan ranks low, at 105th out of 144 economies, behind the South Asian average. According to the Global Competitiveness Index subcategory scores within infrastructure, the fragile areas are road quality, railroad density and efficiency of service, port efficiency, and expensive electricity.

Despite recent improvements, Pakistan's performance on the World Bank's Logistics Performance Index remains weak, ranking 122nd out of 160 economies in 2018. Quality of trade and transport-related infrastructure (ports, roads, railways, and information technology) along with customs clearance processes scored low on the index.

To reduce these infrastructure gaps and achieve the requisite gains for competitiveness and economic structural transformation, we recommend the following measures:

- (i) **Utilize the economic corridor development strategy.** Creating vibrant industrial production clusters, mainly through SEZs, and linking them with the CPEC and CAREC corridors will foster greater regional and global economic connectivity and cooperation. This will help bring in the benefits of agglomeration, economies of scale, economies of scope, and positive network externalities and attract domestic and foreign investments as well as promote manufacturing and export-based industrial development.
- (ii) **Improve transportation and logistics services.** In Pakistan, the biggest gains may come from improvements to infrastructure, transportation, and basic border management. International standard logistics parks could be established through the PPP modality near industrial and agriculture hubs and SEZs. The government could provide land while the private sector could take care of the storage and other logistics facilities. Customs and other cross-border agencies, including those responsible for sanitary and phytosanitary controls, could improve their services, essential for Pakistan's agriculture exports. As an active member of the Transport Internationaux Routier (TIR) Convention, Pakistan can develop the TIR Customs Transit System's remaining pillars, including appropriate transport vehicles and containers and customs control measures agreed upon by customs in transit and destination countries. To streamline customs clearance procedures, the government should fast-track the NSW development, which is currently scheduled for 2022.

- (iii) **Strengthen the trucking regulations in accordance with international standards to reduce the cost of doing business.** The informality and lack of regulation encourage overloading and incur high transport costs, and the poor condition of vehicles adds to manufacturing production and transportation costs. A major hindrance adding to a low value in agricultural and food products is the absence of a country's cold chain infrastructure. Cold storage facilities need to be installed near agricultural hubs, and incentives should be given to local trucking companies to invest in refrigerated trucks.
- (iv) **Upgrade and overhaul the rail sector to increase its share in Pakistan's overall transport sector.** A robust strategy for revitalizing the railway network may be developed and implemented to improve business processes, institutional framework, financial stability, and service delivery. This strategy may have the following specific objectives: (a) improve the availability of locomotives by repairing existing locomotives and procuring new ones; (b) procuring new and/or repair or rehabilitate existing coaches and bogie freight wagons; and (c) upgrade the ML-III line, which can be a trade corridor running through Pakistan, Iran, Turkey, and Europe. In addition, an independent board with a professional management structure may be established to institute railway reforms and implement this strategy. Resources can be leveraged through PPPs in different segments of railway management and operations. The rehabilitation and upgradation of 1,872 kilometers (km) long Karachi–Lahore–Peshawar (ML-1) railway track estimated at \$6.8 billion under the CPEC are a welcome development. It should help enhance the productivity, quality, and reliability of Pakistan's rail system.

Vertical Policy Interventions: Targeting Specific Activities and Sectors

Principles of Vertical Interventions

Vertical measures are targeted interventions for a selected subset of firms, which can be defined by sector, geographic area, and/or type of activity. Sector prioritization remains a controversial subject. Nonetheless, traditional industrial policies have favored specific sectors to correct the market and coordination failures and promote structural transformation of the economy. Many developing countries like Pakistan suffer from weak institutions, which can result in unproductive rent-seeking activities such as strong lobbying for continued support to “infants” that refuse to grow up. The cost of misallocating scarce resources can be huge and may extend beyond the direct fiscal burden as a result of propping up firms in preferred sectors. It may also come in the form of the high opportunity cost of other competitive firms and sectors that could have emerged on a level playing field.

Nonetheless, several countries have now moved toward supporting desirable activities, either for all sectors or for selective priority sectors. In these countries, support for a firm is time-bound and conditional on undertaking value-enhancing activities, i.e., those that generate positive externalities, rather than blanket support for the whole sector. Support has also moved away from blanket trade protection and subsidies for the entire sector.

Instead, vertical interventions now predominantly focus on providing matching grants, tax offsets, infrastructure support, and seed investments. Specific examples of support may include the following:

- Matching grants; tax offsets; sharing of setting up costs for expanding desirable activities such as research and development (R&D) expenditure and acquisition of new technology or licenses; and supporting pioneer activities to promote industrial diversification;⁶
- Matching funds for acquiring new technology, patent licenses, and certifications to meet global standards; and improving labor training outcomes, management practices, and quality standards and compliances;
- Infrastructure support in the form of research and incubation centers to provide an avenue for better coordination and synergy between firms and sharing the fixed costs of infrastructure, testing standards, and training labor;
- Foreign direct investment (FDI) incentives, conditional on raw material and factor input sourcing from local firms; and
- Provision of credit subject to confirmation of orders from large firms to support industrial deepening.

Examples from Around the World

The shift to activity-based incentives is visible even in the classic examples of traditional industrial activists such as the ROK, which abolished the Five Year Plan in 1993, and the Economic Planning Board in 1994. The targeted support for strategic industries, such as biotech, nanotech, and greentech, is now provided mainly through R&D funding, credit guarantees, and public funding for training. Singapore, for example, identifies and maintains targets for strategic manufacturing clusters, which include custom-designed financial incentives to attract FDI in the target sectors, including pioneer incentives. For instance, a 15-year tax holiday is available for firms awarded the Pioneer Certificate. The tax holiday applies only to the pioneer activity rather than to the company as a whole. Multiple pioneer certificates may be awarded to a single company if it has multiple qualifying economic activities. The certificate requires companies to commit to contributions of substantive scale. Singapore also provides a research incentive scheme to expand R&D activities in science and technology. Under this scheme, cofounding support of 30%–50% is given for qualifying R&D project costs, some of which include workforce wages and training costs, consultancy expenses, and purchase of equipment, materials, software, and intellectual property rights. Moreover, Singapore's Development and Expansion Incentive scheme offers a 20-year tax holiday for qualifying activities that expand high-value-added manufacturing and services. Additionally, the Intellectual Property Development Incentive grants a reduced corporate income tax of 5% to large firms and 10% for SMEs on income derived from intellectual property, e.g., royalties for a period of 10 years, which may be extended. Added to this, Singapore also offers cost-sharing grants of up to 50% of the qualifying cost for resource and energy efficiency-enhancing activities. There are also training grants to encourage the development of workforce capability.

Finland has also moved away from traditional sector-based interventions to an activity-based model to promote innovation through R&D spending and build the science and technology foundation for the industry sector. This includes developing a network of science parks and centers of expertise for promoting knowledge sharing and synergies among universities, think tanks, private firms, and the government.

⁶ Pioneer activities promote industrial diversification and are important instruments for attaining structural transformation. These activities come with high risk and costs which are borne by the first firm that attempts to establish the industry. Information that is generated through the experience, however, is public knowledge. If the firm succeeds, other firms can utilize the information and enter the industry at a lower cost. The net social benefits of a new economic activity can be lower than the net private benefits, and therefore, left on its own the market may undersupply new types of economic activity.

Italy also employed a similar process in the 1980s and now supports R&D, innovation, and competitiveness-enhancing activities. Its latest industrial policy, Industria 2015, aims to promote (i) investments in innovative projects in energy efficiency, logistics, life sciences, and artistic heritage; (ii) business networking; and (iii) national venture capital funds.

Brazil has diverted from a protectionist regime to an innovation-based strategy as well. Its interventions focus on strengthening value chains to diversify exports through tax reliefs, subsidized financing, and loan guarantees. A major part of the strategy favors public-private collaboration. Selected sectors to expand and export to diversify include aeronautics, oil, natural gas and petrochemicals, bioethanol, mining, steel, pulp, paper, and meat. There are also programs to support strategic areas, such as health care, ICT, nuclear energy, defense, nanotech, and biotech.

In the United States, the Small Business Innovation Research fund supports small technology companies, specifically early-stage R&D projects, and ensures full protection of intellectual property rights when a new technology is developed. The Advanced Technology Program supports industry technological needs and promotes PPPs, early-stage investment, and risk-sharing. The Small Business Technology Transfer Fund supports R&D collaborations between universities, federally funded R&D centers, and nonprofit research institutes.

Malaysia allows income tax deductions for large firms' expenditures in employee training, product development, testing, and factory auditing to ensure vendors' quality products. Participating vendors are eligible for Pioneer Status, which exempts them from income tax payments for 5 years. Those vendors are allowed to carry forward unabsorbed capital allowances and accumulated losses incurred during the pioneer period and deduct them from the company's post-pioneer income. Potential export products can be tax exempt for a period of up to 10 years. The status also gives vendors an investment tax allowance of 60%–100% on qualifying capital expenditure incurred within 5 years. This allowance can be offset against 100% of the statutory income for each assessment year. Any unutilized allowances can be carried forward to subsequent years until fully utilized.

Identifying Target Sectors

The global best practice discussed earlier shows that some countries add a sector filter to the activity-based approach. This methodology allows a resource-constrained economy to adopt a more targeted approach by completely mitigating binding constraints for prioritized sectors first, rather than relieving binding constraints partially for a larger set of sectors. Some of these constraints may include lack of infrastructure, product standards and compliance, and market access, which a sector needs to address simultaneously to take off.

However, there are some important disadvantages to this approach. It requires the state to have the substantial capacity and a well-developed coordination and feedback mechanism with the private sector. The state capacity may include the analytical ability to identify the right sectors and adjust the action plan when deviations from expected outcomes occur. The state must also have the capacity to process feedback from businesses and filter suggestions that can erode competitiveness and promote rent-seeking activities.

When selecting a sector, a robust and systematic approach should be followed to identify high-potential economic sectors that are aligned with the country's endowments and existing latent comparative advantage. Of several systematic approaches available, this analysis uses the following approaches to identify target sectors:

- (i) The Growth Identification and Facilitation Framework (GIFF) approach developed by Justin Yifu Lin is based on developing latent comparative advantage. It identifies target sectors by listing tradable goods and services that have been produced for around 20 years in dynamically growing countries with a similar endowment structure to Pakistan and a per capita income of about 100%–300% higher than Pakistan's, or a similar per capita income 20 years ago. It also proposes next steps, such as removing constraints, attracting global investors, scaling up self-discoveries, harnessing industrial parks, and providing selected industries with limited incentives, such as tax and direct credit, and access to foreign exchange. This approach has been applied in Nigeria, Kazakhstan, and Uganda (Lin and Xu 2016).⁷
- (ii) Selecting enabling sectors that have high linkage effects, such as ICT, logistics, energy (particularly energy conservation and green products and services), and construction. Enabling sectors can also be “mother” industries that generate high backward linkages, such as the auto industry.
- (iii) Examining existing export sectors that have high prospects for global growth.

The GIFF is a policy tool based on New Structural Economics insights, which emphasizes both effective markets and government facilitation to achieve industrial upgrading and diversification. The GIFF allows countries to locate latent comparative advantage and leverage it to achieve structural change. Structural change requires private firms to experiment with new types of economic activity. This experimentation is risky and costly, as pioneering firms undergo a process of trial and error to identify which industries in the country's latent comparative advantage are aligned with the global industrial frontier. Once this information is generated, the next firm to enter the industry faces negligible costs in acquiring information yet shares equally in the returns. The pioneering firm generates a positive externality to the rest of the economy through information provision, the costs, and risks borne by the pioneer firm alone. Since such investments' net social benefit is far greater than the net private benefit, the market on its own will likely undersupply such new economic activities.

The government can correct this and facilitate new economic activities by first analyzing information, particularly about a new industry's potential to achieve economic growth and make that information publicly available. Second, industrial upgrading and diversification require hard and soft infrastructure changes, such as roads, energy, and specific labor skills. This requires coordination between firms or public sector provision of requisite infrastructure to support the new economic activity—areas for the government to facilitate.

Since information and infrastructure are industry-specific, the first step is to identify appropriate sectors. Industrial interventions in several countries have followed a sector-specific approach to provide such targeted support, but with mixed results. Lin and Monga (2010) conclude that a common success feature is the choice of mature industries with higher per capita income levels.

⁷ Alternative approaches include the Export Potential Assessment methodology, consisting of the Export Potential Indicator and the Product Diversification Indicator, developed by the International Trade Centre. This approach comprises a breakdown of a country's potential exports of a product to a given target market into three factors—demand, supply, and the ease of doing trade. The Product Diversification Indicator makes use of the concept of the product space as developed by Hausmann and Klinger (2007), Hausmann et al. (2007) and Hidalgo et al. (2007). The Decision Support Model is another approach that evaluates the macroeconomic conditions of multiple potential target markets and employs a filtering mechanism. It systematically screens possible product-market combinations (according to criteria such as import growth, size, market concentration, and accessibility) and generates a list of the most promising, “realistic” trade opportunities (Cuyvers et al. 2012). More recently, theory-consistent in-sample estimation methods have also gained prominence in the gravity literature (Head and Mayer 2014).

Using theories of comparative advantage and learning from the successful (and failed) experiences of industrial policies, Lin and Monga (2010) propose a six-step process to identify new industries and create conditions that allow countries to turn the latent comparative advantage into actual comparative advantage:

- (i) The government can identify a list of tradable goods and services that have been produced for about 20 years in high-growth countries with similar factor endowment structures.
- (ii) Within this list, prioritize those industries in which domestic firms have already entered. For these industries, identify and remove the barriers to upgrading quality and entry for new firms.
- (iii) For completely new industries, take specific measures to attract investment from the benchmark countries identified in Step 1, in which these industries are mature.
- (iv) In addition to the list of tradable goods in benchmarked countries, governments can look out for successful self-discoveries and support these industries in scaling up.
- (v) Governments can focus on industrial parks and export processing zones to create a business-friendly investment climate within a limited budget, particularly taking measures to attract the target industries.
- (vi) Limited incentives can be provided to domestic or foreign pioneer firms in the target industries to help compensate for the first firms' information costs and risks to enter an industry. This can be in the form of income tax holidays for a limited period, directed credits to cofinance investment, or priority access to foreign reserves to import equipment. Monopoly rents, tariffs, and other distortive incentives are not recommended as a form of support.

Key Enabling Sectors

The competitiveness and growth of key value-added and exporting industries in the manufacturing sector will depend on the availability, quality, and cost of factor inputs. To support the growth of these export sectors, Pakistan should strengthen the key enabling sectors. With the recent rapid depreciation of the Pakistan rupee, imported inputs have become costly. Accordingly, incentives may encourage investments in these primary and enabling industries to support the growth of high-value-added exportable products. For example, policies could support the development of oil and gas reserves and explore and utilize natural resources such as forests, mines, and/or minerals, and the optimal use of sea resources.

Pakistan has many mines and rich mineral resources in various parts of the country. But weak exploration, policy and regulatory issues (especially in lease arrangements), and lack of modern mining technology have plagued the sector's performance. The government must address the issues about the regulations on mine management so that private investors can make investment decisions based on consistent information. Duty exemptions and incentives such as rapid depreciation and investment allowances in tax liability may also be accorded to those investing in high technology and the latest machinery to replace old blasting techniques, especially for marble and stone.

On forestation, the government should put in place strict policies on replanting and the sustainable use of forest wood. The government should also help provide information on tree varieties that offer the most optimal return. Pakistan has rich ocean resources with an ample supply of fish and shrimps to meet local demand and bring great value to international markets. However, due to

poor quality and health safety regimes and enforcement, the industry has suffered from bans and regular warnings issued by the European Union. The sector relies on the wild catch, making it difficult to ensure consistent quality and quantity of seafood for export markets while running the risk of depleting resources. This limits the number of value-added exports for the industry. The government should support the development and strict enforcement of health, safety, and food hygiene regulations. It should also develop suitable harbors and hatcheries for natural fish resources that are used for high-value exports. Apart from developing suitable infrastructure, the government can give matching funds to those aiming for quality improvement and the acquisition of global certifications. The government can provide tax breaks conditional on entering into a joint venture with or outsourcing from local firms.

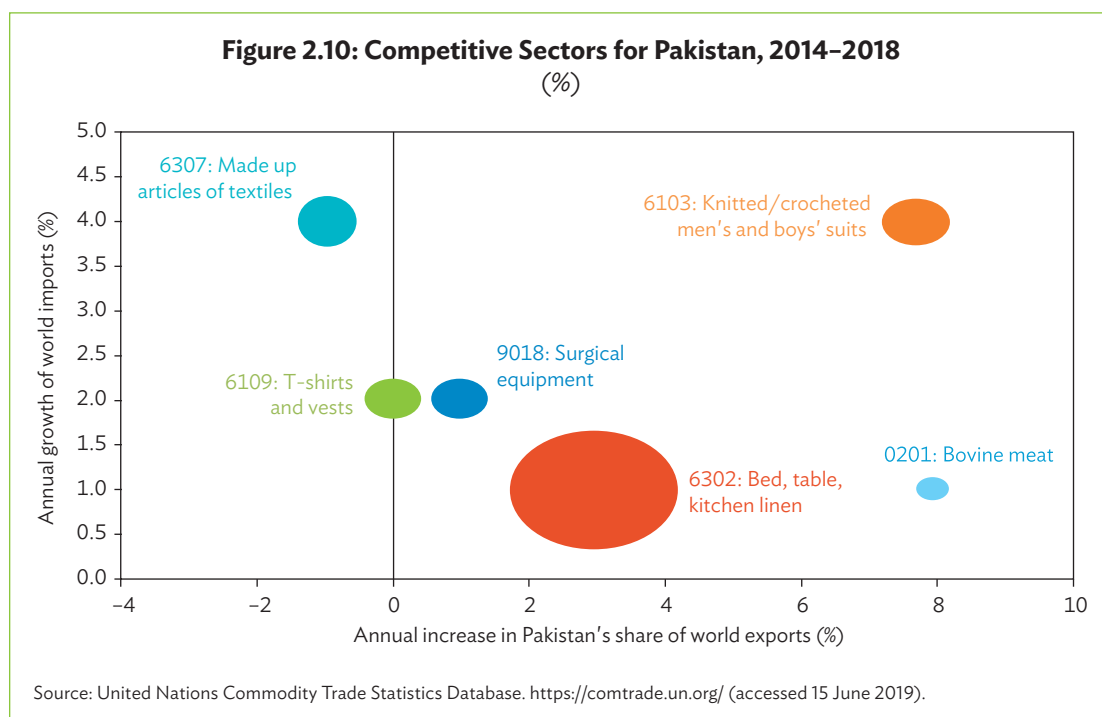
In the manufacturing sector, the chemical industry is likely to drive innovation. Polymer consumption, for example, can lead to significant multiplier effects on GDP growth because of the forward and backward linkages. There could also be strong positive spillover effects in auto, rubber, textiles, consumer products, agriculture, petroleum refining, pulp and paper, health services, construction, and metals. There are many by-products of oil refineries, including naphtha, ethylene, butadiene, propylene, benzene, toluene, para-xylene. These are used in various downstream industries such as textiles, paints, plastics, pharmaceuticals, agriculture, leather, and packaging—all value-added sectors for Pakistan exports. However, Pakistan cannot produce basic olefins like ethylene, propylene, butadiene, styrene, as well as aromatics like benzene, toluene, and xylene because it has no facility for cracking naphtha. As a result, the growth of the chemical and petrochemical industry has been limited. However, Saudi Arabia has expressed interest in investing \$20 billion in Pakistan, including setting up an oil refinery in Gwadar. If this happens, the government should ensure that the entire downstream chemical industry and the oil refinery are developed.

Steel is also a critical input for most intermediate and final products produced in Pakistan. But without reasonable access to locally produced steel, Pakistan industries may struggle to compete. Despite an abundance of iron ore deposits, Pakistan's local steel production has neither kept pace with increasing demand for improved quality and variety. Pakistan is importing close to \$4 billion worth of steel and iron every year. Under the PRC's relocation strategy, many PRC steel manufacturers are relocating. The Pakistan government should attract them given the SEZ development under the CPEC. The government should also consider setting up a steel and metallurgy institute in collaboration with large steel mills and universities to work on product refinement and to produce quality steel with reduced environmental impact. These facilities should aim for developing and manufacturing heavy mechanical and electronic equipment locally.

Plastics and composite materials are also significant inputs in almost all industries of Pakistan. One of the main constraints highlighted by the white goods industry is the lack of plastic industry in Pakistan and mold development technology. Should Saudi Arabia set up an oil refinery as planned, Pakistan will have access to polymer and plastic-forming raw materials. However, there must be a concerted and collaborative effort toward increasing the quality of and using technology in developing plastic products through better and robust molds. On the other hand, the PRC, for example, has a large plastic industry looking to relocate. Pakistan can attract large PRC manufacturers to set up their plastic and mold industry by offering incentives such as matching grants that pick up 50%–80% of the training cost. Successful FDI will build local skills to foreign investors' standards and more advanced skills such as mold development, which may not be available at the required level in Pakistan. Incentives can also be duty exemptions on the import of machinery.

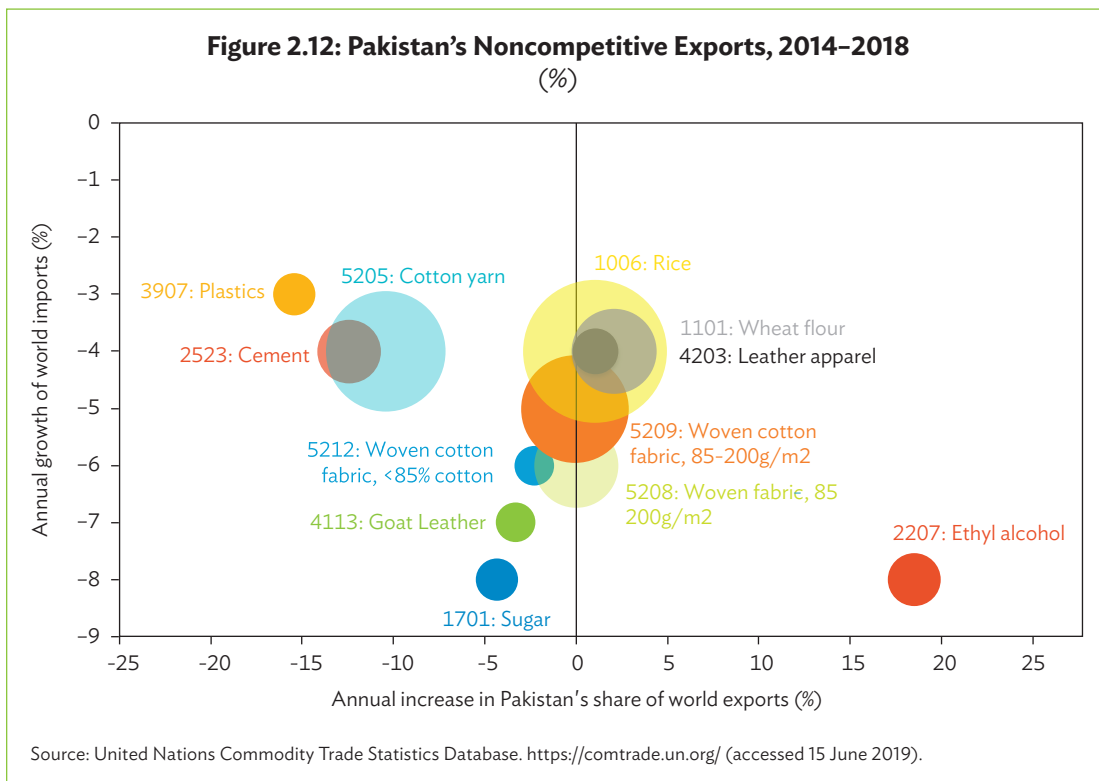
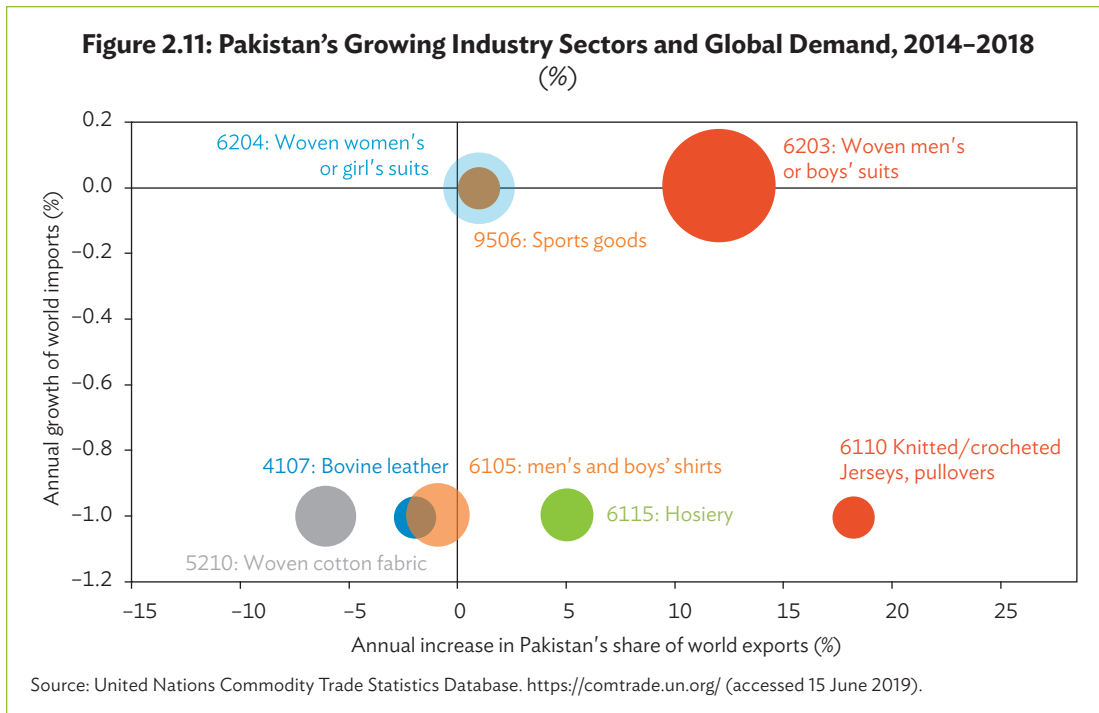
Identifying Manufacturing Sectors by Mapping Export Competitiveness

The analysis of export competitiveness helps to identify sectors with export potential. Figures 2.10 and 2.11 present Pakistan's exports in terms of volume, growth, and global demand. Surgical goods, knitted garments, and bed/table linen are the three most attractive sectors in the segment, with bovine meat also suggesting opportunities for growth.



The woven garments (all categories) industry is a sufficiently diversified sector that has grown significantly. This growth is likely to spur more investments, which would further diversify the product base by adding value and, hence, offer a large number of job opportunities in the future. Pakistan has also developed a niche market for sports goods which has seen positive growth. Through effective branding, Pakistan was selected as the official supplier of sports goods for the 2018 FIFA World Cup.

Figure 2.12 shows the sectors in which Pakistan still has a large and growing share. But these sectors are declining globally. Except for rice, most of these sectors belong to low value-added exports such as cotton yarn, wheat flour, basic leather, sugar, woven fabric, and ethyl alcohol. Pakistan will have to diversify away from these products into higher value-added products that are growing in demand in the world market.



Sector Briefs and Policy Recommendations

The sections above have short-listed sectors that have the potential to boost export-led growth in Pakistan. The unaddressed policy question is how best to support these sectors in a way that creates minimum market distortions and has the least leeway for rent-seeking. A non-distortionary approach to support these sectors should focus on addressing market failures, public infrastructure gaps, and inappropriate regulations. Incentives can also stimulate activities that generate substantial positive spillovers.

This section illustrates the application of the framework to target sectors. Detailed studies will need to be undertaken to determine the causes of market failure and identify infrastructure gaps and deficiencies in the regulatory framework that limit investment in these sectors. For this purpose, collaborative consultations between the government and a larger group of businesses in the target sectors can help identify priority areas within specific public sector dimensions, such as public infrastructure and regulation. This will also help devise investment incentives for specific activities.

The intent of this section is not to promote or select one sector over another. Rather, the analysis shows how a systematic framework is applied in identifying the constraints on operation in each sector. The role of government policy then is to address impediments and correct market failures rather than subsidize one sector at the expense of the other. We also present the current issues that obstruct improved productivity and higher value addition, which can help policy makers understand the types of initiatives required in each sector.

Ready-Made Garments

Ready-made garments (RMG) are an important source of exports, income, and jobs in Pakistan. In FY2018, the country exported \$5.4 billion worth of RMG, nearly a quarter of its total exports.⁸ Several firms produce different products for the global market, but they represent a mere 2% of the industry. The average firm in the garments sector produces a typical product in the residual demand category, competing in price at a lower value-added segment. Furthermore, global demand for several of Pakistan's more substantial RMG product exports is declining. For example, the demand for men's suits and jackets—which represents 9% of Pakistan's total exports, and in which Pakistan has a global export market share of 4.3%—declined globally at an annual average of 1% in 2014–2018. Similarly, global demand for men's singles and briefs is declining at 4% annually over the same period.

Pakistan needs to build on its existing strength in this sector for greater industrial diversification, upgrade to higher value-added products, and move to the differentiated exports category. Based on the systematic framework discussed earlier, the policy may support the following areas:

- Strengthen the consultative approach with firms that are already in the competitive product market. This should lead to jointly agreed interventions such as the provision of public goods, assistance in coordination, and partial funding of activities that generate positive spillovers to the rest of the economy.
- Affordable space is a critical concern for the garments industry. The Punjab government has initiated the Faisalabad M2 Special Economic Zone (SEZ) and the Quaid-e-Azam Apparel SEZ, which should accommodate both large and small firms in the industry, including the vendors. Similarly, the Karachi Garment City Company should be operationalized, and all missing facilities and utilities provided. This will also allow firms to exploit synergies and benefit from the collocation of common support services;

⁸ International Trade Centre database. Trade Map. <https://www.trademap.org/Index.aspx> (accessed 15 June 2019).

- The pricing of land in SEZs and industrial estates is a critical issue for the garments industry—the possibility of a land lease policy at the federal and provincial levels should be explored.
- The key to diversification is the capability to design new products. Pakistan's RMG sector has been lagging in this area. Most manufacturers work only on design orders from their clients and have little contact with the real consumers in export markets. As a result, they miss out on vital information pertaining to changing fashion trends and products. The Pakistan Readymade Garments Training Institute has partnered with the Punjab government to set up a design studio in which companies can develop their products. The institute is linked with European designers and industry fashion analysts in export markets. A similar linkage of design capabilities and fashion intelligence may be created across the main clusters.
- Across the value chain of the garment industry, outdated technology and the limited variety of available man-made and intelligent fibers are critical bottlenecks. To address this problem, the Technology Upgradation Fund, which covers materials, machine parts, and research for the garments sector, may be augmented and set up with matching grants to meet enforceable targets. Under the CPEC, the government can also leverage technology transfer and FDI options from the PRC. These can be carried out by allowing a fixed percentage of the technology investment to be deducted from the taxable profit on top of the depreciation allowance.

Sporting Goods

The sporting goods industry in Pakistan is clustered in and around Sialkot and predominantly relies on the export market. The major products produced include inflatable balls, gloves and protective gear, wooden products, composite-based products, and sportswear. This value chain includes marketing and export companies, suppliers of raw materials, production units, and part-time vendors. The manufacturers in Sialkot are the official suppliers to major international brands such as Adidas, Nike, Puma, Select, Lotto, Umbro, Mitre, Micassa, Diadora, Wilsoms, and Decathlon. There are more than 2,500 business establishments engaged in the production and export of sports goods in Pakistan. These include formal units, informal cottage units, vendors, and home-based occasional producers (Afraz et al. 2018).

The growth in the sporting goods sector is linked to one critical factor: linkage with an international sports brand. Evidence from the sector shows that companies that produce for big brands have expanded in size and those that lose contracts from these brands quickly lose market share. However, establishing viable contracts with international brands will require significant investment in technology, compliance certifications, engineering innovation, and most importantly sustainable joint ventures.

The following interventions could help promote the sporting goods industry:

- Acquire new technology and undertake continuous research and development (R&D). The government may link local engineering schools with international universities such as the Loughborough University in the United Kingdom (UK), which specializes in sports technology. In collaboration with the government, the industry may create a joint pool of resources to fund student exchange and/or learning programs with these international universities. A combination of matching grants and investment allowances in the tax liability can be used to support R&D and technology transfer.

- Local firms that sign large orders for export can also be benefited from the provision of credit, using the order confirmation as a form of collateral.

