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GLOSSARY

CARs	Central Asian Republics
CIB	Credit Information Bureau
CMI	Census Of Manufacturing
CPEC	China Pakistan Economic Corridor
CPEC	China-Pakistan Economic Corridor
CPPA-G	Central Power Purchasing Agency-Guarantee Limited
DFIs	Development Finance Institutions
EPZs	Export Processing Zones
FDI	Foreign Direct Investment
FIEDMC	Faisalabad Industrial Estate Development And Management Company
FPCCI	Federation Of Pakistan Chambers Of Commerce
GDP	Gross Domestic Product
GVCs	Global Value Chains
ICT	Information And Communications Technology
IoT	Internet-Based Systems Integration
IT	Information Technology
LMICs	Low And Middle Income Countries
MITI	Ministry Of Trade And Industry
NEPRA Act	The National Electric Power Regulatory Authority
NOCs	Non-Objection Certificate
NPL	Non-Performing Loans
NTDC	National Transmission & Dispatch Company
OCCI	Overseas Investors Chambers of Commerce and Industry
OECD	The Organisation For Economic Co-Operation And Development
OIRA	Office Of Information And Regulatory Affairs
OTRI	Overall Trade Restrictiveness Index
PAPMO	Punjab Agricultural Produce Markets Ordinance
PBC	Pakistan Business Council
PMO	Prime Minister's Office
PPD	Public Private Dialogue
R&D	Research And Development
RCA	Revealed Comparative Advantage
SEZA	Special Economic Zone Authorities
SEZs	Special Economic Zone
SITE	Sindh Industrial Trading Estate
SMEDA	Small And Medium Enterprise Development Agency
SMEs	Small And Medium Enterprises
SOEs	State Owned Enterprise
TFP	Total Factor Productivity

ustad

WAPDA

WGs

Traditional Expert

Water And Power Development Authority

Working Groups

ABSTRACT

Structural transformation, or the process of improving resource allocation across the economy, is increasingly vital for Pakistan to sustain high growth rates. While commonly equated with a broad inter-sectoral shift away from agriculture, it can also occur through better resource allocation across firms within sectors, and through productivity improvement within firms. Pakistan's economy has been transforming in these three ways, but slowly and unevenly relative to the international norm. In terms of employment, women have experienced even less change than men. The main source of economic dynamism is not large or high-tech industry, but surprisingly resilient and adaptive clusters of small firms in select manufacturing and service industries.

The primary constraint to positive structural transformation in Pakistan is the persistence of barriers to market efficiencies and competition, often traceable to distortionary policy design and implementation. These distortions are manifested in different ways in sector-specific policies, such as in agricultural, power sector, financial, and foreign trade policy. The second main constraint is the lack of coordinated policy responses to market failures preventing firms from innovating and moving up the value chain. Even though such policies were instrumental in the few firm clusters that have thrived, they have not been employed systematically.

To a large extent, these policy failures reflect underlying governance failures. Many opaque and distortionary policies persist because they enable powerful influence groups to extract rents. Racked by political uncertainty, short-lived governments have lacked the incentive to invest in building more open economic institutions and capable regulatory agencies. Attempts to reform market policies and address market failures will keep falling short if not accompanied by measures to balance influence in the policy arena.

Looking ahead, policymakers should consider how to better exploit emerging opportunities, such as those arising from better connectivity, while addressing potential threats such as those arising from new technologies. Since positive structural change is fundamentally about efficient resource reallocation, the continuation of reforms that further enable markets and reduce distortions should be given top priority. Addressing specific market failures that can impede technology upgradation and innovation is next in line; a stage-wise approach starting with basic management capabilities would be realistic. Both should be underpinned by incremental institutional reforms that can reduce the chances of policy capture by increasing transparency and broadening participation in the policy arena.

EXECUTIVE SUMMARY

Growth and structural changes go hand-in-hand in a modernizing economy. At the broadest level, there is a shift of economic activity away from agriculture, toward manufacturing and services. While this may be the most visible form of structural change, there are many other ways in which modern economies fundamentally change as they grow. Within sectors, there is a shift from micro and small- sized firms to large, professionally managed enterprises. There is also a reallocation of workers and firms from rural to urban areas. Even within firms, there is an evolution toward more sophisticated, higher quality products, and manufacturing processes.

Structural transformation is how resources are reallocated to more productive uses. This efficient reallocation—across sectors, across firms within sectors, and within firms—is a major source of productivity increase and sustained economic growth in modern economies. For example, in most low- and middle-income countries, output per worker is significantly lower in the primary sector, and the reallocation of resources toward manufacturing and services can raise aggregate productivity.

Structural changes that lead to a more efficient allocation of resources are essential if Pakistan is to achieve high-income status by 2047. Nearly 75 percent of the Pakistan’s GDP per capita gap with the United States is explained by its gap in total factor productivity (TFP). At first, this may seem surprising, since Pakistan’s rate of investment is also markedly low, and there should be much scope for catching up with the United States simply through greater accumulation of physical and human capital. But while the capital gap undoubtedly needs closing, Pakistan’s TFP gap with the United States is also very high. At such low TFP levels, the returns from capital accumulation will soon start diminishing unless TFP rises.

Pakistan’s economy is moving toward more highly skilled, modern and productive industries, but unevenly and slowly relative to the international norm. Pakistan is now less agricultural, and more urban and services-oriented than before. Traditional industrial clusters have started exporting new products, while entirely new industries such as ICT are emerging. Overall, relative to the norm for countries at similar levels of per capita GDP, while Pakistan’s agricultural sector is of typical size, its manufacturing sector is too small, and the services sector too large. Worryingly, the pace of exit from the agricultural sector has been slow in recent years, and there are signs of a slowdown in industrialization. Change has progressed unequally for women and men: indeed, the labor force exit from agriculture has been driven by men alone.

Within sectors, too, the change has been heterogeneous. Some clusters of manufacturing and services firms are dynamic and remain internationally competitive. But most firms are small, with a low-productivity level and poor management practices. Similarly, while some innovative and growth-oriented start-ups are emerging, most “entrepreneurship” is driven by sheer economic necessity and the lack of good jobs. The lifecycle of the typical firm is relatively flat: it is rare for firms to grow and move up the value chain over their lifecycle. Such firm-level heterogeneity is not uncommon in low- and middle-income countries, but Pakistan may be an extreme case.

A high level of resource misallocation persists within sectors. Not all the structural changes in recent years have been in the right direction. In manufacturing and services, there are too many resources trapped in low-productivity firms. Agriculture is characterized by an inefficient crop mix and overuse of resources, particularly water.

The main constraint to structural transformation in Pakistan is the persistence of distortionary factor and product market policies that act as barriers to market efficiency and competition. This constraint takes different forms in different sectors, but the element of distortedness is common. For example, business regulation and taxation have seen serious reforms but remain complex, slow and perceived by firms to be inconsistently implemented. Opacity and arbitrariness in regulatory policy leads to the misallocation of resources across firms, and reduces their incentives to invest in better productivity and product quality. Pakistan's trade policy is heavily reliant on discretionary instruments and biased against exporters, especially SMEs. The financial sector is relatively strong in terms of systemic stability, but not in terms of the capacity to efficiently allocate capital to firms—especially SMEs and young firms. Despite reforms, government intervention in Pakistan's agricultural markets is still heavy-handed, with a host of market restrictions, price caps, and subsidies that distort resource use.

Another key constraint is the lack of a coherent policy response to market failures, which hamper firms from innovating and moving up the value chain. Managerial and market-relevant technical skills are in short supply in Pakistan, constraining firms from adopting better technology and innovating. This shortage is partly due to the poor quality of general education—a topic dealt with at length in a companion note of the Pakistan@100 report. It is also caused by market failures rooted in informational asymmetries and coordination problems. For example, it is difficult for small firms located in traditional clusters to coordinate in developing new training programs and attracting potential trainees. The experience of some successful clusters in Pakistan suggests that well-coordinated policy support can make a difference in such situations; unfortunately, such experiences are the exception.

To a large extent, these policy failures reflect underlying governance failures. The degree to which Pakistani firms complain about corruption and other governance-related issues in surveys is notable, even by the low standards of South Asia. The perception among ordinary firms is that the rules of the game are tilted in favor of elite groups such as large, politically-connected firms. This 'elite capture' could explain why so many distortionary policies persist. Moreover, chronic political uncertainty has weakened economic institutions and discouraged governments from investing in capacity building. This policy note argues that structural transformation is still possible under these conditions, but only if reforms are designed with these political-economy issues in mind, and include a focus on balancing influence in the policy arena.

Looking ahead, policymakers should consider how to better exploit opportunities, while fending off threats arising from the integration of markets and changes in technology. With initiatives such as the China Pakistan Economic Corridor (CPEC) offering the prospect of pivotal improvements in market connectivity, Pakistan has the potential to move into export-oriented manufacturing activities due to rising wages in China, especially given the proven capacity of some clusters to compete in niche markets. The growing domestic market and newly tradeable services

sector also offer opportunities. But threats such as automation and rising competition from other Asian countries are not to be discounted.

This policy note concludes by outlining a strategy for taking advantage of opportunities and speeding up positive structural transformation. The strategy involves a mix of market-enabling reforms and a phased approach to promoting innovation, underpinned by cross-cutting institutional capacity building. This is not a full roadmap for reform, but rather a starting point for discussion and debate.

Since positive structural change is fundamentally about efficient resource reallocation, the continuation of reforms that further enable markets and reduce distortions should be given top priority. Product and factor market regulation should be made simpler and more predictable through legal and administrative reforms enhanced by the adoption of e-governance. Making credit allocation to firms more efficient and unbiased by, for example, testing new approaches to SME lending and strengthening arrangements that help deal with informational asymmetries is another priority issue.

Next, market failures that impede technology upgradation and innovation should be addressed in a pragmatic, phased manner. Public support to address innovation constraints should be tailored to the existing capability of firms, and to the Government's capacity to implement programs. Given current levels of capacity, sophisticated and complex programs risk being ineffective and wasteful. Management extension and other initiatives to build basic firm capabilities will yield more returns, as will greater investment in fundamental knowledge capital, such as skills and agricultural R&D. Later, more technology-oriented support to firms and more intensive coordination policies, such as programs to promote export upgradation, could be introduced to more advanced firms and clusters.

These policy initiatives should be complemented by incremental institutional reforms to build resilience to elite capture and short-sighted policy decision-making. Undue influence from narrow interest groups and short-termism have undermined previous reform efforts and could do so again. Hence, we conclude this note with some ideas on how to build the capacity for independent analysis and oversight, the capacity to implement and coordinate reforms, and the mechanisms to balance influence in the policy arena.

INTRODUCTION

The process of modern economic growth is invariably accompanied by structural changes in the economy. At the broadest level, there is a shift of economic activity away from agriculture, toward manufacturing and services.¹ While such sectoral reallocation may be the most visible form of structural change accompanying economic development, there are many other ways in which modern economies fundamentally change as they grow. Within sectors, there is a shift from micro and small-sized firms to large, professionally managed enterprises. There is also a reallocation of workers and firms from rural to urban areas. Even within firms, there is an evolution toward more sophisticated, higher-quality products, and manufacturing processes.

Structural transformation offers pathways for the reallocation of resources to more productive uses. This efficient reallocation is a major source of productivity increase and sustained economic growth in modern economies. For example, in most low- and middle-income countries, output per worker is significantly lower in the primary sector. Hence, the broad reallocation of resources toward manufacturing and services can potentially lead to significant increases in overall output per worker.

Structural changes that lead to the more efficient allocation of resources are essential if Pakistan is to achieve high-income status by 2047—its stated goal. Nearly 75 percent of the Pakistan’s GDP per capita gap with the United States is explained by its gap in total factor productivity (TFP) (Jones, 2016). At first, this may seem surprising, since Pakistan’s rate of investment is also markedly low and there should be much scope for catching up with the United States simply through greater accumulation of physical and human capital. But while the capital gap undoubtedly needs closing, Pakistan’s TFP gap with the US is also very high. At such low TFP levels, the returns from capital accumulation will soon start diminishing unless TFP too is improved.

Pakistan’s economic structure has changed with growth, but how transformational is this change in terms of productivity growth? Pakistan is less agricultural, more urban, and more service-oriented than before. Traditional industrial clusters have started exporting new products, while entirely new industries such as ICT are emerging. A more systematic analysis is needed to assess whether these changes are leading to a better use of resources, and fueling long-term growth.

¹ Traditionally, the term “structural transformation” denotes this sectoral reallocation (Herrendorf et al., 2014). This note, however, uses a broader definition of the term.

CHAPTER 1: STYLIZED FACTS ABOUT PAKISTAN'S STRUCTURAL TRANSFORMATION

In assessing structural change in Pakistan, our focus is on understanding the potential pathways for an efficient reallocation of resources, and how Pakistan is faring along these dimensions. The major pathways include:

- The reallocation of resources across broad sectors, specifically, from low- to high-productivity sectors;
- Within sectors, the reallocation of resources to more productive firms; and
- Within firms, the shifts toward more innovative or higher-quality products, and more efficient production processes.

The changing spatial distribution of economic activity, such as the urbanization of firms and the emergence of economic clusters, is also relevant. While it is not in itself a change in what is being produced, or how it is produced, the spatial transformation of economic activity can be a pathway for productivity growth due to its potential for sparking agglomeration economics.

We proceed by identifying a set of key facts about Pakistan's structural transformation; in other words, "stylized facts" for Pakistan, corresponding to the global stylized facts about structural transformation that have been established based on the historical experience of today's developed countries, and the more recent experience of other developing countries.

1.1 THE PACE OF SECTORAL REALLOCATION IS SLOWING

The pace at which the economy is moving out of agriculture and into manufacturing is slowing down.

Inevitably, growth is accompanied by a steady decline in the share of the agricultural sector in GDP and total employment. In today's high-income countries, which are primarily from Western Europe and the United States, over the past two centuries the share of agriculture in GDP and employment fell from above 70 percent to below 10 percent (Herrendorf et al., 2014).

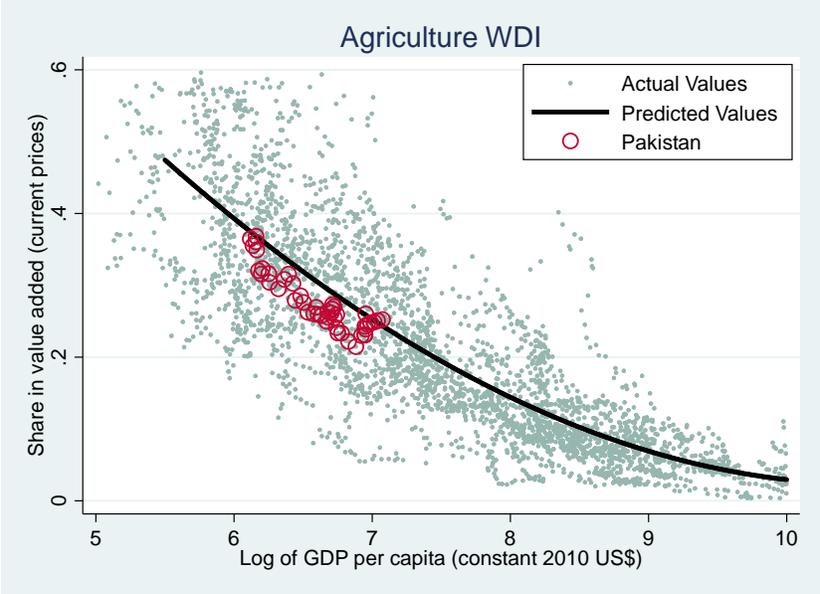
Figure 1, which is based on pooled cross-country data over the period from 1970 to 2016, plots natural log of GDP per capita against the share of the agricultural sector in value-added.² Until

² The figure uses the UN National Accounts dataset, consisting of harmonized national accounts data for countries over 1970-2016. In the figure, each country is observed at multiple points in time, and each country-year observation is treated as a unique data point when estimating the depicted relationship between sectoral value added and log of GDP per capita. The results shown are robust to exploiting the panel (within-country) dimension of the dataset- that is, to estimating regressions of sector share on GDP per capita with country fixed effects.

the 2000s, Pakistan’s trend in the agricultural share of its GDP was largely in line with the long-term global experience. Over this 30-year period, as Pakistan’s income per capita grew, the share of agriculture in GDP per capita fell from about 40 to 20 percent, following a trajectory similar to that experienced by most countries.

In recent years, the rate of decline in the share of agriculture has slowed down or even stalled. For decades, Pakistan was consistently “below the curve” in terms of the share of agriculture in GDP: that is, its economy was less agricultural than is the norm for countries at similar levels of GDP per capita. But since the rate of exit from agriculture has stalled even as GDP per capita continues to rise, Pakistan is now on the curve.