Surgical, Cutlery, and Hunting Knives Sector

The surgical industry in Pakistan is clustered in and around Sialkot and comprises over 3,000 manufacturing units. Of these, about 30 are large manufacturers, 150 are medium-sized, and the rest are small vendors and exporting units. In FY2018, Pakistan's exports from the sector amounted close to \$0.4 billion (SBP 2019). The handicraft skill entailed in the production of surgical goods gives Pakistan the competitive edge. Specific hand skills are required in grinding and polishing surgical and dental instruments. However, the industry has failed to attract new workers due to the health hazards associated with hand polishing and the general income profile of the Sialkot region. The average age of workers in the surgical industry is over 45 years, and if the industry fails to add new labor, it may face a significant decline. The second most immediate issue for the industry is the lack of diversification into more sophisticated equipment which carry a higher value in export markets. The certification and international safety marking also attaches lower value to the industry.

To support this sector, we recommend the following measures:

- Medical quality steel is the main raw material required by the surgical industry. As much of this steel is imported, the government could expand and diversify the steel industry to allow local manufacturers of the quality steel. This would reduce price volatility and exchange rate risks.
- Addressing the labor shortage in the surgical cluster should be a priority. The Punjab government through the Punjab Skills Development Fund (PSDF) and Technical Education and Vocational Training Authority (TEVTA)-Punjab should work on labor skilling programs for the sector. The programs may explore the possibility of migrating labor from geographic areas that offer no economic opportunities to areas like Sialkot that generates jobs. The government should also link the industry with engineering universities to develop engineering and mechanical techniques to reduce the adverse health effects of polishing and grinding. Daska, a nearby region, has started to produce vibratory machines, which use water-based solutions for polishing; however, these solutions cannot be used for all equipment.
- Even though export volume in the surgical industry has increased over the years, the average price fetched by the exported equipment has declined. The industry produces extremely close substitutes, but in the competitive environment, the average price has been decreasing. The industry, particularly the large and medium-sized firms, must therefore diversify into more sophisticated products. The government needs to link the industry with R&D centers in engineering universities, support product development by providing matching grants and investment allowances for technological acquisitions, and encourage the medium-sized to larger firms to manufacture high-value products, thereby also creating space for smaller firms to grow and participate in export markets.
- Most of the equipment manufactured in Pakistan is quality certified in Germany, a factor adding the most value. The industry has suffered over the years as it has failed to develop the ability to certify their produce locally. This issue needs to be addressed. In the interim period, partial funding to cover certification costs would help firms obtain quality certifications for exported products.

Often associated with the surgical industry is the cutlery and hunting equipment sector. The industrial city of Wazirabad is known for its cutlery products. Like the surgical industry, this cluster is constrained by the lack of a skilled workforce for grinding and polishing and poor branding and quality certification. The hunting equipment sector has signified potential for high-value exports, especially for knives and daggers made of Damascus steel, a local innovation of the industry. Some Wazirabad factories have also produced other high-value metal armor for Hollywood movies such as *Braveheart* and *Captain America*. This linkage has never been marketed or used for branding the sector.

To support the industry, the government may consider the following forms of support:

- Run dedicated training programs to support the acquisition of skilled workers in the surgical and similar industries. The government can facilitate joint ventures with design companies, in which it can offer matching grants covering 50%–80% of labor training costs.
- Promote the industry in international magazines, highlighting its link to Hollywood's film industry. This can create a significant impact in branding the sector and project a positive image for the industry.

2.4 Conclusion

The structural transformation framework outlined in this study has two primary goals—to facilitate industrial expansion and to promote industrial diversification. The framework comprises horizontal and vertical interventions designed to enhance the labor force's skill set, expand the availability of credit, improve infrastructure, and create a conducive regulatory and macroeconomic environment. Effective stimulation of export growth entails that Pakistan consistently increases productivity and competitiveness and ensures the provision of a favorable trade policy environment. Pakistan should continue to fortify its enabling sectors by devising the right set of incentives to encourage investment in primary and enabling industries that catalyze the growth of high-value-added exportable products.

To cultivate a business-friendly trade environment, the government must streamline the tariff and SRO structure, simplify the existing Duty and Tax Remission Scheme, streamline the process of sales tax refunds and duty drawbacks, and strengthen customs and border management procedures.

Fiscal and monetary policy instruments play a pivotal role in driving structural economic transformation. To enhance productivity and competitiveness, Pakistan needs an enlarged fiscal space that enables higher capital spending. Widening the fiscal space requires careful management of expenditure and tax collection. In addition to several fiscal reforms undertaken by the government, a restructuring of fiscally exhausting public sector enterprises, better targeted development spending, and further improvements in the tax administration and compliance systems are needed. Efforts to promote good coordination between SBP and the fiscal policy board and operational independence for SBP must be continued.

Improvements in the regulatory framework, investment laws, and the legal environment are imperative to boosting investor confidence, increasing the ease of doing business, and attracting greater foreign investment to expedite the structural transformation process. Pakistan's government needs to eliminate all redundant and outdated regulations and employ technology-

driven and process-based improvements to reduce transaction and compliance costs. Alongside, the government should update its investment laws to align them closer with international practices and improve clarity and understanding of its investment policy among foreign investors. Renegotiation of older bilateral investment treaties in accordance with newer investment laws will be beneficial in cultivating a business-friendly environment. Another essential component in this mix is strengthening collaboration and coordination among federal and provincial governments and investors to improve negotiations and enforcement of contracts.

Improving market access for Pakistan's exportable products is key to exploiting the country's full trade potential. Exploring new export markets within the region and the larger developing world can provide impetus to export-led economic growth. To this end, the government needs to increase trade promotion activities, implement a cluster-based marketing strategy, encourage the use of digital platforms and expand e-commerce, and improve compliance with WTO standards and international certification. In addition to widening market access for local products, facilitating access to affordable credit is also vital for industrial growth. Pakistan's financial market needs to be deepened by the inclusion of financial products that support expansion, technology acquisition, and import and working capital.

The competitiveness and growth of key value-added and exporting industries in the manufacturing sector depends on the availability, quality, and cost of factor inputs. One crucial input that lags in terms of quality is human capital. To address this, the development of technical and vocational skills training programs should be closely aligned with industry requirements and should aim to strike a balance between poverty-reducing and growth skills that foster industrial expansion.

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3. Economic Corridor Development Potentials in Pakistan

Dewan Mustaq and Kiyoshi Taniguchi

The first step of economic corridor development (ECD) is to identify road corridors and evaluate their undeveloped or latent economic potential as a pilot for operationalizing ECD in Pakistan. This analysis examines the gaps and the necessary policy interventions for setting up an enabling institutional and regulatory framework for ECD. It also explores the Pakistani diaspora's potential role as a source of much-needed direct investment to support ECD. This analysis acts as initial due diligence to assess whether the government should commit substantive resources to prepare a detailed development master plan for transforming each transport corridor into an operational ECD.

3.1 What Economic Corridor Development Can Achieve in Pakistan

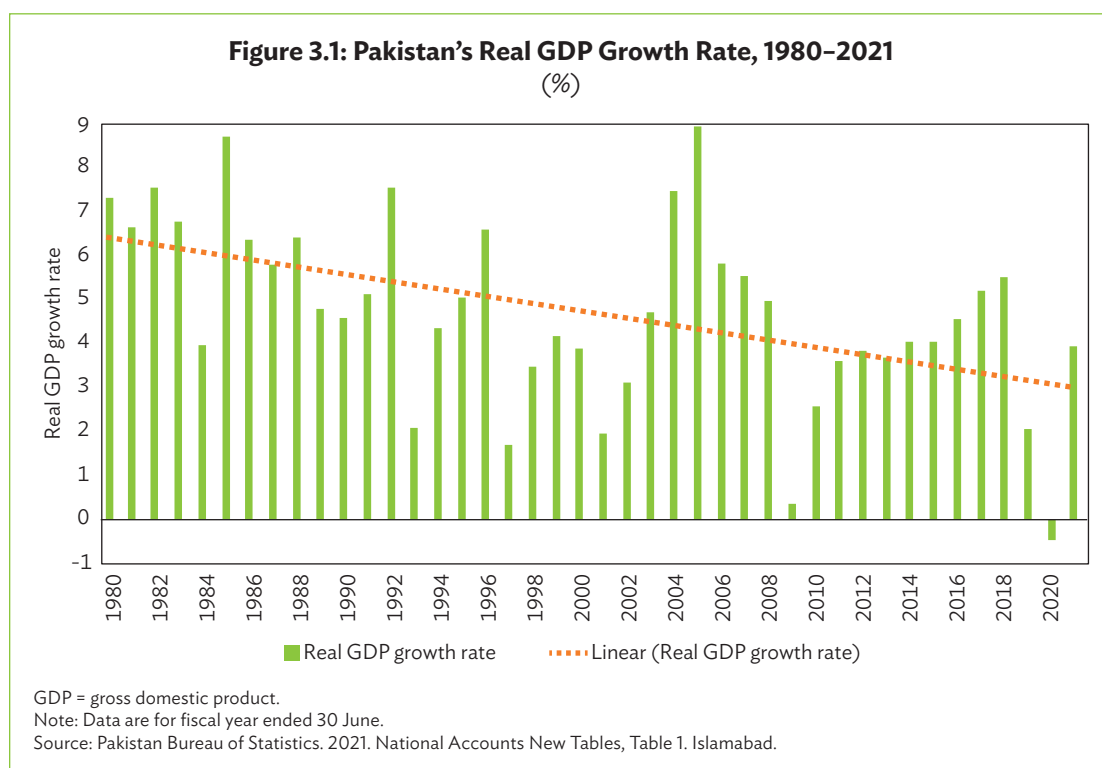
Pakistan needs to focus on infrastructure, trade facilitation and logistics, and financial inclusion and deepening to strengthen its business-conducive environment and reduce the cost of doing business. It also needs to unleash its various regions' full potential by finding new growth sources and sustaining a higher and more inclusive growth. ECD as a holistic strategy can help drive structural transformation and achieve balanced development for absorbing the 3 million new entrants into the labor force each year. To do this, a significant number of jobs will need to be created in the economy.

However, Pakistan's private sector, especially industry and services, has underperformed because of various constraints. Addressing bottlenecks could help unlock the younger demographic's economic potential, which is one of the government's key policy thrusts. ECD can facilitate industrial-economic clusters around important transport corridors that link to global value chains and production networks. Therefore, ECD can be one of the major channels of reviving and diversifying the manufacturing sector to create new jobs.

ECD in Pakistan aims to capitalize on an efficient transport network within a defined geographic area by providing quality infrastructure, logistics, and distribution networks that link to production centers, urban clusters, and international gateways. Essential to its success is a policy framework that creates the conditions for ease in doing business and facilitates trade. Consequently, with infrastructure bottlenecks removed, access to markets improved, trade and investment stimulated, and productivity and efficiency raised, ECD can attract private investments in productive assets. These, in turn, can generate jobs and promote inclusive growth by expanding business opportunities

in backward regions and linking cities and towns with urban centers and industrial clusters. As it promotes better mobility and flow of capital, goods, and people, business transaction costs are reduced for enhancing competitiveness and productivity to make industry-based development a key driver of growth.

Economic benefits are critical in helping the government deliver on public services to revive manufacturing, uplift agriculture, and strengthen the federation to move the economy beyond its historic lackluster and episodic pattern of growth, characterized by “booms and busts” (Figure 3.1). The ECD strategy can help revitalize Pakistan’s economic growth by facilitating industrial clusters driven by an efficient transport network built with robust infrastructure and supported by a business-enabling policy framework.⁹



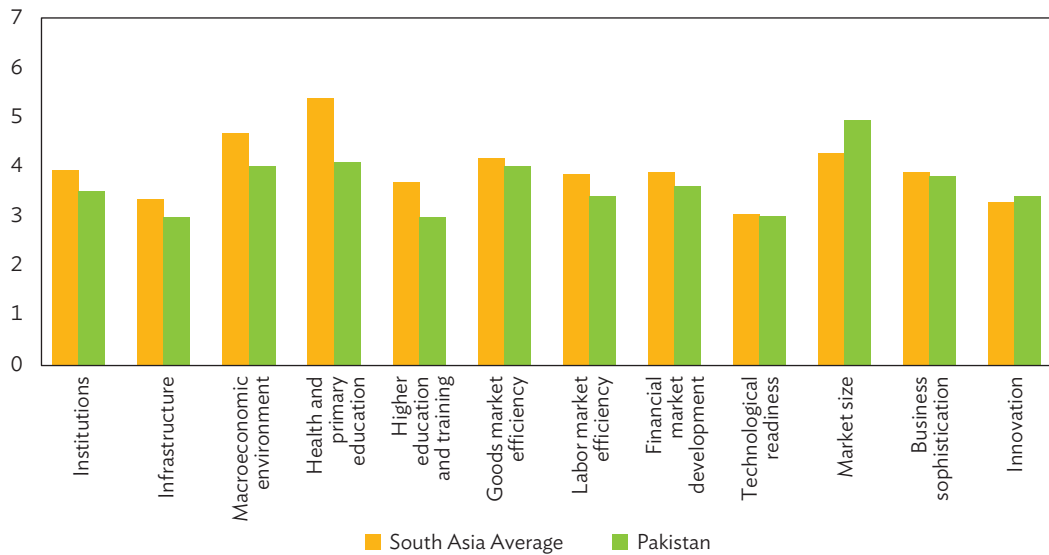
Pakistan ranks 115th out of 137 economies in the Global Competitiveness Index, the lowest among South Asian and other peer economies (Figure 3.2). The cost of doing business is also higher in Pakistan than in many other comparator countries, ranked at 108th of 190 countries (World Bank 2019) (Figure 3.3). As a result, Pakistan is still trapped in less-sophisticated and low value-added products. Its exports have been shrinking, contributing only 8.5% to GDP in fiscal year (FY) 2018, which is more than four times lower than the share in other emerging economies.¹⁰

⁹ The industrial cluster (or growth pole) theory dictates that economic development varies across regions. It takes place around a specific pole or cluster. This pole is often characterized by core industries around which linked industries develop, largely through direct and indirect effects.

¹⁰ SBP (2019) and World Bank. World Development Indicators. <http://datatopics.worldbank.org/world-development-indicators/>.

As ECD helps create vibrant industrial production clusters that are linked to urban centers, markets, and gateways, businesses can realize agglomeration, economies of scale, economies of scope, and positive network externalities and attract domestic and foreign investments. These benefits will help decrease the cost of doing business in the region and promote manufacturing and export-based industrial development to overcome premature industrialization.

Figure 3.2: Competitiveness, Pakistan and South Asia, 0-7
(Best)



Source: World Economic Forum. 2018. *The Global Competitiveness Report, 2017-2018*. Geneva.

Figure 3.3: Cost of Doing Business, Pakistan and South Asia, 0-100
(Best)



Source: World Bank. 2019. *Doing Business 2020*. Washington, DC.

Significant variation exists between the levels of economic, social, and infrastructure developments among Pakistan's districts. ECD can help narrow economic development gaps among Pakistan's district economies by providing laid-back and remote districts with better access to the rest of the country, markets, and production networks, thereby stimulating investment, trade, and economic growth in those areas. Furthermore, ECD can encourage and improve the development of economic linkages within and across districts, which can help tap into their full economic potential.

Economic, social, and infrastructure deprivations, such as lack of access to and poor quality of education and health, render Pakistan one of the lowest performers in human and social capital development in the region. Within-country regional disparities in poverty-related and other socioeconomic indicators are also quite stark. ECD can diminish these inequalities by promoting more inclusive growth. By enhancing domestic connectivity and linking lagging regions (including secondary cities) with urban growth centers, ECD can help Pakistan become a hub of economic activity for Central, South, and West Asian countries. It can maximize the benefits of the international linkage between the China–Pakistan Economic Corridor (CPEC) and the Central Asia Regional Economic Cooperation (CAREC) programs and their routes.

3.2 Potential Transport Corridors for the Economic Corridor

Transport corridors must meet several prerequisites to be developed into a successful ECD:

- (i) Identification of latent economic potential, without which private investment would not be forthcoming, implying the need for geographic selectivity and/or a transport corridor;
- (ii) Political commitment and coordination across multiple stakeholders at various levels of government, across diverse government agencies, and among countries;
- (iii) Detailed economic and technical analyses to identify business opportunities, infrastructure needs, and policy and regulatory requirements; and
- (iv) Sustained commitment to the development over 1 decade or more.

The Asian Development Bank and the former Department for International Development of the United Kingdom selected the following four transport corridors in Pakistan as a pilot for operationalizing ECD:

- (i) Motorway M4 linking Faisalabad (Punjab) and Multan (Punjab) in Central Punjab;
- (ii) National highway N70 connecting Multan (Punjab) and Killa Saifullah (Balochistan);
- (iii) National highway N50 linking Dera Ismail Khan (Khyber Pakhtunkhwa [KPK]) and Kachlak (Balochistan); and
- (iv) Expressway E35 from Islamabad to Mansehra (KPK), which will likely be extended to the People's Republic of China (PRC) and Central Asia in the future.

The selected transport corridors offer the following attributes:

- (i) real untapped economic potential with opportunities to diversify;
- (ii) good development synergy for linking production networks especially small and medium-sized enterprises, with markets and other economic agents;
- (iii) close links to the CPEC and CAREC routes; and

- (iv) favorable prospects for connecting and realizing the economic potential of underdeveloped regions in Balochistan and KPK through agglomeration benefits, consequently ensuring that scarce resources are applied where they will have the most impact and economic benefits are shared with excluded groups.

To ascertain the routes' economic potential, the study team analyzed the socioeconomic profile of the major districts along each proposed route.

Motorway M4

The motorway M4 connects Faisalabad and Multan and passes through the districts of Toba Tek Singh, Jhang, and Khanewal. The nodal cities of the M4, including Faisalabad and Multan, perform much better than the districts of Khanewal and Toba Tek Singh in relation to social indicators (Table 3.1). As such, ECD could be pivotal to improving the social performance of these districts. For example, the educational institutes of Faisalabad and Multan could offer quality education to students from other districts. Conversely, the schools in Khanewal and Toba Tek Singh might more easily attract skilled teachers from Faisalabad and Multan. In addition, better connectivity could give residents of the two lagged districts access to the health facilities of Multan and Faisalabad.

Table 3.1: Social Profile of M4 Districts, 2015

Districts	Human Development Index (value)	Enrollment Rate (15–24 years) (%)	Infant Mortality Rate (per 1,000 live births)	Maternal Mortality Rate (per 1,000 live births)
Faisalabad	0.55	82	65	80
Multan	0.56	75	62	76
Khanewal	0.49	68	93	120
Toba Tek Singh	0.51	52	85	107

Source: Author's calculations using data from the Government of Pakistan. 2016. *Pakistan Social and Living Standards Measurement 2014-15 Provincial/District*. Islamabad.

The region has a diverse economic base, which includes manufacturing, agriculture, and services. Known for its fertile land, Punjab is a major contributor to Pakistan's total agricultural production. The four districts along the M4 route produce different agricultural crops ranging from cotton, mango, rice, sugarcane, and wheat. ECD could further enhance agricultural productivity through knowledge sharing and enhancing access to raw materials and industry clusters and markets.

Many districts around the M4 are industrialized, especially Faisalabad, which is a textile industry hub of the country. Similarly, Multan and Khanewal in Punjab's southern belt are major producers of cotton fiber, textiles, and sugar. Improved connectivity through ECD can expedite the transportation of raw materials from the southern districts of Punjab and facilitate the production of intermediate inputs to factories in Faisalabad and vice versa. This, in turn, could enhance the districts' competitiveness and productivity to generate greater industrial clustering and economic activities. Additionally, the region could thrive through its strength in industries such as light engineering, cotton ginning, and pressing, spinning, weaving, textile processing, apparel and made-ups, soap manufacturing, wood and wood products manufacturing, paper and paper products manufacturing, chemicals and chemical products manufacturing, agro-food processing, blue pottery making, and flour milling (Pakistan Bureau of Statistics 2010b).

National Highway N70

The N70 is an interprovincial corridor that connects the deprived districts of Balochistan, such as Killa Saifullah, Loralai, and Musakhel, with the more developed districts of Punjab, such as Multan and Dera Ghazi Khan (DG Khan). The Balochistan districts perform poorly in all social indicators than the Punjab districts (Table 3.2).

Table 3.2: Social Profile of Districts along the N70, 2015

District	Human Development Index (value)	Enrollment Rate (15–24 years) (%)	Infant Mortality Rate (per 1,000 live births)	Maternal Mortality Rate (per 1,000 live births)
DG Khan	0.55	57	98	127
Multan	0.56	75	62	76
Loralai	0.42	Less than 20	87	110
Killa Saifullah	0.38	Less than 20	87	110
Musakhel	0.23	Less than 20	87	110

DG = Dera Ghazi.

Source: Authors' estimates using data from the Government of Pakistan. 2016. *Pakistan Social and Living Standards Measurement 2014–15 Provincial/District*. Islamabad.

Balochistan has a sluggish economy, which relies heavily on fruits, vegetables, and horticulture (Pakistan Bureau of Statistics 2010a). But without infrastructure development, the economic potential of its districts remains largely untapped. However, a link to Punjab can improve labor mobility, free access to markets, lower transaction costs, and share economic development benefits. Public sector investment is pivotal to bring Balochistan up to par with Pakistan's more developed provinces. ECD could attract public and private investments into Balochistan and boost its varied range of agricultural products, such as wheat, barley, maize, rice, potatoes, peaches, plums, apples, grapes, pomegranates, and pears.

ECD could also positively impact agro-based industries such as food and food processing, halal meat and meat processing, tourism, mining, and cottage industries (Pakistan Bureau of Statistics 2010b).

National Highway N50

The N50 is a national highway connecting Dera Ismail Khan (DI Khan) in KPK to Kachlak near Quetta via Killa Saifullah and Zhob in Balochistan. Like the N70, most districts along the N50 route are socially and economically deprived. The lack of hard and soft infrastructure developments has stifled socioeconomic opportunities. For example, the Multidimensional Poverty in Zhob and Killa Saifullah is higher than the two terminal points of the N50, including DI Khan and Quetta (Table 3.3). Zhob and Killa Saifullah districts are more deprived of education, health, and living standards. With better connectivity and integration, Quetta and DI Khan districts enjoy socioeconomic benefits, including better access to health and education, and build their ability to attract and retain professionals such as teachers and doctors from the rest of the country.

Table 3.3: Selected Social Indicators for Districts along the N50, 2015

District	Multidimensional Poverty (%)
DI Khan	66
Zhob	83
Killa Saifullah	79
Quetta	46

DI = Dera Ismail

Source: Government of Pakistan, Ministry of Planning, Development and Reform. 2016. *Multidimensional Poverty in Pakistan*. Islamabad.

Mines, minerals, fruits, crops, livestock, and fishing dominate the economic structure of the N50 route (Pakistan Bureau of Statistics 2010b). DI Khan, in particular, produces good quality dates, which it exports to the Middle East, Europe, and the United States.

The region along N50 is largely underdeveloped. ECD can attract new investments in agriculture, cottage industries, small-scale manufacturing, transport and logistics services, and wholesale and retail trade. It could also provide business advisory and entrepreneurship capacity-building services for small and medium-sized enterprises in the region.

Expressway E35

The E35 connects Islamabad with Mansehra in KPK and passes through Hasan Abdal, Haripur, Havelian, and Abbottabad. Although this expressway ends in the Mansehra district, neighboring districts such as Battagram are also likely to benefit from the linkage. More significantly, the expressway is expected to link the PRC and Central Asia.

Abbottabad is the most developed district along the route, and it has the highest literacy rate (Table 3.4). With better connectivity and integration, less-developed neighboring districts will have access to Abbottabad's educational, health, and civic facilities.

Table 3.4: Selected Social Indicators for Districts along the E35, 2015

District	Enrollment Rate (15–24 years) (%)
Haripur	61
Abbottabad	87
Mansehra	64
Battagram	33

Source: Authors' estimates using data from the Government of Pakistan. 2016. *Pakistan Social and Living Standards Measurement 2014-15 Provincial/District*. Islamabad.

The economy of districts along the E35 route economic structure relies on agriculture, marble and granite processing, tourism, light manufacturing, and commercial services (Pakistan Bureau of Statistics 2010b). Abbottabad is a major producer of export-quality marble and granite, while Haripur is a hub of light manufacturing, offering much potential for economic development synergy in the form of production networks that link small and medium-sized enterprises to existing and new industrial clusters and markets. ECD can also help the region realize its export potential, especially for marble and granite products, by providing market information, logistics, trade facilitation and services, technical standards and certifications, technical upgrades for marble and granite processing, access to skilled labor, and other institutional and regulatory support.

Policy Recommendations

Pakistan needs to transform these highways and expressways into true economic corridors through reforms. First, the government needs to remove hard and soft infrastructure constraints. Physical infrastructure needs to be modernized. Regarding soft infrastructures, such as transport and logistic services, trade facilitation, business supply chain facilities, local amenities, and basic utilities, it is critical to integrate domestic value chains with global value chains and global production networks. Therefore, drastic measures are necessary to ensure soft infrastructure provision and reap the full benefits of regional integration.

An important policy intervention to streamline trade facilitation processes could be harmonizing customs procedures and transit rules to achieve the smooth flow of freight traffic along domestic and international routes. In a study of Asia and Pacific economies, Wilson, Mann, and Otsuki (2003) demonstrated that improving trade facilitation increased Intra Asia-Pacific Economic Cooperation trade by 21%. Hertel and Mirza (2009) also examined the impact of trade facilitation reforms in South Asia and found that such reforms resulted in a 75% increase in intraregional trade and a 22% increase in trade with other regions. Second, Pakistan needs to undertake a sectoral and macro analysis at the district level to promote industry sectors that can compete globally. For this purpose, a detailed mapping of the economic potential across districts is required. Third, the Pakistan government should design an incentive structure to promote investment in the marginalized districts.

Last, success in ECD is contingent on a business environment conducive to investment, growth, and competition to create jobs. Special economic zones (SEZs) along the economic corridors may entice private sector investment for enabling industry development and diversification. The government has already planned three SEZs in the vicinity of the M4 (M3 Industrial Zone, Quaid-i-Azam Apparel Park, and Value Addition City), one near the N50 (Bostan SEZ), and another close to the E35 (Hattar Industrial Estate). While developing these SEZs, the government should give special consideration to local endowments, such as the skills mix of labor, availability of raw materials, local market conditions, and access to amenities like electricity, water, and sewerage in the industrial estates. A regulatory framework must be established to provide proper financial and other incentives for businesses to operate in these SEZs. A regulatory framework includes taxation benefits, support for skills development to ensure access to skilled labor, business advisory services, access to utilities and infrastructure, a policy framework for efficient transport and logistics, and land-use and zoning regulations that promote commercial development.

3.3 Institutional and Regulatory Assessment

The study team analyzed the composition of the institutional and regulatory frameworks (Figure 3.4) in the six interlinked areas of ECD: (i) management of ECD, (ii) physical infrastructure, (iii) business facilitation, (iv) SEZs, (v) transport and logistics, and (vi) urban development. Despite their overlapping activities, each area is different in the type of institutions and regulations to support them.

A wide array of public sector agencies is involved in ECD-related functions at different levels. Key players at the federal level include the Ministry of Planning, Development, and Reforms (MPDR); Ministry of Communications; Ministry of Finance; Ministry of Railways; Ministry of Ports and Shipping; Ministry of Commerce; and the Ministry of Industries and Production.

Figure 3.4: Institutional Framework for Economic Corridor Development



Note: The descriptions show the inclusive and complex arrangements and are by no means exhaustive.
Source: Authors.

Under these ministries, several attached departments also carry out regulatory functions. For example, MPDR is the main agency responsible for project planning, implementing, and allocating development funds through the public sector development program. The Ministry of Communications sets the overall policy framework for communications, including transport. The National Highway Authority works under the Ministry of Communications and is responsible for developing and maintaining national highways.

The federal government also has an elaborate institutional framework that supports businesses. The Ministry of Industries and Production sets sector policies for industrial growth. Several organizations under this ministry provide various support services to industries. The most prominent are the Engineering Development Board, Small and Medium Enterprises Development Authority, National Productivity Organization, Pakistan Industrial Technical Assistance Center, and Pakistan Industrial Development Corporation. In addition, several special-purpose public sector companies have been established, such as the Technology Upgradation and Skill Development Company, Pakistan Stone Development Company, Pakistan Gems and Jewelry Development Company, and National Industrial Parks Development and Management Company.

The Ministry of Commerce deals with domestic commerce and international trade and formulates the country's trade policy framework. Under this ministry, several agencies such as the National Tariff Commission, Trade Development Authority of Pakistan, Pakistan Institute of Trade and Development, and Intellectual Property Organization help design tariff policies, facilitate trade, and promote exports.

For skills development, the government has established a National Vocational and Technical Training Commission, which sets policy and regulatory frameworks for skills development and provides accreditation and certification for skills standards. The government has also established a Skills Development Council, which identifies training needs, sets standards for vocational training, and implements training programs.

The institutional framework is reasonably extensive at the provincial level and is broadly comparable across provinces with some minor differences. The provincial planning and development departments carry out the annual development plans while the communication and works departments develop and maintain all provincial roads. Development authorities are responsible for constructing and maintaining physical infrastructure and urban development at the city administration level. The Lahore Development Authority, for example, is responsible for the physical infrastructure, zoning regulations, approval of building plans, and regulation of housing schemes, among others. Meanwhile, local transport authorities regulate public transport in the city. In smaller towns and cities, the municipal corporations carry out similar functions, although their capacity remains a major issue.

The existing regulatory framework of SEZ development in Pakistan extends over three levels—the federal and provincial governments and the SEZ developer. The federal Board of Investment (BOI) performs two primary roles: (i) it serves as the secretariat for the Board of Approval, headed by the Prime Minister; and (ii) it acts as the Special Economic Zone Authority for the Islamabad Capital Territory, with the National Industrial Parks Development and Management Company as the developer. The provincial government acts as the provincial SEZ Authority and is headed by the respective province's chief minister. The provincial government's key roles involve (i) preparing and submitting zone applications; (ii) selecting the developer; (iii) negotiating development agreements; (iv) assisting the developer to acquire land and provide public utilities; (v) facilitating the availability

of public utilities to zone enterprises; (vi) monitoring implementation of administrative procedures in SEZs; (vii) monitoring compliance of developers with zone regulations and obligations under the development agreement; (viii) reporting biannually to the federal government concerning SEZs; (ix) coordinating with federal authorities to ensure the building of infrastructure outside the SEZ boundaries; and (x) assisting the developers in the acquisition and other land-related matters. The developer's role is crucial given that it heads the SEZ Committee, which consists of representatives from the federal BOI, provincial BOIs, and SEZ authorities. The developer selected by the provincial government is responsible for the (i) development of zones, (ii) approval of enterprises, (iii) implementation of zone development plans in line with development agreements, (iv) allocation of land to zone enterprises, (v) monitoring and ensuring compliance of zone enterprises with zone regulations, (vi) submission of biannual reports to the SEZ Authority; and (vii) processing of zone incentive claims.

Institutional and regulatory approval for SEZ applications involves the following steps.

The developer, headed by the chief minister, submits the SEZ application to the provincial SEZ authorities. Upon approval by the provincial SEZA, the federal BOI assesses the application. If the application meets the criteria, BOI submits it to the BOI chairman's approvals committee, who subsequently forwards it to the Board of Approval. Following the approval, the SEZ is then notified.

The SEZs are regulated by the Special Economic Zones Act 2012, which was amended in 2015. The act authorizes the SEZs' creation by federal and/or provincial governments in collaboration with the private sector. Private investors in SEZs are offered a one-time exemption from all customs duties and taxes for the import of capital goods and an exemption from income tax for a period of 10 years. In addition, businesses are promised streamlined procedures for land acquisition, provision of utilities, and other support services. According to BOI, seven SEZs have been notified, while nine are being planned under the CPEC (Table 3.5).

Table 3.5: Special Economic Zones Proposed under the China–Pakistan Economic Corridor, 2019

Special Economic Zone	Area (acres)	Probable Type of Industry
Rashakai Economic Zone	1,000	Fruit/food packaging, textiles
Dhabeji	1,000	Under consideration
Bostan Industrial Zone	1,000	Fruit processing, agricultural machinery, pharmaceuticals
Allama Iqbal Industrial City	5,000	Mixed industry
ICT Model Industrial Zone	To be decided	Under consideration
Port Qasim	1,500	Under consideration
Mirpur	221	Mixed industry
Mohmand Marble City	353	Marble and minerals-based industries
Moqpondass	250	Marble, iron ore, fruit processing

ICT = information and communications technology.

Source: Board of Investment. <https://invest.gov.pk/sez> (accessed 3 January 2020).

The MPDR manages urban development in Pakistan through its urban planning unit. The unit collaborates with the provinces to develop urban development policies. Provinces also have separate institutional arrangements for urban development. For example, the Government of Punjab has established its own urban unit as a public sector company. The Planning and Development Department of Sindh has a directorate for urban policy and strategic planning, which formulates

urban development plans. Similarly, an urban policy unit under the Planning and Development Department of Khyber Pakhtunkhwa formulates urban development strategies. The Government of Balochistan has also established an urban planning and development department to deal with urbanization issues in the province.