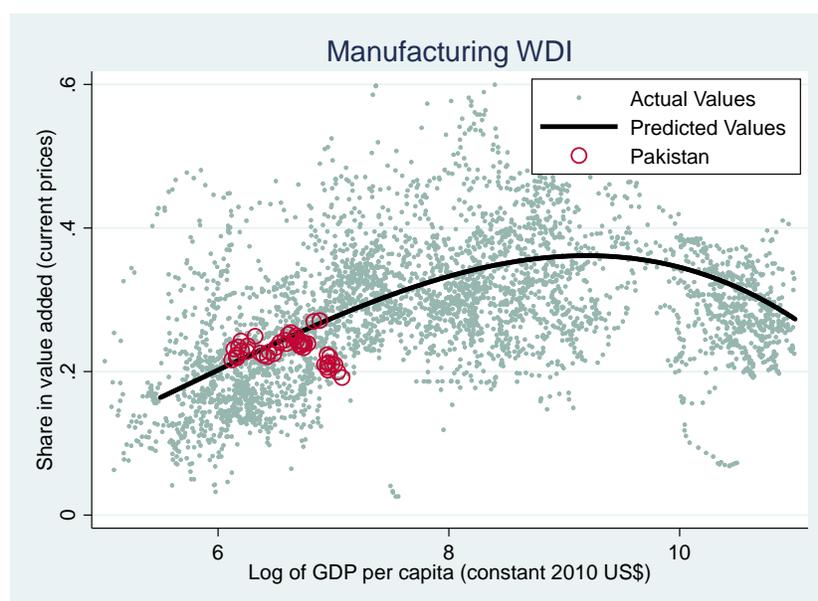
Figure 1. Share of Agriculture in Value Added vs. GDP Per Capita



Source: World Development Indicators (WDI).

Another stylized fact about structural transformation is the rise in the share of the manufacturing sector that occurs as an economy transitions from low- to middle-income levels. This increase eventually tapers off, or even reverses, as higher income levels are reached (Figure 2). A comparison of Pakistan’s manufacturing sector growth with this cross-country experience is sobering: while Pakistan’s manufacturing sector was on the curve in the 1970s, it has since slipped increasingly below the curve. Pakistan’s manufacturing sector has been growing but not as rapidly as the global experience with structural transformation would suggest, with the result that today the sector is small compared with countries at similar levels of GDP per capita.

Figure 2. Share of Manufacturing in Value-Added vs. GDP Per Capita



Source: World Development Indicators (WDI).

Traditionally, industrialization has been viewed as the main ladder for growth and better job creation in developing countries. Recent evidence on “premature deindustrialization” suggests that this ladder is becoming narrower due to a confluence of mainly technological forces (Rodrick, 2016). Later in this note, we discuss whether such forces could be at play already in Pakistan.

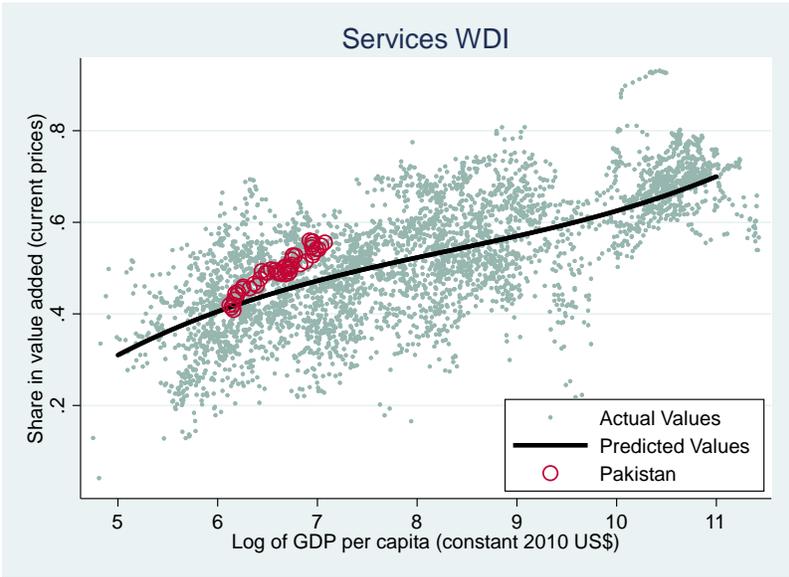
The economy remains tilted toward low-skilled services.

The third stylized fact about structural transformation at the broad sectoral level is that there is a secular rise in the share of the services sector as economies grow richer. The upward trend in Pakistan’s services sector share is in line with this stylized fact (Figure 3).

Figure 3 also reveals that the GDP share of Pakistan’s services sector is relatively large compared with the global average for countries at the same level of GDP per capita. This divergence with the global average has increased substantially in recent years. In this sense, Pakistan’s economy is increasingly biased toward the services sector. But this does not yet presage a transformative change in the structure of the economy. Wholesale and retail trade—which is largely small-scale and low-tech in Pakistan—constitutes nearly 40 percent of total services sector employment.³ Another 20 percent is accounted for by public administration. In all, high-skilled services such as finance and ICT still comprise no more than 10 percent of services sector employment.

³ Estimates based on 2015 Pakistan Labor Force Survey (PLFS).

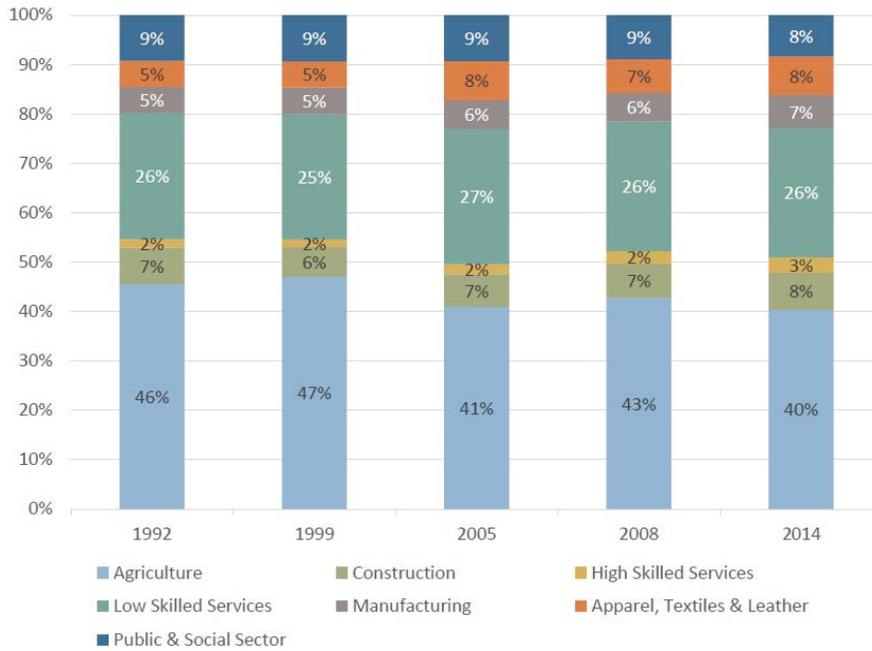
Figure 3. Share of Services in Value-Added vs. GDP Per Capita



Source: World Development Indicators (WDI).

Even in terms of sectoral employment shares, Pakistan’s rate of structural transformation is slow (Figure 4). Between 1992 and 2014, agriculture’s share in employment declined from 46 to 40 percent, while the share of low-skilled services held steady at about 26 percent. The share of high-skilled services saw a minor increase, from 2 to 3 percent. The share of industry increased from 10 to 15 percent, but most of that increase was driven by traditionally dominant subsectors, such as apparel, textiles and leather.

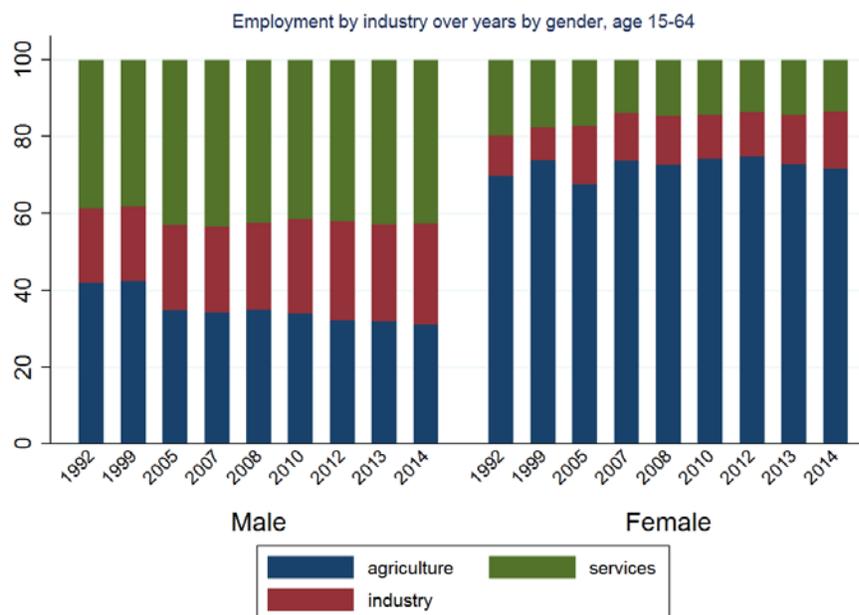
Figure 4. Sectoral Employment Shares



Source: Reproduced from World Bank, forthcoming. Based on PLFS data.

The pace of change has been slower for women. Indeed, men alone have managed to exit from the agricultural sector (Figure 5). Among women, agriculture accounted for about 70 percent of employment in 2014, the same as in 1992. However, there has been an increase in the share of women working in manufacturing, at the expense of services.

Figure 5. Sectoral Employment Shares by Gender



Source: Reproduced from World Bank, forthcoming. Based on PLFS data.

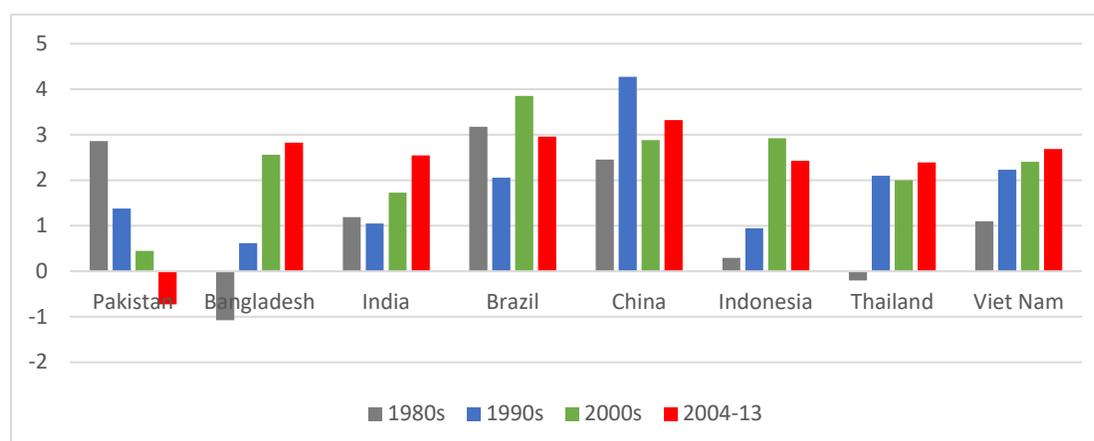
The slow exit from agriculture is accompanied by slow urbanization and stalled TFP growth in agriculture.

Historically, structural transformation at the sectoral level has been accompanied by growing urbanization. This is because manufacturing and services tend to be more urban than farming. In this respect, too, Pakistan’s pace of change is comparatively slow. During 2000-11, the rate at which Pakistan’s urban population share grew was one of the slowest in the South Asia region.⁴ Since agglomeration economies matter to manufacturing and services, and more so in high-skilled sectors, slow urbanization in Pakistan could be both a cause and a consequence of slowing structural transformation.

A corollary to Pakistan’s slow pace of sectoral change is the slowing down of TFP growth in agriculture. The historical experience of today’s developed countries is that the shift from farm to non-farm activities was facilitated by rising agricultural productivity, as being able to produce more food with less labor freed up labor supply for other sectors. So, it is concerning that after significant growth in the 1980s and 1990s, TFP in agriculture has stalled, and might even have shrunk in recent years (Figure 6).

⁴ Ellis and Roberts, 2016. The estimates are based on population data from World Urbanization Prospects (WUP). Two caveats are: (i) the population data from WUP is based on Pakistan’s national definition of urban areas, whereas the “true” extents of urban areas may well be larger than officially defined urban areas; and (ii) Pakistan has not had a population census since 1998, and so the data from WUP are likely derived through extrapolation and other methods.

Figure 6. Percentage Annual Growth in Total Agricultural Factor Productivity (TFP)



Source: World Bank calculations

1.2 THERE IS WIDE VARIATION IN FIRM-LEVEL PRODUCTIVITY WITHIN SECTORS

Globally, productivity differences within sectors are at least as significant as those across sectors.

One of the most striking facts to emerge from recent international research on productivity is the high degree of dispersion in TFP levels across firms in the same narrowly defined industry. For example, within narrowly-defined (four-digit SIC) industries in the U.S. manufacturing sector, the average ratio of total factor productivity (TFP) between an industry’s 90th and 10th percentile plants is 1.92; that is, the plant at the 90th percentile of the productivity distribution makes almost twice as much output with the same measured inputs as the 10th percentile plant (Syverson, 2004).

This intra-industry dispersion in firm-level TFP seems to be even larger in low- and middle-income countries. For instance, compared with the United States, India and China have a lower mean TFP but higher variance in TFP across firms (Hsieh and Klenow, 2009). They have a long “tail” of firms with very low productivity levels.

Given this high degree of variation in firm-level TFP within sectors, movement across sectors does not guarantee true structural change. We care about inter-sectoral reallocation if it entails a shift of resources to more productive uses. But even as sector shares shift, it could be that resources are simply moving from one set of low-productivity firms to another.

There are sizable within-sector productivity differences in Pakistan.

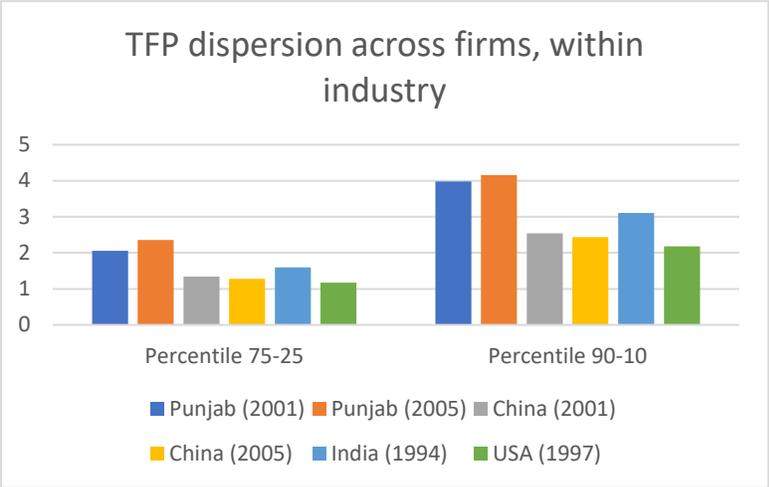
Some Pakistani firms are efficient compared with regional counterparts. A recent study benchmarked productivity in the garment sector in Pakistan to productivity in a group of garment manufacturers of roughly equal size in Bangladesh (Chaudhry, Macchiavello and Woodruff, 2016). The Pakistani factory with the highest degree of product overlap with factories in the Bangladesh

sample was about 16 percent *more* efficient than the most efficient of the Bangladeshi factories. It could be that the greater export competitiveness of Bangladesh is not because its firms are more efficient, but because they have lower input and transport costs.

But there are major differences in efficiency across Pakistani firms. In a recent study, researchers asked three Pakistani factories to stitch, finish and wash an identical pair of jeans. These firms included a large-scale exporter with established links to a major multinational brand, a medium exporter with links to regional European labels, and a small producer selling primarily to the domestic market (Chaudhuri and Faran, 2016). The stitching time of the large-scale exporter was about one-third less than that of the medium exporter, and about half the stitching time of the small firm.

The degree of TFP variation within Pakistan’s manufacturing sectors is unusually high. TFP measurement in Pakistan is constrained by the availability of firm-level data. To the extent they can be analyzed with available data, the patterns are striking. Figure 6 shows the difference in measured TFP between high-efficiency and low-efficiency firms in Punjab.⁵ The variation is high: in 2000/01, firms in the 75th percentile of TFP were 7.8 times more productive than firms in the 25th percentile. The gap increased in 2005/06. The TFP dispersion in Punjab is notably higher than that measured in China, India and the United States using a comparable methodology.

Figure 7. Productivity Dispersion within Sectors



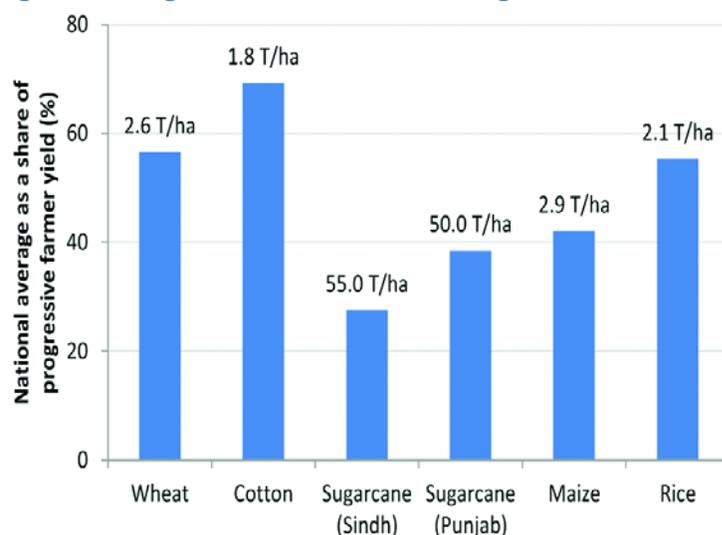
Source: Based on TFPQ estimates in Chaudhry and Haseeb (2014) for Pakistan, and Hsieh and Klenow (2009) for China, India and the United States.

Productivity dispersion is high even in agriculture. Figure 7 shows the yield gap between the average and the highest yield farmer for a set of major crops. For most crops, the typical farmer is less than 60 percent as productive as the best farmer. The difference is partly due to efficiency:

⁵ As estimated by Chaudhry and Haseeb (2014) using the Punjab Census of Manufacturing (CMI) data for 2001 and 2005, and the same method as Hsieh and Klenow (2009).

some of it can be attributed to input use (better seed, higher input use), but the rest is likely due to better crop management practices (including more timely input use).

Figure 8. Average Farmers' Yields as Percentage of Best Farmers' Yields



Source: World Bank staff calculations based on information from Punjab Agriculture Department.

Productivity differences across Pakistani firms are mirrored in managerial differences.

New survey data on management quality in firms have generated important findings about what makes firms productive (See Bloom and Van Reenen, 2007 and Bloom et al., 2014). First, management matters: it is strongly correlated with firm-level TFP. Second, poor management is a problem in low- and middle-income countries. Compared with high-income countries, the quality of management among firms in low- and middle-income countries has a low mean and high variance.

A recent survey that benchmarked management quality in a sample of firms confirms that this is true for Pakistan. First, management matters: a one-standard-deviation improvement in the score management is correlated with a 21 percent improvement in labor productivity in Pakistan, the same as in the United States. Second, poor management is a problem in Pakistan: the quality of management in Pakistani firms has a low mean and high variance. For example, Pakistan's average score on a measure of "overall structured management practices" is 49 percent compared with 64 percent in the United States.⁶ The gap in management practices between well-managed and badly-managed firms in higher than that found in the United States.

The dispersion in management practices is related to the prevalence of family-owned and -managed firms in many sectors of the economy. Internationally, family management of firms is associated with poorer-quality management and lower productivity (Bandiera, Prat, and Sadun, 2013). In Sialkot's surgical goods sector, for example, firm growth is limited by the size of the

⁶ Lemos et al (2016). The authors administered a management quality survey to firms in Punjab using the same methodology as Bloom et al. (2013).

founders' family due to the lack of non-family managers (Ilias, 2006). In the electrical fans sector, most training to employees is still delivered informally by the “*ustad*” (traditional expert, or “master”), and there is almost no middle management (Chaudhry and Faran, 2016).

1.3 THE MISALLOCATION OF RESOURCES ACROSS FIRMS LOWERS AGGREGATE PRODUCTIVITY

When firm-level productivity varies within an industry, the reallocation of resources toward the most productive firms in the same industry can raise the total productivity level of that industry. In this sense, structural transformation is as much about firms as sectors.

Compared with high-income OECD countries, the allocation of resources across firms is generally inefficient in low- and middle-income countries. According to one estimate, shifting resources across firms in Punjab to match U.S. levels of allocation efficiency would increase overall TFP by 23.61 percent and 47.40 percent in 2000/01 and 2005/06, respectively (Chaudhry and Haseeb, 2014). This is comparable to the efficiency gains that could accrue to China and India if they were to move to U.S. efficiency levels, which are 30 to 50 percent and 40 to 59 percent, respectively (Hsieh and Klenow, 2009).

Similar to most low- and middle-income countries, firm-level misallocation in Pakistan is related to the preponderance of very small, unproductive firms. In 2001, for example, firms in the bottom 25 percent of the size distribution have less than half the TFP of firms of the largest 25 percent of firms (Chaudhry and Haseeb, 2014). The number of small firms in Pakistan is difficult to estimate, since official surveys do not capture unregistered and informal firms, which are numerous and likely to be small-sized.⁷ But if estimates from other low- and middle-income countries are a guide, then the firm size distribution in Pakistan must be dominated by micro-sized firms. In India, for example, the modal (most common) firm size is just one employee, compared with 45 employees in the United States (Hsieh and Olken, 2014).

Another possible channel for firm-level misallocation is the favorable treatment of a small set of politically connected firms, which are large but not necessarily the most efficient. Detailed loan-level data show that between 1996 and 2002, politically connected firms in Pakistan borrowed 45 percent more than other firms. They also had a 50 percent higher loan default rate than other firms (Khwaja and Mian, 2005).

⁷ Because of its hidden nature, it is difficult to get precise estimates of the size of the informal economy or the number of informal firms in Pakistan. Kemal and Qasim (2012) estimate the size of the informal economy to be 75-91% of the size of the formal economy.

1.4 FIRM-LEVEL DYNAMISM IS LIMITED TO A FEW POCKETS

Besides the allocation of resources to more productive sectors and firms, structural change can also occur through the entry of new firms, and improvements within existing firm. Such improvements are due to firms' investments in better organizational techniques, market research, and new technology, which enable the firm to produce more efficiently or introduce new, higher-quality products. In innovation-driven economies such as the United States, firms may enter small, but they typically grow by making such investments. To the extent that we can measure this with existing data, the overall picture for Pakistan is that of a few islands of dynamism amid stagnancy.

Pakistan is home to some high-performing clusters....

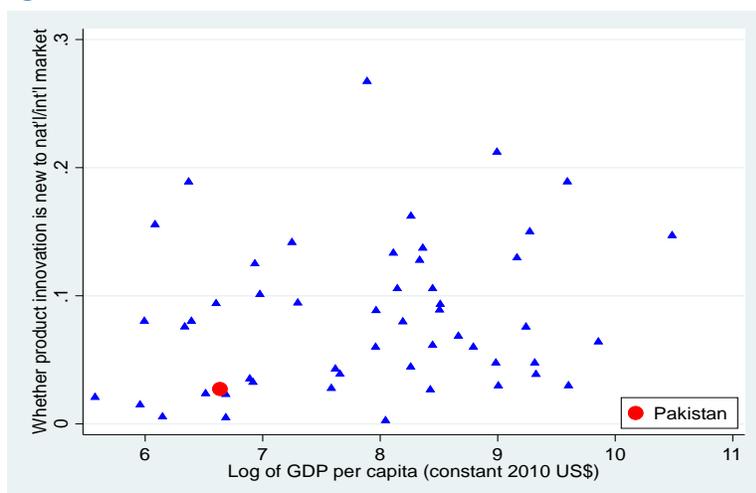
There are some notable examples of firm dynamism and export success in Pakistan. The Sialkot leather goods cluster is perhaps best studied. This cluster of about 130 firms, mostly small-sized, is the world leader in the production of hand-stitched soccer balls (Atkin et al., 2016). It has staved off competition from machine-made soccer balls from countries such as China and, in recent years, entered new fields such as surgical instruments. The electrical fan sector and the garment sector are other examples of sectors that have maintained an export presence (Chaudhry and Faran, 2015). In the textile sector, the cluster run by Faisalabad Industrial Estate Development and Management Company (FIEDMC) is doing well (PIDE, 2018). In major cities such as Lahore and Karachi, there is an emerging cluster of ICT firms involved in business process outsourcing and software-enabled services (PIDE, 2018).

.....but the average firm is not very dynamic

The average level of technology adoption and innovation remains low in Pakistan. Consider the textiles and clothing sector, which still constitutes about 60 percent of total manufacturing exports. While there are some large, technologically advanced firms in this sector, the average firm in the textile industry is still using 30-year-old technology (PIDE, 2018). The industry is dominated by yarn and cloth producers, which are low-end products with low margins. The sector is largely cotton-based, in contrast to a global industry trend toward sophisticated synthetic fibers. Many firms are still family-owned and -managed.

In general, self-reported rates of innovation in Pakistani firms are low by the standards of comparator countries. Figure 8 shows the estimated percentage of firms that introduced a product new to the domestic or international market in the past 3 years, based on World Bank Enterprise Surveys conducted on a set of low- and middle-income countries in the past 5 years. The incidence of such innovation is below 5 percent in Pakistan, which is low even for countries at a similar level of GDP per capita.

Figure 9. Percent Firms That Introduced a Product New to the Domestic or International Market in the Past 3 Years

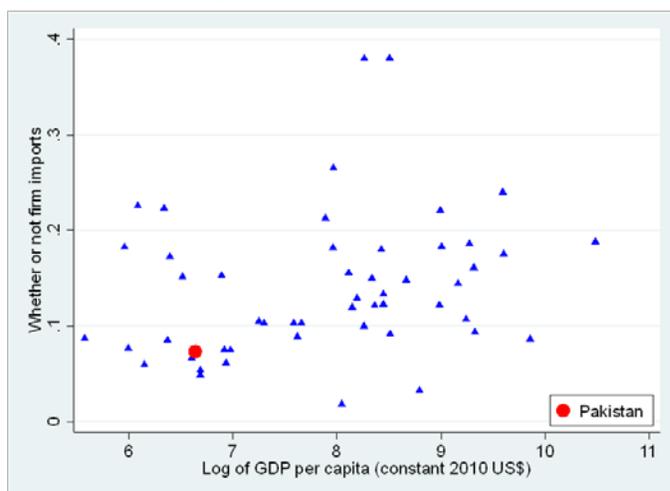


Source: World Bank Enterprise Surveys, 2013-16.

The low level of firm dynamism is reflected in a stagnant and low-tech export composition. Pakistan’s exports remain concentrated in a small set of products—dominated by textiles—with very little export growth due to entry into new product markets. While the domestic economy may have become increasingly services-oriented, the share of services exports in total exports has increased from 20.52 percent to just 25.92 percent over the past decade (World Bank, 2016). The technological composition of Pakistan’s exports is low: during 2010-15, low-tech exports constituted over 60 percent of exports, and high-tech exports constituted less than 1 percent of all exports.

The use of imported inputs is comparatively rare in Pakistani firms (Figure 10). This is worrying because such inputs tend to embody superior technology (See Goldberg at al., 2010, and Amiti and Konings 2007). In Pakistan, for example, producers that import more products have higher export values and a larger number of destinations than average for exporters (World Bank, 2016).

Figure 10. Percentage of Firms That Report Using Imported Inputs

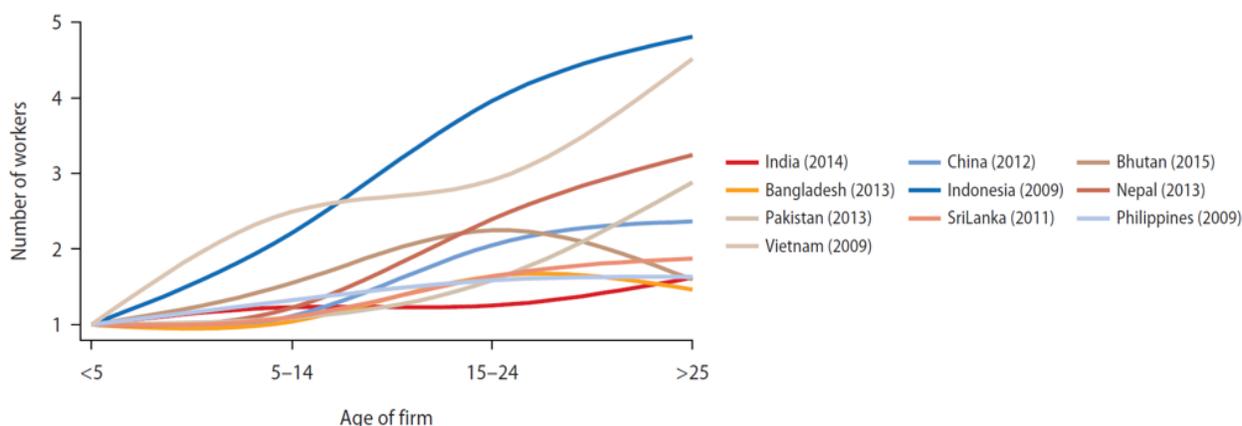


Source: World Bank Enterprise Surveys, 2013-16.

Growth-oriented firms are comparatively rare

The relatively flat size-versus-age relationship in Pakistani firms suggests that, on average, there is little growth over the life-cycle of a firm. In countries such as the United States, most firms enter small but grow over their life-cycle as they make investments into raising their productivity and quality. Firms that do not keep up tend to die. Because of this “up-or-out” dynamic, at any given point in time, on average, older firms are much larger. This dynamic is much weaker in low- and middle-income countries (Hseih and Klenow, 2014). Pakistan is a particularly notable example of this issue (Figure 11). In most Asian countries, the average young firm (less than 5 years old) has just one employee, and the average 15-year-old firm still has just two to three employees. Pakistan’s size-versus-age trajectory is at the lower end for this sample of countries.

Figure 11. The Comparatively Flat Relationship between Firm Size and Age in Pakistan

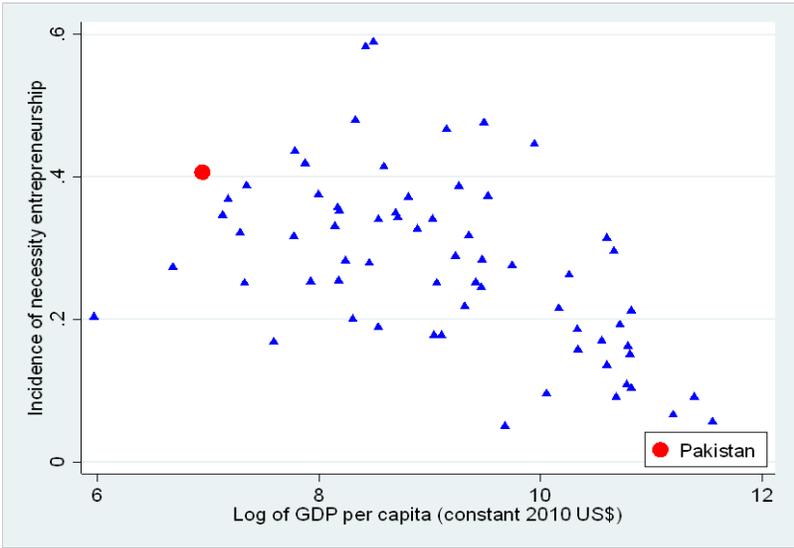


Source: World Bank, 2017, based on WB Enterprise Surveys

The incidence of growth-oriented entrepreneurship is comparatively low in Pakistan, which could be a reason for the lack of firm dynamism. Almost 40 percent of nascent entrepreneurs in Pakistan report being motivated by the need to find an income source due to the absence of good jobs, and not because they have found a good business opportunity (Figure 12).⁸ These individuals are not in business because of a desire to run a fast-growing enterprise. Necessity-based entrepreneurship is higher in most low- and middle-income countries, but Pakistan stands out even when compared with countries at similar levels of GDP per capita.

⁸ The estimates are based on Global Entrepreneurship Monitor (GEM) survey, which defines a “nascent” entrepreneur as someone who has set up a business in the past 3 years, or is actively working toward setting one up.

Figure 12. Percentage of Nascent Entrepreneurs Motivated by Necessity, Not Opportunity



Source: Based on Global Entrepreneurship Monitor (GEM) surveys.

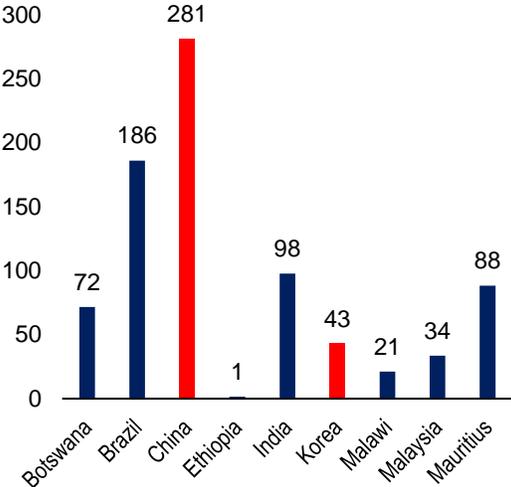
CHAPTER 2: OPPORTUNITIES

2.1 FUTURE TRENDS THAT AFFECT OPPORTUNITIES IN EXPORT-LED MANUFACTURING

Changes in the global trade environment and Pakistan’s connectedness present new opportunities and challenges for export-led manufacturing

China’s rising wages and production upgrading create the possibility for production relocation to low-wage countries. The declining share of imports of parts and components in China’s manufacturing exports over the past two decades reflects production upgrading through Chinese firms’ substitution of domestic for foreign inputs—a finding corroborated by evidence of increasing domestic value-added in Chinese firms (Kee and Tang, 2015). At the same time, Chinese manufacturing wages rose by 281 percent between 2003 and 2010, much faster than in many other low- and middle-income economies (Figure 12). Even accounting for shifts in real exchange rates, Chinese competitiveness from a unit-labor-cost perspective appears to have declined over the same period relative to that of many other LMICs (Hallward-Driemeier and Nayyar, 2017). This may encourage the relocation of production toward other lower-cost economies, especially to countries near China as value chains have typically developed regionally.