Policy Recommendations

The success of ECD hinges not only on physical infrastructure and better connectivity but equally also on a supportive institutional and regulatory environment. This policy environment consists of (i) transport and logistics policies; (ii) land-use and zoning regulations; (iii) the taxation regime; (iv) public–private partnerships (PPPs); (v) policies applicable to SEZs; and (vi) policies to regulate private businesses, including safety and health standards, and labor regulations.

This study has identified the following key gaps in Pakistan’s institutional and regulatory frameworks, which need to be addressed for ECD to succeed:

- (i) lack of administrative machinery for managing ECD and its building blocks, and weaknesses in project management and implementation;
- (ii) problems in intergovernmental coordination after the devolution in 2008;
- (iii) complex tax administration and compliance requirements, which impede growth and expansion of private investment;
- (iv) lack of a coherent regulatory framework for land-use and urban development; and
- (v) non-implementation of a national transport and freight policy.

Given ECD’s crosscutting nature, implementation of the necessary physical, urban, and industrial infrastructure along the corridor will need to be prioritized, coordinated, and integrated with industrial–urban agglomeration development. As more areas get involved and the range of institutional factors widen, coordinating the related development initiatives along an ECD becomes more difficult. Internal coordination among public and private stakeholders is imperative to synchronize the approach in planning, prioritizing, and developing corridor infrastructure projects among government ministries and agencies. A synchronized institutional framework will ensure optimum deployment of available resources and harmonized project commissioning.

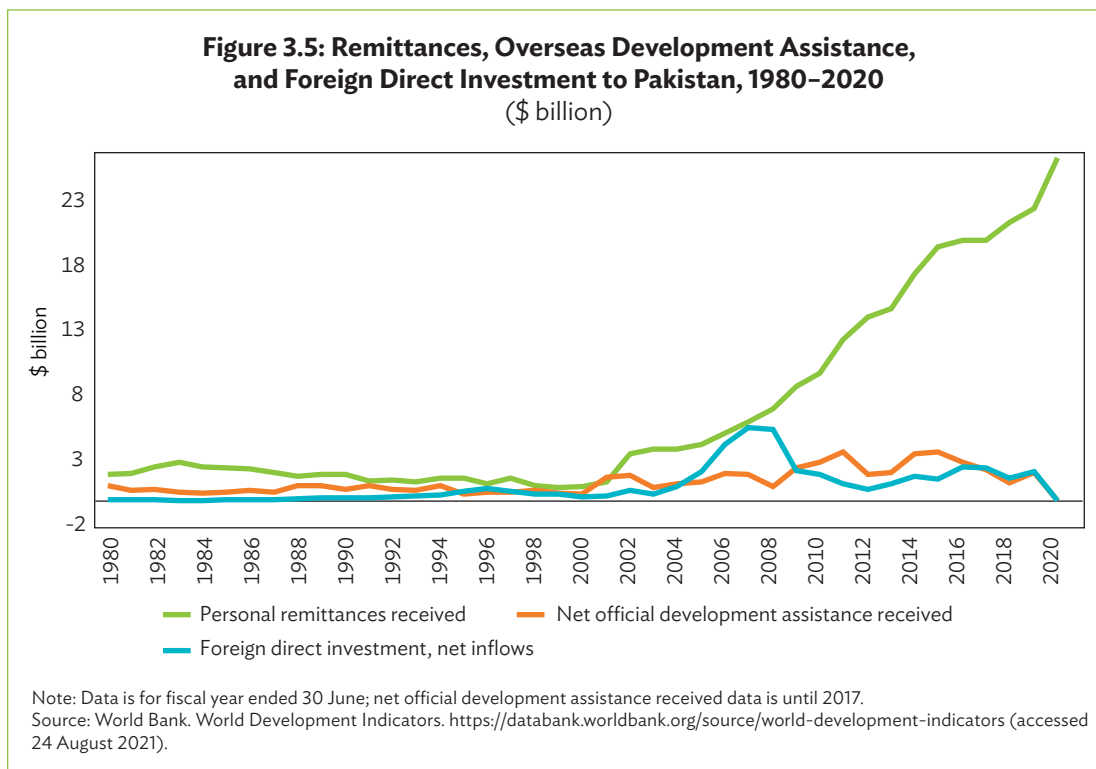
Against this backdrop, this study proposes the following recommendations:

- (i) Duly empower a central corridor planning and development agency to oversee the overall development and management of ECD. This agency could be given wide-ranging functions, such as master planning of the entire corridor influence area (synergizing urban and industrial planning while taking cognizance of existing master plans); monitoring infrastructure development; and promoting the corridor among potential investors, along with facilitating investment by operationalizing initiatives toward ease of doing business.
- (ii) Strengthen the overall policy framework for ECD, focusing on streamlining transport and logistics policies, public–private partnerships, land-use and zoning regulations, and business regulatory and taxation regimes.
- (iii) Provide institutional support for skills development to align labor force skills with industry needs.
- (iv) Develop a strategy for synchronizing urbanization and industrialization, along with other major economic initiatives to link existing industrial clusters and urban areas with new

industrial hubs and urban centers through infrastructure networks, the most important being transportation. Such a strategy will enable the effective use of capital, human resources, and infrastructure in existing settlements to build new centers.

3.4 Assessment of the Pakistani Diaspora

The Pakistani diaspora is a significant contributor to the country's socioeconomic development. Between 2014 and 2018, remittances from Pakistan's migrant workers have contributed, on average, 6.6% to gross domestic product (GDP). This contribution has not only directly supported economic growth and helped reduce poverty but has also led to the accumulation of human capital among recipient Pakistani households. More significantly, total remittances have consistently dwarfed the amounts of official development aid and foreign direct investment (FDI) into Pakistan during 1980–2018. The remittance inflows have also been much more stable than other flows (Figure 3.5).

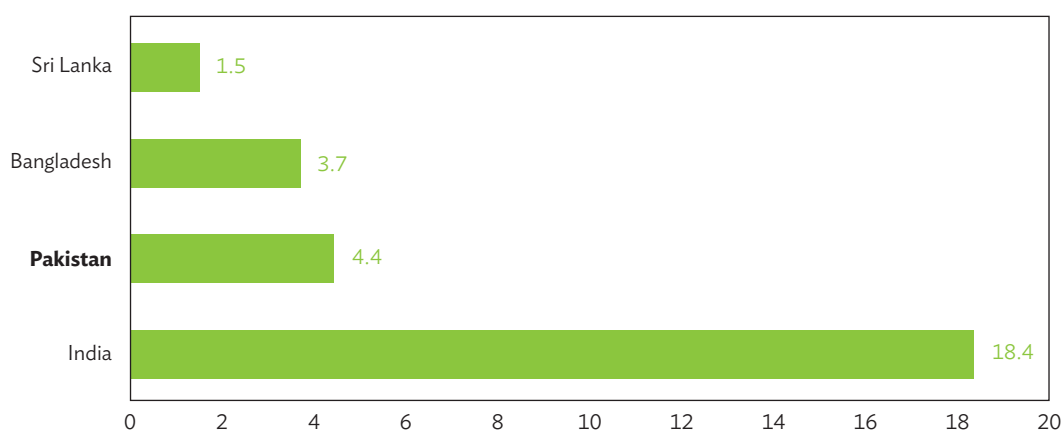


Given the myriad of macroeconomic and geopolitical challenges that beset Pakistan, achieving a dramatic rise in FDI, at least in the short term, seems implausible. Nevertheless, the government should consistently strive to prepare the ground for attracting larger FDI flows in the medium and long terms and render the overall domestic environment more attractive to foreign investors. In addition to the People's Republic of China (PRC), the United Kingdom (UK), and the United States (US), several countries have demonstrated interest in enhancing FDI in the country. Still, their investment decisions are often closely tied to geopolitical factors. Meanwhile, Pakistan's economy will continue to receive some FDI under the China–Pakistan Economic Corridor (CPEC). These inflows may well be expanded by rallying wider domestic sociopolitical support for CPEC projects and by removing procedural bottlenecks that delay their timely implementation.

Asian Development Bank (ADB) (2017) analysis indicates that Pakistan is facing an acute infrastructure financing gap of about 5% of GDP. Other countries in similar situations look to the remittances of their diaspora members to fill such gaps. Pakistan needs to put in place appropriate policies and initiatives to involve its diaspora in the mainstream capital market and mobilize their income and wealth into productive investment vehicles in the form of innovative financing for good projects in Pakistan. Overseas Pakistanis, especially in the US, the UK, and the Middle East, are well-financed and highly educated.

The study team estimates the annual combined wages of the Pakistani diaspora to be around \$52 billion or around 20% of Pakistan's GDP in 2015 (see Box 3.1 for methodology). Moreover, the investment potential of the Pakistani diaspora is estimated to be around \$4 billion–\$5 billion annually (Figure 3.6). Pakistan must seek ways to channel a proportion of its diaspora resources into a profitable investment vehicle to fund ECD-related projects. Migrant-sending countries such as India, Israel, Sri Lanka, and Kenya have developed financial instruments to tap into the wealth of their respective diasporas, primarily by issuing diaspora bonds (Table 3.6).

Figure 3.6 : Investment Potential of the Diaspora in Selected South Asian Countries, 2016
(\$ billion)



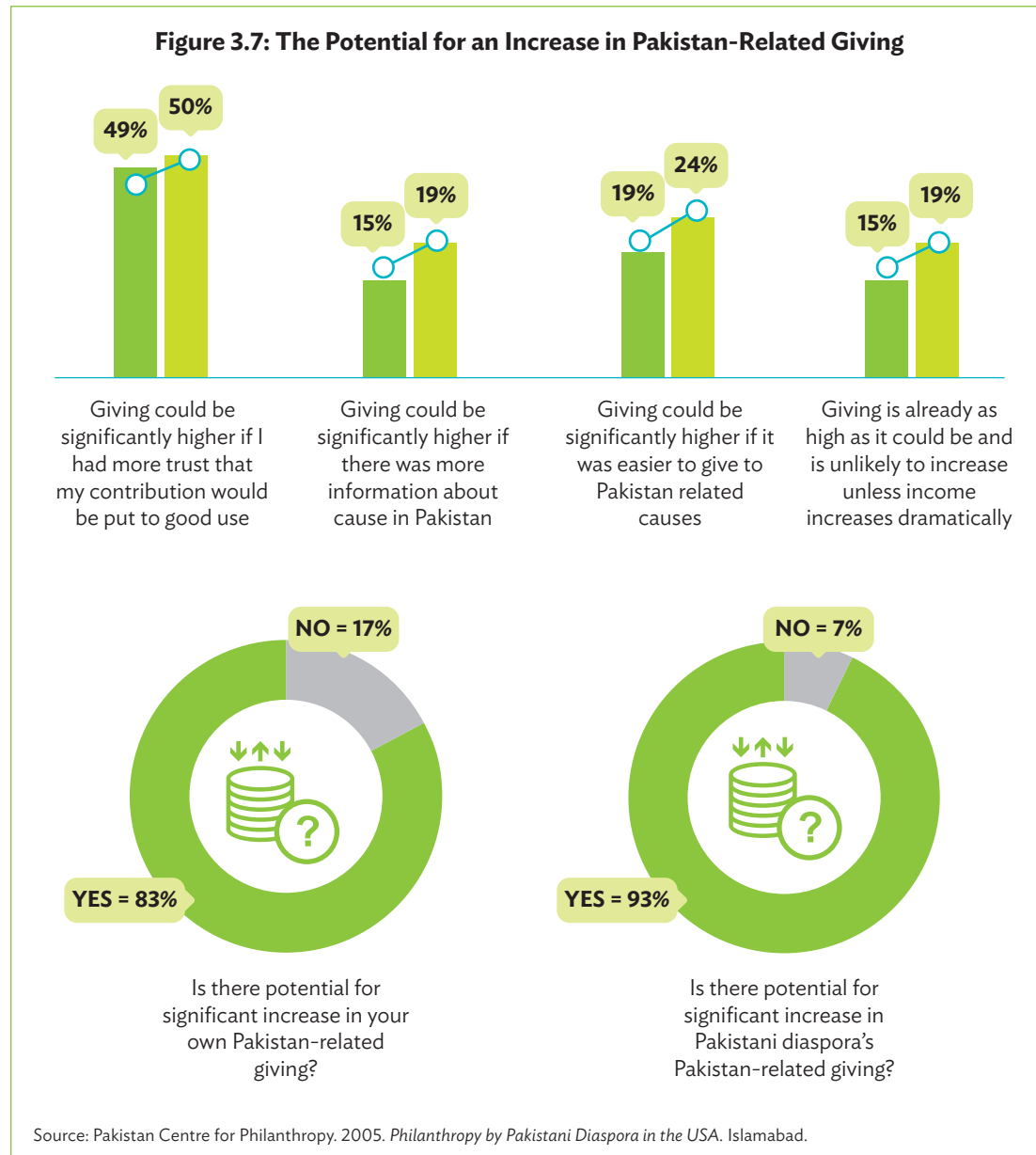
Source: Commonwealth Secretariat. 2017. *Financing the Sustainable Development Goals with Diaspora Investment*. London.

Table 3.6: Structure and Characteristics of Diaspora Bonds Issued by Israel and India

Israel	India
Annual issuance since 1951	Opportunistic issuance in 1991, 1998, and 2000
Development oriented	Balance of payments support
Large though declining patriotic discount	Small patriotic discount, if any
Fixed and floating rate	Fixed-rate bonds
Maturities from 1 to 20 years with bullet repayments	5 years with bullet maturity
Direct distribution by the Development Corporation for Israel	Distributed by the State of India in conjunction with international banks
Registered with US Securities and Exchange Commission	No US Securities and Exchange Commission registration
Nonnegotiable	Nonnegotiable

Source: Suhas, K. and R. Dilip. 2010. Diaspora Bonds: Tapping the Diaspora during Difficult Times. *Journal of International Commerce, Economics and Policy*. 1 (2). pp. 251–263.

Evidence suggests that members of the Pakistan diaspora are willing to contribute more resources provided the conditions are conducive. A survey among the Pakistani diaspora in the US found that a significant number of respondents (83%) feel that, given the right conditions, their own Pakistan-related giving could increase significantly. Nearly all (93%) feel that there is growth potential for the overall giving. Even more interestingly, half of the respondents believe that giving could be higher if they are able to trust that their contribution would be assigned to good use if they have better information, and if the government makes the process easier through efficient facilitation (Pakistan Centre for Philanthropy 2005) (Figure 3.7).



To tap into the wealth of the Pakistani diaspora, Pakistan needs to overcome two critical constraints: (i) the diaspora's lack of trust in institutions within the country, and (ii) the country's persistent regulatory challenges.

Box 3.1: Methodology for Estimating Wages and Salaries of the Pakistani Diaspora

Total Wages and Salaries

To estimate the wages and salaries, we split the Pakistani diaspora into four country groups: member countries of the Organisation for Economic Co-operation and Development (OECD), the Gulf Cooperation Council (GCC), India, and others. To account for only members of the diaspora that work, we consider only Pakistanis who are within the working-age population of 15–64, and use the labor force participation rate of each group to determine the total labor force estimate of 3.2 million. This is then converted to the number of employed persons (around 2.9 million), using the unemployment rate for each group. The participation rate and the unemployment rate are sourced from the OECD database and the World Bank's World Development Indicators database.

The average wage rate of each region is then used to calculate the total wages of Pakistanis in 2015. The average wage rate at the destination is a good indicator to use because the education level of Pakistani-born diasporas on average is typically above the native population as evident in the Database on Immigrants in OECD and non-OECD countries.

Since there is no publicly available wage rate in the GCC, we use it as a basis for the estimated remittance numbers as a proxy for a wage. A 2015 World Bank survey (The World Bank Global Knowledge Partnership on Migration and Development Migration Cost Survey) among Pakistanis in the United Arab Emirates found that migrants sent about half of their income back home (World Bank 2015). Using this insight, doubling the remittances received from the GCC in 2015 provides a reasonable indication of wages and salaries.

$$\begin{aligned} \text{Wages and Salaries (non-GCC)} \\ &= (\text{Pakistani-born diasporas} * \text{Working age population share} * \text{Participation rate} \\ &\quad * (1 - \text{Unemployment rate}) * \text{Average wage rate}) \\ \text{Wages and Salaries (GCC)} &= \text{Total remittances} * 2 \end{aligned}$$

It is worthwhile to note that this is a low ballpark figure because it captures only first-generation immigrants and not the second and subsequent generations, who are probably better off than their parents, especially in the United States and the United Kingdom. Furthermore, immigrants are typically more hard working than the native population. They normally have multiple jobs and/or work longer hours to make a future for themselves and their families.

Source: Authors.

3.5 Conclusion

The socioeconomic analysis indicates the significant latent economic potential of the proposed four transport corridors and the presence of several production clusters. The districts around the E35, N50, and N70 have almost similar economic profiles. The districts in the vicinity of these routes are noted for their natural beauty, tourism, mining, horticulture, and livestock. Thus, industries such as food and food processing, meat and meat processing, tourism, mining, and cottage industries could benefit from an operational ECD.

Districts connected by the M4 motorway, such as Faisalabad with Multan, have a robust manufacturing and agro-industry sector. Multan is famous for its mangoes, bedwear, and cotton, while Faisalabad is internationally known for its high-quality textiles. The initial economic impact assessment reveals that light engineering, cotton ginning and pressing, spinning, weaving, textile processing, apparel and made-ups, paper and paper products, chemicals and chemicals products, food processing, and blue pottery, could benefit significantly from ECD implementation.

However, soft and hard infrastructure constraints have left the economic potential of these districts largely untapped. Soft infrastructure gaps need to be addressed. Transport and logistic services, trade facilitation, business-related facilities for supply chains, local amenities, and basic utilities, among others, need to improve to create a conducive business environment.

An institutional framework for government ministries and agencies is vital to coordinate the planning and prioritizing of corridor infrastructure development projects and to ensure the optimum deployment of available resources and harmonized project commissioning. A central corridor planning and development agency could be duly empowered and tasked with the ECD's overall development and management. This agency could be responsible for a wide range of functions such as developing the master plans of the entire corridor influence area (synergizing urban and industrial planning while taking cognizance of existing master plans); monitoring infrastructure development; and promoting the corridor to potential investors, along with facilitating initiatives for ease of doing business.

The economic assessment shows that Pakistan has the 6th largest diaspora population (6 million) in the world, with total earnings amounting to about \$52 billion and investment potential of \$4 billion–\$5 billion annually. Hence, diaspora financing holds great potential in supporting infrastructure, urban, and industrial development projects. However, involving the diaspora in providing capital investments for ECD will require the removal of obstacles and creating opportunities for them to engage in economic development. Given that significant constraints may be difficult to resolve within a short time, Pakistan could adopt a strategic approach such as bringing in a trustworthy mediator to circumvent the bottlenecks. This could facilitate the process of strengthening the development framework into one that engages the diaspora toward generating the much-needed human and financial capital to expand production capacity and subsequently open access to global markets and resources.

The study team recommends that further analysis should be undertaken to develop a master plan for each of the identified transport corridors. This analysis is critical to (i) identify the gaps in hard and soft infrastructure, the industrial and urban requirements, and the implementation plans; (ii) make policy recommendations for synchronizing institutional and regulatory arrangements, as well as for enhancing a conducive business environment; and (iii) offer suggestions for mobilizing internal and external resources, as well as private sector investments. It is important to undertake consultations with the private sector earlier in the analytical process. Development partners, the private sector, and the government could provide the resources for financing the analytical work.

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4. Rationale for Special Economic Zones and Economic Corridor Development in the People's Republic of China

Zhenshan Yang

4.1 Introduction

Special economic zones (SEZs) can be a powerful platform for attracting domestic and foreign direct investments (FDI) if they address structural, institutional, regulatory, and infrastructural barriers. SEZs can foster export-led industrialization for jobs and welfare gains. Evidence suggests that countries across the globe have been developing SEZs as part of their growth strategy, with the number of SEZs growing from 79 in 1975 to about 4,300 in 2015. Located in more than 130 economies, these SEZs employ more than 68 million workers directly and twice as many indirectly through backward and forward linkages with the economy (Moberg 2015). In the People's Republic of China (PRC), SEZs contributed about 60% to the country's total FDI and exports, 30% to gross domestic product (GDP), and 6.3% to employment in 2015. In developing Asia, SEZs contributed to 82.4% higher foreign FDIs, compared with other developing Asian economies without SEZs (ADB 2015).

Amid a complex and competitive economic landscape of global production networks (GPNs) and global value chains (GVCs), countries are striving for expanded regional cooperation and integration (RCI). When knitted into RCI, SEZs can be effective instruments in further stimulating productivity, competitiveness, and structural transformation. They help unleash economies of scale benefits and widen the coverage of comparative advantage across regions and borders. To this end, Pakistan has embarked on SEZ development with nine SEZs notified under the China–Pakistan Economic Corridor (CPEC). However, limited progress is achieved to date, with the majority of the notified SEZs still facing infrastructure development, utility provision, and land issues (Board of Investment 2019). Historically, Pakistan's earlier attempts at developing SEZs also yielded limited dividends with a significant fiscal burden. For example, in 1981, Pakistan set up an export processing zone (EPZ) in Karachi, and by 1990, employment in the area was only 2,000 (Schrank 2001).

A study assessing the performance of SEZs in Pakistan finds the following factors behind their poor performance: (i) political instability and lack of state support and local partnerships at the macro level; (ii) lack of export facilities at the meso level; and (iii) a weak package of incentives, an inadequate legal framework, and absence of a single-window clearance facility at the micro-level (Akhtar 2003).

Given the high return but high-risk nature of SEZ development, Pakistan will need to study and adapt global best practices. The PRC's SEZ model is considered one of the most successful frameworks globally as it utilizes more sophisticated policy design and spatial economic configurations vis-à-vis SEZ programs in other countries. This chapter provides a comprehensive assessment of the PRC's SEZ model and discusses its major success drivers and pitfalls. It also examines the role of SEZs in economic corridor development (ECD), highlighting key principles for better design and planning of SEZs in ECD, and proposes suggestions that could help Pakistan successfully develop SEZs.

4.2 Understanding Special Economic Zones

Definition

The concept of SEZs has evolved as trade grew in volume, creating an environment to establish multiple zones with varying objectives, markets, and activities. The Revised Kyoto Convention of the World Customs Organization gives the fundamental definition of a zone and the regulatory guidelines and standards relating to the treatment of imports and exports of free zones within defined territorial limits. SEZs cover a wide spectrum to take a variety of forms such as free zones, free trade zones (FTZs), free ports, foreign trade zones, EPZs, free export zones, trade and economic cooperation zones, economic processing zones, and economic, technological development areas (Baissac 2011).

Nonetheless, all forms of SEZ share two common structural characteristics: (i) they are formally demarcated portions of the national territory; and (ii) they are legal spaces with a set of investment, trade, and operating rules that are more liberal and administratively efficient than those prevailing in the rest of the national territory. The administration of the zoning regime usually requires a dedicated governance structure, whether centralized or decentralized, with varying attributes according to the prevalent administrative culture, the number of existing zones, the role of the private sector and other factors. Zones typically encompass a physical infrastructure to support the activities of individual firms and economic agents operating within them. In practice, the broad definition of zones has many variations, depending on the type of activity a zone engages in. For instance, free zones typically allow for duty- and tax-free imports of raw materials and intermediate goods—and in many cases include capital equipment (FIAS 2008). FTZs, also known as commercial-free zones and free commercial zones, are small, fenced-in, duty-free areas located in most entry ports around the world. They offer warehousing, storage, and distribution facilities for trade transshipment and re-export operations. EPZs are industrial estates giving special incentives and facilities for manufacturing and related activities aimed mostly at export markets. Free ports typically encompass larger areas and provide a broader set of incentives and benefits, accommodating all activities, including tourism and retail sales, and allow people to reside on-site.

This chapter defines SEZs as “clearly defined geographically, with a single management or administration and separate customs area (often duty-free), where streamlined business procedures are applied, and where physically located firms qualify for more liberal and effective rules than those in the national territory (covering, for example, investment conditions, international trade and customs, tariffs, and taxation)” (ADB 2014a).

The Rationale for SEZs in the PRC

Since the 1980s, SEZs in the PRC have undergone three key stages: (i) a new institutional platform, (ii) a new economic growth pole, and (iii) a vehicle for rethinking the functions of urban space. Through this evolution, SEZs have supported capital and institutional developments to connect to the global economy, developed new economic sectors, and supported urban planning for sustainable development and accelerated growth. The initial rationale for adopting SEZs as policy instruments included the following arguments: First, SEZs helped expedite the PRC's economic opening up to the global economy. Over the last 40 years, SEZs helped reform the PRC's economy from a narrow industrial base to an open and diversified economy. Since a market system was considered incompatible with socialism, the PRC underwent a lengthy and convoluted process of recognizing the importance of the markets in a modern economy and institutionalizing SEZs from 1978 to 1982. "Special" underlines their role in exploring the viability of market institutions. "Economic" emphasizes that the SEZs' objective was to bolster the economy without affecting the political system. The SEZ development process is continuously updated to enable the PRC to benefit from reorganizing the factors of production and global industrial restructuring. Second, SEZs helped attract capital to the PRC, which, like many developing economies, faced capital scarcity due to underdeveloped and shallow financial markets in the 1980s. Given special business entitlements such as better property rights protection, SEZs helped attract critically needed FDI to promote industrialization (Du, Lu, and Tao 2008; Yang, Liang, and Cai 2014).

Third, SEZs helped circumvent trade restrictions to enhance exports and foreign exchange reserves. SEZs were established in Shenzhen, Zhuhai, Xiamen, and Shantou based on proximity to ports, cheap land, conducive public institutional structure, a long tradition of trade and entrepreneurship in these regions, and a greater likelihood of attracting nonresident PRC investment. As enclaves within a socialist system, SEZs were initially managed as EPZs to remove trade barriers for an export-led manufacturing path. SEZs continue to play a key role in connecting local economies with GPNs and GVCs, driven by a high concentration of FDI and firms' clustering effect (Yang and Dunford 2017; Yang, Liang, and Cai 2014).

Fourth, SEZs acted as laboratories for testing and implementing new policies, which were scaled up after assessing the full economic implications. Although the central government still plays a dominant role in policy design, local initiatives are greatly encouraged. SEZs are used to pilot-test the locally proposed measures to help develop locally customized policies.

Fifth, SEZs encourage technological innovation. In addition to the initial goals of attracting FDI, facilitating trade, and increasing production efficiency, a primary goal of SEZs after the 2008 financial crisis was to enhance the level of technological innovation, which is seen as the most important factor for maintaining the PRC's economic success in the future (Yang, Hao, and Cai 2015).

Sixth, SEZs help leverage infrastructure investment. Infrastructure construction usually has a high cost, and such investments are rare. SEZs help make such investments in limited geographic areas with expected and foreseeable economic rewards.

Finally, SEZs facilitate regional economic cooperation and integration. SEZs help establish direct, targeted, and effective regional economic cooperation to generate spillovers in wider geographic and jurisdictional areas.

Types of Special Economic Zones in the PRC

As the number of SEZs has grown, its concept has also evolved, resulting in various zones with a wide range of objectives, markets, and activities. The PRC started with the very basic idea of facilitating the economy's opening based on the prototype of FTZs and EPZs. It is still innovating SEZ practices today. Nearly all major cities contain various industrial parks, and the central government continues to promote different types of SEZs. More specifically, there are about 13 types with more than 695 SEZs in the PRC (Table 4.1). The National Economic and Technological Development Zones (NETDZs) and National High-Tech Development Zones (NHTDZs) are considered the most important ones.

Table 4.1: Types and Roles of Special Economic Zones in the PRC

Type	No.	Area (square km)	Main Objectives
State-level new areas	19	20,500	To facilitate infrastructure construction, economic growth, and population distribution at a large scale.
National economic and technological development zones	219	...	To attract foreign direct investment and firms for regional growth, domestic and global economic interaction, and cities industrial agglomeration.
National high-tech development zones	156	...	To stimulate technological innovation and new industries in a region.
Pilot free trade zones	11	1,314	To synergize the economy with the international regulations, laws, and management and operation modes.
National comprehensive reform test area	12	709,935	To resolve key problems of regional development to improve public services and integrated urban-rural development.
National independent innovation demonstration zone	17	7,062	Update national high-tech development zones to develop the capacity of innovation for reversing current heavy reliance on the outside world.
National demonstration areas	9	313,100	To encourage relocation from eastern to central and western regions during the industrial and technological upgrading process.
Border economic cooperation	17	415	To promote economic growth and opening-up in border areas.
National key development and opening-up test area	7	11,500	To promote area opening and international trade cooperation.
Special custom regulatory area	155	602	To attract foreign direct investment and facilitate export.
Pilot area for developing marine economy	5	Sea area 976,600	To speed up marine economy development.
National integrated development of production and living demonstration area	58	602	To strengthen interactions of industry and city functions for new urbanization by exploring the way of integrating SEZs into cities.
Airport economic demonstration zones	10	1,542	To develop aviation and related industries based on logistics function for creating airport-based city development.

... = not available, km = kilometer, PRC = People's Republic of China, SEZ = special economic zone.

Source: Authors.

State-Level New Areas

Since the 1990s, the State Council of the PRC has approved 17 state-level new areas (SLNAs), which accommodate about 28 million people with a GDP contribution of about CNY3.8 trillion in 2015. Most of these SLNAs have strong effects on regional economic growth (Table 4.2). In 2015, the Binhai New Area was responsible for 56.1% of Tianjin's total GDP, followed by Pudong New Area and Jinpu New Area, both accounting for more than 30% of regional GDP. By comparison, the Lanzhou New Area had a relatively weak effect on the regional economy, accounting for only 6.0% of GDP in Lanzhou, but its growth rate was over 20%. SLNAs primarily include important municipalities, provincial capital cities, and, recently, some key prefecture-level cities. Each SLNA has performed diverse tasks in the reforming and opening up of the economy, closely aligned with regional policies. Generally, SLNAs located in the east play an important role in guiding institutional innovation, promoting the country's development pattern, and building a window for comprehensive openness, whereas SLNAs concentrated in the central, western, and northeast regions are responsible for creating new regional growth poles and building specialized modes for development. For example, the Liangjiang New Area, one of the SLNAs in the west, is designed to be a trade and logistics center, financial center, and technological innovation center. Pudong New Area, one of the SLNAs in the east, is focused on achieving an international economic, financial, trade, and shipping center.

Table 4.2: Economic Growth and Contribution of State-Level New Areas, 2015

Name	Total GDP (CNY billion)	% of GDP in Located Province	% of GDP in Located City	Growth Rate (%)
Pudong New Area	790	31.6	31.6	9.1
Binhai New Area	927	56.1	56.1	12.8
Liangjiang New Area	202	13.0	13.0	13.0
Zhoushan Archipelago New Area	110	2.6	...	9.2
Lanzhou New Area	13	1.8	6.0	20.4
Nansha New Area	113	1.6	6.3	13.3
Xixian New Area	43	2.4	27.6	9.5
Gui'an New Area	171	1.6	33.2	20.2
Xihaian New Area	259	4.1	27.9	12.0
Jinpu New Area	242	8.4	31.3	...
Tianfu New Area	181	6.0	...	7.3
Xiangjiang New Area	162	5.5	19.0	11.5
Jiangbei New Area	147	2.1	15.1	10.0
Fuzhou New Area	115	4.4	20.5	10.5
Dianzhong New Area	52	4.0	13.2	6.5
Harbin New Area	72	4.8	12.5	...
Changchun New Area	93	6.7*	16.8*	...
Ganjiang New Area	57	3.4	9.7	...
Xiong'an New Area	21	0.7	7.1	...

* = 2014 data, ... = not available, CNY = yuan, GDP = gross domestic product.

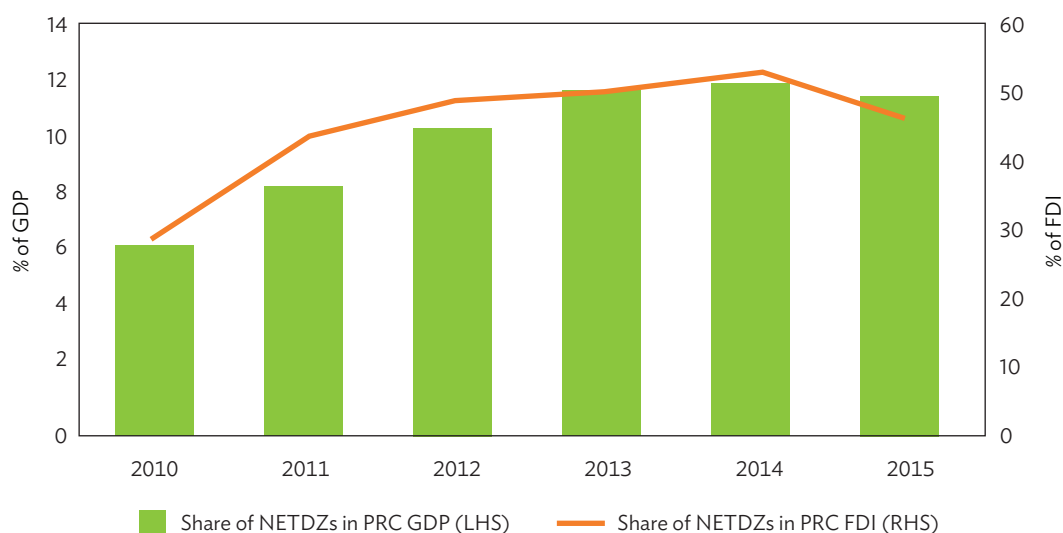
Note: Some new areas are "not available" mainly because they have been established recently, and/or the adjustment in statistical caliber and scope hampers the comparison with previous years.

Source: Authors.

National Economic and Technological Development Zone

An NETDZ is a specific area approved by the PRC's Department of Commerce for achieving technological and economic improvement. NETDZs are typical examples of the PRC's city development zones and have played a significant role in improving socioeconomic outcomes over the last 40 years. They are designed to meet modern businesses' management and development needs to attract foreign investment, labor force, and technology for industrial and economic growth. During 1984–1991, the first batch of NETDZs attracted \$38 billion worth of FDI and exported \$6 billion worth of goods. During 1993–2003, the State Council approved 35 more NETDZs, with host cities becoming a major attraction to foreign investors and domestic labor. The government promoted NETDZs by providing significant policy support to facilitate entrepreneurship, production, and innovation. After about 30 years of development, NETDZs have become an important means of promoting the PRC's economic development with a contribution of 46.6% and 11.5% to the FDI and GDP, respectively, in 2015 (Figure 4.1).

Figure 4.1: Share of National Economic and Technological Development Zones in Foreign Direct Investment and GDP, 2010–2015



FDI = foreign direct investment, GDP = gross domestic product, LHS = left-hand side, NETDZ = national economic and technological development zone, PRC = People's Republic of China, RHS = right-hand side.
Sources: National Bureau of Statistics of China. *China Science and Technology Statistical Yearbook*. Beijing (Years: 2010–2015); National Bureau of Statistics of China. *China Statistical Yearbook*. Beijing (Years: 2010–2015).

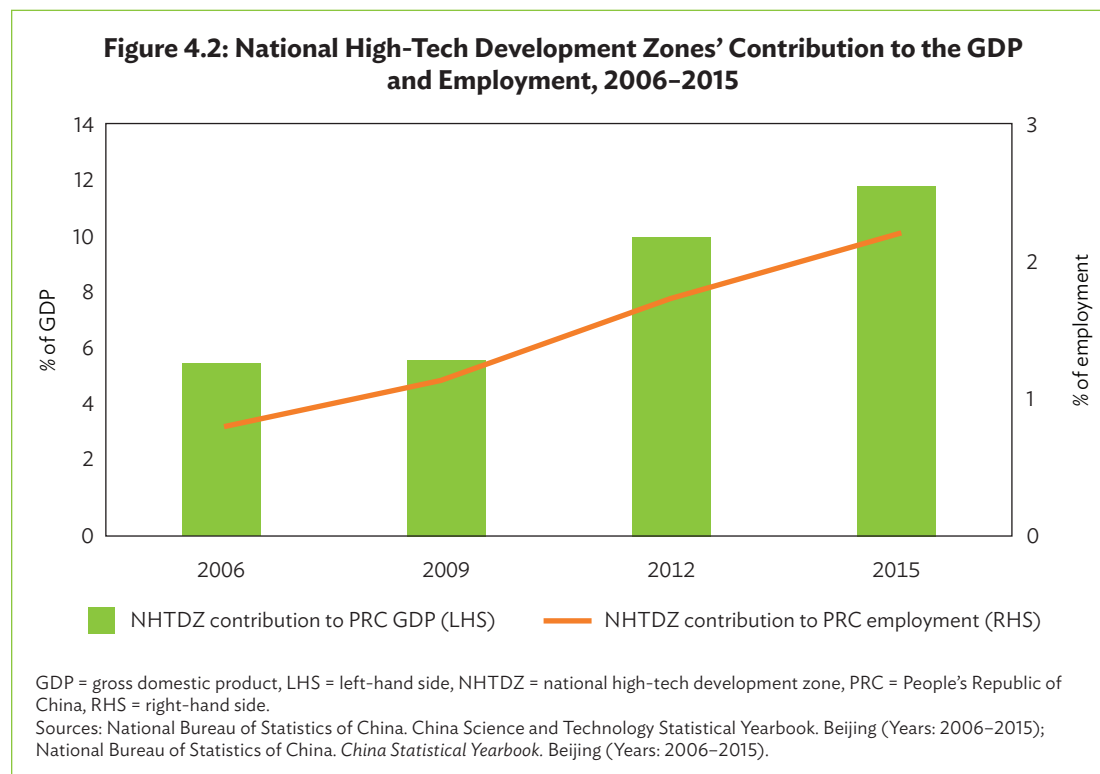
NETDZs have become a mainstay of the top multinational companies, with the number of Fortune Global 500 companies jumping from 109 in 2005 to 470 in 2015. Key locations include Suzhou, Tianjin, Guangzhou, and Shanghai, which accommodate about 100 of the Fortune Global 500 companies. These multinationals have helped introduce new production technologies and management systems in the PRC's economy and helped create industrial clusters or agglomerations with strong backward and forward supply chain linkages with the domestic industries. For example, the Guangzhou NETDZ has helped create chemical engineering industrial clustering partially led by Procter and Gamble. The Tianjin and Beijing NETDZs are well-known agglomerations of information and communication technology (ICT) industries. The Changchun, Wuhan, and Chongqing NETDZs have supported vehicle industry agglomerations. The Qingdao NETDZ is

the center of the home appliance and electronic industry. The Shenyang NETDZ is agglomerated by the gear industry. The Fuzhou and Rongqiao NETDZs in Fuqing are home to the screen production industry.

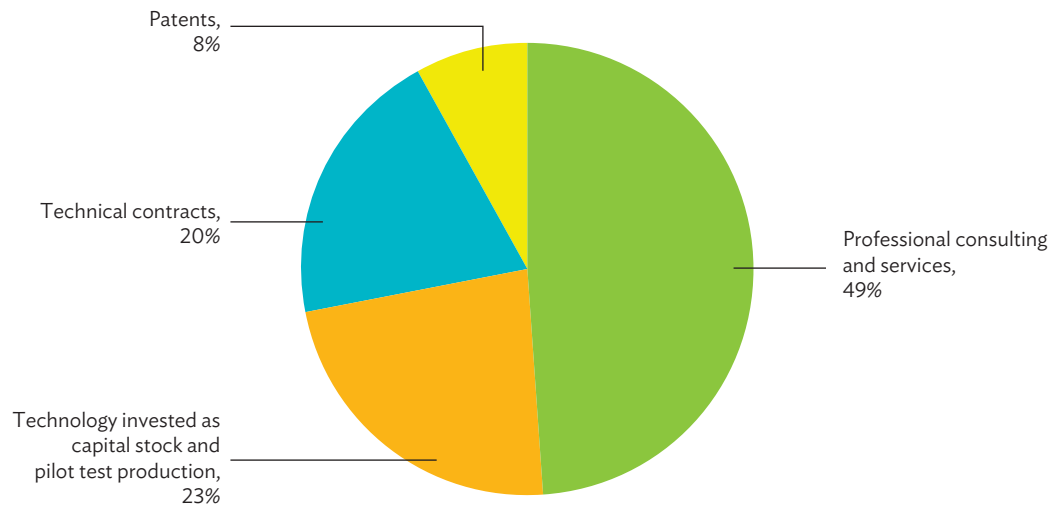
National High-Tech Development Zones

NHTDZs are national science and technology industrial parks approved by the State Council of the PRC. They are mainly located in coastal and regional capital cities for integrating domestic and global technological resources to support economic growth. By implementing preferential policies for high-tech industries, high-tech development zones improve the business environment, facilitate technological innovation, and enhance the commercialization of patents and technologies to help the PRC move toward a knowledge economy.

Over the past 30 years, NHTDZs have become important for attracting technology and incubating high-tech industries to help the PRC improve innovation and entrepreneurship abilities. This helps the country to remain competitive in a constantly evolving global economy by producing high value-added goods and developing new industries. There are about 156 NHTDZs located in 30 provinces with 82,712 operational companies, which contributed about 11.8% and 2.2% to the GDP and employment, respectively, in 2015 (Figure 4.2).

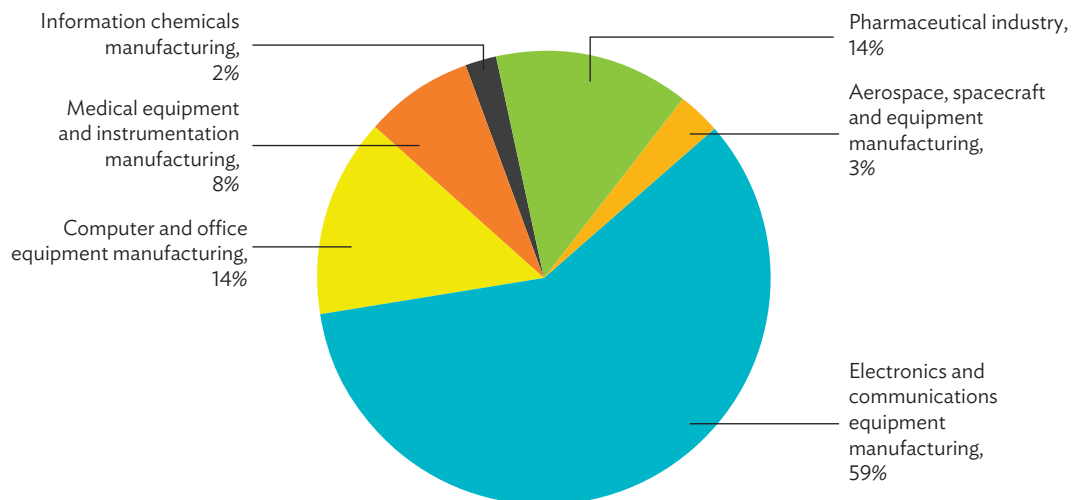


The capacity of the NHTDZs to operate in the economy is high. In 2015, enterprises in the NHTDZs achieved a total profit of CNY17.9 trillion, representing 3.3% growth over 2014, despite an economy-wide decline in the profits of the industrial enterprises. This mainly occurred on the back of a 24.3% rise in the profits associated with applying new technologies. Technology became an important means of improving production value, and most of the income from technology was invested as capital stock and in pilot production (Figure 4.3).

Figure 4.3: Breakdown of National High-Tech Development Zones' Income Source, 2015

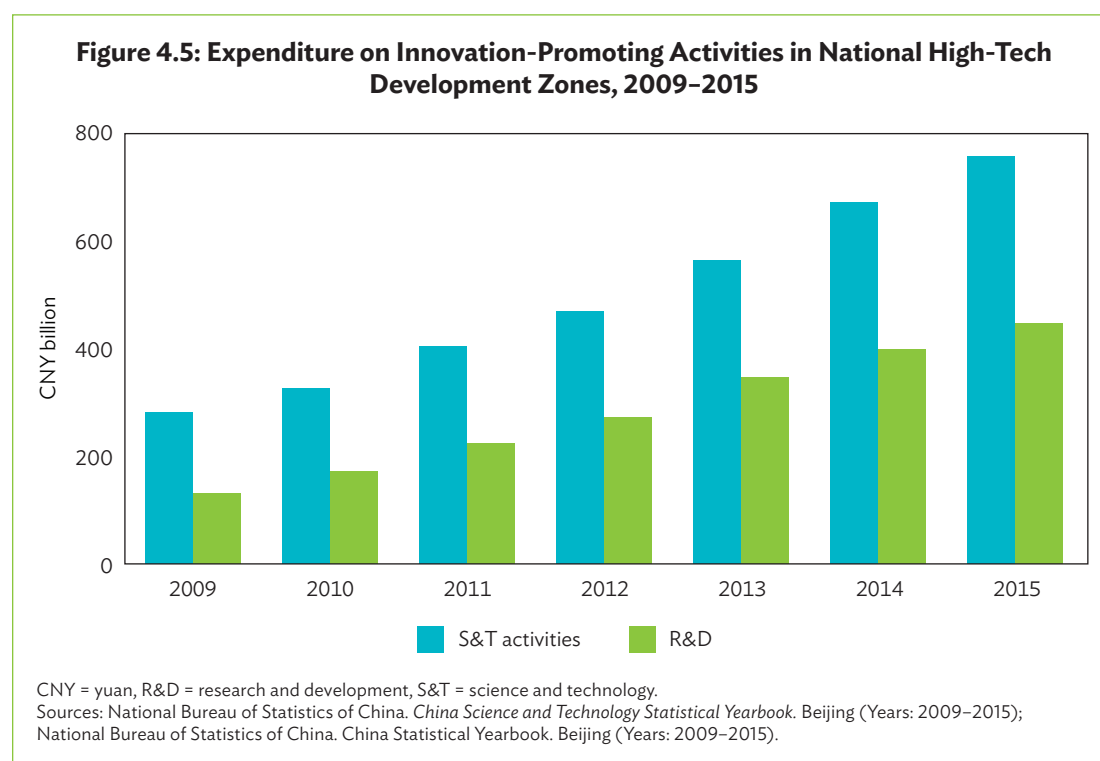
Sources: National Bureau of Statistics of China. 2015. *China Science and Technology Statistical Yearbook 2015*. Beijing; National Bureau of Statistics of China. 2015. *China Statistical Yearbook 2015*. Beijing.

Within 30 years, NHTDZs have played a key role in facilitating the PRC economy's structural transformation by developing high-tech manufacturing and service industries. In 2015, high-tech manufacturing and services enterprises located in NHTDZs accounted for 44.5% of the country's high-tech listed firms, employing 693 million workers. The key manufacturing industries include electronics and communication equipment, computer and office products, and pharmaceuticals (Figure 4.4).

Figure 4.4: Industrial Output Shares of National High-Tech Development Zones, 2015

Sources: National Bureau of Statistics of China. 2015. *China Science and Technology Statistical Yearbook 2015*. Beijing; National Bureau of Statistics of China. 2015. *China Development Zone Statistic Yearbook, 2015*. Beijing.

On the industrial innovation activities front, expenditure on science and technology in NHTDZs grew by over 13% in 2009–2015 to CNY757.8 billion (Figure 4.5). Similarly, in 2015, firms in NHTDZs spent CNY452 billion on research and development (R&D), which constituted about 41.6% of total R&D. Moreover, around 2,010 foreign-funded R&D institutions were located in NHTDZs to serve as important innovation platforms for the whole country. NHTDZs accounted for 17% (353,000) of patent applications and 19.8% (215,000) of patent authorizations in 2015. The development of various types of intellectual property rights has been economically fruitful. In 2015, 249,700 software copyright ownerships and 6,339 integrated circuit layouts were established in NHTDZs, which commanded an economic value of around CNY5,893 billion.



Pilot Free Trade Zones

In September 2013, the PRC developed its first pilot free trade zones (PFTZs) in Shanghai. The main task of the PFTZs is to further strengthen economic integration by synchronizing the PRC's economic development with international regulations and laws. In April 2015, three more PFTZs in Guangdong, Fujian, and Tianjin were created, with seven more developed by March 2017 in Liaoning, Zhejiang, Henan, Hubei, Chongqing, Sichuan, and Shaanxi.

The PFTZ in Shanghai covers an area of 120.7 square kilometers (sq km) and offers a liberal investment and trade environment through free currency exchange, efficient and effective supervision, and a standardized legal environment. Currently, the zone covers 10% of the Pudong New Area land, but it accounts for 75% of its GDP. Similarly, it constitutes 2% of the land in Shanghai, contributing 25% to its GDP. The institutional reform has mainly occurred in the finance field, including the renminbi's globalization to promote higher and more effective participation of Shanghai and the PRC in the global economy.

Border Economic Cooperation Zones

Border economic cooperation zones (BECZs) are important SEZs for promoting cross-border trade both within the PRC's cities and across the countries. From 1992 to 2011, the PRC developed 14 BECZs and tested various tax and customs clearance policies to promote trade in border areas. As part of the Belt and Road Initiative (BRI), the PRC developed three more BECZs in Jimunai, Lincang, and Helong between 2011 and 2015. Currently, there are 17 BECZs in the country. These BECZs are mainly located in three of six BRI international economic corridors, including the PRC–Mongolia–Russian Federation economic corridor, the Bangladesh–PRC–India–Mei Trade Corridor, and the New Eurasian Continental Bridge. In 2014, 16 BECZs (excluding Helong BECZ) realized a GDP of CNY49.6 billion, produced an industrial output of CNY87.4 billion, and generated import and export trade of CNY94.4 billion.

4.3 The PRC's Special Economic Zones Development Strategy

The comprehensive assessment of the PRC's SEZ development model points to the following success factors that must be utilized as a tool for promoting economic development.

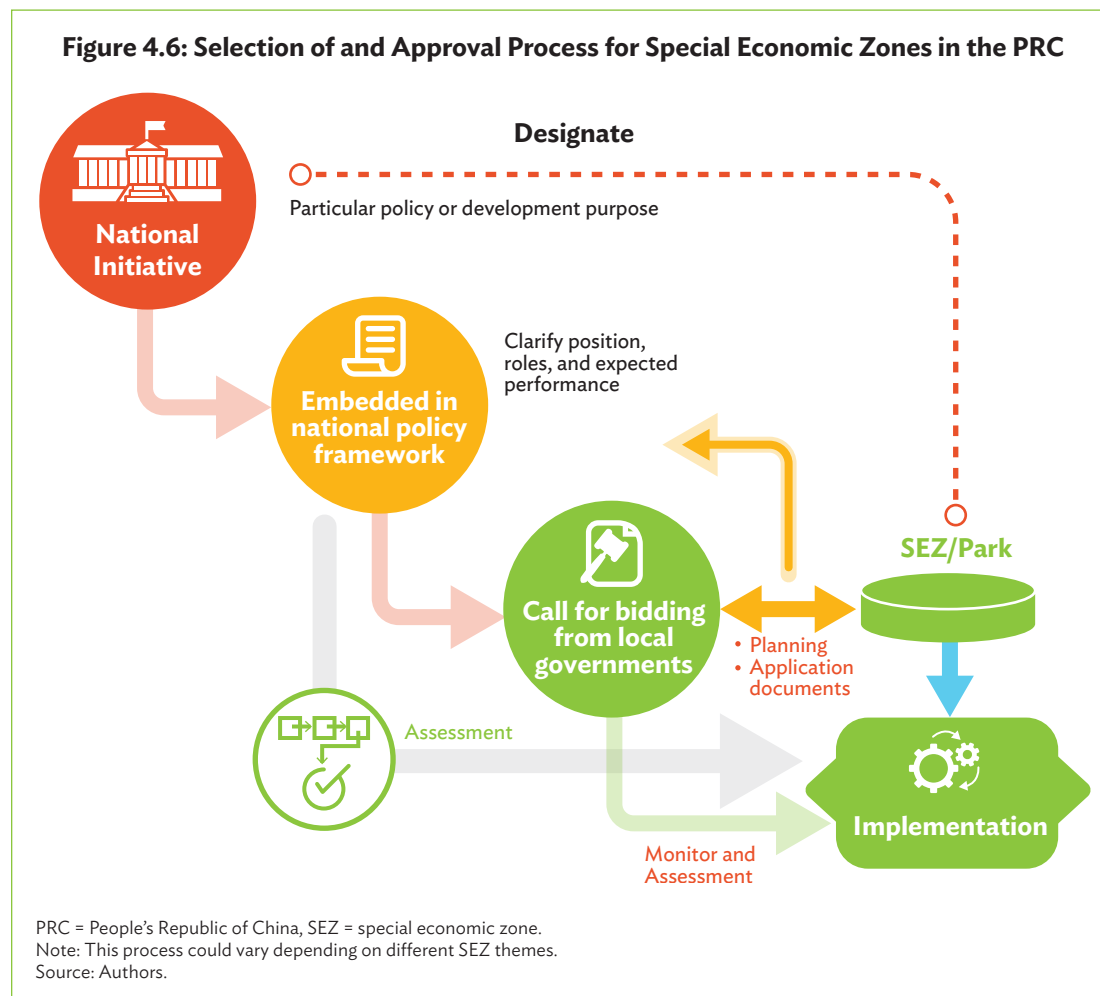
Strong commitment and support of the government encourage market-oriented development. Similar to the PRC's situation in the 1980s, many developing economies face issues such as narrow economic base, development uncertainties, and political challenges. A steadfast commitment is needed to overcome these issues. As successful SEZs commonly require active local innovation and strong entrepreneurship, a decentralized process should be designed and encouraged by the central government to create a favorable investment environment in SEZs. A differentiated institutional system makes SEZs distinctive—this is the fundamental factor that makes an SEZ successful. SEZ programs should be closely coordinated or linked with wider economic strategies as they evolve, supporting domestic investment in SEZs, and promoting linkages, training, and upgrading along the value chain. At every stage, both the broader development program and the SEZs need clear, consistent, and credible political commitment at the highest levels of government. The leader of the SEZ is usually the vice-mayor of the host city, whose higher authority significantly reduces the cost and time involved in the bureaucratic procedures of approving and introducing new policy measures. This also enhances the willingness of SEZs to exploit new markets and policy implementation. With superior institutional systems, SEZs are also in a good condition to allow the government and enterprises to work together, under privilege of superior authorized management power of financial and other resources. As an outcome of the autonomous and special administrative unit, SEZs are usually financially independent and subject to audit and performance evaluation. This ensures that SEZs promote entrepreneurship, especially as SEZs are the pilot areas to implement market economy. SEZ development programs should be integrated into the broader economic policy framework and the national investment environment and fine-tuned to be consistent with the capacity of the government.

A well-designed and implemented complete legal framework with consistent, transparent, and clear rules is crucial for a successful SEZ program. Although this may not be sufficient for SEZs' success, the absence of good laws and regulations almost inevitably leads to failure in the zone program and limits the broader nationwide impact of SEZs. SEZ laws in the PRC specify the purpose of SEZ policy in the context of national development strategies and regulate their governing structure and operating procedures to provide transparent guidance to investors. They also set the primary framework for various incentives, including tax and land incentives.

In this sense, well-defined SEZ laws could be a proxy for good business environment and incentive mechanisms—tailored to the country’s development strategy and industrial policy. Although it is seldom mentioned, foreign investment in the PRC is safe, partially explaining why the PRC attracted a huge amount of investment after its reform and liberalization relative to its counterparts with similar or lower labor costs. SEZs are expected to offer firms better property protection, and it is rare to see violations of the agreements and contracts of SEZs with investors. Consistent and transparent policies encourage long-term investment.

A robust procedure for the selection and approval of SEZs is implemented. SEZs are proposed for specific development goals, such as NETDZs for enhancing the productivity of cities and NHTDZs for improving the application of high-tech industries. Each SEZ is required to clarify its position, roles, and expected performances in the national, regional, and local policy agenda. Local governments are encouraged to propose their own plans to identify the most suitable SEZ. To win national support, a sophisticated zone plan on industries must be submitted for assessment, and the national government evaluates SEZ performance before continuing its institutional and financial support (Figure 4.6).

Figure 4.6: Selection of and Approval Process for Special Economic Zones in the PRC



An effective and independent governing body supporting zone operation is critical. The SEZ authority provides a one-stop-shop facility by meeting the needs of developers and investors. Administrative responsibilities spread over various ministerial domains, such as customs, land use and zoning, taxation, business registration and licensing immigration, and environmental, labor, and social compliance. Further, the regulator's authority should extend nationally and in SEZs and local authorities, particularly regarding land-use planning and licensing. The authority should be adequately empowered through the SEZ law. While many economies have made significant progress in ensuring effective administrative delivery to SEZ units, they remain hampered by weak institutional authority and lack of coordination. The governing authority should execute a mechanism that ensures accountability and prompt redress of complaints and grievances. Depending on each country's relevant context, the distribution of governing power may allow local officials more decision-making authority in the management and administration of zones. As such, an SEZ authority may be established at the national and/or provincial levels. SEZs normally lease ready-to-use land with facilities including the water supply system, piping system, electricity supply, road, heating, and energy supply (either natural or coal gas) to significantly reduce the cost of establishing firms and meanwhile operate the SEZ with predefined industrial functions. In addition, significant provisions are made to enhance the level of human capital, including incentives such as income tax reduction, green card and settlement facilitation for foreign experts, and free employee training.

Policy incentives play a key role in developing SEZs, especially at the beginning stage. Some of the main policy incentives offered are as follows:

- **Reduction or waiver of tax and land rental.** Taxation reduction is commonly used to attract firms, which significantly reduces business operation cost and thus affects business decisions. In general, most SEZs give reductions on business tax and land rental charges.
- **Income tax and property tax.** Some SEZs may further reduce the cost of business operations by reducing property tax, vehicle license tax, education surtax, urban maintenance and construction tax, and local overheads. More importantly, SEZs offer reductions or waivers of tax to people who are recognized as management or technical talents.
- **Providing a financial platform.** Financial markets have developed relatively slowly in the PRC. To remove this constraint, SEZs play an important role in facilitating the financing of firms. Currently, the government provides subsidized loans from the development bank, encourages ventures, equity, and bonds engaged into certain industries that are prioritized by SEZs, offering loans at low-interest rates, especially to small and medium-sized companies.
- **Subsidies and facilitation.** The most common way is to subsidize building infrastructure and provide telecommunication, transportation, utilities, and other infrastructure to reduce firms' cost. In addition, SEZs provide investment analysis and facilitation, such as collecting market information, helping project management, assigning technical consultants, and holding workshops and training for both employees and employers. The subsidized infrastructure and investment facilitation have a strong appeal to firms, especially small and medium-sized enterprises.

4.4 Policy Recommendations based on the PRC's SEZ Development Strategy

The following policy recommendations can be made based on the PRC's experience in SEZ development, for relevant adaptation and replication across other countries.

It is important to monitor SEZ performance over time to ensure that the provision of business incentives do not outweigh the benefits to local GDP growth. The role of policy incentives has declined with the gradual establishment of the market system. In 2006, the means of leasing industrial land by negotiation was abandoned and was replaced with a billing process in the land market. In addition, the government gradually abandoned taxation preference. Herein, tax preference (*TaxP*) was used to measure the reliance of developing the zone on tax incentives, which is calculated as the ratio of taxation increase to GDP growth of the zone. A lower value of *TaxP* implies a higher level of reliance, implying that the zone sacrifices taxes as an incentive to stimulate its growth. The findings, reported in Table 4.3, show that the ratio in 2010 was larger for NETDZs established in the period, 2006–2010, than in the earlier periods of 1978–1992 and 1992–2006.

Table 4.3: Tax Reliance of National Economic Technical Development Zones Since Establishment, 2010

Period	Average	Minimum	Maximum
1978–1992	0.13	0.04	0.55
1992–2006	0.14	0.05	0.40
2006–2010	0.16	0.07	0.34

Note: Lower value means higher tax reliance.

Source: Bureau of National Statistics. 2011. *China Development Zone Statistic Yearbook, 2011*. Beijing.

More recently, several zones have developed taking the market approach, and have therefore become less reliant on taxation incentives. NETDZs in the west and middle regions are more likely to rely on tax incentives than those in the east (Table 4.4), as market development in the eastern PRC is in relatively good shape. Currently, policy instruments such as income tax are gradually given greater importance to attract talent instead of firms. Additionally, policy instruments like financing platforms and investment services are used increasingly, which are more often observed in zones in the coastal region at an advanced stage.

Table 4.4: Tax Preference of the PRC, by Region

Region	Average	Minimum	Maximum
West	0.13	0.04	0.55
Middle	0.14	0.05	0.40
East	0.16	0.07	0.34

PRC = People's Republic of China.

Source: Bureau of National Statistics. 2011. *China Development Zone Statistic Yearbook, 2011*. Beijing.

An SEZ realizes its full strength when it achieves agglomeration economies, driven by a group of related firms engaged in particular products and services, achieving economies of scale. The enhancement in innovation ability and labor productivity are important factors affecting SEZs. The improvement of innovation capacity is attributable to the joint effect of economic growth, human capital development, and institutional support. The PRC stresses the increasing importance of technology in economic development, which is evident from fiscal incentives and income tax exemptions given to skilled labor and the substantial amount of money spent on incubator and R&D activities. Fiscal incentives to firms can be replicated quickly, usually by taking one-stop effects, which are diminished with firms' growth, while technological innovation is crucial to product upgrading and diversification, which is hard to copy. Innovation helps SEZs crowd out from the policy competition of SEZs and the rent-seeking of firms.

The key source of innovation ability comes from the development of human capital. Many SEZs in the PRC have training programs to enhance labor skills and provide favorable living conditions such as subsidized serviced apartments and schooling. Since the opening reform, human capital has significantly improved, thanks to intergenerational financing support on children's education and overall programs to promote education throughout the country. Therefore, the success of SEZs in the PRC is not owing to its cheap labor but attributed to the continuous upgrading of and high-quality labor force. The development of NHTDZs and NETDZs are typical cases on this front.

The location of SEZs should be a cost-saving factor determined by commercial and economic considerations. Locations should preferably be coastal, close to urban centers (which can be a source of agglomeration economies at every stage), and have a large consumer market. City-based integrated SEZs help form industrial clusters with social, cultural, educational, technological, business, and related amenities. Inland zones should be well-connected and offer cost-effective transportation. SEZs moving up the development ladder need to ensure the availability of social services (education, health, and other amenities). The location, objectives, and operation of SEZs should be guided by the quantity and quality of supporting services, which may compromise the overall regional balance objective. Locating an SEZ in "lagging" or remote regions without due consideration of infrastructure connectivity, availability of labor skills, and supply access during the initial stage should be avoided. However, balanced economic development should be taken into account for the strategic, logistical positioning over time as the economy matures. SEZs should be factored into the planning of economic or logistics corridors connecting actual and potential SEZs with markets and regional neighbors—contributing to enhanced regional and global economic cooperation. The NETDZs, on average, are located within 31 kilometers (km) of an airport, 16 km of a water port, and 19 km of a railway station (Table 4.5). The average distance between the NETDZs and the urban center is 19 km. Lu, Wang, and Zhu (2015) show that SEZs generate positive effects on a firm's performance, and these effects are more obvious in an SEZ with better transport accessibility.

Table 4.5: Distance of National Economic and Technological Development Zones to Main Transport Networks

Transport Network Type	Maximum (km)	Minimum (km)	Average (km)
Airport	80	2	31
Seaport	85	0	16
Railway station	86	2	19

km = kilometer.
Source: Authors.

Related to the location, the condition of the hinterland is also crucial to developing SEZs, because it affects the cost and profits of the firms located in the SEZs, through the size of the potential market, the level of city construction, access to intermediate goods and services, extensive knowledge spillovers, and a large labor pool. Some factors are measured by the development of NETDZs as shown in Table 4.6.

Table 4.6: Features of Cities Where National Economic and Technological Development Zones Are Located

Indicators	Minimum	Maximum	Average	Description
Gross asset investment in the city (CNY billion)	6.9	520.4	51.5	The level of urban construction and development
Road density in the city (square km)	0.01	1.9	0.2	Transportation factor impacting connectivity
Urban green area ration (%)	21.7	60.5	39.9	Amenity factor

CNY = yuan, km = kilometer.
Source: Authors.

SEZ policy should address the basic infrastructure requirements of an SEZ, particularly water, power, telecommunication, transport, and so forth. Ready and low-cost services are a big selling point for the most attractive zones. As many producers in an SEZ are exporters, global connectivity with reliable surface and air transport services can be critical. Increasingly, telecommunication and internet access are essential for exporters tied to GVCs.

The government should put good zone design and set environmental standards for SEZ development, promoting specialization and eventually cluster development that jives with an economy's dynamic comparative advantage. Land and resource use planning should be prioritized. Rational land-use and zoning rules can ensure that longer-term urbanization objectives and those of agricultural production are given due consideration. As many industrial processes are water-intensive and a pollution source, aligning zone development with water resource management can minimize water stress and pollution. Good zone design and environmental standards underpin the efficient utilization of scarce resources and contain negative spillovers. Safeguards issues such as household resettlement and environmental protection should be considered during the planning stage.

The government should set a clear goal and objective for an SEZ. The PRC has various types of SEZs, each with clear objectives, benchmarks, and strategies to develop competitiveness. The key indicators to evaluate the SEZ's performance are different, such as GDP growth, exports, employment, revenues, and FDI generation. These expectations put a great deal of pressure and responsibility on the shoulders of the SEZs. Meanwhile, the SEZs are highly competitive among themselves, which stimulates an efficient way to manage them.