Figure 13. Change in Manufacturing Wages, China and Selected LMICs, 2003-10



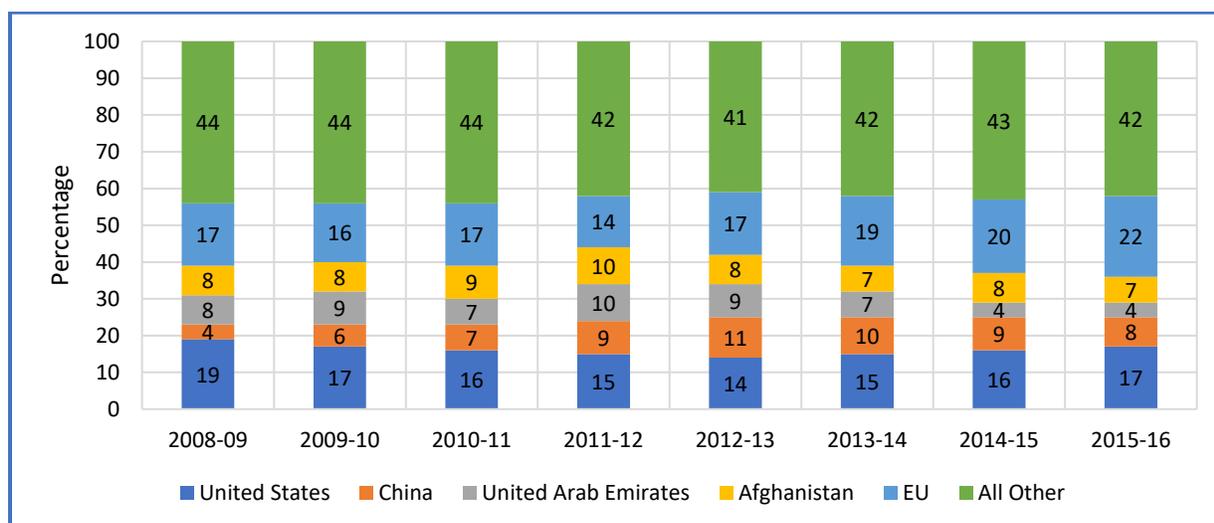
Source: Hallward-Driemeier and Nayyar (2017).

Investments in connectivity, such as the China-Pakistan Economic Corridor (CPEC), can unlock this potential for Pakistan. Better infrastructure, trade logistics, and border management can

enhance the country’s potential to participate effectively in regional value chains. Other initiatives to pursue regional connectivity, by developing a trade and transit network connecting Central Asian Republics (CARs) and South Asia, can further Pakistan’s position as an “economic corridor”. Specific actions to achieve this goal include: conducting a diagnostic of the elements necessary to support improved transit and commercial trade; adopting a contemporary risk-based approach to regulatory compliance management for cross-border trade, backed by a robust and enabling legislative framework; and fully implementing an automated, simplified, and transparent system of regulatory controls by all border agencies (World Bank, 2016).

Presenting new challenges, at the same time, is weak import demand resulting from the recent trade slowdown. Trade weakness in the aftermath of the 2008 global financial crisis has been most pronounced in the high-income economies at the center of the crisis, notably the euro area and the United States. This is particularly concerning because these markets account for about 40 percent of Pakistan’s exports (Figure 14). Demand from large emerging markets might be stronger looking ahead, including in China, where the gradual rebalancing from investment to consumption is likely to create opportunities for exporters of final goods. Here, there is room to uncover substantial gains. Pakistan’s potential exports can be represented by a measure that accounts for the capability of a country and its market access.⁹ This is represented in Figure 14, where the fitted line provides a benchmark against the actual performance of Pakistan. Deviations below the line suggest trade underperformance. Therefore, the Pakistan-related dots (in red) suggest that there is considerable potential for exports to China and India that could be exploited.

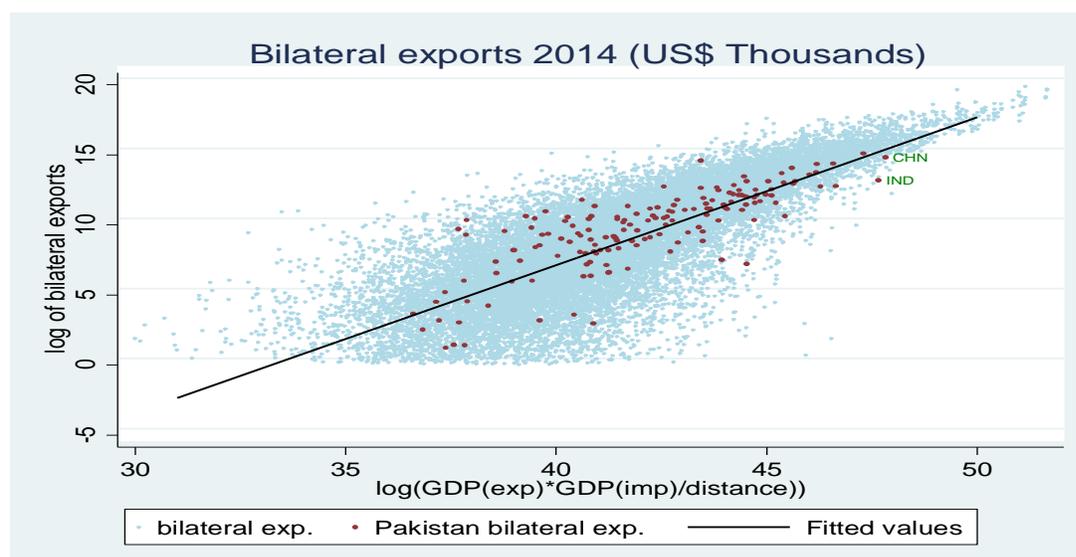
Figure 14. Pakistan’s Export Concentration by Geography



Source: Economic Survey of Pakistan.

⁹ Based on a gravity model. The supply capacity of the exporter is approximated by its GDP. Total market access is measured as the sum of the importers’ GDP weighted by their distance to the exporter. The regional connectivity thematic note for Pakistan@100 also uses gravity models to estimate potential trade with many countries.

Figure 15. Pakistan's Bilateral Trade Potential with China and India



Source: CEPII (2010) World Bank staff calculations.

These prospects will be further influenced by emerging technologies

New technologies are transforming production processes by reducing the importance of low wages in determining competitiveness. The focus here is on robotics (particularly artificial intelligence [AI]-enabled); digitalization and Internet-based systems integration (IoT), including sensor-using “smart factories” (that may also be AI-enabled); and 3-D printing. These labor-saving technologies, which are among the most emphasized in the Industry 4.0 literature (Cirera et al., 2017), could significantly shift which locations are attractive for production, thereby challenging established patterns of comparative advantage. While not all these technologies are new (robots and 3-D printing have been around for decades, and IoT builds on ICT legacy technologies), cost innovation, software advances, and evolving business formats and consumer preferences are fueling their adoption (Comin and Ferrer, 2013).

These trends affect different manufacturing subsectors differently and opportunities remain

The adoption of automation technologies, the associated intensity of professional services' input, and shifting trade patterns vary across manufacturing subsectors (Hallward-Driemeier and Nayyar, 2017). For example, the use of robots in high-income economies, which brings into question the feasibility of the labor-intensive production processes used in less industrialized countries, varies across manufacturing subsectors.¹⁰ The rise of services as a necessary complement to the success of manufacturing also deserves emphasis—the focus is on the share of professional, scientific, and technical service inputs into manufacturing value-added, which vary across subsectors. Similarly, there are some manufacturing subsectors in which exports are concentrated

¹⁰ The greater use of robots is likely correlated with the adoption of other “smart” technologies.

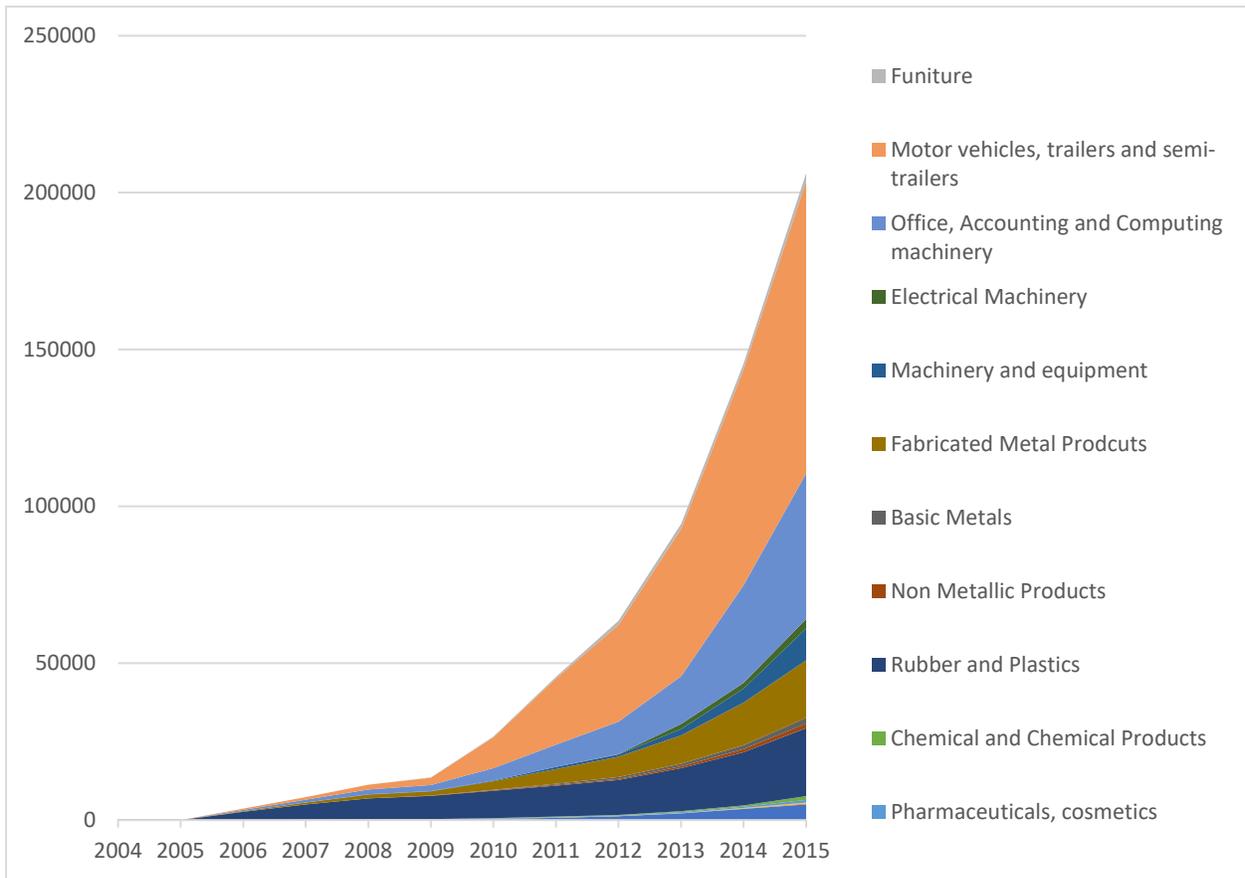
among just a few countries; it could be that it is hard for most countries to be competitive in them owing to large-scale and agglomeration economies. The impact of these trends on the feasibility of production will be influenced by the extent to which subsectors are traded. The more they are traded, the more the demands on competitiveness will rise, whether a country tries to adopt new technologies, or simply to remain viable using traditional technologies.

The textiles, apparel, and footwear subsector has been slow to automate—including in China—and the migration of low-skilled jobs to lower-cost locations is likely to continue.

There are some early signs of the use of 3-D printing in segments of footwear manufacturing. For example, Adidas, the German sporting goods company, has established 3-D printing facilities to produce athletic footwear in Ansbach, Germany, and Atlanta. The two “Speedfactories” are expected to initially produce around 500,000 pairs of shoes per year, but this accounts for only a small percentage of over 300 million pairs of athletic footwear annually. In fact, the textiles, apparel and footwear sector is the least automated sector in terms of robots per 1,000 workers currently in use, including in China where wages continue to rise (Figure 15). Therefore, despite being highly traded internationally, large-scale import substitution effects appear unlikely. Furthermore, although the export of these sectors has been concentrated in China, recent foreign direct investment (FDI) patterns in apparel and leather products are indicative of the migration of projects from China to lower-income countries in 2011-15 compared with 2003-07 (Hallward-Driemeier and Nayyar, 2017).

This is good news for Pakistan, which has a revealed comparative advantage in this sector. In fact, the importance of this sector in the country’s export basket cannot be emphasized enough. Just one product category in this sector, cotton manufactures, has over the past decade accounted for about 55 percent of Pakistan’s merchandise exports. Pakistan’s three largest exports—cotton manufactures, leather, and rice—together amount to over 70 percent of total exports. And this share has remained unchanged for over a decade (World Bank, 2016).

Figure 16. Use of Industrial Robots in China, By Manufacturing Subsector, 2004-15



Source: Calculations based on International Federation of Robotics (IFR) World Robotics database.

However, among traditionally low-skill labor-intensive subsectors that are highly traded internationally, manufacturing n.e.c. stand out as being highly automated. Comprising furniture, jewelry, toys, sports equipment, and musical instruments, this subsector has a robot-to-labor ratio that is even higher than transportation equipment and other machinery and equipment. Some of these products, such as furniture (including consoles, desks, cabinets, and seats) and light manufactures (such as spectacles), are also susceptible to 3-D printing (Hallward-Driemeier and Nayyar, 2017). International competition could therefore intensify in these industries, where Pakistan has a comparative advantage, such as in the production of soccer balls.

Breaking into or maintaining the labor-intensive assembly of autos, electronics and other advanced manufactures will be harder because they combine relatively high automation, export concentration, and professional services intensity. Electronics, computers, and optical instruments; pharmaceutical products; transportation equipment; other machinery and equipment; and electrical machinery and apparatus are the most internationally traded manufacturing sectors, typically organized in GVCs with the labor-intensive assembly located in low-wage economies. It might be harder for Pakistan to extend its RCA in textiles, garments and leather products to these sectors, because they combine a relatively high Herfindahl-Hirschman Index of export concentration

with a relatively high number of robots per 1,000 workers currently in use. China is rapidly automating and might therefore be at an advantage given that scale and agglomeration matter more in ecosystem-intensive industries such as autos, electronics, and heavy machinery. In addition, electronics, computers, and optical instruments; pharmaceutical products; and transportation equipment also have relatively high shares of professional services input in total value-added.

Opportunities will be least affected in most commodity-based manufactures—sectors that are less automated, less intensive in the use of professional services, less traded, and where export locations are geographically less concentrated. International competition is likely to increase least in a range of commodity-based manufactures that are both less automated and less traded internationally. These sectors typically produce goods that are bulky to transport or those that require proximity to raw materials: basic metals, non-metallic mineral products, coke and refined petroleum, wood products, paper products, and food processing. This is good news because Pakistan had an RCA in some these sectors in 2014. Among them, however, food processing, and coke and refined petroleum are among the manufacturing subsectors that are relatively more intensive in the use of professional services. Furthermore, fabricated metal products, and rubber and plastic products are relatively automated, but with less export concentration and a lower overall trade intensity—global competition will likely intensify less.

2.2 PAKISTAN'S PREPAREDNESS

Pakistan's pockets of excellence show an ability to respond to changing technological opportunities and challenges

That Pakistan has RCAs in certain subsectors that do not match their performance on the 3Cs perhaps reflects the country's ability to develop solutions in particular locations, even if not on average across the country. This may be particularly true in large countries, including Pakistan, where aggregate numbers conceal pockets of particular skills, international connectedness through FDI, or subnational locations with stronger regulatory frameworks. Agglomeration in industrial clusters therefore matters. Pakistan's soccer ball clusters are a case in point. Even more broadly, evidence suggests that the geographic and sectoral concentration of firms in Pakistan's industrial clusters have had a positive impact on firm entry and exit (Nasir, 2013; Haroon, 2013), which is a key channel to reallocate resources to the most productive firms. However, not all industrial clusters have brought dividends. Of the nine export processing zones (EPZs) that have been formally set up in Pakistan, Karachi is the only successful one (Lopez-Acevedo and Robertson, 2016).

2.3 GROWING DOMESTIC DEMAND OFFERS NEW OPPORTUNITIES IN THE MANUFACTURING SECTOR

Highly traded manufacturing subsectors are generally characterized by market segmentation in large developing economies: a small premium segment served by foreign companies realizing high margins at the top and a large low-end segment served by local firms offering low-quality, lower-price products at the bottom (Gadiesh, Leung, and Vestring, 2007). For example, Shanghai Jahwa, China's oldest cosmetics company, thrived by developing low-cost products catering to the distinct tastes of Chinese consumers. Or take the example of the garments sector in India, where Arvind Mills took a seemingly global product—blue jeans—and refashioned it to fit the budgets of millions of rural villagers. And India's Bajaj Auto has withstood international competition in the motor vehicles sector by producing low-cost, durable scooters, with a ubiquitous distribution and service network (Dawar and Frost, 1999). Therefore, to the extent that the use of robots and smart factories does not enable relatively lower-quality goods to be produced at lower costs, the option of lower-quality, lower-price goods produced and consumed domestically will remain feasible, including in sectors that are easily traded.

Take the example of Pakistan's garments sector, where firms vary widely in their level of sophistication in producing a pair of jeans. These firms co-exist because they operate in different segments of the market. First, there are a small number of larger exporters using technologies close to the frontier and competing globally for the business of a major international brand. Second, there is a somewhat larger cohort of medium-size firms using a mix of older and newer technologies, but operating in a lower segment of the international denim market (producing for smaller regional European brands). Third, there are many small players using second-hand machinery and outdated technologies with a focus primarily on domestic sales (Chaudhry and Faran, 2016). The electrical fan sector in Pakistan is also characterized by such segmentation. The large producers distinguish their higher-quality models from the others through their use of rotors stamped out of electrical steel sheet by heavy (and very expensive) imported equipment. The cottage industry's lower-price lower-quality fans, in contrast, use rotors that are stamped out of (often rusted) recycled steel and low-tech locally-made equipment (Chaudhry and Faran, 2015).

The scope for productivity gains might be greater for lower-quality, lower-price goods that are regionally traded, where countries can exploit opportunities beyond the domestic market. India's pharmaceutical exports are a case in point. So too are India's exports of three-wheelers to Africa. Some of these products can also be sold more broadly in the region, or in countries at similar development levels (Hafner and Popp, 2011). In Pakistan, the production of electrical fans provides an illustrative example. The sector was initially focused on manufacturing for the domestic market, but diversified into export markets in the past 10 to 15 years, with exports reaching nearly US\$40 million in 2012. Prominent export destinations include Africa, the Gulf, and Bangladesh where Pakistan's fans are seen as superior to Chinese-made fans in tropical climates (Chaudhry and Faran, 2015).

2.4 OPPORTUNITIES BEYOND MANUFACTURING: IT SERVICES

There will be also be opportunities in the services sector which, owing to changes in trade and technology, increasingly share features of manufacturing that were once thought of as uniquely special for productivity growth.

Services as an Alternative Source of Productivity Gains

International tradability through ICT advances. Dramatic changes in ICT have given rise to a category of “modern” services—financial, telecommunication, and business services—that can be digitally stored, codified, and more easily traded (Ghani and Kharas, 2010). Regulatory barriers continue to inhibit actual trade in these services, although deregulation has coincided with a marked increase in FDI inflows.

Increasing benefits of scale. ICT development also means that scale economies have become important in ICT-enabled services subsectors, as the marginal cost of providing an additional unit approaches zero. Take the example of data centers and search engines, all of which require high levels of fixed assets and for which costs rapidly decrease with scale (Fontagné, Mohnen and Wolff, 2014).

Contribution to technology development. R&D expenditure in services increased from an annual average of 6.7 percent of total business R&D during 1990-95 to nearly 17 percent during 2005-10. When innovation is defined to take forms other than R&D, the share of innovating firms is relatively similar across manufacturing and services in most countries.

That the expanding opportunities for productivity gains have been realized is reflected in evidence that the services sector has contributed increasingly to economic growth in developing economies during the past three decades (Fagerberg and Verspagen, 2002), especially during periods of growth acceleration (Timmer and de Vries, 2009). Furthermore, there is evidence of unconditional convergence: countries starting from lower labor productivity in the services sector grew faster than those with higher initial labor productivity in that sector (Enache, Ghani and O’Connell, 2016; Kinfemichael and Morshed, 2016). This relates to the fact that new ICT technologies, international tradability, and increased competition, especially since the 1990s, were no longer within the exclusive domain of manufacturing.

The potential for productivity gains is particularly abundant for the ICT sector

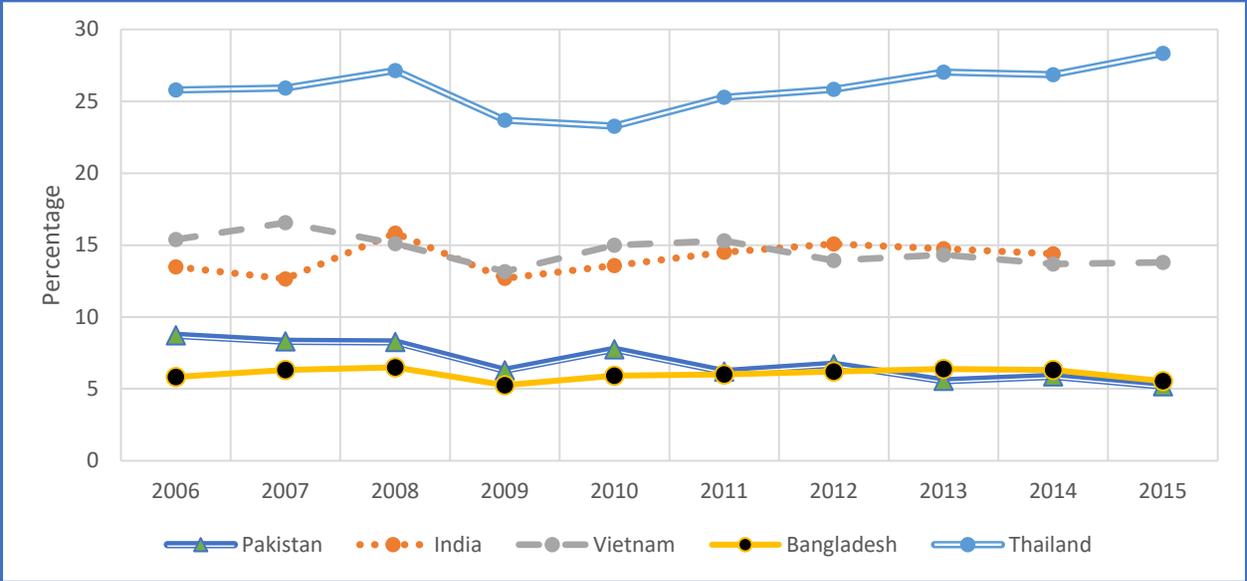
The increasing prevalence of productivity-enhancing characteristics in services, including in low- and middle-income countries, expands the range of activities that will likely have positive spillovers for development. For example, based on World Bank Enterprise Survey data across manufacturing and service industries from a sample of six low- and middle-income countries (LMICs), information technology (IT) services are not very different from advanced manufactures such as electronics, in that both are classified as “high” or “medium” across a range of international trade, learning-by-doing and innovation characteristics (Cruz and Nayyar, 2017).

Furthermore, ICT services cater to final demand and can therefore create development opportunities independent of a country’s manufacturing base. Numerous LMICs have sought to diversify their export baskets through “stand-alone” offshore professional services. Many countries began with BPO services, such as contact and call centers, which laid the foundation for higher-value services, such as finance and accounting. India was at the forefront of diversifying into these operations (Nayyar, 2012), where exports account for about two-thirds of value-added growth in professional services (Hallward-Driemeier and Nayyar, 2017). In fact, the positive contribution of structural change to economic growth in India after the 1990s was largely attributable to the expansion of IT, business process outsourcing (BPO), and other business services (McMillan, Rodrik and Sepulveda, 2017). Other countries that have successfully entered the market are Costa Rica and the Philippines (Bamber et al., 2017).

However, ICT services remain relatively skill-intensive

Based on World Bank Enterprise Survey data across 16 manufacturing and services subsectors from a sample of six LMICs, IT services are classified as “high” or “medium” across a range of learning-by-doing characteristics, such as: the potential for scale economies and formal worker training programs; exports; and innovation as measured by new products, new processes, and R&D spending. At the same time, they also belong to the group that is “high” in skill intensity (Cruz and Nayyar, 2017). Given Pakistan’s “low” capabilities comprising both tertiary education and ICT infrastructure, coupled with the fact that other developing economies already have a first-mover advantage in the sector, Pakistan might be at a disadvantage. However, a large middle class educated in Pakistan’s top universities can provide a critical mass to kickstart the development of an ICT sector.

Figure 17. Trade in services as a percentage of GDP, 2006-15



Source: World Integrated Trade Solutions Dataset.

Nonetheless, Pakistan is developing a niche in the ICT services sector

According to a recent report of the Software Exports Board and the State Bank of Pakistan, the total annual revenue of Pakistan's IT Industry has grown to an estimated US\$3.5 billion. The export earnings of the IT industry registered a double-digit growth of 19 percent, or US\$150 million, from the financial year 2015/16, which stood at US\$788.6 million. Pakistan's domestic market for IT products and services is also strong, estimated at over US\$500 million in annual revenue, and growing exponentially. There are now 1,500 registered IT companies in Pakistan, and 10,000 IT graduates enter the market every year (State Bank of Pakistan, 2018).

Pakistan's IT sector is carving a niche for itself as a favored place to go for freelance IT programmers, software coders and app designers. Pakistani freelance programmers flock to global freelance hiring sites such as Upwork, or fiverr.com, where digital employers in the United States, Australia or Britain bid to hire programmers for small software and app projects. On these platforms, hiring someone from Pakistan becomes as easy as hiring someone from Ireland or India, because traditional concerns about security, corruption and invasive bureaucracy in Pakistan do not apply. The Pakistani programmers market ranks as the number 3 country for supplying freelance programmers, behind only the United States and India, and up from number 5 just 2 years ago. It ranks in the upper 10 to 25 percent on Upwork's listing of growth rates for top-earning countries, alongside India, Canada and Ukraine. Pakistan's freelance programmers, estimated to be earning more than US\$300 million annually, already account for a large share of the country's software exports (Shah, 2015).

This freelancing community is also helping to develop the requisite skill base for a thriving ICT services sector in the future. For example, TechHub Connect, a project of Punjab Information Technology Board, established Pakistan's first coworking space for IT freelance professionals. TechHub Connect hosts Pakistan's top-rated IT freelancers in knowledge-sharing workshops, hackathons, start-up fairs and expos, digital summits and entrepreneurial events at campuses. Furthermore, there is an online portal building a community where established IT firms are able to brand themselves as potential employers. Students can see the latest industry trends to better hone their skills for contemporary and future industry needs. It also enables professors in academia to interact with the IT industry. Similarly, the Punjab Government has decided to establish e-Rozgaar centers in 36 districts to provide training to develop the capabilities of youth to benefit from internet-based freelancing. This will likely expedite the freelancing skills of around 10,000 people in a year and prepare people to adjust to the changing nature of work in rapidly changing global economic landscape (Punjab Information Technology Board, website).

CHAPTER 3: CONSTRAINTS

To explain why structural transformation has been so slow and uneven, we must grapple with two stylized facts about Pakistan. First, the persistent misallocation of resource across firms, both within and across sectors. Second, the absence of improvement *within* the firm: that is, the long tail of unproductive firms that are not innovative and do not grow.

The literature suggests that the list of potential causes is long, ranging from factors “internal” to the firm, such as poor input quality and weak management, to those “external” to the firm, such as uneven regulatory enforcement, firm entry barriers and trade costs.¹¹ But as discussed in this section, the key constraints to efficient reallocation and firm dynamism in Pakistan can be clubbed into two groups:

- Barriers to market efficiency and competition, largely due to distortionary product and factor market policies, including trade policy; and
- The lack of a coherent policy response to potential market failures impeding innovation.

We also discuss why these policy failures persist. To an extent, some of these misguided policies are a legacy of now-defunct models of development that were adopted in the past. But Pakistan made serious pro-market reforms, most notably in the 1990s. The reforms were incomplete, and there were gaps between their design and implementation. There is evidence that this persistence of distortionary policies is rooted in poor governance, particularly the undue influence of powerful interest groups, such as large, politically-connected firms. Another related explanation lies in the pervasive political uncertainty, which discourages governments from taking the long-term view and investing in more open economic institutions and policy enforcement capacity.

3.1 HOW BARRIERS TO MARKET EFFICIENCY AND COMPETITION CONSTRAIN STRUCTURAL CHANGE IN PAKISTAN

Badly designed or implemented regulations can retard efficient resource reallocation and firm dynamism by implicitly favoring some firms over others (Restuccia and Rogerson, 2017). For instance, statutory features of the tax code or labor regulation may impose higher expansion costs on certain categories of firms. An overly complicated construction licensing regime could lead to licenses being over-allocated to firms that are good at dealing with red tape. Discretionary provisions, such as regulatory exceptions handed out to select firms, can have a similar effect.

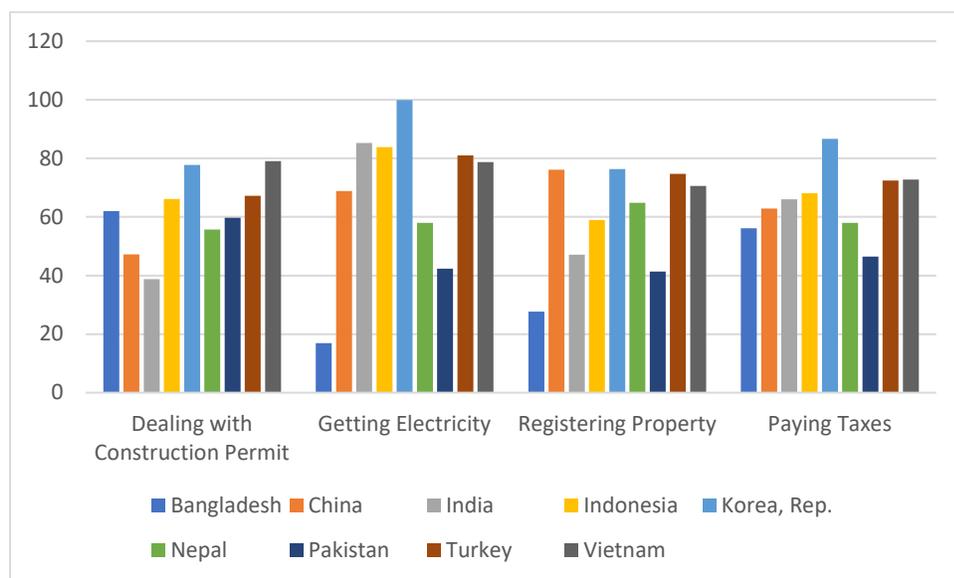
¹¹ Syverson (2011) reviews the evidence on determinants of productivity. Restuccia and Rogerson (2017) review the evidence on misallocation.

Direct interference by the state can also distort markets. For example, agricultural price guarantees can distort farmers’ incentives to become more efficient. Too much capital can be sunk into inefficient state-owned enterprises. Finally, weakness in market-supporting infrastructure can also impair the efficiency of markets. For example, credit allocation could be biased toward large firms in the absence of good credit information systems. This section explains how such distortions persist in key sectors of the Pakistani economy.

Regulatory complexity and inconsistency persist in Pakistan, and more so after decentralization

Procedural complexity and slowness in complying with policies is a serious challenge for firms in Pakistan. Figure 18 depicts the Doing Business “Distance to Frontier” (the gap from the best global practice, with higher scores indicating better performance) measure of the ease of paying taxes, getting an electricity connection and construction permit, and registering property. In general, Pakistan compares unfavorably with other countries in Asia.

Figure 18. Distance to Frontier in The Ease of Doing Business: Selected Indicators



Source: World Bank Doing Business Indicators, 2018.

Overlapping jurisdictions, and multiplying regulatory and tax requirements make it difficult for firms to conduct business. For example, the regulatory regime in the manufacturing sector is administered by numerous national and sub-national agencies and departments through a wide range of age-old approvals, NOCs, permits and licenses. Textile firms pay as many as 12 taxes, and deal with 47 different departments for various approvals and provisions (PIDE, 2018).

Decentralization, a major reform that could improve policy-making in the long run, has had unfortunate short-term consequence on the regulatory regime. The Constitution (Eighteenth Amendment) Act was passed by the National Assembly in 2010 to devolve legislative, fiscal and administrative powers to the provincial governments. In the long run, decentralization has the potential to improve policy-making by making it more responsive and accountable. But it has had the

unfortunate consequence of worsening policy coordination and increasing the layers of regulation. There is lingering confusion about the tax and regulatory policy demarcation between the center and provinces.

Pakistan’s regulatory regime also suffers from a perception among firms that it is unpredictably and inconsistently implemented. This is partly because the rules leave room open for discretionary actions by government agencies. It is also related to the fact that only limited avenues are available to ordinary firms to give feedback on the regulatory process.

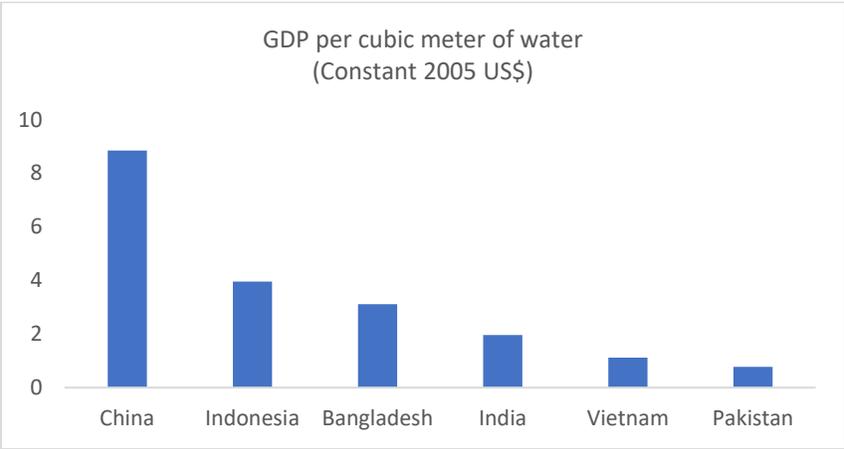
Agricultural policies cause input misallocation

Despite reforms, government intervention in Pakistan’s agricultural markets is still heavy-handed, with a host of market restrictions, price caps and subsidies that restrict productivity growth. It has distorted crop choice, reduced incentives to increase productivity and move to higher-value crops, and also led to inefficiencies in input use, such as the overuse of water.

The National Agricultural Policy and the National Agricultural Prices Commission, part of wider agenda of economic liberalization, reduced distortionary government interventions in most commodity markets in Pakistan during the 1980s. The policy included the removal of price subsidies on many inputs. However, some large distortions, including price floors in the wheat market and fertilizer subsidies, persisted (Spielman and others, 2016).