Box 4.1: Case Study 1: Lessons Learned from the Shenzhen Special Economic Zone

The Shenzhen Special Economic Zone (SSEZ) was developed in 1979. It was a small fishing outpost in southeastern People's Republic of China (PRC) with fewer than 30,000 people. Within the next 3 decades, this small village was transformed into a megacity with 10 million people. Since 1979, Shenzhen has become a magnet for large amounts of foreign direct investment (FDI) and given access to global markets. Currently, enterprises in SSEZ account for 84.7% of total Shenzhen enterprises, accounting for more than 60% of the city's total taxes. The success of SSEZ can be attributed to multiple factors, especially its strategic location and absolute fiscal incentives offered by the government. Shenzhen had a locational advantage of neighboring the globally connected city of Hong Kong, China. Investors and the Chinese diaspora from Hong Kong, China have been the major FDI source as they were attracted to cheap labor and land in Shenzhen. During 1986–1994, Shenzhen attracted about \$1.45 billion of FDI; 78% was Hong Kong, China-based investment. Shenzhen is a bonded SEZ, such that it lies within the borders of the PRC but outside its customs regime. Thus, unlike the businesses that operate throughout the country, businesses located inside the zone do not need to pay customs duties. Firms do not have to follow stringent regulations and the criteria for setting up a plant were not restrictive. Businesses, both domestic and foreign, located inside SSEZ enjoyed a range of exemptions on central- and local-government-levied income taxes, business tax, value-added tax, and personal income tax for a period of up to 10 years from inception. In addition to this, rents on land are kept low to attract investors and promote rapid economic upscaling of the region. Another significant determinant of SSEZ's success is its focus on knowledge transfer. SSEZ started with a low-skill manufacturing industry with a specialization in textile and toys. However, in line with the changing trend, SSEZ successfully transitioned toward the services economy and has been credited with the telecom industry's booming. SSEZ is also credited with the creation of Huawei in 1987, which has now become a technology giant, especially in the global smartphone industry.

In order to attract talent into the zone, SSEZ offers residential incentives like exemption from urban capacity increase and urban infrastructure expansion fees, and offset on taxable income upon purchase of housing, to professional or technical personnel with a bachelor's degree or above serving in high technology enterprises and to software system analysts and system engineers residing in the zone. Public and private partnerships are adopted to promote science and technology. These include the development of 600 incubators in the zone; a venture capital investment system providing support to these incubators; technology institutions including a software park, engineering test center, and biological incubator; an institution incubator founded by a group of local private universities; and the Shenzhen Virtual University established as a public-private partnership project.

Sources: ADB. 2018. *Growth and Transformation of Special Economic Zones to Support Regional Economies in the People's Republic of China*. Manila; Chen, X. and T. Medici. 2009. "Instant City" Coming of Age: China's Shenzhen Special Economic Zone in Thirty Years. *Center for Urban and Global Studies Inaugural Working Paper Series*. No. 2. Hartford, Connecticut: Trinity College; Wu, W. 1997. Proximity and Complementarity in Hong Kong-Shenzhen Industrialization. *Asia Survey*. University of California; and Zeng, D. Z. 2010. *Special Economic Zones: Lessons from the Global Experience*. Private Enterprise Development in Low-Income Countries Synthesis Paper. No. 1.

4.5 Understanding Potential Challenges in SEZ Development Strategy

Further to the policy recommendations based on the PRC's SEZ development strategy, there is a need to examine some of the potential pitfalls that may arise in SEZ development, as follows.

In the absence of an overarching development strategy, SEZs are prone to mushrooming growth. When planning to implement SEZs, countries should have a general strategy underpinning "special status" and "special purpose." The number of SEZs should be controlled, as special policies are also precious resources with huge opportunity and fiscal costs. Following SEZs' success in the coastal region during the 1990s and early 2000s, many local governments built industrial zones/parks to attract investments without appropriate assessment and planning, leading to a huge waste of resources as many of them failed with considerable environmental damage.

Many SEZs do not have defined goals. Vision and position determine SEZs' success, with over-ambition and unenthusiastic pursuit being two mistakes often seen in failed SEZs. For instance, many SEZs register new emerging industries, such as telecom, computers and software, and biopharmaceuticals, which cannot be successful without a clear strategy on industrial and technological development. On the other side, SEZs in less-developed regions rely predominantly on imported resources with few plans of industrial upgrading. The wrong position also includes overlooking the competitive and/or comparative advantage, which may lead to suboptimal development and returns from SEZs.

SEZs emphasize low labor costs over productivity. As stated earlier, SEZs' success in the PRC is attributable to the firms' easy access to high-quality labor at a relatively lower cost, rather than on cheap labor only. This may partially explain why the PRC attracted more FDI than its counterparts with similar labor costs during the 1980s and 1990s.

SEZ development invades arable land. Amid incentives, large amounts of arable land are provided to local governments either for free or at a lower price vis-à-vis market price. This is common in small cities such as the Huaibei NETDZ in Anhui, where 55% of the developed park area was claimed from arable land in 2003. This forces a large number of farmers to leave their land, increasing compensation costs (Li 2004). In Anji, Zhejiang, the development zone authority was entitled to claiming, renting, leasing, and licensing land; consequently, the land area of the zone quickly expanded from 4.5 to 60 sq km during 1994–2002 (Li 2002). Land abuse directly forced the central government to abandon “negotiations” as the main way of leasing land in 2006. Despite more restrictions on land use, many industrial parks still have large areas of vacant land; for example, in Handan SEZ in Hebei province, only about 10% of the land (around 3.5 sq km) was built upon in 2009.

There is a proliferation of policy support across SEZs. SEZs implement preferential policies, which may lead to policy competition among SEZs. For example, in 2000, in order to attract firms and investment, some cities close to Shanghai announced the “X+1” plan for policy support, which meant that they offered one additional form of policy support than that offered by Shanghai. In response, Shanghai expanded its SEZ planning area from 67 sq km to 173 sq km to compete and accommodate firms. If the policy support imposes no costs and obligations on firms, it tends to promote unproductive rent-seeking behavior, often leading to underperformance or failure of the SEZ.

There is a lack of localized strategy. Attracting FDI is one of the main tasks for most SEZs, especially in the initial stages. However, some SEZs do not make the best use of opportunity and spillover effect of FDI to develop local production capacity and promote technological and industrial chain upgrading. The effect of technological spillovers is much lower in foreign companies than domestic companies in the PRC (Shen and Li 2009). This is because foreign companies are reluctant to build R&D departments overseas due to the risk of divulging technological secrets, shortage of local talent, and unsuitable amenities for expatriate staff. For instance, it is quite difficult to find adequate western-style facilities for expatriates, including international schools for their children. Rather than developing a locally embedded production network, foreign companies' entry results in very few connections among firms in the SEZs. Policy makers need to work hard to create positive spillovers as most business competition and connections are global, not local value chains (Liu 2006).

There is an imbalance between industrial and urban development. While most SEZs in the PRC have achieved great economic success, many are somewhat lagging in providing adequate social and urban services. Some of them may suffer from environmental degradation with the pursuit of economic growth only. Eventually, these zones may lose attractiveness, with amenities becoming crucial factors, including vibrant lifestyle and green environment, for attracting high-quality investments and labor force.

Industrial enclaves lack recreational areas. Although SEZs are a special area developed to stimulate economic development, they should not be designed as industrial enclaves without business promotion plans, and more importantly, urban life in the zone itself. It is a paradox that industrial or manufacturing-led parks are being developed in modern urban economies, in which services are of increasing importance. SEZs built without recreational areas face high-skill labor attraction and retention problems, such as the Airbus Park in Tianjin. In turn, this may limit production and growth.

4.6 Planning Special Economic Zones amid Economic Corridor Development

In the face of high economic globalization, economic connectivity and integration have become key development focus areas. ECD within or across regions is an important strategy to allocate and channel physical, economic, social, and technological elements in a given geographic area to meet globalization's challenges and opportunities. ECD helps unlock economic opportunities that arise from integrated infrastructure networks by effectively linking logistic hubs, manufacturing bases, economic centers, markets, and technological innovation areas. This can help create new opportunities to participate in global trade and foster market integration.

The ECD-led strategy is usually selected and designed based on, at minimum, (i) the current and potential growth of the area, and (ii) their potential as engines of regional development. Therefore, in a broader sense, ECD in the PRC is a special form of regional development in which some areas of the region equally share development opportunities but attempt to create spillovers to a wider geographic area. Some of the regions that may be classified as ECDs in the PRC include the Yangtze River Delta region, the Pearl River Delta region, and the Minnan Delta region. From the outset, SEZs have been incorporated into regional developmental strategies. In 1980, Shenzhen, Zhuhai, Shantou, and Xiamen were listed in the national policy as SEZs, and 14 coastal cities were listed as opening coastal cities in 1984. In 1985, SEZs were created at the regional level, such as in the Yangtze River Delta, Pearl River Delta, and Minnan Delta regions, to expand economic integration to foster cooperation among port cities and hinterlands other countries.

ECD and SEZs in the PRC reinforce each other. The ECD approach takes advantage of proven, inherent, and underutilized economic development potential facilitated by improved infrastructure (ADB 2014b). Long-term advantages to business and industry along a corridor include benefits arising from smooth access to industrial production units, decreased transportation and communication costs, improved delivery times, and reductions in inventory costs. ECD is therefore intended to develop a sound industrial base consisting of a certain number of attractive areas for firms and investments. SEZs can play a critical role in this regard by promoting industrial activities for export income, jobs, and poverty reduction. Therefore, there is a need for proper planning and programming of SEZs as part of the overall ECD strategy for maximizing socioeconomic gains. On top of the key success factors and pitfalls discussed in the previous sections as a basis to

implement SEZ strategy, the following useful approaches or principles should be emphasized to better design and plan SEZs as part of ECD.

As a spatial-economic unit, the SEZ should be planned with careful spatial and economic policies to realize the value of SEZs in leading economic and spatial dimensions, and coordinate between the SEZ and citywide development. For example, the Beijing SEZ uses various kinds of industrial and spatial policy measures to create a synergy effect in supporting SEZ development. In return, the SEZs are employed as places to accommodate urban functions to shape the urban spatial structure, which can be found in the newly planned building schemes of new towns, such as in Yizhuang and Changping.

Industrial design refers to the economic and business scope of the SEZ and industries, which is prioritized depending on the vision and position of the SEZ.

Specialization versus diversification. Specialization and diversification are always the two approaches to bolster industries, and sometimes these intertwine, depending much on the situation. Growth is of paramount importance in establishing SEZs, and therefore, neither approach should be rejected before careful examination of the corresponding benefits, costs, and risks.

Anchoring firms versus small firms. The SEZ can be developed based on one big firm or a group of small firms. Both approaches have pros and cons, leading to very different trajectories for the SEZ. The big-firm-monopoly model benefits the SEZs in speedy recovery of investments and offers potentially large spillovers in terms of attracting other firms and further investments. SEZs that have multiple small firms are likely to benefit from technological innovation because of the higher level of cooperation and competition. The two models of SEZ development are not exclusive and can be complementary to one another.

Marketing and promotion. Management offices should actively engage in marketing and promoting the region, zone, park, industrial chain, sectors, and firms because SEZs also compete in the market.

Industrial chains (backward and forward linkages). Ideally, SEZs should focus on industrial chains rather than individual companies. Development of SEZs in the PRC shows it is easier to attract firms by introducing industrial chains rather than only fiscal incentives. Interestingly, there is debate about the types of industrial linkages of SEZs. Despite substantial evidence, it is still not clear whether vertical chains, horizontal linkages, backward linkages, or forward linkages are best for the SEZs or the local economic system. Some SEZs have been seen to have developed strong backward linkages, such as the Aero Park in Xiamen, which is engaged in aircraft maintenance, but still many SEZs show that strong dependence on local resources may not be necessary because of the globalized market. Under this situation, firms may perform well, but local government is reluctant to want this because very few spillovers can be generated with the growth of anchor firms. The development of backward linkages seems case by case. As these discussions are complicated and should be context-specific, this report simply suggests specialized diversification and exploration of both types of linkages for planning SEZs if possible.

Incentives to firms or individuals. Fiscal incentives, such as taxation, are useful to newly established firms, labor-intensive, and/or at a relatively low level of the industrial chain. An alternative is “providing fiscal incentives to individuals,” that is, the talented personnel they require is useful to most firms, and in particular, to technologically intensive firms, to maintain their competitiveness.

Technological innovation. In relation to the formation and growth of technologically driven industrial clusters, an NHTDZ such as Zhongguancun Science Park (ZSP) makes various efforts into this field. Giving freedom to professors engaged in market activities—for instance, all the entrepreneurs of the three companies used to work in the Chinese Academy of Sciences or universities—is an institutional breakthrough at the beginning of the 1990s. Later efforts include setting up incubators, open labs, industrial associations, industrial production–research alliances, start-up parks, and facilities. Table 4.7 lists various kinds of facilitators of technological innovation in ZSP in Beijing.

Table 4.7: Agencies and Facilitators of Technological Promotion in Zhongguancun Science Park, 2015

Types	Numbers
Industrial associations	70
Industrial production–research alliance	156
University parks	29
Start-up parks of foreigners	34
Open lab	159
Start-up facilities	330
National-level technological incubators	28

Source: Authors.

Industrial cluster strategy. It is inevitable for SEZs to adopt an industrial cluster strategy to develop their strength. Industrial clusters feature a group of firms with related functional linkages, sharing common facilities with certain geographic proximity, and therefore creating business opportunities through competition and cooperation in modern, dynamic and complex economies (Amin and Graham 1997; Thrift and Olds 1996). In many cases, an industrial cluster is an image of successful SEZs. A cluster strategy has been underpinned in the industrial development of ZSP by using and facilitating various policy factors and fiscal incentives to support technological innovations, talented labor, and the synergy between production and research institutions, which are crucial to cluster development (Table 4.8). A typical case is the ICT cluster, which includes leading PRC companies, such as Lenovo, incubating from the Chinese Academy of Sciences; Fangzheng, from Beijing University; and Tsinghua Ziguang, from Tsinghua University. Global leaders, such as IBM, Microsoft, Intel, and other large information technology (IT) manufacturers, are also attracted to this type of strategy. Such cluster development successfully transferred the park from electronics retail to manufacturing of IT products, and bolstered research and product design.

Table 4.8: Policy Instruments, Agglomeration Economies, and Market Economy in Beijing

Policy Instruments	Main Content	Policy Type	Roles in Cluster Development	Agglomeration Economies Type
Allocating special area	Establishing industrial and business parks	Economic and spatial policy	Facilitating economic incentives and fostering agglomeration	Localization economies
Preferable taxation	Wavier or reduction of taxation on firms of certain sectors and/or at initial stages	Economic policy	Promoting investment	Urbanization and localization economies
Preferable land supply	Wavier or reduction of land use fees	Spatial policy for firms located in particular area	Promoting industrial investment	Localization economies
Talent scheme	Reduction of income tax; preferable immigration policy for overseas Chinese and foreigners; various benefits for family members such as schooling for children	Economic policy	Generating a productive labor force	Urbanization economies
Planning permit	One-stop services for approval of location	Economic and spatial policy for firms located in particular park	Promoting establishment of firms	Localization economies
Incubator	Establishing a linkage between firms and universities; providing technical assistance; offering office areas; encouraging knowledge exchange between firms; providing venture capital	Economic and administrative policy for parks	Knowledge support, and capital support for start-up companies	Localization economies
Promoting high-tech industries	Providing favorable land and taxation policies, simplified land supply procedure and administration	Economic policy	Providing long-term benefits for high-tech investments	Urbanization economies
Supporting organizations	Establishing industrial association, intellectual property management office, and technology transfer commission	Economic policy	Facilitating industrial development	Urbanization economies
Promoting a global city	Comprehensive development plans to promote Beijing's international status	Economic and spatial policies	Improving the images of the city and firms, and promoting global competitiveness	Urbanization economies
Infrastructure construction	Multiple large municipal infrastructure projects such as new metro lines, airports, train stations, etc.	Spatial policy	Improving urban infrastructure and public services	Urbanization and localization economies

Source: Yang, Z., P. Hao, and J. Cai. 2015. Economic Clusters: A Bridge Between Economic and Spatial Policies in the Case of Beijing. *Cities*. 42. pp. 171–185.

4.7 Suggestions for Pakistan

Improving the business climate reduces both direct and indirect transaction costs. In Pakistan, there could be a need to pay greater attention to administrative and trade facilitation, relax the regulatory regime, and increase transparency. Generally, it is much easier to resolve infrastructure and governance issues within a limited geographic area, such as an SEZ, than to tackle them country-wide for enhancing investor confidence (Watson 2001). After understanding the economic implications, these business reforms could be scaled up in the economy as practiced by the PRC.

Given Pakistan's various challenges for SEZ development, there may be a need for a better strategy and framework, drawing on useful experiences from other countries including the PRC. It is also important to tailor fit them to the local context, just as the PRC did when it instigated its own SEZ development agenda in the 1980s.

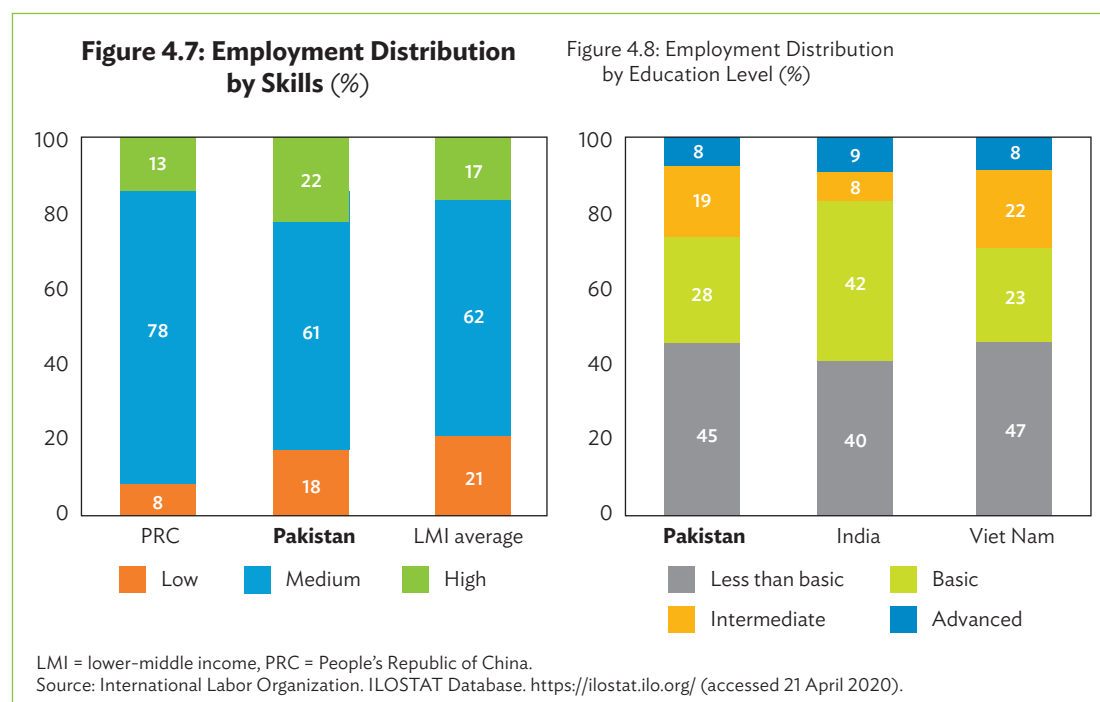
SEZs should be employed to address market failures or remove constraints that cannot be resolved in other ways. The PRC's experience shows that SEZ development is an expensive business involving careful and skilled planning, design, and management and, therefore, should not be taken for granted. Rather, SEZs should be used to address constraints that cannot be resolved through countrywide reforms, sector-wide incentives, etc.

A consistent and transparent SEZ regulatory framework with strong leadership and commitment should be developed. The PRC managed to employ SEZs for realizing a market-oriented growth model due to steadfast efforts over 40 years. The government remained committed to building a clear regulatory framework to create a safe, secure, and favorable investment environment. It is also important to establish proper dialogue and cooperation mechanism between and among the various tiers of central, provincial, and local governments.

A suitable development model through strategic planning and industrial positioning in the CPEC should be implemented. An SEZ should be part of the national or regional development strategy based on the most suitable model, which depends on local comparative or competitive advantages. An SEZ is more likely to be an effective catalyst when there is an enabling macroeconomic and industrial framework, supported by deepening economic liberalization, economic space planning for optimal land use and cluster development. SEZs would need to plan out resource utilization based on cost-benefit analysis of fiscal and non-fiscal incentives. To identify the right model built on local strengths, it is important to conduct an in-depth baseline analysis of the existing business conditions through strategic planning and industrial positioning. This process could include a rigorous assessment of the local market conditions, connectivity, industrial structure, supply chain analysis, business environment, and land and labor supply availability. This exercise will also help the zones better leverage foreign technologies and knowledge to optimally cater for local needs.

SEZs planned under the CPEC should be leveraged to attract export-oriented light manufacturing industries. Some of these industries include low-end textile manufacturing, mobile, and laptop assembly, basic food processing, kitchen appliances, plastic toys, and sanitation, etc. While these industries are in high world demand, the wage rise and a policy shift to technologically advanced manufacturing in the PRC have made the production unfeasible within the country, with the government looking to relocate them to a country that has relatively low labor costs. Pakistan should negotiate for the relocation of such industries on mutually beneficial terms. This may require eliminating a mismatch between the current level of domestic labor skills and the level required by investors.

Figure 4.7 shows that Pakistan's share of medium-skilled workers in the total labor force is less than the average of lower-middle-income economies and the PRC. Furthermore, analysis shows that Pakistan's share of workers with a basic education level is lower than India but slightly better than Viet Nam, with the latter edging out in terms of workers having intermediate and advanced degrees (Figure 4.8). Pakistan needs to ensure human capital and knowledge transfer mechanisms by providing well-equipped skills training centers, working closely with technical and vocational institutions to upskill and reskill the workforce to enhance human resources quality and improve labor market efficiency. Moreover, favorable policies should be offered to provide skills development opportunities as well as to attract skilled labor, such as through the provision of housing, research funding, subsidies for children's education and assistance, among others.



A smart and realistic SEZ program should be adopted. It is wise to start with one or two zones to test processes before economy-wide scale-up. Doing so can help better the functioning and profitability of SEZs. It can also help remove fiscal constraints by allowing reinvestment of profits as inputs into the next stage. Starting with an ambitious plan with multiple SEZs simultaneously often results in failure and waste of resources. Moreover, smart operations aim to create a better business environment inside the zone. The PRC's zones are equipped with all high-quality basic infrastructure and one-stop-shop services. To overcome a very constraining environment in the 1980s and 1990s, the PRC government provided generous land and tax incentives in SEZs. At present, more smart incentives are given priority to encourage skills training, technology transfers, and local economic linkages.

SEZs should be established to promote industrial clusters for achieving agglomeration.

In the PRC, while market forces are usually responsible for initially producing industrial clusters, the government supports or facilitates them in various ways, including setting up an industrial park on the basis of an existing cluster (Zeng 2015). After decades of development, some clusters have begun to grow out of certain SEZs, such as the ICT clusters in Zhongguancun (Beijing) and

Shenzhen, the electronics and biotech clusters in Pudong (Shanghai), the software cluster in Dalian, and the optoelectronics cluster in Wuhan. The emergence of these clusters actually hinges on SEZ success, which serves as their “greenhouse” and “incubator.”

SEZs in Pakistan should be part of longer-term urban development. The concept of urban development and the creation of smart cities is increasingly becoming an integral part of high-technology and knowledge-based SEZs by combining R&D centers, e-governance, skilled labor, and other commercial and recreational centers.

SEZs offer various tax and duty exemptions, and, frequently, competition among zones tends to make these incentives more generous than needed for attracting investment, thereby increasing the fiscal burden. Hence, investment promotion agencies must take care in calibrating the incentive package and include sunset clauses to enlarge the net gains accruing from SEZ creation. Blanket incentives, such as tax and duty exemptions, should be discouraged. However, if they are offered, they need to be monitored periodically to ensure they are meeting their intended policy objectives. Moreover, fiscal incentives such as investment tax credits and duties exemptions on capital goods should be linked to the actual process of capital formation. Further, sweeping measures such as tax holidays that encourage tax planning rather than productive investment may be avoided. Also, fiscal incentives are usually beneficial at the initial stages of SEZ development, with availability and quality of infrastructure and institutional capacity becoming important in the medium to long run.

Pakistan’s SEZ Law, enacted in 2012 and amended in 2015, specifies the purpose of the SEZ policy in the context of national development strategies and plans and regulates their governing structure and operating procedures to provide transparent guidance to investors. It also sets the primary framework for various incentives, such as tax incentives (Board of Investment 2015). The existing regulatory framework of Pakistan extends over three levels, including federal and provincial governments and SEZ developers. The Federal Board of Investment (BOI) primarily performs two roles: (i) serving as the secretariat for the Board of Approval (BOA), which the Prime Minister heads; and (ii) acting as the SEZ Authority (SEZA) for the Islamabad Capital Territory.

The provincial government acts as the provincial SEZA, which is headed by the chief minister of the respective province. Provincial government key roles include (i) preparation and submission of zone applications, (ii) selection of developer, (iii) negotiation of development agreements, (iv) assistance to developer in acquiring land and providing public utilities, (v) facilitating the availability of public utilities to zone enterprises, (vi) monitoring implementation of administrative procedures in SEZs, (vii) monitoring compliance of developers with zone regulations and obligations under the development agreement, (viii) reporting biannually to the federal government with respect to SEZs, (ix) coordinating with federal authorities to ensure the building of infrastructure outside the SEZs’ boundaries, and (x) assisting the developers in the acquisition and other land-related matters. The role of the developer is very crucial given it heads the SEZs committee which is composed of representatives from the federal BOI, provincial BOIs, and SEZAs.

The provincial government selects the developer, who is responsible for the (i) development of zones, (ii) approval of enterprises, (iii) implementation of zone development plans in line with development agreements, (iv) allocation of land to zone enterprises, (v) monitoring and ensuring compliance of zone enterprises with zone regulations, (vi) submission of biannual reports to SEZA, and (vii) processing of zone incentive claims. In terms of the SEZ application process for institutional and regulatory approvals, the application is submitted by the developer to the provincial SEZA. After provincial SEZA approval, it is sent to the federal BOI for assessment. Upon meeting the criterion,

BOI submits it to BOA for review. Following BOA approval, the SEZ is notified. The government has recently streamlined the regulatory and administrative arrangements for SEZ development in Pakistan with the federal BOI already halving the application approval process from 90 to 45 days through direct submission of applications to BOA given it is not mandatory under the act to get it passed from the Approval Committee. However, more could be done to create a more business-conducive institutional and regulatory environment by amending the SEZ Act to (i) establish an empowered regulatory and enforcement body in the federal government, (ii) remove the non-functional layers of institutions, and (iii) introduce the regional development model with devolved powers to the developers in line with the global best practice.

A comprehensive zone single window facility should be developed. Streamlined processes through one-stop services of red stamps (approval), standard factories, start-ups incubator, employee training, business association, professional fraternity, and others significantly improved the efficiency of the firms. Provision of effective and reliable infrastructure should be ensured. For example, transport, electricity, gas, water supply system, piping system, communication, logistics, customs clearance, sewerage, heating system, among others, reduce the cost of establishing firms and operate the SEZ with predefined industrial functions. Technology learning, innovation, upgrading, and strong value chain links with the domestic economy should be promoted. In the PRC, this helped SEZs to become centers of knowledge and technology generation, adaptation, diffusion, and innovation to develop high-value and technology-intensive industries.

SEZs build on local comparative advantages and should have local suppliers/clusters as part of their value chains for strong linkages with the local economy through technical assistance and other policy interventions. In the PRC, SEZs are well plugged in the existing local clusters for business linkages.

The management capability of the zone developers should be strengthened. SEZs require careful management and monitoring. Alongside the development of the zone, data and statistics are required to build up the zone's capacity, enabling a stage-wise assessment, a zone performance evaluation, and facts to allure newcomers to the zone.

The land transfer and pricing mechanism should be improved. Pakistan should reform the land transfer and pricing mechanism by adopting a leasing framework and providing incentives on the SEZs' performance for a more inclusive development process by allowing private ownerships at the SEZs for income distribution and equity. Moreover, this will prevent the unproductive rent-seeking and elite capture attitude that can be very costly to the economy. Successful land reforms of the Shenzhen SEZ in 1981 enabled SEZs to lease land for 20–50 years with a possibility of renewal before moving to a land bidding system for commercial purposes in 2002 and industrial in 2007. The success of land market reforms in Shenzhen sent a strong message that land use rights should not only be transferable, but be transferred through market competition. The initial success boosted the confidence of legislative reformers nationally. In parallel with land transfer reforms, the Shenzhen SEZ also led the PRC to adopt the Western concepts and practices of market-directed land use planning and zoning.

Productive public-private partnership (PPP) modalities should be employed. This could help to ensure optimum private sector participation for additional resources and expertise to overcome the investment constraints and jump-start competitiveness through exposures of global production and market systems. Government participation in PPPs may include (i) public provision of off-site infrastructure and facilities (utility connections, roads), as an incentive for private funding of on-

site infrastructure and facilities; (ii) assembly of land parcels with secure title and development rights by the government for lease to private zone development groups; (iii) defining better land use or ownership laws and regulations along with enforceable zoning and land use plans; and (iv) build–operate–transfer and build–own–operate approaches to on–site and off–site zone infrastructure and facilities, with government guarantees and/or financial support. In the PRC, purely public and PPP–based SEZs are mainly developed.

Finally, **SEZs in Pakistan should have clearly defined objectives, goals, targets, and benchmarks**, such as contribution to GDP growth, exports, employment, revenues, and FDI. In the PRC, such benchmarks helped promote and put pressure and responsibility on the shoulders of SEZ management to ensure the efficient and smooth running of SEZs. A desirable course for governments is to select approaches carefully and spend resources wisely, to evaluate performance with reference to clear criteria, and to be ready to withdraw support from zones that do not make the cut.

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5. A Case Study on China–Pakistan Economic Corridor Development Program

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In the highly globalized and competitive world, mutually beneficial economic partnerships among countries are essential to yield maximum dividends from cross-border trade in goods and services, technology, and the flow of investment and people. The Belt and Road Initiative (BRI), led by the People’s Republic of China (PRC)—which could cost about \$1 trillion–\$8 trillion—is a prime example.¹¹ Envisioned to encompass more than 70 countries across Asia, Africa, and Europe, the initiative covers more than 60% of the global population and 40% of the world’s gross domestic product (GDP) (Centre for Strategic and International Studies 2018). The China–Pakistan Economic Corridor (CPEC) lies at the heart of the BRI, providing the PRC with critical direct access to the world’s deepest and strategically located Gwadar port in Pakistan to enhance its economic connectivity and integration with international markets.

The Government of Pakistan launched CPEC in 2014. CPEC’s planned investments are about \$62 billion between FY2015 and FY2030. The CPEC was seen to be a game changer for Pakistan. Pakistan can harness the advantage of its strategic geopolitical location, improve its regional and international economic connectivity, enhance industrial development, and thus become an economic hub for Central, South, and West Asia.

This chapter analyzes how CPEC contributed to Pakistan’s economic corridor development. The study will provide some policy suggestions to unleash the potential investment benefits from CPEC.

5.1 Understanding the China–Pakistan Economic Corridor Development Program

The CPEC Long-Term Plan, as agreed by the governments of the PRC and Pakistan, outlines the strategic direction of the CPEC. According to the plan, the PRC vision for the CPEC is to “further advance the western development strategy, promote economic and social development in Western China, accelerate the BRI construction, give play to PRC’s advantages in capital, technology, production capacity and engineering operation, and promote the formation of a new open economic system” (Ministry of Planning, Development and Reforms 2017, 9).

¹¹ The wide range in part reflects the undefined scope of the initiative, but also the limited data available on the number, size, and terms of the projects.

Similarly, the CPEC vision of Pakistan is to “fully harness the demographic and natural endowment of the country by enhancing its industrial capacity through creation of new industrial clusters, while balancing the regional socioeconomic development, enhancing people’s well-being, and promoting domestic peace and stability” (Ministry of Planning, Development and Reforms 2017, 9). From the regional and international perspective, the vision is to “form a new international logistics network and industrial layout based on major transportation infrastructure; elevate the status of South Asian and Central Asian countries in [the] global economy; and promote regional economic integration through stable trade growth, international economic and technological cooperation and personnel exchange” (Ministry of Planning, Development and Reforms 2017, 9).

Table 5.1 illustrates the whole nexus of long-term economic cooperation between the two countries. There are nine SEZs planned under the CPEC to promote industrial cooperation. The SEZ Act 2012, which was amended in 2015, covers the modalities and incentives offered to SEZs in Pakistan (Board of Investment 2015b).

The CPEC is an initiative to build economic connectivity and regional integration between the PRC and Pakistan, with multiple projects potentially amounting to about \$62 billion from FY2015 to FY2030. The CPEC covers the Xinjiang Uygur Autonomous Region and the whole territory of Pakistan (Ministry of Planning, Development and Reforms 2017).

The CPEC’s early projects focused predominantly on developing collaborative energy and transport infrastructure, such as the investments undertaken for the construction of power plants, the Gwadar port, highways, railways, and pipelines. The long-term plan of the CPEC hinges on promoting industrial cooperation in Pakistan, particularly through the development of nine special economic zones (SEZs), to expand mutually beneficial regional trade and economic linkages.