In the province of Punjab, for example, subsidies to agriculture amount to nearly US\$1.25 billion per year. There are subsidies on the cost of inputs such as fertilizers, electricity, credit, irrigation maintenance and repair, and an implicit subsidy in the price support to wheat. These input subsidies promote excessive or imbalanced use of input such as water and fertilizers. About 25 percent of the once fertile land of Punjab is now degraded due to the pumping or overuse of water. Pakistan’s water efficiency in the farm is one of the lowest in the world (Figure 19).

Figure 19. Low Water Efficiency on the Farm



Source: World Bank Indicators Database, 2015.

Motivated by considerations of self-sufficiency in food and guaranteed income support to farmers, Pakistan has maintained a large government wheat procurement program, which procures wheat at 40-60 percent above the world market price. This has led to a land over-allocation and surplus production in wheat, a staple in which it is unclear that Pakistan has an inherent comparative advantage, while inhibiting the diversification of production into higher-value crops such as fruits and vegetables, where Pakistan might have an inherent comparative advantage. This also discourages the development of a supply chain and agro-processing industry.

Agricultural product market policies, such as the Punjab Agricultural Produce Markets Ordinance (PAPMO, 1978) impose strict control over the marketing of agricultural produce, limiting it to a select number of “market committees”. The resulting lack of competition and entry in agricultural markets has reduced the incentives of intermediaries to invest in improving their efficiency and value addition. It has limited direct purchase and contracting between agro-processors and farmers (contract farming), and prevented the establishment of private markets.

Credit allocation is biased toward larger firms

Pakistan introduced major financial sector reforms in the early 1990s, including the privatization of financial institutions, the liberalization of interest rates, and a stop to credit controls and mandatory lending. Until then, the financial sector had been dominated by a small number of public sector banks that suffered from poor performance and asset quality. Privatization and liberalization led to significant entry and diversification, and the banking sector is now 85 percent privately-owned (SBP, 2015).

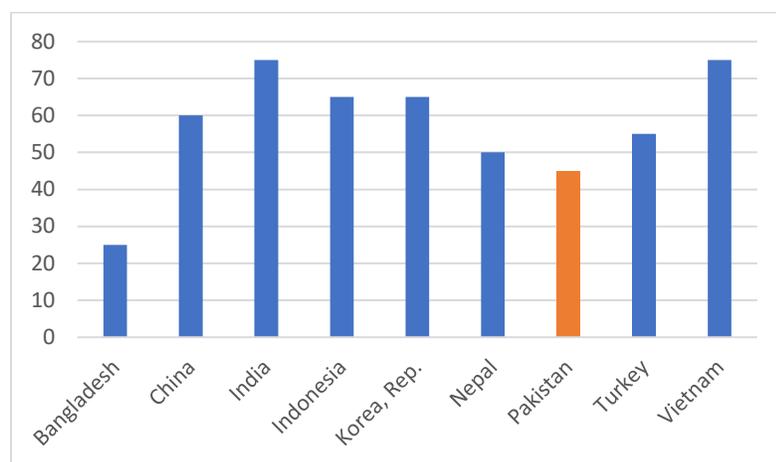
Pakistan’s financial sector is stable, but falls short on diversification and depth. The reforms in the 1990s were focused on strengthening the regulatory framework and improving the overall stability profile of the banking industry (Khalid and Nadeem, 2017). Today financial services are dominated by banks, which account for almost 90 percent of its assets. Non-bank financial institutions (including development banks), micro-finance banks and insurance companies are relatively small.

Credit to the private sector—especially to small and medium-sized firms—is comparatively low in volume and quality. Private businesses receive just 40 percent of bank credit. In part, this is because rising government borrowing has crowded out bank credit to the private sector. Credit to the private sector is heavily tilted toward large firms, with a mere 0.4 percent of bank borrowers accounting for 65 percent of all bank loans (SBP, 2015). SME loans comprise less than 10 percent of all loans in Pakistan; in comparison, they comprise more than 15 to 20 percent of all loans in countries such as China, Bangladesh and India (Aslam and Sattar, 2017).

SME lending is low not only in volume but also in quality. The share of non-performing loans (NPL) in SME loans is about 20 percent, compared with a range of 2 to 18 percent in most East Asian and South Asian economies (Aslam and Sattar, 2017). And at the upper end of the firm distribution, there is evidence that a small number of influential firms obtain a large share of the credit, despite higher default rates (Khwaja and Mian, 2005).

Focused on ensuring stability, the legal and institutional developments in Pakistan’s financial sector have not been adequately geared toward addressing market imperfections that hinder credit to small firms. Market imperfections related to risk and informational asymmetry are endemic to lending, and more so for small firms, which lack adequate collateral. Credit information agencies, and laws and institutions that facilitate the use of collateral are therefore important. To address the latter issue, many developing countries are encouraging movable asset financing through secured transaction reforms and creating collateral registries so that real estate is not the only reliable collateral. In Pakistan, this reform process has been slow. For example, although the Financial Institutions (Secured Transactions) Act 2016 has been approved by the National Assembly, its implementation is contingent on the establishment of an electronic collateral registry. Pakistan’s Credit Information Bureau (CIB) does not provide detailed-enough credit reports for most SMEs. Thus, Pakistan’s score on the Doing Business Distance to Frontier in “Getting Credit”—a measure reflecting credit information bureaus and collateral laws—is low relative to most comparators in Asia (Figure 20). Institutional and legal weaknesses such as poor contract enforcement and insecure property titles also constrain the use of collateral in lending.

Figure 20. Distance to Frontier in the Doing Business “Getting Credit” Indicator



Source: World Bank Doing Business Indicators 2018.

Limited financial sector expertise in dealing with issues specific to small firms could also be hindering credit allocation to firms. Given the inherent risks and informational issues in small enterprise, lenders need to develop specific capabilities for lending to small firms. But Pakistan’s banks have been focused on serving big business. The relative neglect of this dimension, also reflected in the decline in development banks, is telling. Furthermore, given Pakistan’s long tail of badly managed firms, it is probable that many firms have limited capacity for financial management, hindering their credit worthiness. Some form of public support for building such capabilities in firms could also have an impact on the flow of credit to firms.

Power Sector Reforms – An Unfinished Agenda

Pakistan was one of the first countries in the region to introduce power sector reforms, starting in the 1990s. The integrated electricity utility, the Water and Power Development Authority (WAPDA), was unbundled into thermal generation, transmission and distribution companies, while retaining hydropower generation; an independent regulator was set up to develop and enforce a regulatory framework that supports a competitive, efficient, modern and dynamic power sector; and the private sector was brought into generation. In 2005, Karachi Electric, an integrated utility, was privatized. However, the sector continued to face supply and financial deficits.

The energy sector has many challenges and continuing the reform agenda is vital to improve sector performance. Capacity constraints in power generation are heightened by policy uncertainty, which reduces the incentives of firms to invest in greater efficiency, revenue collection, and upgradation (Ahmed, 2017). The lack of arm's-length relationship between the Government and public utilities since unbundling has negatively impacted their transformation into commercially-run and managed companies. While some distribution utilities have improved efficiency, others continue to have high system losses and low collections, unable to pay for power purchase costs, and to make investments in the network. The absence of system planning and its implementation resulted in periods of surpluses and shortages, suboptimal allocation and distribution of natural gas, higher generation cost, and congestions in networks. Inflexible and long-term power purchase contracts in which most risks are passed on to the government-owned single-buyer has reduced the incentives for generators to upgrade and be responsive to changing demand conditions. Currently, generation capacity is being increased but it is also important to invest in transmission infrastructure to evacuate the power generated and to improve the performance of distribution companies. These constraints, inefficiencies and costs stem from several institutional causes and governance of public sector power companies, creating uncertainties for commercial and industrial investors.

The Central Power Purchasing Agency-Guarantee Limited (CPPA-G) was operationalized in 2015 by separating the power purchasing function from NTDC. CPPA-G was mandated to act as an agent of public distribution companies, and to develop and implement a competitive electricity market, including allowing large customers such as industries or commercial to procure power competitively. The sector law (NEPRA Act) has recently been amended, targeting among others the introduction of competition in generation, and retail markets. CPPA-G, however, is still in transition to becoming the market operator and much preparatory work is needed for the wholesale electricity market to be ready by 2020 as scheduled. Moreover, the current National Power Control Center needs to be strengthened to deliver the critical role of a modern system operator to plan reliable and least-cost dispatch to benefit the additional generation capacity, and to enable transparent and non-discriminatory third-party access to networks and wholesale and retail competition. The public distribution utilities need to become credit-worthy for purchases in a market where payment is guaranteed. The transmission grid needs significant investments and modern technologies to provide the highway for energy generated to where the demand is, calling for updated least-cost transmission expansion plans.

Resources are misallocated towards inefficient state-owned enterprises

State-owned enterprises (SOEs) have a large presence in Pakistan. The federal government owns 197 SOEs¹² with a combined output of 10 percent of GDP, and combined assets valued at 43.4 percent of GDP in FY2015/16. Many SOEs are ‘natural monopolies’ (e.g., Pakistan Railways, NTDC) and providers of services not offered by the private sector, such as access to finance in rural areas. But there are also SOEs in sectors where there is no economic rationale for state ownership, such as manufacturing. For example, Pakistan Steel Mills (PSM) is one of the largest SOEs in manufacturing. Overall, power and transport sectors comprise the bulk of total SOE revenues (Arrobbio et al., 2017). After a wave of privatization in the 1990s, the SOE presence in finance and telecom fell to insignificant levels.

The continued presence of inefficient, loss-making SOEs is a major source of distortion and resource misallocation in Pakistan. For example, SOEs in the transport and industrial sectors have on aggregate lost money in the past 3 years; some of the largest loss-making SOEs include PIA, Pakistan Railways, and PSM. SOEs in the oil and gas sector have been profitable in recent years, while energy SOEs slipped into losses in 2017 due to rising oil prices. A privatization program launched in 2013 targeted more than 60 SOEs but resulted in only five sales, indicating that private investors do not consider most SOEs to be truly competitive.

The Government supports SOEs through heavy subsidies and loan guarantees, further distorting resource allocation. In FY2015/16, subsidies, loans, and grants to federal SOEs accounted for 1.5 percent of Pakistan’s GDP.¹³ In addition, sovereign guarantees for SOE debt reached almost 3 percent of GDP in FY2016/17. This guarantee encourages banks to issue loans to SOEs rather than private companies, biasing credit allocation: two-thirds of the credit issued by commercial banks in Pakistan go to the public sector.

SOEs remain inefficient because they are poorly governed and insulated from market discipline. Pakistan lacks clear laws laying down the foundation for good corporate governance in SOEs, and separating the Government’s role as owner from its role as a policy-maker and regulator. While the availability of information on SOEs has improved, their oversight is still weak because there is no framework specifying the objective behind state ownership and the criteria for measuring success. These SOE governance issues are discussed in depth in a companion Pakistan@100 policy note on governance.

Pakistan’s trade policy and poor logistics limit competition and access to inputs

Access to international markets has helped firms in South Asia grow and become more productive. There are many channels through which trade has promoted productivity growth: competition, knowledge spillovers, and access to better technology and quality inputs (Lopez-Acevedo et al., 2016). Bangladesh’s garment industry and India’s auto industry are some of the well-known success stories.

¹² These include SOE subsidiaries and 45 not-for-profit entities. SOEs have different legal structures, with Public Sector Companies (PSCs) established under the Companies Ordinance being the largest with 179 enterprises. There are also 10 federal authorities and 8 Development Finance Institutions (DFIs). Only 13 federal PSCs are listed on the stock exchange.

¹³ Ministry of Finance, State-Owned Enterprises: Performance Review, FY13/14, FY14/15, and FY15/16.

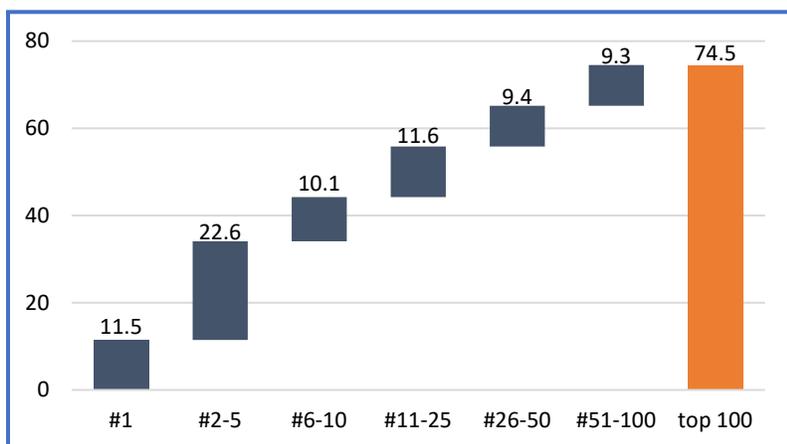
But Pakistani firms have not been able to fully leverage the potential of trade because of trade policy and logistical issues. For example, according to the World Bank Enterprise Survey conducted in 2013, the proportion of products lost to breakage or spoilage during shipping to domestic markets in Pakistan is significantly higher than the South Asian average. Firms in the textile sector complain that a policy of not allowing imports of high-quality yarn has constrained quality improvement in clothing.

Customs clearance and transportation are the main logistical challenges to trade. In 2016, with an average score of 2.92, Pakistan ranked 68 out of 160 in the World Bank's Logistics Performance Index (LPI). It lags behind India, and East Asian comparators such as China and Vietnam. This is partly because of slow customs procedures. For example, in 2015, it took exporters 141 hours and importers 294 hours to clear customs at Karachi, compared with an average 20 hours and 13 hours, respectively, in the OCED (World Bank, 2016). The other main logistical challenge in Pakistan is the excessive reliance on a poor-quality road network (and a low-cost, low-quality trucking industry), with more than 90 percent of all freight being moved by road.

The trade policy liberalization of the 1990s has suffered a reversal, and Pakistan still has relatively high tariff and non-tariff barriers to trade. A steady program of tariff reduction and simplification was carried out from 1990 until 2006; for example, the maximum customs duty rate was cut from 65 percent in 1997 to 25 percent by 2003. But this trend stopped in the mid-2000s. According to the Overall Trade Restrictiveness Index (OTRI), Pakistan is currently the world's seventh-most-protected economy. Pakistan's tariffs are three times higher than those in Southeast Asia, and higher than the South Asian average.

Pakistan's trade policy is heavily reliant on discretionary instruments, and biased against exporters, especially SMEs. High import duties on intermediate goods act as a tax on exporters, who tend to use imported inputs more intensively than non-exporters. Thus, there is an attempt to countervail this through special exemptions to firms and regulatory orders. For example, almost 45 percent of imports (by total value) claimed some sort of customs duty exemption in 2015/16. But duty exemptions disproportionately benefit large firms. To benefit from a customs duty exemption, a firm needs to import its inputs directly, which is more likely for large exporters. Small firms, such as most firms in textile cluster, rely on commercial importers and therefore face a higher effective cost of imported inputs. Almost 75 percent of customs duty exemptions are claimed by the largest 100 firms (World Bank, 2016).

Figure 21. Percentage of Duty Exemptions Claimed by the Top 100 Firms



Source: Reproduced from World Bank, 2016. Staff calculations based on 2016 customs data from FBR.

3.2 HOW COORDINATION FAILURES COULD BE CONSTRAINING STRUCTURAL TRANSFORMATION IN PAKISTAN

Similar to much of South Asia, industrial clusters are ubiquitous in Pakistan. Many of them are traditional clusters that go back decades or even centuries, their persistence revealing the significance of “externalities” such as positive knowledge flows (“spillovers”) between neighboring firms. For example, take the enduring success of the Sialkot hand-stitched soccer-ball production cluster. It may seem like an anomaly in a country where cricket rules the sporting world, but in fact it is a striking example of the role that externalities and complementarities between different types of investments can play in structural transformation. The Sialkot cluster came into being during colonial times due to a demand for soccer balls from locally-stationed British soldiers. The cluster survived even after the British left because of agglomeration economies, such as the availability of a deep pool of skilled labor and specialized inputs, and knowledge spillovers (Atkin et al., 2016).

Coordination failures can limit the growth of clusters and new industries. Because of knowledge spillovers and the importance of access to a pool of specialized labor, the productivity of a firm located in a cluster depends on the actions of other firms in the cluster, and on complementary factors such as the supply of skills. This introduces scope for coordination failure. For instance, firms in traditional clusters are typically too small to bear the cost of training workers on their own. Hence, they would hesitate to upgrade to a new technology if they were unsure about the supply of workers trained in that technology. But workers would hesitate to get that training if they were unsure that firms were upgrading to the new technology.

The East Asian experience reveals the potential role of governments in bringing about coordination. The rapid industrialization of Japan, the Republic of Korea, and Taiwan, China, in the second half of the twentieth century is often attributed to successful coordination policies—besides

other factors such as exceptional quality of investment in human capital development.¹⁴ Their governments explicitly and consistently promoted export growth and upgradation in select sector through various incentives, including easier access to credit, technology imports and foreign knowhow. At the same time, they coordinated this support with other policies in complementary sectors, such as the promotion of university and industry linkages in skills development and R&D (Chaudhry and Andaman, 2014).

Policymakers have largely ignored the potential of existing clusters

The co-existence of dynamic and stagnant clusters in Pakistan hints that when done right, the coordination of complementary investments can be pivotal to structural transformation.

While it is impossible to attribute the success of a cluster such as Sialkot to any single factor, coordinated policy support was a significant factor. Firms in Sialkot give credit to two policies above all. In 1960–61, the Government created a specialized industrial area in Sialkot that offered land to firms at 50 percent of the actual land value. Then, between the early 1970s and mid-1990s, the Government ran a scheme to promote non-traditional exports by offering duty rebates on inputs (Atkin et al., 2016).

Sialkot is one of the exceptions, and similar to most other developing countries, Pakistan has not been able to emulate the East Asian success with the coordination of industrial development.¹⁵ In the textile sector, for instance, there is no consistent strategy for promoting the shift of existing clusters toward higher value-added products. On the contrary, textile firms complain that they do not buy expensive modern machinery due to policy uncertainty in the sector (PIDE, 2018). There is also no policy initiative to identify new sectors in which there is potential for Pakistan to grow and move up the value chain.

Any analysis of Pakistan's poor track record in coordinating industrial development is incomplete without political-economy considerations. In the 1960s, Pakistan adopted a “big-push” type development strategy, which ignored existing clusters and superficially resembled the Republic of Korea model: credit was channeled to large industrialists, import controls were relaxed to facilitate the import of raw material, and exporters given easier access to foreign exchange to import inputs. But unlike, say, the Republic of Korea, the state could not commit to making subsidies conditional on export performance, or to intervening selectively and strategically. At the end of this big push, while Pakistan did end up with a large industrial base, it was not as competitive as the Rep. of Korea's.

Missing skills and managerial capabilities constrain technology upgradation and innovation

In seeking to raise the rate of innovation, policy-makers in low- and middle-income countries often become preoccupied with constraints to R&D, and focus on tools such as R&D subsidies or tax incentives, matching grants, and the creation of public institutions such as public

¹⁴ Wade (1990), Evans (1995), and Kohli (2004) analyze the role of coordination policies in the East Asian success story.

¹⁵ Robinson (2009) discusses how such industrial development policies have largely failed in other parts of the world. Chaudhry and Andaman (2014) discuss the case of Pakistan.

research institutes or universities. But in Pakistan, where catching up to technological leaders (technology adoption) is more important for most firms than cutting-edge research, the lack of more basic complementary factors such as skills and managerial capabilities is a more immediate deterrent to innovation.

In the textile sector, for example, firms highlight the poor quality and relevance of workforce skills as a constraint to productivity, product quality and upgradation (PIDE, 2018). In part, this is due to the poor quality of general (school) education, a topic discussed at greater length in a companion note on Pakistan@100. Another issue is the mismatch between the skills taught in colleges and vocational training institutes, and what the market demands. This is generally attributed to a lack of coordination between vocational training institutes and industry.

As discussed, most firms in Pakistan are poorly managed by international standards. Lacking a cadre of professional managers, or even basic organizational capabilities, they are unlikely to have the capacity to identify new technologies and implement a plan to adopt them. This complementarity between basic firm capabilities and innovation is a key challenge for innovation in countries such as Pakistan (Cirera and Maloney, 2017).

A striking example of the complementarity between management and innovation is how a simple organizational feature has impeded technology upgradation in the Sialkot soccer-ball cluster. When researchers introduced a new cutting technique, which cuts wastage to a random sample of producers, they found a puzzlingly low adoption rate of this clearly superior technology (Atkin et al., 2017). They hypothesized that this was because workers were paid piece-rates, reducing their incentives to avoid wastage and to adopt a new technology that would initially slow them down. Shifting to a lump-sum payment scheme increased adoption rates significantly.

There is evidence that the underinvestment in market-relevant technical/vocational skills and in managerial skills are both a kind of market failure that requires a well-coordinated policy response. In India, for example, subsidized management consulting to a random subset of large, established textile firms had significant positive effects on their performance (Bloom et al., 2013). The market failure could be that firms simply do not know how much they could benefit from investing in better management.

SEZs and industrial estates have failed to leverage agglomeration economies

Instead of focusing on easing market failures in existing clusters, Pakistan's industrial policy has been fixated on developing new special economic zones (SEZs) and industrial estates. SEZs can ringfence regulatory reform, and industrial parks can ease access to well-serviced industrial land. Both can enable agglomeration. Industrial estates have a long history in Pakistan, dating to the vast S.I.T.E industrial area, which was established in Karachi in 1963. SEZs are a newer development. The SEZ Act in September 2012 essentially aimed to provide regulatory enclaves to export-oriented firms, allowing both the federal and provincial governments to create SEZs, wholly public or with public-private partnership (PPPs). The Act has led to the establishment of provincial SEZ Authorities (SEZAs), and several new SEZs in the provinces.

Pakistan's experience with industrial estates is not flattering, and this in turn makes firms wary of SEZs. Many industrial estates suffer from mismanagement and a lack of even basic services

and infrastructure, such as good quality roads. For example, firms in Karachi's S.I.T.E report that no fire in that zone has ever been extinguished by the fire brigade (PIDE, 2018). The Government announced the establishment of a textiles city in Karachi, but progress on it has been stalled due to unresolved issues between the federal government and the provincial government of Sindh. Given this experience, firms in Karachi are cautious about new SEZs.

Firms' skepticism of SEZs is not without cause, because basic governance issues are still to be resolved. Sindh, for example, has yet to fully operationalize the provincial SEZA, and its secretariat is not fully staffed. It is yet to establish an effective operational arrangement to regulate and manage SEZs.

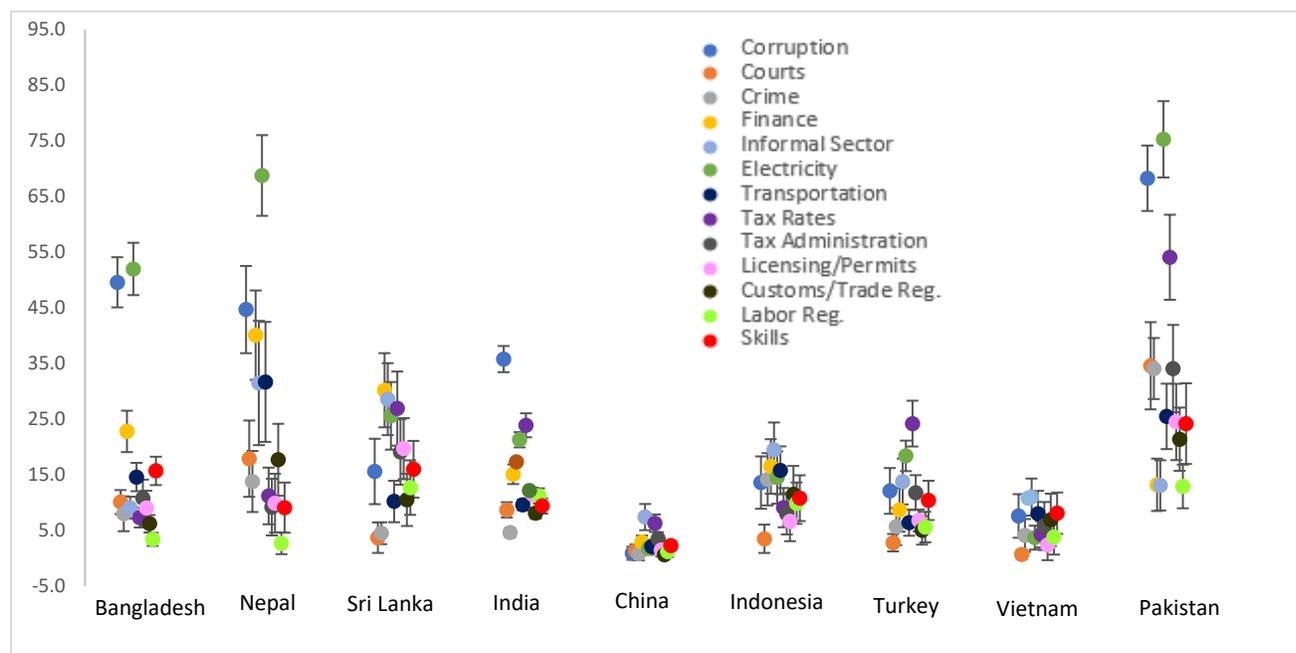
Unless firms are convinced that SEZs and industrial estates will become functional, their effectiveness as a tool for coordination will be limited. Successful coordination of industrial upgradation often requires a coordination of expectations, because otherwise no firm wants to be the first mover. In this sense, the poor firm perception of zonal development policy could become a self-fulfilling prophesy.

3.3 GOVERNANCE: A CROSS-CUTTING ISSUE

When firms in Pakistan are asked about major constraints to their operations and growth, electricity, corruption, and tax rates stand out (Figure 17). In each case, the percentage of firms that report the issue as a major constraint is significantly higher than found in comparator countries.

Tax administration and courts are two other issues that trouble Pakistani firms to a much higher degree relative to comparators.

Figure 22. Major Constraints Reported by Firms



Source: Staff calculations based on World Bank Enterprise Surveys 2011-15. The chart shows the percentage respondents reporting each issue as a major constraint, with 95 percent confidence interval.

The top three constraints reported by Pakistani firms can all be traced to governance. This is obvious in the case of corruption. Electricity shortage too is related to regulatory governance issues in the power generation and network (transmission and distribution) subsectors. Similarly, one reason why Pakistan firms complain so much about taxation is the complexity of the tax system and how it is administered, a problem that has reportedly worsened following decentralization.

The fact that nearly 70 percent of Pakistani firms consider corruption to be a major constraint suggests that the issue goes beyond petty bribery. It signals a pervasive weakness in the basic elements of ‘good’ economic governance: namely, the rule of law, strong property rights, and contract enforcement, and transparency and inclusivity in how policies are designed and implemented.

There is growing global evidence that these key elements good governance are strongly correlated with long-term growth and productivity improvement. They are the foundation for consistent, well-designed and well-implemented policies (World Bank, 2017a). Their absence makes

it easier for powerful groups with narrow interests, such as politically connected firms, to have undue influence over policy. Studies from other countries suggest that such ‘capture’ can take many forms:

- Market distortions: Sometimes market regulations are designed to favor connected firms, such as the imposition of regulatory barriers to the entry of new firms for protecting incumbents (Rijkers and others, 2014; Diwan and others, 2015).
- Coordination failures: Industrial policy that seeks to coordinate complementary interventions, such as establishing a “growth pole” or “economic corridor” is a common policy response to market failures, but there is evidence that the location of such poles/corridors is dictated by lobbies, not economic analysis (Robinson, 2009).
- Trade barriers: Influence from industry lobbies and labor unions is shown to affect the setting of import tariffs.¹⁶

Similar policy issues are observed in Pakistan. For example, as discussed, most benefits of discretionary import quotas go to a handful of large firms. This is indirectly suggestive of an undue influence of some large firms on trade policy.

Pakistan is inherently susceptible to policy capture because of a historical concentration of economic power among large industrialists and landowners. In the 1960s, the chief economist of the planning commission, Mahbub ul Haq, claimed that 22 families controlled 66 percent of the industrial wealth and 87 percent of banking and insurance (Hussain, 1999). Since the 1980s, the share of industrialists in the National Assembly and Parliament has doubled, blurring the barrier between politicians and businessmen. There is increasing dominance of large business groups with considerable political power, with the industrial assets of the top 44 business groups equal to the entire national budget (Daniyal and Bakhtiar, 2012).

There is increasing evidence to suggest that the dominance of some business groups could be affecting how resources and credit are allocated. For example, between 1996 and 2002, politically connected firms borrowed 45 percent more and had 50 percent higher loan default rates than other firms. This preferential treatment increased when the power of the connected politician increased, and fell when there was more electoral competition in constituencies. However, connected firms were more likely to default on their loans than other firms, and less productive. This suggests that credit allocation was biased in their favor. Based on the gap in productivity between connected firms and other firms, the annual loss from giving disproportionate amounts of credit to connected firms could have been as high as 1.6 percent of GDP (Khwaja and Mian, 2005).

In interviews with textile firms conducted as part of a background study for this policy note, many firms complained about misguided policies that could be benefiting lobby groups, such as sugar mill owners, at the expense of cotton-based industries that have an inherent

¹⁶For evidence from developed countries, see, for instance, Goldberg and Maggi (1999), and Gawande and Bandyopadhyay (2000).

comparative advantage. For example, Multan and its surrounding areas are suitable for cotton growing and a thriving cotton-based industry has long existed. It is facing a serious threat due to subsidies for sugar productions, reportedly driven by lobbies that are inducing farmers to grow sugarcane instead of cotton. A water-intensive crop, sugarcane is not suited for a dry region like Multan (PIDE, 2018).

Another important dimension of Pakistan’s economic governance problem is the unceasing political uncertainty. Pakistani governments expect to be short-lived. When governments have a short time horizon, they do not have strong incentives to invest in building institutional capacity to implement policies needed for sustained, long-term growth.¹⁷ This could explain why policy implementation in Pakistan has been hampered by weak implementation capacity, poor inter-department coordination, and confusion about the allocation of mandates. For example, many firms are not even fully aware of available SME support programs such as incubators, common facility centers, technology upgradation, and innovation programs.¹⁸

A related issue is that ordinary firms are often unaware of policy details and uncertain about how long they will last. For example, textile firms that were interviewed as part of a background study for this report are largely skeptical of CPEC due to a lack of transparency about CPEC projects. Many firms are unaware about key details of the CPEC projects that they need to know before deciding how to respond to CPEC, such as at what price electricity will be available to them after completion of CPEC energy projects (PIDE, 2018). This uncertainty discourages long-horizon investment planning in firms.

Weak contract enforcement—another issue that Pakistani firms are concerned about—can also retard structural change, since contract enforcement underpins long-term investments in firms and linkages across firms. Informal mechanisms based on reputation and traditional business relationships can enforce contracts in the absence of formal mechanisms, but they become increasingly ineffective in complex, modern economies (Dixit, 2007). Hence, weak contract enforcement will become increasingly constraining as Pakistan’s economy becomes more complex.

¹⁷ Besley, T., 2011. In an analysis of the political economy of growth in Pakistan, Easterly (2001, pp. 26) takes this idea one step further and speculates if short horizons have made successive government behave like ‘roving bandits’ who loot only for today.

¹⁸ Ibid

CHAPTER 4: RECOMMENDATIONS

4.1 REFORMS TO ENABLE MARKETS AND REDUCE DISTORTIONS

Better allocation of resources is at the heart of positive structural transformation. Hence, reforms that enable market efficiency and competition should be accorded the highest priority. Key reform areas include product and factor market regulation, strengthening financial infrastructure, and trade policy. Reforms to policies on agricultural markets and SOEs are also important; they are discussed in companion Pakistan@100 policy notes.¹⁹

Reforming business regulation

Product and factor market regulation in Pakistan is characterized by complexity, opacity, and uneven enforcement. Multiple layers of regulation—at federal and provincial levels—on business entry and operation add to the problem. Regulatory reform should aim to level the playing field for ordinary firms by reducing red tape, and the scope for excessive discretion and arbitrariness in enforcement.

Pakistan has already embarked on these reforms as part of the ‘Doing Business Reform Sprint’, which is driven by a high-level committee established by the Prime Minister’s Office (PMO). The initiative is focused on improving specific dimensions of regulation, as measured in the World Bank’s Doing Business Index.

Looking ahead, this reform initiative should be deepened and expanded to address the myriad layers of regulations at the federal, provincial, and local levels, and sector-specific regulations. A first step would be to conduct more diagnostics of product and factor market regulation at federal, provincial, local and sector-specific levels to identify the most pressing reform needs.

Given the multiple overlapping layers of regulation, a piecemeal approach to such reforms will not work. The reform agenda could be driven by a high-powered ‘National Business Climate Reform Unit’ attached to the PMO, supported by complementary organizations at the provincial level. For instance, Punjab has a functioning Investment Climate Reforms Unit. The roles, responsibilities, and powers of these units should be clarified and formalized through guidelines or laws as needed.

Leveraging digital technology, legal reform to regulations should be complemented by measures to improve their transparency and ease of compliance for firms. A comprehensive inventory of all the licenses and permits that apply to firms in each province or sector would be a good first step. This could be used to prepare and maintain updated, consolidated regulatory repositories, or e-portals that list all requirements and procedures in the public domain, at federal and provincial levels. Furthermore, regulatory compliance can be eased through single-window inline portals for registration and other compliance activities.

¹⁹ Agricultural policy reforms are discussed in the Environment Policy Note, and SOE reform in the Governance Policy Note.

Improving credit allocation to firms

A fundamental challenge in improving credit allocation to firms—not unique to Pakistan—is that risk and informational asymmetry is worse in lending to young firms, small firms, and innovative firms. Such firms also lack property and other immovable assets that are easier to collateralize. To add to this, government loans and short-term bank lending to corporates further crowds out SME lending in Pakistan.

Continuing with financial infrastructure reforms that strengthen creditor information systems and expand the pool of acceptable collateral will be key to addressing the risk and informational asymmetry problem. There are three private credit bureaus in Pakistan, and the Credit Information Bureau (CIB) of the State Bank of Pakistan maintains a database of all individuals and businesses applying for loans, including SMEs. But there is scope to expand and deepen the databases. Rating the credit worthiness of SMEs is especially difficult because many of them do not maintain good records. One suggestion that has been floated is to establish a specialized SME rating agency with public support. This could be combined with programs that improve financial management capacity of SMEs. Regarding collateral, the operationalization of the recently passed secured transactions reforms law that expands the set of acceptable collateral will be important. A database or a national collateral registry of movable assets could help operationalize these reforms.