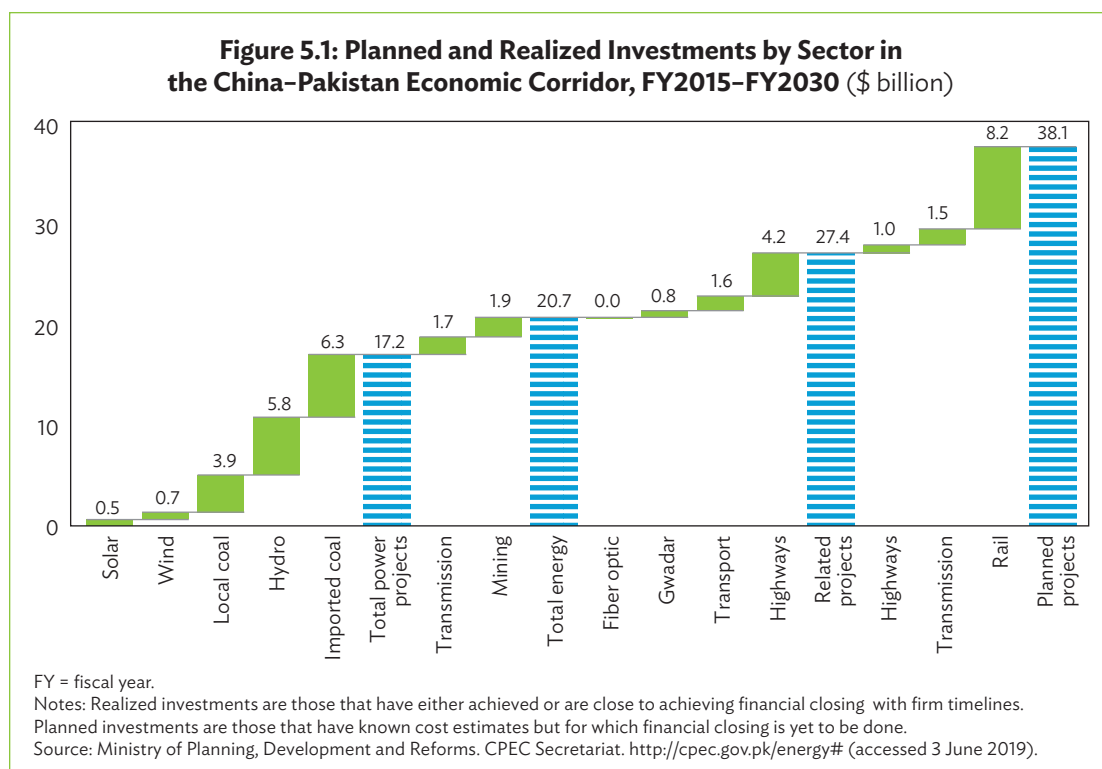
Planned CPEC investments amounting to about \$38.1 billion in FY2015–FY2018 were equally split between the energy (power projects, coal mining, and transmission line) and transport sectors.¹² During the same period, however, a total of 33 projects worth \$27.4 billion were realized, comprising 76% in energy, 21% in infrastructure, and 3% in the Gwadar port, as shown in Figure 5.1.

¹² Planned investments include projects that have known cost estimates, but for which financial closing is yet to be done.

Table 5.1: Key Areas of Economic Cooperation of the China–Pakistan Economic Corridor

I. Connectivity
<p>A. Construction of Integrated Transport System</p> <ul style="list-style-type: none"> • Construction of highways, capacity expansion of railway track and modernization of railways • Development of Gwadar <p>B. Information Network Infrastructure and ICT Development</p> <ul style="list-style-type: none"> • Cross-border optical fiber • Upgradation of network facilities, national data center, submarine cable landing station • Adoption of the digital terrestrial multimedia broadcasting standard of the People's Republic of China (PRC) • Border electronic monitoring and safe city construction, and development of e-commerce • Information technology (IT) industrial parks and clusters to improve Pakistan's IT and service outsourcing
II. Energy-Related Fields
<ul style="list-style-type: none"> • Oil and gas exploration, options for establishing oil refineries and storage along the CPEC route • Optimizing sourcing and use of coal through mining and research and development • River planning for hydropower development, development of wind- and solar-based energy supply • Strengthen construction of transmission and distribution networks • Manufacturing equipment for power plants
III. Trade and Industrial Parks
<ul style="list-style-type: none"> • Promote textile and garment industry by enhancing supply of high value-added products • Develop special economic zones • Promote local joint ventures with PRC enterprises for local production of goods and services through productive business-to-business links • Industrial capacity cooperation in chemical, pharmaceutical, engineering goods, iron, and steel • Explore and develop mineral resources • Establish customs special supervision areas and extension of transnational industrial chains • Development of Gwadar free zone
IV. Agricultural Development and Poverty Alleviation
<ul style="list-style-type: none"> • Upgrade existing agricultural infrastructure and strengthen horticulture production • Strengthen drip irrigation technology for better water management and efficiency • Promote water-saving modern agricultural zones • Crop farming, livestock breeding, forestry and food growing, and aquatic and fishery • Production of inputs, such as pesticides, fertilizer machinery, and support services • Medicines and vaccines for forestry, horticulture, fisheries, and livestock
V. Tourism
<ul style="list-style-type: none"> • Promote coastal tourism along Gwadar and Karachi ports • Improve service in cross-border areas for better public information, transport, and security
VI. Livelihood and Nongovernment Exchanges
<ul style="list-style-type: none"> • Application of international and PRC urbanization concepts in Pakistan • Uptake of PRC technology for better public service delivery in transport, water supply, and drainage • Promote effective higher education and vocational training linkages with the PRC • Improve social welfare cooperation along the corridor
VII. Financial Cooperation
<ul style="list-style-type: none"> • Promote regulatory cooperation between central banks • Enhance financial market inclusion and deepening through cross-border credit • Cooperation between the stock exchange and development of securities market, and multicurrency direct financing of central and local governments

Source: Ministry of Planning, Development and Reforms. 2017. *Long Term Plan for the China–Pakistan Economic Corridor (2017–2030)*. Islamabad.

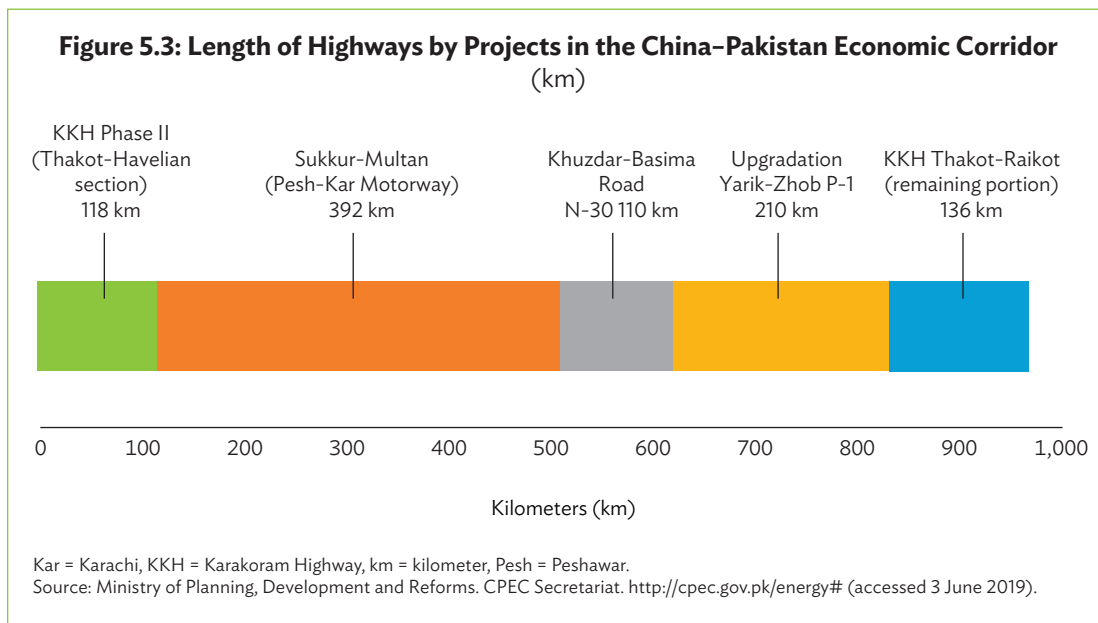
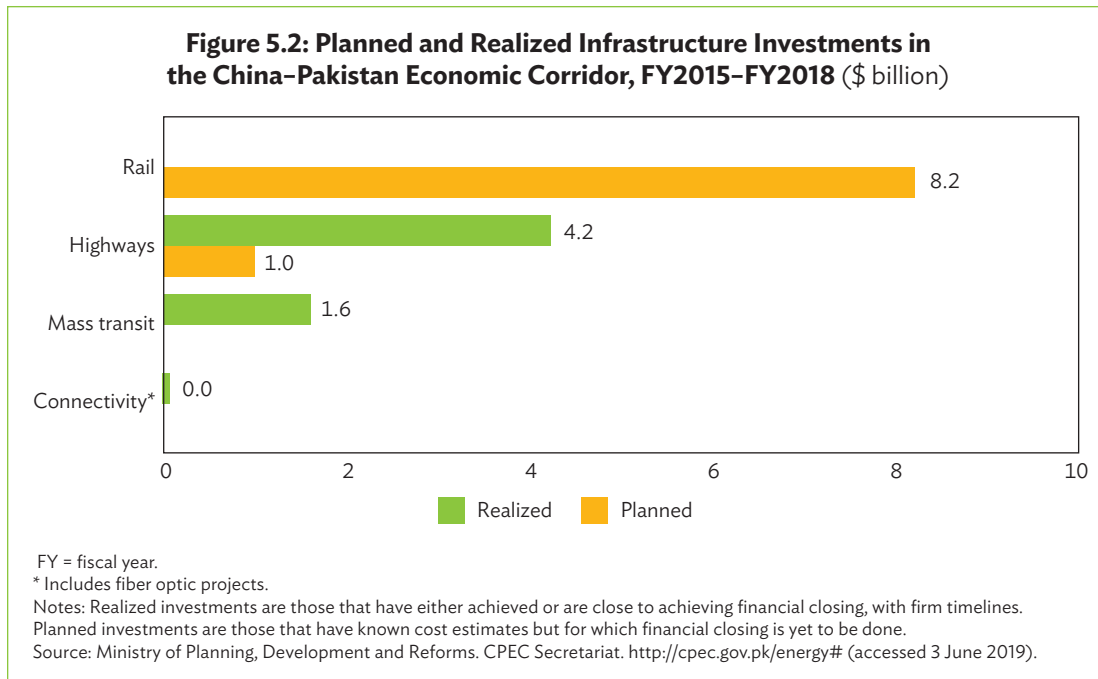


5.2 Overview of Transport Connectivity Investments

Transport infrastructure projects involving the construction of highways, mass transit, and rail and connectivity have an estimated planned investment of \$15.1 billion, of which \$5.8 billion has been realized in FY2015–FY2018 (Figure 5.2). Work on the main CPEC route has commenced with some completed or nearing completion projects. Figure 5.3 illustrates the highway projects' length in kilometers (km), which entails an investment of \$5.2 billion (planned and realized).

Pakistan has planned a network of highways connecting the northern and southern ends of the country. There are three alignments of the CPEC route: the western alignment, the central alignment connects the cities along the Indus River, and the eastern alignment. Construction has already begun, and, in fact, the PRC contractor has recently completed the Sukkur–Multan motorway along the eastern alignment. The motorway has been formally inaugurated by the Pakistan government, and it is now open to the public. It is one of the largest completed infrastructure projects under the CPEC, which could lead to productivity gains as well as define new urban centers and growth poles for economic growth.

The planned rail sector project as part of the CPEC could lead to the revival of Pakistan Railways with the expansion and reconstruction of the Main Line-1 (ML-1) and an investment of \$8.2 billion. The financing modalities and technical details of ML-1 have yet to be finalized. The Government of Sindh also plans to propose that the Karachi Circular Railway project become a part of the CPEC. Worth mentioning also is that Pakistan Railways is dependent on government subsidies as it is weighed down by insufficient revenues partly because of very low freight traffic; in FY2017, for example, Pakistan Railways incurred a loss of PRs40 billion (Pakistan Railways 2017).



Gwadar Port

Gwadar is a deep-sea port in Balochistan province of strategic and economic significance to Pakistan. It provides critical sea access to the provinces of western PRC via the CPEC road and rail networks. In 2019, Gwadar port was leased to China Overseas Ports Holding Company Pakistan (Pvt) Limited for 40 years on a build–operate–transfer basis. The port has an investment commitment of \$780 million under the CPEC, which is financed by concessional loans, interest-free loans, as well as grants for various projects such as the upgrading of the terminal to allow larger ships to dock and infrastructure development for a free trade zone (FTZ) and export processing zones (EPZs).

Evidence suggests that Pakistan is expected to receive a 9% share of Gwadar port's total income and 15% of the FTZ's total income.¹³ China Overseas Ports Holding Company Pakistan (Pvt) Limited manages the FTZ through Gwadar Free Zone Company Limited and has been allocated 2,280 acres of land. Alongside the Gwadar Free Zone, the Gwadar Industrial Estate Development Authority of the Government of Balochistan and the EPZ Authority of the federal government is developing 4,000 acres of land. Several social sector projects have also commenced in Gwadar, including the upgrading of the existing 50-bed hospital, creating access to water treatment facilities, and developing a vocational training center.

5.3 Policy Recommendations

The CPEC investments improved Pakistan's connectivity. To fully explore the potential benefits, this study proposes some policy actions which could raise income from exports and enhance fiscal capacity of the government.

First, **undertake structural reforms** to unleash the potential for private sector development. Structural reforms to support the private sector will enhance Pakistan's competitiveness, productivity, and access to the global market. They could be critical to reducing the large trade deficit and boosting the foreign exchange reserves. Possible reforms could include the following, but would not be limited to (i) rationalizing business regulations and taxation; (ii) improving trade facilitation and logistics; (iii) augmenting human capital development and labor market efficiency; and (iv) strengthening financial inclusion along with deepening the capital market.

Second, broaden the tax base to **unleash the country's tax revenue potential while improving the perceived fairness of the tax system**. The International Monetary Fund estimate suggests that Pakistan's tax capacity is about 22.3% of GDP, implying a tax revenue shortfall of more than 10% of GDP in FY2019 (IMF 2016). Pakistan's estimated tax effort at 0.52 in FY2019 is significantly below the average of comparator developing countries (0.64) and high-income countries (0.76).¹⁴ The government's recent measures to broaden the tax net are steps in the right direction. But more could be done by implementing a rigorous reform agenda to broaden the tax net, such as (i) cutting tax concessions and exemptions; (ii) addressing structural weaknesses in fragmented tax administrations; and (iii) improving economy-wide tax compliance. These would add revenue to the government treasury and improve the economy's overall competitiveness by increasing exports and reducing imports.

Third, **utilize the transport infrastructure built under the CPEC more effectively and efficiently** to maximize investment return by converting it into a multilateral initiative. For instance, economic connectivity and integration with the landlocked Central Asian countries could provide the CAREC participating countries with efficient and effective access to global markets through the strategically located Gwadar port. This could help Pakistan maximize its strategic location and become the economic hub in Central, West, and South Asia. In this context, links with the CAREC countries could be strengthened, particularly on trade-related issues, such as standards, sanitary and phytosanitary measures, customs procedures, rules of origin, e-commerce, and intellectual property rights. Consequently, Pakistan could increase toll and tax revenues while developing mutually beneficial economic partnerships for boosting export income.

¹³ Zhao, L. Ministry of Foreign Affairs Twitter Post. 28 November 2017. 2:03 a.m. <https://twitter.com/zlj517/status/935569816466976768>.

¹⁴ Tax effort is estimated as a ratio between actual revenue and potential revenue.

Finally, **expedite the development of the nine SEZs planned along the CPEC routes.**

Given their high-risk and high-return nature, SEZs should be developed based on global best practices and local knowledge with an aim to attract the PRC's export-oriented sunset industries. The PRC's wage rise and the policy shift from low-end manufacturing to technologically advanced manufacturing have made the production of export-oriented goods and services unfeasible in the PRC. The PRC government, therefore, is expected to relocate these industries to other developing countries. Pakistan could be well-positioned to negotiate for the relocation of such industries on mutually beneficial terms. The recent consultation between Pakistan and the PRC on the framework agreement for industrial cooperation through business joint ventures and SEZs development is welcome and could promote Pakistan's industrial activities. Moreover, the Pakistan government notified in December 2020 a high-level Special Technology Zone Authority with its Board of Governors headed by the Prime Minister. This should help foster the development of technology zones and high-tech industrial parks to help revive and diversify Pakistan's remanufacturing and exports.

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6. Urban Development, Land-Use Planning, and Economic Corridor Development in Pakistan

Syed Hasan and Kiyoshi Taniguchi

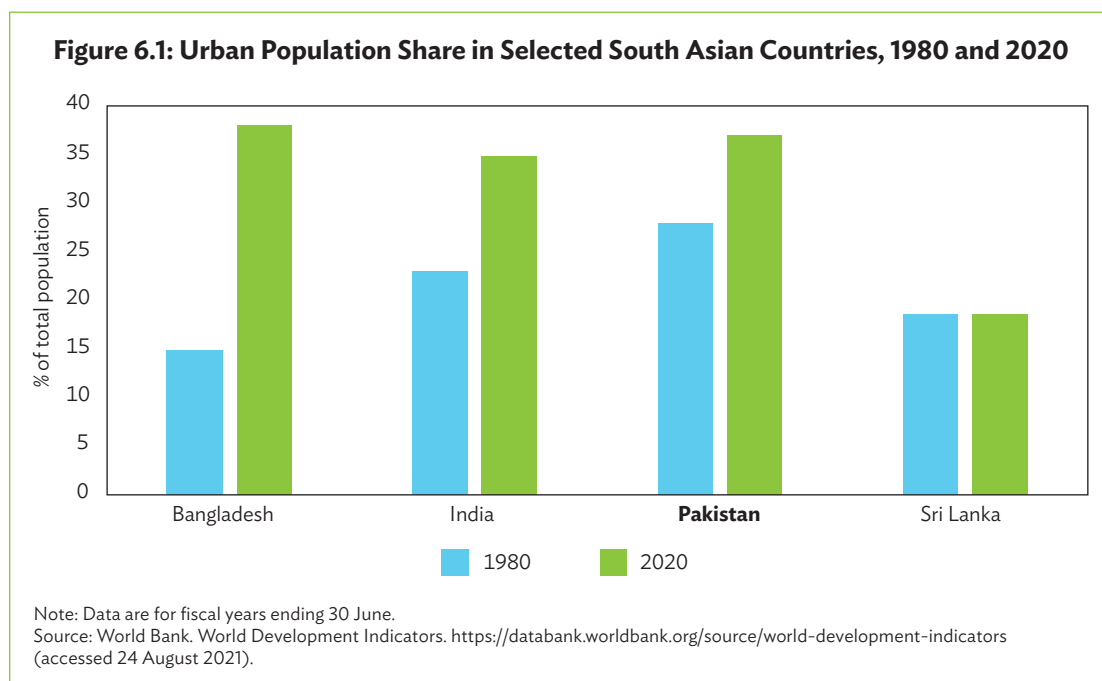
Economic corridor development (ECD) has become a popular strategy for promoting national and regional development. Better domestic and international economic connectivity and integration underpin business and urban growth, cluster development, and agglomerate network economies. The experience of Asian countries demonstrates that ECD can be an integrated spatial strategy and effective development tool when planned and implemented properly. ECD enables proliferating industry, creating jobs, upgrading infrastructure, aligning infrastructure development with urban and social agglomerations, unifying domestic markets, and linking production centers with global value chains and production networks (ADB 2014). ECD requires that hard infrastructure investments such as in transport are integrated and synchronized with soft infrastructure such as trade. In addition to reducing business transaction costs, economic corridors can enhance business productivity and competitiveness and widen access to national and global markets for fostering manufacturing- and export-based industrial development for jobs and poverty reduction.

Urban development and ECD are inextricably linked, with urban centers being the locus of labor, capital, technology, knowledge, innovation, and structural transformation. Given that industrial development promotes urbanization, a successful ECD strategy will aim to harmonize these two processes. This strategy should inhibit dispersed industrialization and haphazard urbanization. Evidence suggests that while cities account for only about 2% of the earth's land, they contribute approximately 70% to global gross domestic product (GDP) (ADB 2019a). When properly planned, developed, and managed, cities can facilitate more efficient production of goods and services due to capital and workers' concentration, entrepreneurial and managerial skills, and access to markets and consumers. Notwithstanding the benefits of rapid urbanization, cities may encounter several challenges, such as growing infrastructure deficits, overstretched public services, environmental stress, and as a result, increasing risks of climate change impacts and disasters, growing inequality, violence and crime, and escalating threats from terrorism and cyberattacks (ADB 2019b). These challenges could stem predominantly from poor governance, lack of robust spatial and economic planning, and suboptimal land use, obstructing cities from yielding optimum socioeconomic dividends from urbanization opportunities.

While cities in Pakistan are relatively vibrant, they are becoming increasingly disorderly, complex, and congested. To meet the challenges of rapid urbanization, and particularly to succeed in ECD, it is important to identify and address the key constraints for building well-performing urban centers and integrating infrastructure public service systems to support industrial development.

6.1 Urbanization Status and Trends in Pakistan

Pakistan is one of the most urbanized countries among South Asian countries, with an urban population accounting for 37.2% of the region's total population in fiscal year (FY) 2020 (Figure 6.1).¹⁵



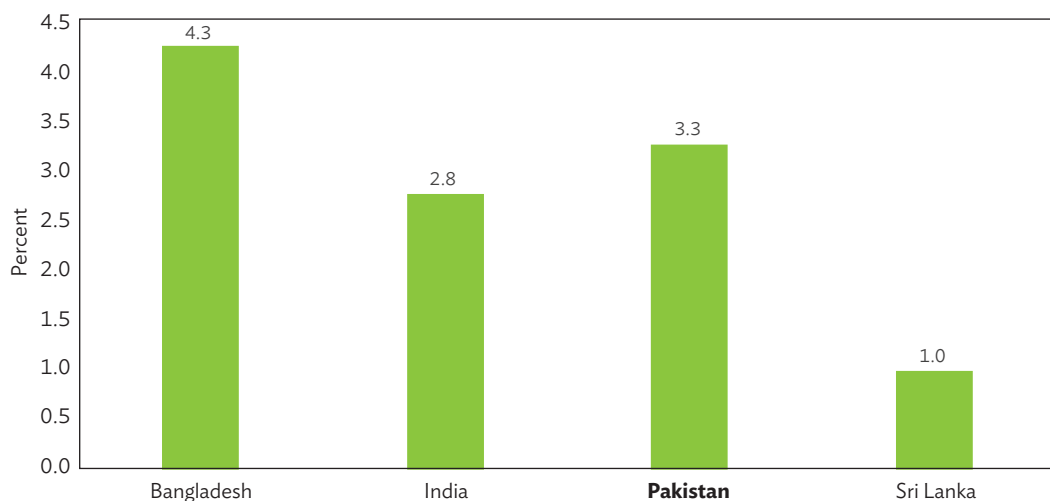
In 1980–2020, Pakistan's average annual urbanization rate was 3.4%, behind only Bangladesh among the South Asian countries (Pakistan Bureau of Statistics 2020). Pakistan's urbanization rate is envisaged to remain high, with its share of urban population to total population projected to increase to about 50% in FY2025 (UNDESA 2019).

Rural-urban migration and natural increases accelerate the pace of urbanization. Traditionally, the emergence of large urban settlements could be attributed to the concentration of jobs resulting from agglomeration and scale economies and better access to basic services. However, weak governance and a land-use model with restrictive zoning regulations have generally promoted haphazard urbanization. Consequently, Pakistan's cities have contributed much less to the economy than comparator economies. For example, Pakistan's cities constitute about 37% of the total population with a 55% share of gross domestic product (GDP). In comparison, India's urban population share to total population is only two percentage points lower than Pakistan's, but its urban sector contribution to GDP is three percentage points higher (UNDP 2019).

Furthermore, the number of Pakistan cities with a population of over 1 million has increased from 3 in 1981 to 7 in 1998 and to 10 in 2017. In 2017, Karachi had the highest urban population (14.9 million), followed by Lahore and Faisalabad (Figure 6.3).

¹⁵ The comparison of cross-country urbanization could be challenging as economies differ in their definition of an urban population. Typical measures include population density, governmental/administrative/political boundaries, or economic functions. According to the most recent definition, areas with a municipal corporation, a town committee, or a cantonment board are classified as urban in Pakistan (UNDP 2019).

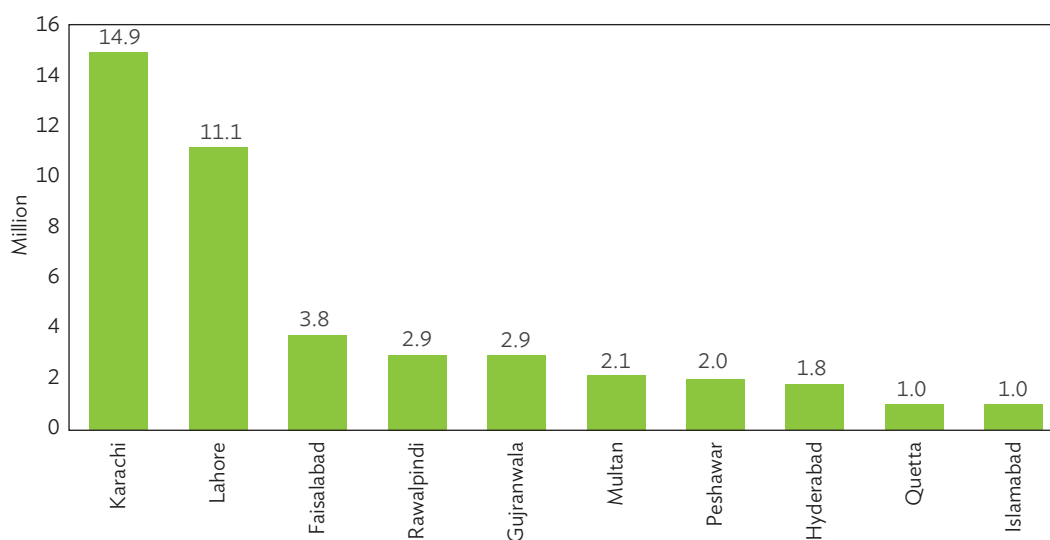
Figure 6.2: Average Annual Urban Population Growth in Selected South Asian Countries, 1980–2020



Note: Data are for fiscal years ending 30 June.

Source: World Bank. World Development Indicators Database. <https://databank.worldbank.org/source/world-development-indicators> (accessed 24 August 2021).

Figure 6.3: Urban Population in 10 Largest Districts of Pakistan, 2017

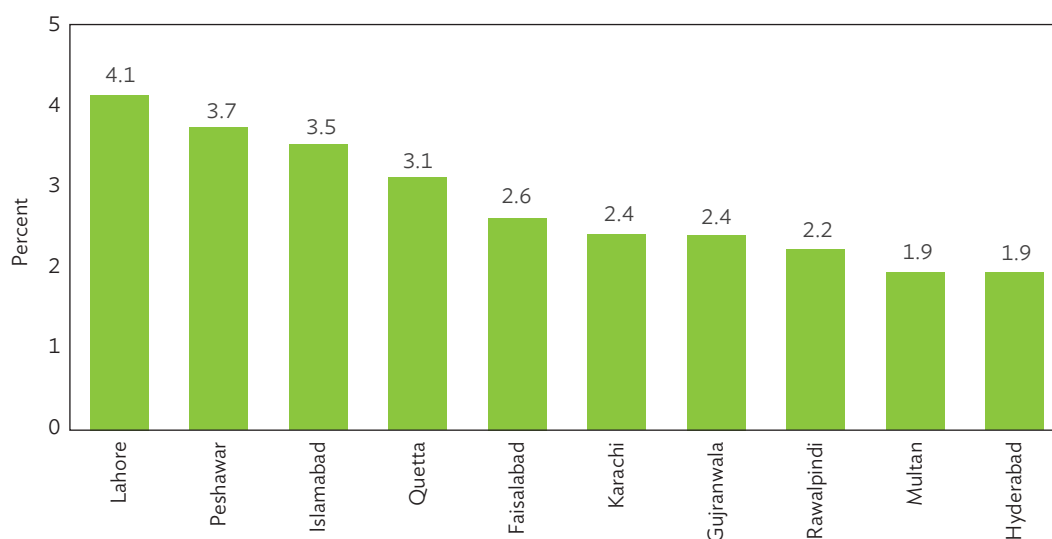


Note: Data are for fiscal year ending 30 June.

Source: Social Policy and Development Centre. 2018. *A Study of Intergovernmental Fiscal Transfers in India and Pakistan*. Karachi.

In 1998–2017, Lahore had the highest average annual growth in urban population (4.1%)—the entire district was declared urban during the 2017 population census. Peshawar followed and thereafter Islamabad, Quetta, and Faisalabad, as shown in Figure 6.4.

Figure 6.4: Average Annual Urban Population Growth in 10 Largest Districts of Pakistan, 1998–2017



Note: Data are for fiscal year ending 30 June.

Source: Social Policy and Development Centre. 2018. *A Study of Intergovernmental Fiscal Transfers in India and Pakistan*. Karachi.

6.2 Economic Profile of Major Urban Centers

Karachi

The port city of Karachi is the financial and trading hub of Pakistan. Located in Sindh province, Karachi is the largest city in the country and the fifth fastest-growing megacity globally (Sayeed, Khurram, and Syed 2016). It is also Pakistan's most ethnically diverse city, owing to large-scale migration after the subcontinent partition in 1947. Ethnic diversity has also contributed to political and social instability and sectarian conflict (Sayeed, Khurram and Syed 2016). Karachi's share of Pakistan's GDP is high, ranging from 11% to 20% in 2015 (World Bank 2018). The city contributes 55% to the federal tax revenue. In comparison, its share to direct and indirect national tax revenue stands at 35% and 65%, respectively (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). From 2005 to 2015, 14% of Karachi's population lived under the poverty line, making it the third-least poor district in the country (World Bank 2018). In 2015, the average per capita income of Karachi residents was PRs56,000, significantly higher than the average urban income of PRs46,000 per person. About 37% of Karachi's total labor force is employed, with a large chunk (64%) in the services sector (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). Karachi has a large informal sector.¹⁶ The city's main industries include coke and petroleum, chemical products, textiles, transport, food and beverages, wearing apparel, equipment, nonmetallic minerals, and basic metals. According to the Labor Force Survey 2014–2015, services/sales work, crafts and related trade work, and white-collar jobs such as managers are the most popular occupations in urban Karachi (Pakistan Bureau of Statistics 2015). Specifically, salespersons make up nearly 23% of the labor force; 12% work in food processing, woodworking, garment, and other craft and related trades; and 6% are drivers and mobile plant operators.

¹⁶ Precise estimates of informality are not available.

Lahore

Lahore is the capital of Punjab and the most developed city of the country. In 2015, the city contributed 13.2% to the national economy and 15.0% to the federal tax revenue (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). Lahore ranks among Pakistan's top three cities in the World Bank's Ease of Doing Business index. It has experienced significant industrial growth in the past few decades, as demonstrated by the registration of 2,233 factories with the government. Major industries produce food and beverages, textiles, paper and paper products, rubber and plastic products, machinery, and electrical apparatus. Lahore's employment rate is about 37%, of which 66% work in the services sector, 33% in the industry sector, and 1% in the agriculture sector (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). According to the Labor Force Survey 2014–2015, nearly 24% of workers are employed as salespersons; 9% as laborers in mining, construction, manufacturing, and transport; and 8% in food processing, woodworking, garments, and other craft and related trades. Lahore is also one of the most affordable cities in the country. In 2014–2015 for instance, Lahore witnessed the lowest rise in general prices among Pakistan's major cities. Lahore residents' per capita income is PRs60,000 annually, significantly higher than the average urban per capita income of Pakistan (UN Habitat, Ministry of Climate Change, and Australian Aid 2018).

Faisalabad

Widely acknowledged as one of Pakistan's key industrial hubs, Faisalabad ranks first among Pakistan cities on the World Bank's Ease of Doing Business index, thus making it an attractive destination for foreign and domestic investment. The city hosts 6.9% of Pakistan's large-scale manufacturing industries and is home to various specialized industrial clusters, such as textiles and apparel, light engineering, and food and beverages (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). About 37% of its total labor force are employed in the city, of which 51% are in the services sector and 49% in industries. The Labor Force Survey 2014–2015 indicates that much of the labor force is employed in sales/services, crafts, related trade work, and plant and machine operators/assemblers. Specifically, 20% are employed as salespersons, 13% as stationary plant and machine operators, and 11% as food processors, woodworkers, garments, and other craft and related trades workers. The city contributes 25% of Pakistan's trade and commerce revenue. The people of Faisalabad earn an average of PRs56,000 annually, about 22% higher than the national urban average. Faisalabad contributes only 1% to the federal tax collection, mainly because of the predominant agro-based and export industry, which is exempt from taxes (UN Habitat, Ministry of Climate Change, and Australian Aid 2018).

Gujranwala

Gujranwala is a medium-sized city in Punjab with a large informal sector, which employs 66.5% of the labor force. In the formal sector, the services sector employs 51% of the labor force, and the manufacturing sector employs 49% (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). The city is one of Punjab's industrial clusters/zones, specializing in small-scale industries, such as food and beverages, electronics, basic metals, and textiles. According to the Labor Force Survey 2014–2015, sales workers comprise 25% of the labor force; workers in food processing, wood, garments, and other craft and related trades make up 12%; and those in mining, construction, manufacturing, and transport over 8%. The average annual per capita income is PRs43,000, 8% lower than the national urban average (UN Habitat, Ministry of Climate Change, and Australian Aid 2018), which can be attributed to the presence of small-scale industries yielding low productivity

and returns. Due to its large informal sector, the city contributes only 0.5% to the federal tax collection.

Sheikhupura

Sheikhupura is also a medium-sized city in Punjab. It is an important industrial center, with industry providing employment to most of its residents. Over the years, the city has been able to attract multinationals like ICI, Nestle, and Honda (The Urban Unit Punjab 2016). Industries in the city include light engineering such as paper and paper boards, jute products, ceramics, electrical goods, pharmaceuticals, tires, and tubes. Handicrafts is also an important industry comprising mainly of brassware work, pottery, and carpet weaving. The Labor Force Survey 2014–2015 recorded 23% of the labor force working as sales workers; 15% as food processors, woodworkers, garments, and other craft and related trades workers; and over 14% in mining, construction, manufacturing, and transport.

Peshawar

Peshawar is the eighth largest urban city in Pakistan in terms of the urban population. It is the capital of Khyber Pakhtunkhwa (KPK) province, with the biggest economy driven predominantly by the services sector, which employs about 86% of the total labor force (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). The city contributes about 0.6% to Pakistan's large-scale manufacturing sector with main industries including food and beverages, electrical machinery, chemical materials, and furniture. Peshawar contributes about 2% to the national treasury. Its average per capita income at PRs67,000 is significantly higher than Pakistan's mean per capita urban income.

Quetta

Quetta is the capital of Balochistan province. It is the ninth largest urban city of Pakistan with a population of about 1 million. The economy is predominantly driven by the services sector, which employs 74% of the total labor force. The city's contribution to Pakistan's large-scale manufacturing is meager at 0.6%, with key industries including petroleum and chemical, transport and equipment, and food and beverages (UN Habitat, Ministry of Climate Change, and Australian Aid 2018). Quetta contributes only 0.9% to the national exchequer, the lowest among the top urban cities due to a small formal economy. Per capita income is PRs37,000, about 22% below the country's average urban per-person income.

6.3 Urban Governance Structure

Pakistan's urban governance structure is complex. Multiple processes and institutions influence and manage an urban area, which often results in poor coordination between these parallel and sometimes competing management entities, complicating urban management and often weakening service delivery (World Bank 2016a). The 18th amendment to the Constitution of Pakistan devolved significant powers from the central government to the provinces. It required the provinces to, in turn, devolve political, administrative, and financial responsibility and authority to local governments under Article 140A of the Constitution (Centre of Peace and Development Initiative 2018). The local government system in Pakistan has three tiers: district, tehsil/town, and union council, each designated with their respective functions and service responsibilities.

The district government is responsible for managing agriculture, community development, education, and health; the tehsil level for municipal infrastructure facilities; and the union councils oversee community-based services (Centre of Peace and Development Initiative 2018).

Provincially administered civil servants manage the local government. Since local government acts are formulated separately by each province, they vary in devolution scope and scale. The degree of devolution is greater in KPK, where power is delegated to the village and neighborhood councils, whereas in other provinces, the smallest government structure is the union council. The functions executed by local governments also vary by province. The district government is usually assigned to provide infrastructure and basic social services to the rural regions. The tehsil government offers the same benefits to the metropolitan areas, and the union councils help the village councils and neighborhood councils responsible for proposing projects (World Bank 2016a). District councils in rural areas and metropolitan corporations in the urban regions occupy the local government's highest tier in every province. In provincial and federal capitals, a mayor heads the metropolitan corporations, while municipal committees headed by a chair lead all other metropolitan regions of districts.

Besides the three-tiered system, many parallel institutions operate within the urban space of most cities. Development authorities¹⁷ are autonomous bodies under provincial governments designated to develop action plans for the respective cities' future development (Ahmad and Bhatti 2018). They also undertake projects related to public works, water sewerage and transport, and further urban land expansion. Another entity, cantonment boards, has jurisdiction over military cantonments under the Military Lands and Cantonments Department and the Ministry of Defense (Commonwealth Local Government Forum 2015). Similarly, defense housing authorities are the army's real estate entities governing the housing and municipal services in defense areas across cities.

Table 6.1: Local Government Structure of the Provinces of Pakistan

	Punjab	Sindh	Balochistan	Khyber Pakhtunkhwa
Act	Punjab Local Government Act 2013	Sindh Local Government Act 2013	Balochistan Local Government Act 2010	KP Local Government (Amendment) Act, 2019
Urban areas	<ul style="list-style-type: none"> · Metropolitan corporation (only for Lahore) · Municipal corporations · Municipal committees 	<ul style="list-style-type: none"> · Metropolitan corporation (only for Karachi) · District municipal corporations · Municipal corporations · Municipal committees · Town committees · Union committees 	<ul style="list-style-type: none"> · Metropolitan corporation (only for Quetta) · Municipal corporations · Municipal committees 	<ul style="list-style-type: none"> · City local government · Neighborhood councils
Rural areas	<ul style="list-style-type: none"> · District councils · Union councils 	<ul style="list-style-type: none"> · District councils · Union councils 	<ul style="list-style-type: none"> · District councils · Union councils 	<ul style="list-style-type: none"> · Tehsil councils · Village councils

KP = Khyber Pakhtunkhwa.

Source: Centre for Peace and Development Initiatives. 2018. *Budget Making Process and Development Project Implementation at District Level in Pakistan*. Islamabad.

¹⁷ Formerly known as improvement trusts.

Basic urban services, such as urban water supply management, fall within the municipality's scope for small and medium-sized towns; the water and sanitation agencies in five large cities of Punjab and one city in Balochistan; and the Karachi Water and Sewage Board in Karachi. Solid waste management is assigned to municipalities, but it is delivered by a mix of public and private operators. Similarly, the provincial government and municipalities share responsibility for road construction—the provincial government delivers the main and outer roads while the municipalities are in charge of the inner and small roads. The provincial government and the private sector manage and operate local public transport.

Urban Development in Karachi

Karachi has a complex urban management framework comprising multiple institutions, which often leads to coordination problems resulting in haphazard urbanization (Ahmed 2010). Currently, the Karachi Metropolitan Corporation (KMC) and the six district municipal corporations (DMCs) manage the local government functions.¹⁸ An elected mayor is in charge of the KMC, while the rest of the local government units are run by elected chairpersons. These local government units were operationalized under the Sindh Local Government Act 2013, which specifies their composition, function, scope, and other related matters. The Government of Sindh appoints municipal commissioners and civil servants, giving them the highest executive authority. The Sindh government is also empowered to oversee and regulate Karachi's local government (World Bank 2016b). Besides the KMC, various authorities control and manage land and housing, although land control and ownership in Karachi is fragmented across federal, provincial, local, and private institutions. Since the KMC or the Karachi Development Authority does not have legal or administrative control over other development agencies, the unsynchronized approach could result in messy urbanization.

Under the Sindh Local Government Act 2013, DMCs and the KMC are responsible for solid waste management. Each DMC is assigned to collect waste and transport it to designated KMC dumpsites. In addition to providing dumpsites, KMC also provides transportation support to DMCs (Wardah et al. 2016). The Sindh Solid Waste Management Board, a provincial body established in 2014, was made responsible for solid waste collection and disposal in major urban centers. While the local government and provincial town planning departments develop and maintain the water supply schemes, the Karachi Water and Sewage Board produce and distribute potable water to Karachi residents (Government of Sindh 2016).

Many government agencies are directly or indirectly involved in operating Karachi's transport sector, among them the provincial transport and mass transit departments, KMC, the provincial transport authorities, the Karachi Public Transport Society, and the Engineering Bureau in the Karachi Development Authority. The role of KMC and the DMCs is restricted to managing roads, streets, parking, and permitting some transit routes (World Bank 2018). Since no authority is tasked to bring these agencies together, the ensuing coordination problem could result in inefficient and ineffective transport services (International Institute for Environment and Development 2015).

Urban Development in Lahore

As with Karachi, Lahore's urban management framework is also complex and susceptible to messy urbanization. The Lahore Development Authority is responsible for constructing and maintaining infrastructure facilities and creating a comprehensive development plan for the city. It has

¹⁸ District Central, District West, District East, District South, Malir, and Korangi.

three major wings: the Urban Development Wing, Water and Sanitation Agency, and the Traffic Engineering Planning Agency (Ahmad and Bhatti 2018).

Many public sector organizations also manage land and housing development in Lahore. At the provincial level, the Housing, Urban Development and Public Health Engineering Department is responsible for policy, planning, and allocation of land/housing in rural and urban areas. At the district level, the Lahore Metropolitan Corporation approves spatial plans and development schemes. It also manages municipal infrastructure and services while acting as environmental control and regulatory body. The Lahore Metropolitan Corporation is further divided into nine zones/town/tehsil municipal administrations each with jurisdiction over their respective towns. These include Samanabad, Aziz Bhatti, Ravi Town, Shalimar Town, Nishter Town, Data Gunj Bakhsh, Wagha, Gulberg, and Allama Iqbal Town. Other agencies or boards such as the cantonment boards, defense housing authorities, Model Town Society, and Walled City Development Authority prepare and execute development plans for their respective areas and exercise control over zoning, land subdivision, land use, building, and land development. The overlapping functions and jurisdictions of these different institutions could hamper the effective and efficient implementation of urban development initiatives (Niaz and Anjum 2012).

Planning, designing, and construction of water supply, sewerage, and drainage facilities fall within the purview of water and sanitation agencies. Additionally, the Lahore Cantonment Board, the Walton Cantonment Board, the Defense Housing Authority, Model Town Society, Pakistan Railway, and many private housing schemes are responsible for water supply in their respective areas. The Public Health Engineering Department is in charge of installing water supply schemes in Lahore's rural areas (WWF 2014). The Lahore Waste Management Company (LWMC) oversees waste management and disposal and handles the collection, storage, transportation, and disposal of waste (Government of Punjab 2019). Interdepartmental coordination is poor because of overlapping and unclearly defined responsibilities and roles of different institutions, impeding effective implementation of water conservation and management strategies.

In the transport sector, the Punjab Mass Transit Authority is tasked with the planning, construction, and operation and maintenance of mass transit systems in the major cities of each province. The Punjab Mass Transit Authority established the Green Line (or metro bus). Still another authority operating as a regulatory body and whose responsibility is the smooth and sustainable transport system is the Lahore Transport Company (Niaz and Anjum 2012).

6.4 State of Pakistan's Urban Infrastructure and Services

Transport

Pakistan's urban transport infrastructure remains poor, albeit with recent improvements. Infrastructure investments have not met the great demand that typically accompanies high urbanization rates. Thus, traffic has become highly congested, causing low mobility and adversely affecting business productivity and competitiveness. Evidence suggests that the inefficiencies resulting from the poor reach of its transport infrastructure and quality have contributed to GDP loss of 2%–4% annually (State Bank of Pakistan 2012). Although the public sector undertook several initiatives, these were mostly disbanded, and urban transport was left to the private sector, which relied mainly on inefficient solutions such as the minibuses, wagons, and recently the *qingchi*, a locally manufactured motorcycle-driven six-seater carriage. This approach has only

aggravated urban congestion, fuel inefficiency, traffic accidents, and environmental degradation at great loss to the economy and the people's welfare. Overall, weak transport policy and planning and poorly implemented regulations and traffic management are the largest barriers to an effective and efficient urban transport system across all of Pakistan's cities. As Pakistan's urban centers can continue to expect upward growth, a well-functioning urban transport system would be needed to reduce business transaction costs and improve the standard of living.

Upon gaining independence in 1947, Pakistan's only intercity transport was the railway. Pakistan's railway network currently covers over 12,700 kilometers (km) of which 8,500 km was inherited from the British colonial era. The main railway lines run from Karachi to Peshawar, connecting the important cities of Hyderabad, Bahawalpur, Multan, Lahore, Rawalpindi, and Peshawar. Another mainline links Quetta with the rest of the country.

Pakistan also has an extensive network of roads and highways, linking cities such as the Grand Trunk Road between Lahore and Peshawar, the Super Highway linking Karachi with the interiors of Sindh and Punjab, the Indus Highway linking Peshawar with the southern Punjab, and the RCD Highway linking Karachi with Quetta.

The completion in the 1990s of the Lahore–Islamabad Motorway and later the Faisalabad–Pindi Bhatian Motorway, the Islamabad–Peshawar Motorway, and the Karachi Gwadar Coastal Highway is an important milestone in the development of road transport infrastructure. The rail and road infrastructure projects under the China–Pakistan Economic Corridor (CPEC) are expected to further improve Pakistan's intercity transport. Figures 6.5 and 6.6 show the modal choices and growth of various types of vehicles, which can explain some of the dynamics of urban transportation choices in the major cities of Pakistan. Two important trends are the increase in the proportion as well as the growth of motorcycles and decrease in the proportion of buses across all major cities, except Karachi. As such, commuters are switching to personal vehicles in major cities of Pakistan because of the poor coverage and quality of public transport, only worsening traffic congestion.

Figure 6.5: Transport Modal Choices in Selected Major Cities, 2017

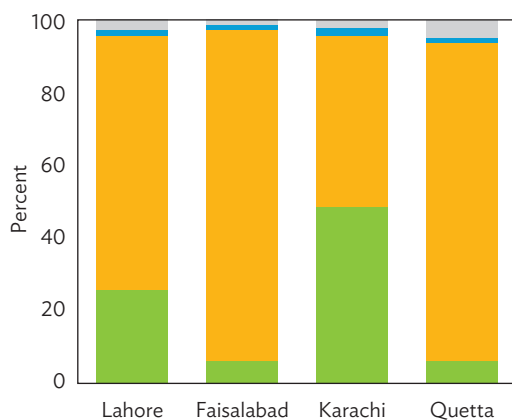
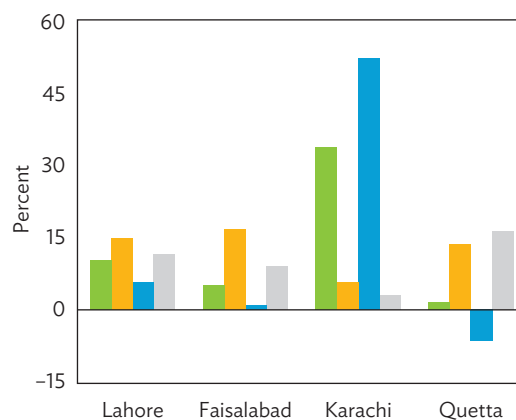


Figure 6.6: Average Annual Growth in Transport Modal Choices in Selected Cities, 2007–2017



Sources: Government of Sindh, Bureau of Statistics. 2018. Development Statistics of Sindh 2018. Karachi; and Government of Punjab, Bureau of Statistics Punjab. 2018. Punjab Development Statistics 2018. Lahore.

The rest of this section examines the state of transport infrastructure in two of Pakistan's largest and most urbanized cities—Karachi and Lahore.

Transport Infrastructure in Karachi

Karachi is one of the fastest-growing cities in the world, with a population reaching over 14 million in 2017. As demand surged along with high population growth, public sector inefficiencies became prevalent, revealing the inadequate coverage and quality of Karachi's public transport system and subsequently causing heavy traffic congestion. In addition to impeding business productivity and competitiveness and affecting the quality of life, this constraint promptly limited people's choices to workplaces close to their homes.

To meet Karachi's growing transport demand, the Karachi Circular Railway was developed initially in 1964, primarily for carrying freight. It was lengthened to a full 44-kilometer (km) circle in 1970 to connect four important industrial areas, including Port Qasim, the Sindh Industrial Trading Estate, the central business district (CBD), and the Landhi Industrial Area. The railway was also extended to serve passengers following the high demand. In the 1980s, it operated 24 full-circle trains per day, serving around 6 million passengers (International Institute for Environment and Development 2009). However, in the mid-1980s, service started to decline due to a lack of trains and tracks and station maintenance, resulting in insufficient demand and annual losses of PRs6 million. Finally, in 1999, the operation was suspended. In 2005, the railway attempted to revive this service by operated limited routes. However, a large spatial expansion of the city, rent-seeking activities of private transport operators, and lack of policy to integrate it into a larger Karachi transport plan led to the Karachi Circular Railway's failure.

To address the transport issues, qingchis were introduced. Although they helped ease transport shortage, they are generally considered unreliable, unsafe, and unfit for main roads. Traffic police officials and transport specialists often criticize them as one of the top causes of traffic jams in Karachi and other Pakistan cities. Karachi's highly congested and inefficient urban transportation system needs significant planning and investment. Some pipeline projects in this regard include the revival of the Karachi Circular Railway and the development of bus rapid transit (BRT) systems under the Japan International Cooperation Agency (JICA)-supported Karachi Transportation Improvement Project and the CPEC.

Transport Infrastructure in Lahore

As stated earlier, Lahore is Pakistan's second-largest city, with a population of more than 11 million who live in an area of about 2,000 square km. Historically, the need for motorized vehicles was low because of the close proximity of residential areas to markets and community places. The *tonga* (horse-drawn cart) was the most popular mode of travel during that time along with the Omni bus service in the main city. The Motor Vehicle Law of 1939, which was amended and implemented in 1951 established the Punjab Road Transport Board to provide cost-effective and efficient public transport services in Punjab.

The master plan for greater Lahore was designed in 1966 and envisioned the city as a metropolitan area of a 20–25 km radius. The plan proposed to build a mass transit system by connecting the existing railway lines passing through the city to form a circular network. The plan was never implemented due to resource constraints, and the city grew way beyond the planned area, resulting in haphazard urbanization. The Lahore Urban Transport Master Plan 2012, prepared with the help

of JICA is the most recent urban transport policy (Government of Punjab and JICA). This plan envisions the Lahore transport network as a composite of the light rail mass transit system and the BRT system, with a comprehensive network of feeder routes operated by different vehicle types. The Lahore Urban Transport Master Plan proposed the construction of one light rail mass transit system and seven BRT lines during 2012–2020 and an upgrade for two BRT lines into a light rail mass transit system in 2030. Since 1991, urban specialists have underscored the need for a mass transit system in Lahore.

The government commenced construction on the first transit line involving the lower-cost BRT system instead of the originally proposed rail line. Known as the Metro Bus, the project was completed in early 2013 and connected the entire city from north to south, covering about 26 km and serving a daily capacity of 200,000 commuters, approximately 2% of Lahore's entire population. The metro bus system operates on a reserved lane to allow uninterrupted mass transit. Overall, this project has improved the quality and efficiency of Lahore's public transport system, saving travel time significantly and thus enhancing productivity and competitiveness. In 2014, the government announced plans to build the second recommended transit line, the Orange Line, as a light-rail line. This project commenced in 2015, but it has been facing issues relating to land acquisition and heritage sites.

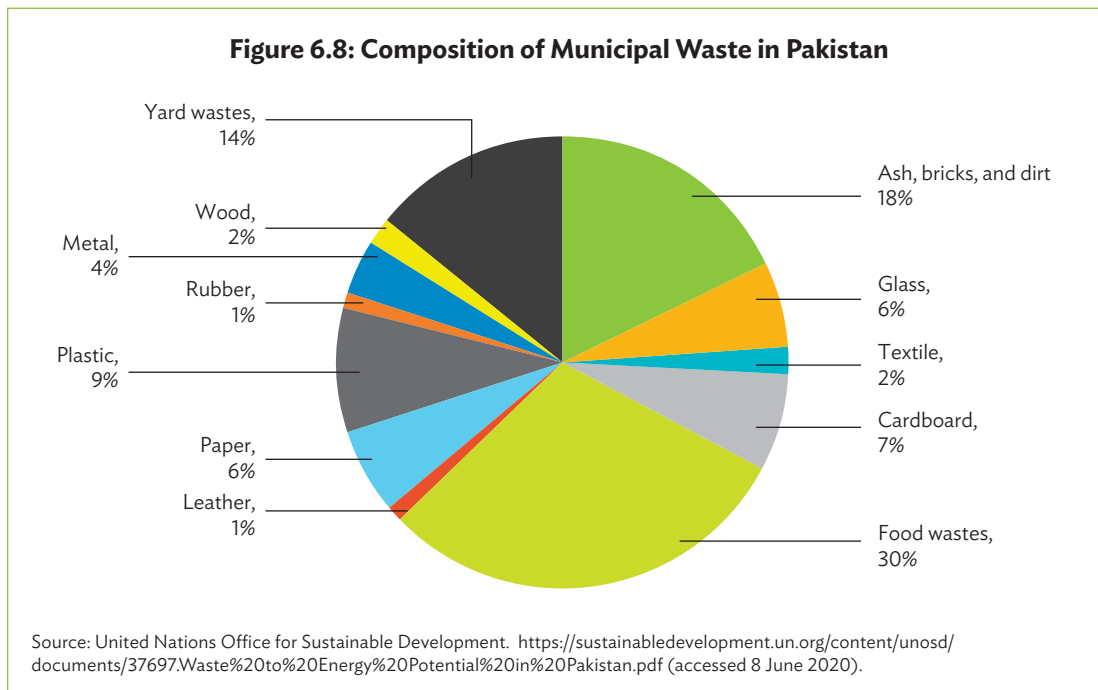
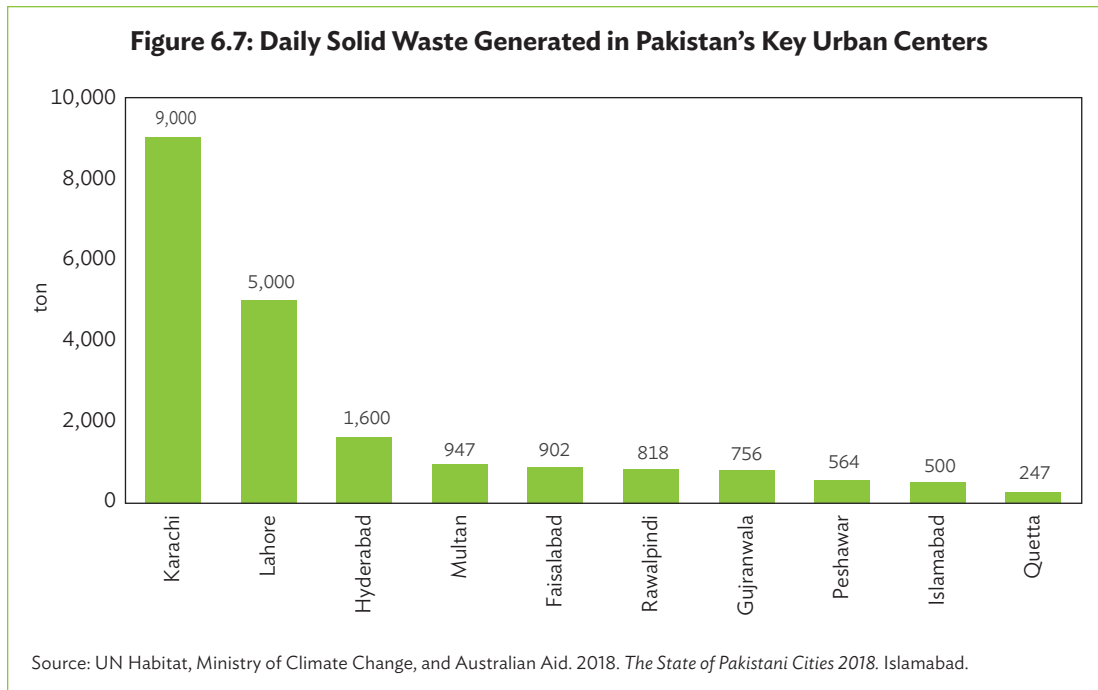
Solid Waste Management System of Pakistan

An effective and efficient solid waste disposal system is critical for improving the productivity and sustainability of Pakistan's urban centers in general and, by extension, the industrial workers, particularly around ECD. The Pakistan Environmental Protection Authority and the provincial environmental protection agencies are the main regulatory bodies for implementing the Environmental Protection Act 1997, which stipulates solid waste management rules and regulations. The local governments are responsible for seeing that the waste management provisions specified in local government ordinances are followed. However, the continued strong growth of urbanization and industrialization in Pakistan has put its waste management system under stress, posing serious environment and public health risks.

Pakistan produces around 20 million tons of solid waste every year, which is increasing by about 2% per annum. Being the largest urban and economic center, Karachi generates more than 9,000 tons of waste every day (UN Habitat, Ministry of Climate Change, and Australian Aid 2018), followed by Lahore (5,000 tons), Hyderabad (1,600 tons), Multan (947 tons), and Faisalabad (902 tons), as depicted in Figure 6.7.

The most common types of solid waste in Pakistan are municipal, industrial, agricultural, and hazardous waste (Figure 6.8).

The waste management system in Pakistan's urban cities is weak in terms of collection, transportation, and disposal. A large amount of uncollected waste is causing clogged drains, stagnant ponds, breeding grounds for mosquitoes and flies, which pose serious health risks such as malaria and cholera. Furthermore, the collected waste is largely dumped on the ground, in open pits, ponds, rivers, and agricultural land. Some of the key reasons for improper urban waste management systems include insufficient resources and outdated infrastructure; lack of rules, regulations, and standards and weak implementation; lack of public awareness; limited private sector participation; and high corruption. The rest of this section examines the state of the solid waste management system in Lahore.



Solid Waste Management System of Lahore

Lahore is administratively divided into nine towns, which are further divided into 150 union councils. Currently, solid waste management is the responsibility of LWMC, which was established in 2011 for the collection of waste, transportation, and disposal. LWMC outsourced a part of the waste collection work to two private Turkish companies. As the population grew and the city expanded, the amount of waste in Lahore increased over the years, at per-capita estimates ranging from

0.5 to 0.7 kilograms (kg) per day (Ministry of Environment 2015). Waste generation rates depend on household income, time of year, and occurrence of cultural or religious activities. According to LWMC, municipal solid waste in Lahore is predominantly from households with some from commercial, construction, and demolition debris, sanitation residue, and waste from streets collected by a municipality within a given area.

Waste collection in Lahore is a two-pronged process: primary and secondary. The primary process involves the door-to-door collection of waste from households by either private companies or informal waste collectors. The secondary process is collecting an assortment of waste from the community waste bins placed at various locations. Two private companies collect primary waste in 17 of the 150 union councils, while unofficial waste pickers/collectors use either donkey carts or wheelbarrows to provide primary collection services in the remaining 133 union councils. Individual households usually pay these collectors every month for their services. These informal collectors sort the collected waste and transport it to the nearby container sites for secondary collection by LWMC. It is important to note that the cantonment and private housing societies have their own waste management collection system. However, the waste from these towns is dumped into either the city's designated dumpsites or on vacant plots. Masood, Barlow, and Wilson (2014) point out that the number of waste collectors deputed in any town in Lahore is influenced politically and is not based on the town's total area or population. More resources are poured into areas that have political backing because of their central location, businesses, and those that are regularly visited by politicians, while some larger towns are wholly neglected.

Efficient waste disposal is another major issue in Lahore's waste management system as there are no proper landfill sites for waste disposal. The Integrated Master Plan for Lahore–2021 approved by the Lahore Development Authority in 2004 proposed three new landfill sites, but only one of these sites, Mehmood Booti, is currently being used. LWMC uses two undesignated sites for waste disposal. The key difference between the official and unofficial sites is the ownership of land and the provision of a weighbridge. The Mehmood Booti site has been operational since 1997 and is located in the Ravi River floodplain, which flows through almost 5 km. The site has never been upgraded and because it is uncovered, landfill odor has intensified; it has become a breeding ground for vermin and pests and animal scavengers; and is at risk of an uncontrolled fire. It has been observed that waste is also sometimes dumped into the water bodies or vacant plots nearest to the collection point. Since LWMC has been operational recently, such practices have visibly lessened. Scavengers retrieve metals from the waste and solid waste management authorities have also been seen to burn waste illegally.

Water and Sanitation

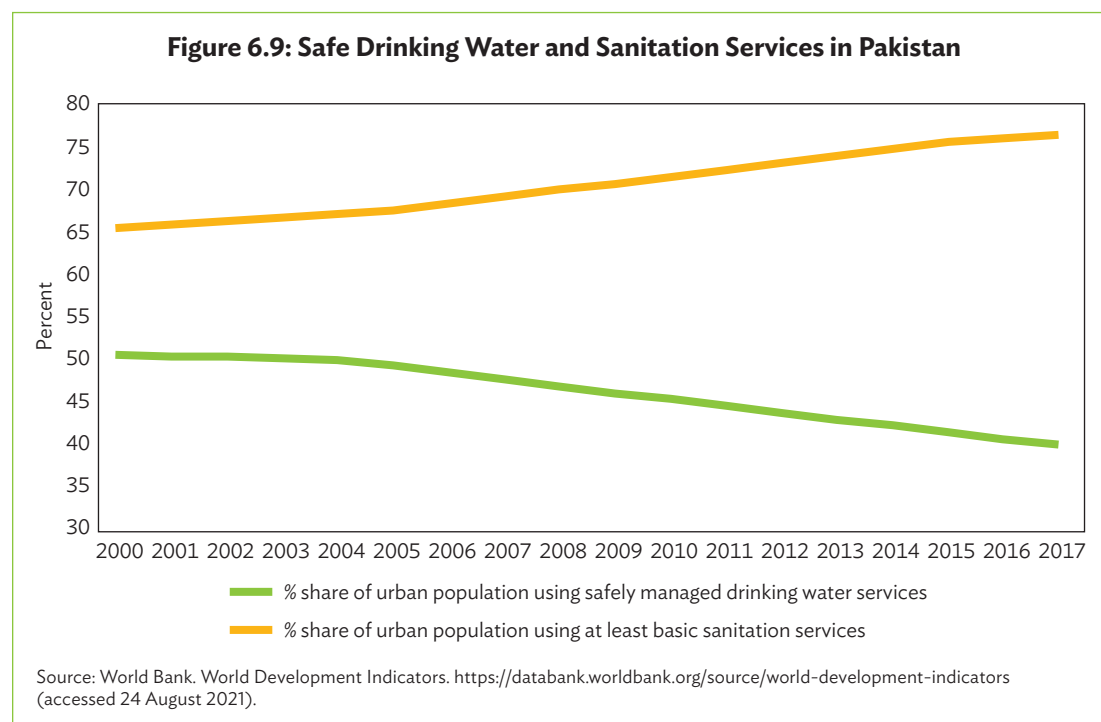
Pakistan has become a water-stressed country. In 2015, water availability declined from 2,172 cubic meters per person in 1990 to 1,306 cubic meters per capita. Annual freshwater extraction is high at 74.3%, putting considerable pressure on renewable internal freshwater resources, which has declined from 482 cubic meters per capita in 1992 to 282 cubic meters in 2017.¹⁹ The proportion of the urban population with access to clean water and sanitation facility remains low at 35% and 67%, respectively (Figure 6.9). This has brought significant health and productivity outcomes—for instance, about 39,000 children under 5 years old are dying each year from diarrhea caused by unsafe water and poor sanitation (UNDP 2016). The high population rate, rapid urbanization, water-intensive farming methods, and industrialization have only escalated water demand.

¹⁹ World Bank. World Development Indicators. <https://databank.worldbank.org/source/world-development-indicators#> (accessed 6 June 2020).

Erratic water supply due to climate change-induced lower rainfall perpetuates water shortage. Excessive pumping of groundwater has raised major concerns over its sustainability. Poor water infrastructure, such as limited storage capacity and inadequate lining of canals, only aggravates the water availability problem. Pollution of available resources, mainly from contaminated agricultural run-offs and untreated industrial and the household waste being dumped in watercourses, is another factor in dwindling freshwater supply.

Underdeveloped wastewater and sanitation treatment facilities also contribute to Pakistan's poor water quality. Biological waste treatment facilities are available in Islamabad and Karachi, but these are partially functional and can treat only 8% of Pakistan's wastewater and sanitation even at full capacity. Many toilets are connected to leaching pits or septic tanks without wastewater treatment facilities, and many households still rely on latrines. Open defecation is also common. Households mostly dump the fecal waste from latrines and septic tanks into rivers and fields, causing various health issues such as diarrhea. The annual cost of inadequate water, sanitation, and hygiene in Pakistan is estimated at \$2.4 billion (0.9% of GDP) in urban areas (World Bank 2019).

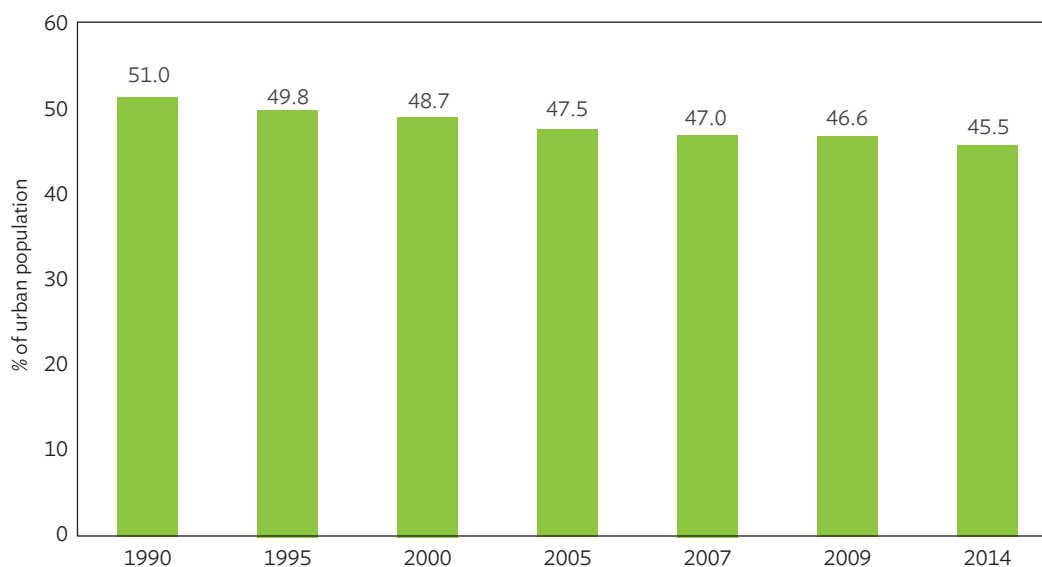
Compounding the problem is poor water sector governance and management. Although water-related laws exist, they are mostly outdated. With the adoption of the National Water Policy in 2018 water management is expected to improve, but too many recommendations outlined by the policy can make certain sections contradictory and vague. The policy may help to advance water management and reduce tensions between provinces, but without strong governance or enforcement, Pakistan will likely continue facing water security challenges (Future Directions International 2019).



Housing

There is a shortage of about 10 million affordable houses, predominantly in Pakistan’s urban centers. Weak zoning regulations have allowed floor area ratio to be set below market values, and land in suitable areas has been scarce (State Bank of Pakistan 2018). Historically, a large share of Pakistan’s urban residents has lived in slums (Figure 6.10). One of the main reasons is the absence and/or non-implementation of bylaws and zoning regulations that restrict or control land price speculations. Unproductive rent-seeking behavior has incited a land price spike for areas deemed suitable for the construction of low-income houses, sometimes classifying them as commercial, at the expense of low-income housing needs. Consequently, *katchi abadis* (slums) or informal settlements have mushroomed (World Bank 2018). In fact, our analysis shows that 74% of Karachi’s residential area was formally developed for 38% of the population, while the remaining 26% was developed informally to cater to a large 62% of the remaining population (International Institute for Environment and Development 2017). These informal settlements are urban slums, growing at twice Karachi’s annual urban growth rate (Wardah et al. 2016). In these pockets of low-income settlements, the density far exceeds the allowable limit, and living standards remain extremely low. About 1,500–4,500 persons per hectare reside in these areas, and this trend is rising (Consortium for Development Policy Research 2016).

Figure 6.10: Population of Pakistan Living in Urban Slums, 1990–2014



Source: World Bank. World Development Indicators. <https://databank.worldbank.org/source/world-development-indicators#> (accessed 6 June 2020).

The urban slums have created several socioeconomic problems as most of the inhabitants face exclusion from economic opportunities, lack sufficient income, and do not have permanent jobs. The state of infrastructure facilities and public services—such as clean drinking water, solid waste management, and sanitation—is extremely low, resulting in poor health and productivity outcomes and undermining the residents’ capacity to generate sufficient income. Deprived of their “rights to the city,” these slum residents are stuck in cyclical poverty traps (Rizwan and Nadeem 2006).

Pollution and Vulnerability to Disasters

Increased travel distance and time, a congested urban sprawl, and rising urban density have escalated the levels of air pollution in Pakistan. For instance, in Karachi and Lahore, concentrations of PM²⁰ levels far exceed World Health Organization standards. Lahore has high concentrations of primary and secondary air pollutants, specifically sulfur dioxide and fine particulate matter, and vehicle emissions account for 38%. Similarly, vehicle exhaust fumes are the source of 18% of air pollution levels in Karachi (World Bank 2014). Adding to traffic congestion caused by urban sprawl, lack of proper zoning, and inadequate enforcement of regulations also disrupt and block traffic flow. For example, many of Lahore's commercial and industrial areas have emerged outside of their designated areas mainly because of commercial activities along most roads and streets, forming ribbons of development (Lahore Development Authority 2004). Non-confinement of industrial activity to designated industrial estates and ad hoc and illegal commercialization without the requisite infrastructure and parking facilities have exacerbated traffic congestion and illegal encroachment. Additionally, loading and unloading activities of industries along the road cause frequent traffic jams.

Similarly, in Karachi, insufficient space is allocated to parking spaces, and consequently, double or illegal parking in the main business district adds to traffic congestion (World Bank 2018). An urban design plan at critical locations—such as the Quaid-e-Azam mausoleum, a gateway to the city's central commercial areas—is needed to prevent traffic obstructions. Moreover, the traffic situation on already congested roads has only worsened because of high-rise buildings being built without proper feasibility studies, including environmental impacts (University College London 2018).

Inadequate and weak building control and enforcement functions added to ineffective land planning have restricted the government's response to security, health, and disaster emergencies (World Bank 2018). The safety standards prescribed by the building codes are also improperly enforced by the implementing institutions. Buildings lack fire alarm systems, smoke detectors, sprinklers, fire extinguishers, fire escapes, and emergency exits. Similarly, deficient building codes and inadequate risk-information sharing, and weak enforcement weaken the buildings' structural preparedness against natural disasters. In fact, many existing structures in Karachi are expected to suffer major damage in the event of a high-intensity earthquake. A number of areas and settlements are also vulnerable to other shocks of similar nature, which could have devastating economic repercussions for the city.

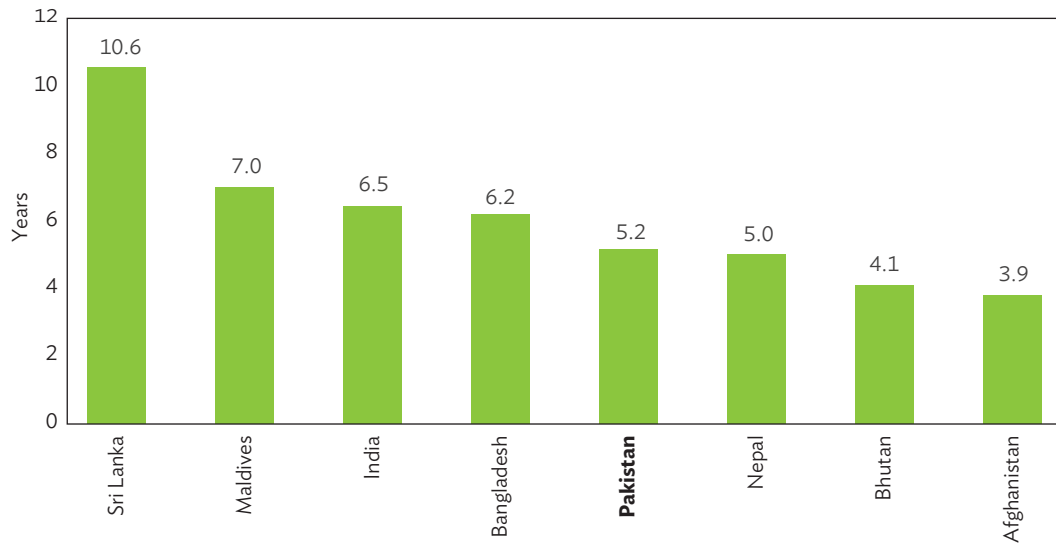
6.5 The State of Pakistan's Human Capital and Labor Market

Despite showing potential for significant socioeconomic benefits, Pakistan's education system is weak and grapples with low outreach and quality challenges, which are binding constraints on the accumulation of human capital development, labor market efficiency, and hence economic growth. The main reasons include high poverty rate, long-distance from education institutions, expensive education, outdated curriculum, obsolete teaching methods promoting cramming instead of conceptual clarification, lack of teachers' commitment and competency, high absenteeism of teachers, low literacy of parents, social taboos, unattractive education environment, lack of educational institutions and basic facilities, calamities and disasters, lack of coordination among different types of institutions, and budgetary constraints (Ministry of Federal Education and Professional Training 2017).

²⁰ PM is the term for airborne particles; it includes dust, dirt, soot, smoke, and liquid droplets. It is the air pollutant most damaging to health.

Consequently, Pakistan has one of the lowest mean years of schooling (5.2) among South Asian countries (Figure 6.11). Evidence suggests that each year of increase in schooling can expand large-scale manufacturing value-added by 1.4% (Government of Punjab 2019).

Figure 6.11: Mean Years of Schooling in Pakistan and South Asian Countries, 2019



Source: United Nations Development Programme. 2020. *Human Development Report 2020*. New York.

The urban literacy rate is also low at 74% (Pakistan Bureau of Statistics 2019). The analysis suggests that Punjab has the highest urban literacy rate at 77%, followed by Sindh, KPK, and Balochistan (Figure 6.12).

Figure 6.12: Urban Literacy Rate (10 Years and Above) in Pakistan Provinces, 2018–2019

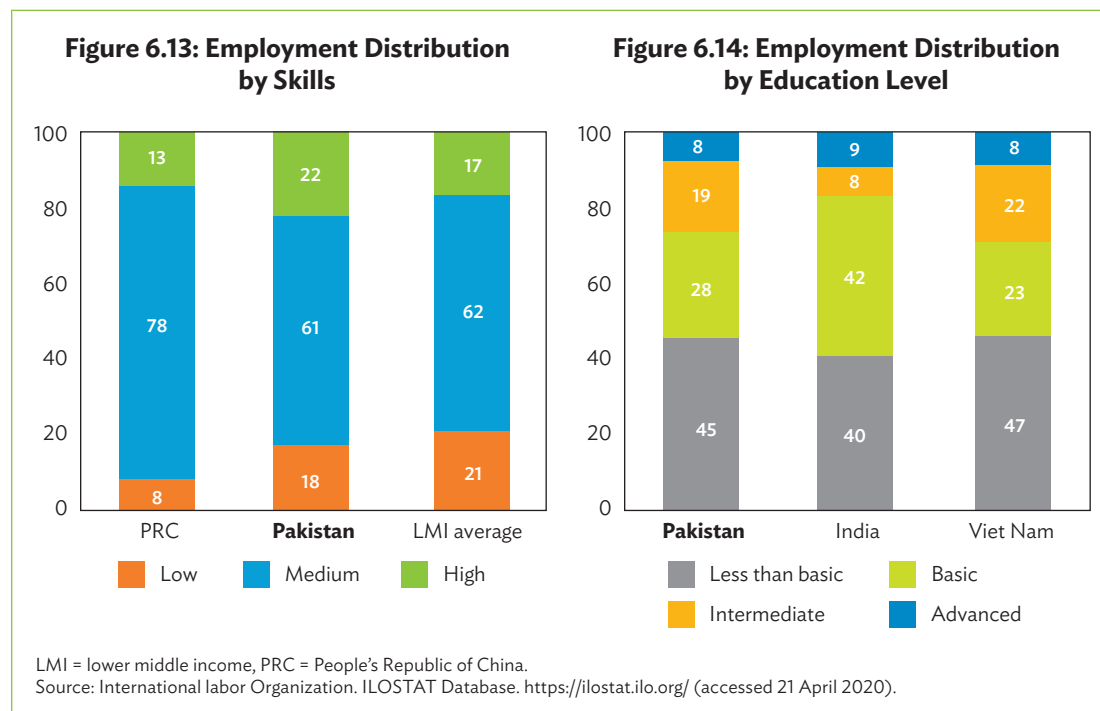


KPK = Khyber Pakhtunkhwa.

Source: Pakistan Bureau of Statistics. 2019. *Pakistan Social and Living Standards Measurement (PSLM) Survey 2018–2019*. Islamabad.

The acquisition of technical and vocational skills is currently a close substitute for schooling in Pakistan rather than a compliment, which is significant to the development of productive human capital for improved labor market outcomes. Unfortunately, Pakistan’s technical and vocational education and training (TVET) system has not performed fully.

Because of the low coverage and quality of education and TVET, Pakistan’s human and skills development remains weak, ranking 125th out of 130 countries in 2017 on the World Economic Forum’s Human Capital Index and demonstrating a low supply of skilled labor and mismatch with industry needs (World Economic Forum 2018). The manufacturing sector has also identified shortage of technical skills as a constraint on investment, especially acquisition of new technologies, which is a major obstacle in the transition to high value-added products and technology-intensive industrial activities. The general sentiment among businesses is that Pakistan’s current education and TVET system is not aligned with industry needs (USAID 2018). Figure 6.13 shows that Pakistan’s share of medium-skilled workers in the total labor force is less than both the average of lower-middle-income economies and the PRC. Moreover, the analysis shows that Pakistan’s share of workers with a basic education level is lower than India’s but slightly better than Viet Nam’s, with the latter edging out in terms of workers with intermediate and advanced degrees (Figure 6.14). Pakistan needs to ensure a well-functioning labor force to realize agglomeration economies. Cities can only thrive when they function well as labor markets, connecting both firms and workers. In this context, ensuring human capital development and knowledge transfer mechanisms to upskill and reskill the workforce for meeting the industry demand could be important.



6.6 Recommendations

Pakistan's governance system treats urbanization and industrialization as separate processes requiring different management systems. Local government units generally do not consider local economic development as part of their mandate and therefore do not actively promote industrialization. Therefore, Pakistan is yet to fully unleash the socioeconomic benefits offered by urbanization. Urban centers are congested because of the pressures brought on by the population on land, housing, transport, water and sanitation, solid waste, and education infrastructure and services. These problems lie at the heart of the relative lack of livability of Pakistan's cities. Pakistan's policies have generally fostered haphazard urbanization and scattered industrialization.

Pakistan should pursue policy reforms to alleviate existing and future congestion pressures and to facilitate the exploitation of agglomeration economies, thereby releasing the tremendous untapped potential of its cities and sustaining high inclusive growth. This is also important since ECD will likely provide additional impetus for people to migrate to urban and industrial areas to increase job opportunities. Policy interventions could be based on the following strategic thrusts:

- (i) **Develop an evidence-based targeted strategy for delivering an affordable and efficient public transport system** to improve workers' mobility and reduce business transaction costs. This will enable the ECD process to effectively use the available capital and human resources and infrastructure in existing settlements to build new centers. The short-term strategy could be to connect existing settlements to the new industrial centers by providing public transport. Over the long term, as both the industrial and urban agglomerations grow, a multimodal regional transport system will be needed to cater to the increasing public transport demand (ADB 2016).
- (ii) **Provide reliable and affordable public services**, such as access to quality water supplies, sanitation facilities, solid waste management, education and skills development services, and social infrastructure. These facilities are essential to attract industries and workers to the existing as well as the new industrial center for ECD to flourish. In the short term, the approach may be to strengthen these facilities in existing settlements that are close to new industrial areas, linking them through affordable public transport. In the long term, new urban centers should provide all the necessary modern amenities.
- (iii) **Ensure that ample affordable workforce houses are available for factory and relatively low-income workers.** Providing affordable housing options in nearby agglomerations will reduce commuting costs and travel time while ensuring that workers enjoy affordable social infrastructure. This may require land and housing reforms and fostering innovative housing finance to overcome the proliferation of urban slums. The government should embrace measures that stimulate affordable housing supply and offer more options to both low- and middle-income households. The government's Naya Pakistan Housing Program intends to complete 5 million low-cost houses over 5 years, which is a step in the right direction. However, it might also be useful to augment the affordable housing supply over time through more flexible land-use and development regulations. Also needed are the infrastructure to open up land for industrial and residential development, easy-to-use land titling and registration systems, and greater access to construction and mortgage finance. In addition, government regulations need to be revised to foster the provision of more affordable rental housing. To make land management more effective, cities could be required to enhance their capacity to guide urban development and provide a framework for planning infrastructure investments toward making cities livable and inclusive as well as a hub of industrial activity.

- (iv) **Streamline the federal, provincial, and local governments' roles and responsibilities** to harmonize the urban and industrial development approach. This would help strengthen urban functions and promote interagency coordination among service providers for better service delivery. Local governments need to be equipped with the analytical capacity to develop evidence-based master plans for better urban and industrial planning and development. This would also enable them to enforce transport and land use policies better as outlined in master plans and traffic and parking regulations.
- (v) **Reduce vertical imbalances in revenue generation and link improvements to service delivery to address the funding gap.** Since the provision of health, education, and basic community services has fallen under the provincial governments' ambit following the 18th Constitutional Amendment, property tax could be devolved to local government to incentivize and generate resources at the local level.
- (vi) **Embark on public-private partnerships (PPPs) for greater private sector participation and boosting competitiveness.** Policies should encourage municipal or provincial activities and reforms that strengthen a business-conducive environment and promote PPPs. The government should identify and address the impediments to competitiveness and export. Appropriate regulatory reforms should be instituted to streamline business operation procedures to attract firms and make it easier to set up and run a business by reviewing the relevant construction permits that fall under local and provincial governments' ambit. This could be supplemented with legal, regulatory, and financial policy reforms for greater and more productive private sector involvement, especially through PPPs in urban infrastructure provisions, such as water and sanitation, urban transport, and solid waste. Better access and quality of basic infrastructure and services to support urban and industrial development, particularly as part of ECD, will also facilitate cost recovery.
- (vii) **Develop public spaces, such as green space to reduce the environmental impacts of urban and industrial development,** make cities more livable, efficient, and raise urban areas' equity. Some interventions could include the enactment of laws relating to the definition, acquisition, and protection of public space; creating awareness of the environmental and cultural impacts of urbanization and industrialization; and promoting the use of renewable energy resources.
- (viii) **Revamp city zoning regulations to overcome urban sprawl and enable vertical expansion** through the development of more high-rise and mixed-use buildings. Such changes can generate more housing units and open up more space for schools, hospitals, shops, and manufacturing. This would also help to secure fertile agricultural land for improving food security.
- (ix) **Strengthen the education and TVET system for greater human capital accumulation and labor market efficiency** to support urban and industrial development, especially as part of ECD. The following interventions may help overcome the shortage of skills.
 - a. Assign federal entities the roles of regulator, quality assurer, and a body defining the national skills standards. The provincial departments should be the main delivery institutions and need to be empowered financially and technically to deliver quality services. Additional funding may be provided to provincial institutions for the upgrading of labs and training equipment to fulfill industry needs. The regulations should be reviewed to entice private sector training providers to invest in the education and TVET sector.

- b. Add more industry-relevant and competency-based programs to address the current supply mix. The provincial governments will need to consolidate certain institutions and promote sector-specialized institutes to realize economies of scale and specialization benefits.
 - c. Support and strengthen research on industry demand and future trends. Through its Skills Development Councils, the National Vocational and Technical Training Commission should create a research fund for undertaking occupation demand projection analysis, especially focusing on future and industry-relevant skills. This analysis and data should be shared with provincial delivery institutions to help them modify their course offerings.
 - d. Promote flexible industry partnerships to generate industry-relevant skills. These partnerships may be framed on flexible terms where public sector institutions can work with industry associations to develop courses on a resource-sharing basis. A portion of the National Skills Fund established under the federal government's 2018 Skills for Growth and Development policy may be reserved for cost-sharing partnerships with industries that are trying to move toward higher value-added and technology-based industries.
 - e. The government may mandate relevant provincial governments to establish training centers in all planned special economic zones (SEZs). These centers can be managed on a cost-sharing basis with industry, which in return will benefit from the trained labor based on their demand.
 - f. Implement the Punjab Skills Development Fund (PSDF)-type models in all provinces to encourage private sector training institutes' growth. The PSDF has worked with a large number of private training providers, providing them with financial revenues to build stronger institutions that meet industry needs.
 - g. Offer favorable policies to provide skills development opportunities and attract skilled labor as part of ECD, such as through the provision of housing, research funding, subsidies for children's education, and assistance, among others.
- (x) **Leverage SEZs as a spatial economic unit to create synergy between urban and industrial development processes.** SEZ-based industrial and urban development has become one of the main modes of expanding urban spaces. In city spaces, SEZs can play a large role in the urban space dynamics, driving urban expansion to bring forth new business opportunities and residential and commercial development, as evident from the PRC's experience.

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7. Concluding Remarks

Economic corridor development (ECD) organizes and connects different economic agents along with a defined geography, which could cover a national, regional, or international scope. Countries along a successful ECD become competitive and productive as they attract investments into sectors, such as manufacturing for both domestic and export markets. ECD increases connectivity within and across borders; reduces the cost of national, regional, and global trade; spurs rapid economic growth through greater national, regional, and global integration; and opens small, poor, landlocked, and remote economies to trade in regional markets.

To incorporate ECD in a country's overall economic plan, political commitment at the highest government levels and coordination among diverse government agencies are essential. And for ECD to succeed, public investments should also include complementary private investments.

This study examines the potential of ECD in Pakistan and assesses whether the government should commit substantive resources to prepare a detailed development plan for transforming its transport corridors into an operational ECD.

7.1 Framework for Pakistan's Structural Transformation

Pakistan's high economic growth has been marred by quick and successive faltering episodes. To relax the balance of payment constraints on growth and sustain the high-growth episodes, Pakistan should pursue the structural transformation of its economy.

This study proposes a series of horizontal reforms to strengthen the business-conducive environment and activity-based incentives to drive resources into priority areas. To promote a business-friendly trade environment, the Pakistan government will need to update its investment laws, reduce burdensome regulations, align them with global best practices, and structure the investment policy document accordingly. It will also need to synchronize its monetary, fiscal, and trade policies.

Because of the poor quality and quantity of roads, railways, ports, and energy, Pakistan's share in global trade is declining, and its share of manufacturing in GDP is shrinking. Despite recent infrastructure improvements, Pakistan ranked 122nd out of 160 economies on the World Bank's Logistics Performance Index in 2018. To reduce the infrastructure gaps, Pakistan can use the ECD

strategy to create special economic zones (SEZs) and link them with the China–Pakistan Economic Corridor (CPEC) and the Central Asia Regional Economic Cooperation (CAREC) corridors to foster greater regional and global economic connectivity and improve transportation and logistics services.

One of the main reasons for Pakistan’s lag in manufacturing and exports is limited international market access. To improve market access and tap into new markets for manufacturing and export products, Pakistan could expand trade promotion activities such as trade fairs and exhibitions, especially for small- and medium-sized enterprises (SMEs). Pakistan could advocate a cluster-based marketing strategy to reap economies of scale benefits such as incentives and matching grants to SMEs to conduct international market research and develop marketing strategies. Pakistan should improve compliance with World Trade Organization (WTO) standards and international certification by developing national product standards, enforcing them while ensuring consumer safety; and fully leveraging digital platforms, e-commerce, and information and communication technology to attract large international players.

A shortage of technical skills has constrained the acquisition of new technologies, impeding the move into high value-added products and technology-intensive industrial activities. This study offers several policy options to overcome the skills shortage, such as (i) restructuring governing institutions and reviewing regulations to attract private sector training providers into investing in the TVET sector; (ii) adding more industry-relevant and competency-based programs; (iii) and setting up a research fund for conducting a projection analysis of skills and occupation demand and modifying the courses offered to meet industry needs.

7.2 Identifying Specific Target Activities and Sectors

Vertical interventions focus on matching grants, tax offsets, infrastructure support, and seed investments in high-potential economic sectors. To identify the potential economic sectors that have hidden comparative advantage, Pakistan must follow a systematic approach such as the Growth Identification and Facilitation Framework, which allows countries to locate latent comparative advantage and leverage it to achieve structural change, and select enabling sectors that have high linkage effects, such as ICT, logistics, energy, and construction, and existing export sectors that have high prospects for global growth.

Pakistan has **mines and rich mineral resources**, but these are plagued by weak exploration, policy and regulatory issues, and a lack of modern mining technology. The government must address the issues in mine management regulations so that private investors can make investment decisions based on consistent information.

On **forestation**, the country must establish strict policies on replanting and the sustainable use of forest wood and provide information on tree varieties that offer the most optimal return. Pakistan’s **rich ocean resources** provide an ample supply of fish and shrimps to meet local demand and bring great value to international markets. The government should support the development and strict enforcement of health, safety, and food hygiene regulations and develop suitable harbors and hatcheries for natural fish resources that are used for high-value exports.

In the **manufacturing sector**, the chemical industry is likely to drive innovation. Despite abundant iron ore deposits, Pakistan’s local steel production has not kept pace with increasing demand for improved quality and variety. The Pakistan government could attract the PRC’s steel manufacturers

given the SEZ development under the CPEC. It must also collaborate efforts in increasing the quality of and using technology in developing plastic products and composite materials. In addition, this study has identified surgical goods, knitted garments, and bed/table linen as the three most attractive sectors with export potential, with bovine meat also suggesting opportunities for growth.

7.3 ECD Potential in Pakistan

The ECD strategy can help revitalize Pakistan's economic growth by facilitating industrial clusters driven by an efficient transport network built with robust infrastructure and supported by a business-enabling policy framework. By enhancing domestic connectivity and linking lagging regions (including secondary cities) with urban growth centers, ECD can help Pakistan become a hub of economic activity for Central, South, and West Asian countries. It can maximize the benefits of the international linkage between the CPEC and the CAREC programs and their routes.

The Asian Development Bank and the former Department for International Development of the United Kingdom selected four transport corridors in Pakistan on which to pilot ECD: (i) Motorway M4 linking Faisalabad and Multan in Central Punjab; (ii) National highway N70 connecting Multan (Punjab) and Killa Saifullah (Balochistan); (iii) National highway N50 linking Dera Ismail Khan (KPK) and Kachlak (Balochistan); and (iv) Expressway E35 from Islamabad to Mansehra (KPK), which will likely be extended to the People's Republic of China (PRC) and Central Asia in the future.

These selected transport corridors offer real untapped economic potential with opportunities to diversify; good development synergy for linking production networks especially small and medium-sized enterprises with markets and other economic agents; close links to the CPEC and CAREC routes; and favorable prospects for connecting and realizing the economic potential of underdeveloped regions in Balochistan and Khyber Pakhtunkhwa.

Pakistan needs to transform these highways and expressways into true economic corridors through reforms. To identify and promote industry sectors that can compete globally, it could undertake detailed mapping of economic potential across districts and design an incentive structure to promote investment in the marginalized districts.

However, Pakistan lacks the administrative machinery for managing ECD and its building blocks. Its complex tax administration and compliance requirements impede growth and expansion of private investment; project management and implementation are weak; and a coherent regulatory framework for land use and urban development is lacking. Against this backdrop, this study proposes several recommendations:

- (i) Empower a central corridor planning and development agency to oversee the overall development and management of ECD.
- (ii) Strengthen the overall policy framework for ECD, focusing on streamlining transport and logistics policies, public-private partnerships, land-use and zoning regulations, and business regulatory framework and taxation regimes.
- (iii) Provide institutional support for skills development to align labor force skills with industry needs.
- (iv) Link existing industrial clusters and urban areas with new industrial hubs and urban centers through infrastructure networks, the most important being transportation.

- (v) Seek ways to channel a proportion of its diaspora resources into a profitable investment vehicle to fund ECD-related projects.

Pakistan needs to undertake further analysis to develop a master plan for each of the identified transport corridors.

7.4 Special Economic Zones and ECD: The Experience of the PRC

Pakistan has embarked on SEZ development, with nine SEZs already notified under the CPEC. But to date, progress has been limited. Given the high-risk nature of SEZ development, Pakistan will need to study global best practices and SEZ development models. The PRC's SEZ model is considered one of the most successful frameworks globally as it utilizes more sophisticated policy design and spatial economic configurations.

The assessment of the PRC's SEZ development model points to several success factors, which Pakistan can utilize as a tool for promoting economic development:

- strong commitment and support of the government to encourage market-oriented development;
- a well-designed and implemented complete legal framework with consistent, transparent, and clear rules;
- a robust procedure for the selection and approval of SEZs; an effective and independent governing body supporting zone operation; and
- policy incentives, especially at the beginning stage.

Given its unsuccessful past SEZ development experiences and the various challenges faced by the current SEZ program, Pakistan may need a better strategy and framework and draw on the useful PRC experiences and tailor fit them to the local context. This study cited many elements for successful SEZ development, which Pakistan could build on. Some of these include the following:

- (i) Employ SEZs to address market failures or remove constraints that cannot be resolved through countrywide reforms, sector-wide incentives.
- (ii) Develop a consistent and transparent SEZ regulatory framework with strong leadership and commitment.
- (iii) Leverage SEZs planned under the CPEC to attract the PRC's export-oriented low manufacturing industries.
- (iv) Integrate SEZs into longer-term urban development.
- (v) Develop a comprehensive single window facility to streamline processes through efficient one-stop services.
- (vi) Plug SEZs into existing local clusters for business linkages.
- (vii) Improve the land transfer and pricing mechanism by adopting a leasing framework and providing incentives on the SEZs' performance for a more inclusive development process.
- (viii) Clearly define SEZ objectives, goals, targets, and benchmarks such as contribution to GDP growth, exports, employment, revenues, and foreign direct investment.

7.5 China–Pakistan Economic Corridor Development Program

The Government of Pakistan launched the CPEC program in 2014. CPEC's planned investments amount to about \$62 billion from FY2015 to FY2030. If the program is successfully implemented, CPEC will help Pakistan harness the advantage of its strategic geopolitical location, improve its regional and international economic connectivity, and enhance industrial development. There are also nine SEZs planned under the CPEC to promote industrial cooperation.

Transport infrastructure projects involving the construction of highways, mass transit, and rail and connectivity have an estimated planned investment of \$15.1 billion, of which \$5.8 billion has been realized from FY2015 to FY2018.

To fully utilize the benefits from CPEC, this study offers four policy recommendations:

- (i) **Undertake structural reforms** to unleash the potential for the private sector development. Structural reforms to support the private sector will enhance Pakistan's competitiveness, productivity, and access to the global market.
- (ii) **Broaden the tax base to unleash the country's tax revenue potential** while improving the fairness of tax collection.
- (iii) **Utilize the transport infrastructure built under CPEC effectively and efficiently** to maximize investment return by converting it into a multilateral initiative.
- (iv) **Expedite the development of the nine SEZs** planned along the CPEC routes.

CPEC is an opportunity for Pakistan to enhance connectivity and improve the export position. Nonetheless, CPEC is not a sufficient condition to improve the Pakistan economy. Necessary structural reforms like private sector development or tax reforms need to be implemented to unleash the potential brought with CPEC.

7.6 Urban Development and ECD

Finally, since urban development and ECD are inextricably linked, a successful ECD strategy will aim to harmonize these two processes. Pakistan's governance system, however, treats urbanization and industrialization as separate processes requiring different management systems. Local government units generally do not consider local economic development as part of their mandate and therefore do not actively promote industrialization.

Policy interventions could be based on the following strategic thrusts:

- (i) Develop an evidence-based targeted strategy for delivering an affordable and efficient public transport system to improve workers' mobility and reduce business transaction costs.
- (ii) Provide reliable and affordable public services, such as access to quality water supplies, sanitation facilities, solid waste management, education and skills development services, and social infrastructure.
- (iii) Streamline the federal, provincial, and local governments' roles and responsibilities to harmonize the urban and industrial development approach.

- (iv) Reduce vertical imbalances in revenue generation and link improvements to service delivery to address the funding gap.
- (v) Embark on public–private partnerships (PPPs) for greater private sector participation and boosting competitiveness and institute appropriate regulatory reforms to streamline business operation procedures to attract firms and make it easier to set up and run a business.
- (vi) Develop public spaces, such as green spaces, to reduce the environmental impacts of urban and industrial development and make cities more livable and efficient.
- (vii) Revamp city zoning regulations to overcome urban sprawl and enable vertical expansion through the development of more high-rise and mixed-use buildings.
- (viii) Strengthen the education and technical and vocational education and training system for greater human capital accumulation and labor market efficiency to support urban and industrial development, especially as part of ECD.
- (ix) Leverage SEZs as a spatial economic unit to create synergy between urban and industrial development processes.

Economic Corridor Development in Pakistan

Concept, Framework, and Case Studies

This study examines the potential of economic corridor development to support Pakistan's sustainable growth. It describes the country's effort to enhance domestic and international connectivity and includes some international good practices for economic corridor development in other countries. The study assesses whether the government should commit substantive resources to prepare a detailed development plan to transform its transport corridors into dynamic economic corridors. It leads to a conclusion that political commitment at the highest government levels and coordination among diverse government agencies are essential to developing economic corridors.

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