In time, it will also be important to introduce new models of credit delivery to SMEs, including models that leverage digital technology and business networks. To begin with, it will be useful to pilot and rigorously evaluate promising models, with the intent of scaling-up those pilots that work. For example, there are new supply chain models such as the Anchor-Agent where established players with strong banking relationships work as anchors to help provide lending to their vendors and distributors. In this model, firms may be less likely to default because they value their relationship with the anchor. An appropriate regulatory “sandbox” approach could facilitate such pilots while containing the risks.

Pakistan’s Development Finance Institutions (DFIs) and other specialized financial institutions, which could tailor products to meet SME and long-term financing gaps, are small and fragmented. The Government is considering the possibility of creating new, stronger DFIs. More caution is warranted lest there is a proliferation of DFIs. It might be more prudent to strengthen existing DFIs, with clearer mandates addressing well-identified market gaps, better governance, and stricter financial supervision.

There are important questions around the respective role of the market and the state in ensuring efficient credit allocation to firms. Compared with Pakistan, many developing countries have adopted a more interventionist approach of directed lending to ‘priority’ sectors. The evidence on the impact of such directed lending is limited. There is scope for both market failure (information asymmetry) and government failure (capture) in lending to firms, and so the best approach is probably in between these extremes. It would involve incentivizing banks and other financial institutions to reach out to a broader set of firms, while strengthening the institutional underpinning for reduced informational asymmetry and risk management. Given the limited evidence on these questions, more analysis and consultation are recommended as a first step. Tailoring the approach to Pakistan’s context will also be important.

The first key objective of trade policy reforms should be a simple, transparent tariff structure, with reduced tariffs and fewer discretionary provisions. Recent analysis suggests that import duties are a less important source of revenue than commonly perceived. High tariffs not only help inefficient firms survive, but also reduce the incentive of domestic firms to reach out to export markets and raise the costs of imported inputs. The prevalent use of para-tariffs and discretionary provisions is biased in favor of larger firms, and leaves room for favoring influential firms. A simple and transparent import regime would involve streamlining the tariff system, and setting clear and transparent rules and lock-in clauses governing the use of discretionary provisions. This could include the introduction of greater transparency in the decision-making process for setting exemptions, and the implementation of a more uniform, less discretionary duty exemption scheme for exporters.

Identifying and implementing key regulatory reforms in services sector could improve Pakistan's international competitiveness in the tradeable services and manufacturing sectors that are increasingly reliant on professional services inputs, such as logistical and financial services. The “servicification” of manufacturing has made openness to trade and FDI in services more critical to participation in global value chains (GVCs). It is possible that regulatory restrictions or gaps in the regulatory framework, such as a legal framework for e-commerce, seriously impede trade and FDI in vital service industries, but specific issues are not yet well understood. Therefore, conducting more diagnostics of services regulation and competition issues to develop a reform strategy is also recommended as a first step, to be followed by the appropriate regulatory changes recommended by the diagnostics.

Improving trade logistics through procedural facilitation and infrastructural improvement will also be critical. Long waiting times for border clearance are a major logistical hurdle to trade in Pakistan. An automated internet-based processing system for border management has already been rolled out; this roll-out should be completed and extended to all relevant regulatory agencies. In addition, an assessment and subsequent upgradation of the biggest infrastructural bottlenecks at borders—such as inadequate weighbridges and scanners, sheds and warehouses, customs facilitation centers, quarantine and phytosanitary facilities—is recommended. Adopting a more modern risk-based compliance management strategy for border controls will help focus attention on the most high-risk consignments, while expediting those that do not pose serious issues.

Other key issues in trade are how to improve integration with regional partners and, in time, enter into more “deep trade agreements”. The long-run benefits from openness to trade and FDI are increasingly related to knowledge spillovers from foreign suppliers, buyers, and investors. Weaknesses in the domestic competition policy and the intellectual property rights regime could have a chilling effect on these knowledge flows. “Deep trade agreements”, which reach beyond tariff reduction to policy areas such as investment and competition policy, could therefore matter to how well potential knowledge spillovers from trade and FDI are realized. Such deep agreements are known to have positive effects on trade flows.

4.2 ADDRESSING MARKET FAILURES THAT IMPEDE INNOVATION

A phased approach

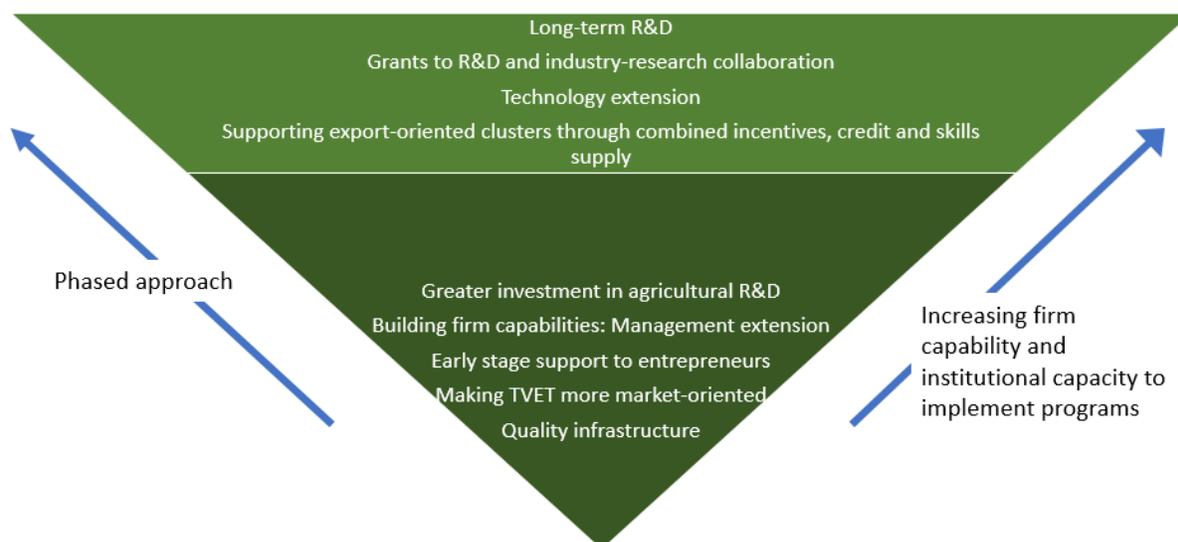
Innovation in products, production processes, and management is potentially vulnerable to market failure and, as such, could potentially benefit from more active, coordinated policy interventions. For example, firms may underinvest in R&D because its benefits can be appropriated by copycat firms. Credit market failures are more likely in innovative activities because of the higher levels of risk and informational asymmetry. Similarly, strong complementarities between investments in new technologies and skills leave scope for coordination failures, and a policy that effectively coordinates the expectations of firms and workers could resolve this failure.

But policies to address the market failures associated with innovation can fail if they are beyond the implementation capacity of public agencies, and if firms' lack basic capabilities complementary to innovation. Being inherently more discretionary and complex, such policies are vulnerable to mismanagement or capture. Basic firm capabilities, such as the quality of management, determine how ready they are to absorb new technology and ideas productively (Cirera and Maloney (2018)). The existing level of technological sophistication in a firm also matters, with less sophisticated firms more likely to benefit from programs that encourage incremental innovation rather than cutting-edge research.

Therefore, Pakistan should adopt a phased or stage-wise approach to innovation policy, with instruments and interventions growing in number, complexity, and ambition as the local capability to implement and absorb programs grows.²⁰ In the short run, priority should be given to programs that help build basic managerial capabilities in firms, strengthening investment and delivery systems for technical education, basic R&D in agriculture, and a quality assurance infrastructure for industries. Support to more technologically-oriented investment and export upgrading, which requires more intensive and multi-faceted programs, should be phased-in more selectively and cautiously: for example, it could be limited to select clusters that are ready to absorb such programs.

²⁰ Cirera and Maloney (2018) term this sequential approach the "Capabilities Escalator".

Figure 23. An Illustrative Phased Approach to Innovation and Technological Upgradation Policy



4.2.1 The First Phase (Short to Medium Term): Building Basic Innovative Capabilities

Management Extension

Leaving aside some of the more advanced manufacturing clusters, most firms in Pakistan are at a stage where the adoption of basic managerial and organizational practices, machinery upgrading, and basic process improvement are more relevant than formal R&D. With their eye on the local market, they are more interested in making incremental improvements to their low-priced products, and not on radical innovation. Public support should focus on ensuring that technology is accessible and on strengthening the “absorptive capacity” (Cohen and Levinthal (1990)) of firms to facilitate the transfer of technology.

Management extension programs are needed to address a prevalent market failure: even though there are high returns to improving basic managerial practices, most firms will not invest in organizational improvement on their own. Rigorously conducted randomized controlled trial with firms in countries such as India, Columbia and Mexico have found that management advice leads to the adoption of better management practices and has significant, long-term positive impacts on productivity. The impacts on productivity are large enough to cover the expense of the management consulting. However, firms rarely seek advice on how to improve their organizational practices, perhaps because they are unable to borrow enough to pay for it, or because they do not feel the need for it (Bloom et al. (2014); Iacovone et al. (2017); and Bruhn et al. (2016)).

The Government could implement a subsidized management extension program through an existing agency such as the Small and Medium Enterprise Development Agency (SMEDA). The

agency would directly provide subsidized management training to firms, or maintain a roster of qualified management consultants, giving financial assistance to firms interested in their services.

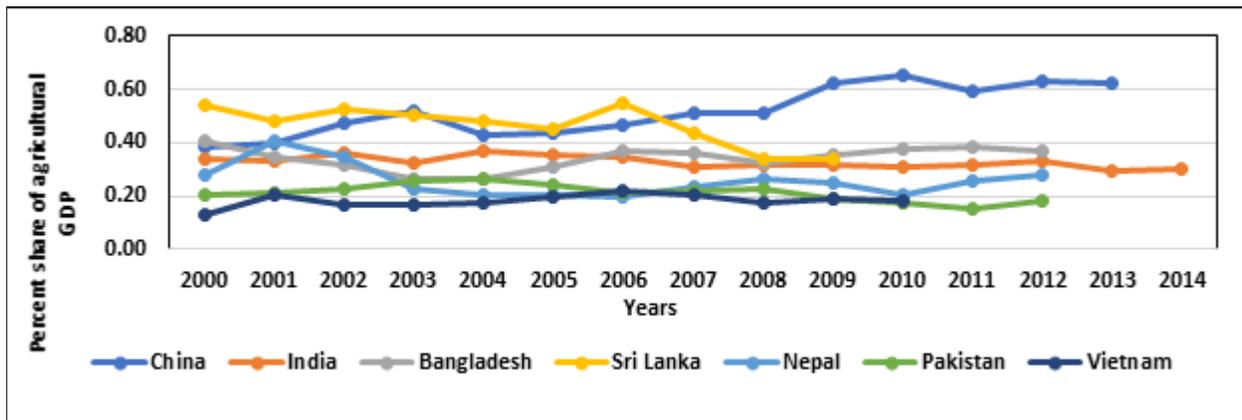
Shoring up Knowledge, Skills and Quality Infrastructure

In most cases, the emergence of the ICT industry and other technologically sophisticated clusters in Pakistan is attributable not so much to specific sectoral development policies, as to more basic investments in education and R&D, which have created a pool of entrepreneurs and high-skilled workers. This highlights the extent to which the absorptive capacity of firms depends on the quality of its founders and employees. Hence, in addition to management extension, public support to innovation should first give priority to growing the pool of entrepreneurs and skilled workers by investing in general scientific and technical skills, and improving the quality of the technical and vocational training. Early-stage support to entrepreneurs will be an important complement to this strategy.

Public support with achieving quality standards and quality certification will help firms seeking to break into new export markets. Small firms, including those in traditional clusters, find it difficult to comply with quality standards and signal that they have achieved the required standard. Strengthening the domestic infrastructure for testing and certification will help them avoid the more expensive option of getting certified in a third country.

Finally, there is a pressing need to shore up investment in agricultural R&D and extension. Pakistan’s investment in agricultural R&D has been falling behind that of regional comparators. Low investment in agricultural research is an important driver of lagging TFP growth in agriculture.

Figure 24. Agricultural Research Expenditure as Percentage of Agricultural GDP, 2000-14



Source: Based on data obtained from ASTI

4.2.2 The Second Phase (Medium to Long Term): An Increased Focus on Technology and Intensive, Coordinated Programs

Technology Extension Will Become Increasingly Relevant

As firm and institutional capabilities grow, the mix of innovation policies should evolve. Over time, as an increasing number of firms and clusters in Pakistan develop the capacity to undertake more radical product and process innovation, the demand for more advanced forms of support will increase. While maintaining a focus on basic firm capabilities, the set of programs could be expanded to include those that are more intensive, multi-faceted, or technologically advanced.

To start with, there will be a need for technology extension support to more advanced clusters. The adoption of foreign technology is subject to market failures, creating a role for public support. This is often done through technological transfer extension programs. Such extension systems are commonly paired with research institutes to help adapt technology to the local context. Another approach is to set up “technology centers” that provide a combination of business, managerial and technical advice to SMEs. Other forms of support could include local supply chain development and export programs, grants for industry-research collaboration, and grants for innovative projects to finance prototyping, testing and commercialization activities and technical assistance.

Developing A Coordinated Strategy to Upgrade Export Clusters

Once there is an adequate level of firm capability and institutional capacity to implement complex programs, coordinated export development strategies could also be piloted in select clusters.

The East Asian strategy for export-led growth relied, among other things, on coordinated export development programs, and could provide useful lessons. Asian countries that have successfully increased their exports seem to have followed a two-tier strategy of increasing exports in those sectors where they already have expertise (such textiles or electronics), while slowly developing new export sectors over decades (Chaudry and Andaman, 2014). The sectoral development strategies took the form of coordinated support along multiple dimensions: providing cheap credit to these sectors, while giving them incentive to improve their technology through imported capital or collaborations with foreign investors or MNEs. The strategies also coordinated sector-specific incentives for export promotion and upgradation with more general investment in skills development and industry-research collaboration.

Implementing such complex programs is difficult, and requires robust implementing agencies. We recommend a cautious approach, with emphasis on institutional capacity building, piloting, monitoring and evaluation, and a readiness to close programs if they are not working. The design of industrial development agencies in East Asia had unique strengths that could be difficult to replicate. Japan’s Ministry of Trade and Industry (MITI), for instance, combined bureaucratic autonomy with strong business ties. It was also highly meritocratic, with bureaucrats following long-term career paths, clear rules, and established norms. Consisting of a select group of elite technocrats

who had strong informal ties to one another, its unusual organizational strength may have prevented it from being captured by narrow interests (Evans 1995; Wade, 1990).

4.3. STRENGTHENING INSTITUTIONAL CAPACITY TO DELIVER POLICIES FOR STRUCTURAL TRANSFORMATION: GOVERNANCE REFORMS

The reforms discussed so far could fail if the capacity to implement them well and insulate them from capture is not strengthened. These are the key aspects to be considered when addressing this issue:

- a) Capacity for independent analysis and oversight;
- b) Implementation capacity of agencies, and inter-agency coordination; and
- c) Mechanisms to balance influence in the policy arena.

Building capacity for independent analysis and oversight

A system of periodic regulatory assessments could have prevented the steady accumulation of regulatory burdens on firms. Which of the dozens of regulations that firms must comply with are really necessary? Which ones could be made more effective through amendments? Answering these questions requires more data and analytical capacity.

Data are the first key step. There are serious gaps in the availability of representative firm-level data in Pakistan. The Census of Manufacturing (CMI), the official firm-level survey, is conducted at roughly five-year intervals, which is too infrequent for timely policy assessment. It does not cover most micro and small firms, and lacks information on key aspects, such as innovation, technology adoption, or regulatory compliance. Improving the CMI, increasing its regularity, and complementing it with shorter and targeted (issue-specific) surveys—which could leverage new technologies such as internet-based surveying—will help build a database for analysis of firm-level productivity and relevant policies.

In regulatory decision-making, powerful but narrow interest groups can use their influence to tilt the debate in their favor. For example, they can sponsor biased policy research. Therefore, it is important to strengthen the capacity for independent analysis in institutions of regulatory oversight and accountability, such as the Competition Commission of Pakistan. It is also easier for such institutions to preserve autonomy if they have demonstrable technical competence. Establishing a dedicated and cross-cutting agency for evidence-based regulatory assessment and oversight could also help prevent capture of regulatory reform. In the United States, the Office of Information and Regulatory Affairs (OIRA) is explicitly tasked with cross-cutting oversight of regulators based on cost-benefit analysis. The use of standardized cost-benefit tools assessing regulations helps this agency produce credible, independent analysis to improve policy-making and

counteract biased information and arguments from special interest groups (Livermore and Revesz, 2013).

Developing greater capacity to pilot programs, assess their impacts, and use the pilot for fine-tuning scaled-up programs will also be crucial. This will matter considerably for successful implementation of innovation and cluster development programs, since many of them will be borrowed from other countries and will need to be adapted to the local context.

Implementation capacity and coordination

Well-designed policies can fail if implementers do not have the required competence, or if their incentives are not fully aligned with the policy objectives. Personnel policy reforms in the agencies responsible for regulatory governance and industrial development programs could help build technical competence and reduce vulnerability to undue influence. The reforms will not be easy: there is no single successful template for personnel reform. The East Asian experience with industrial development agencies suggests successful agencies used a combination of meritocratic selection, pro-development norms, and good personnel management, such as a well-defined career path, to build institutional capability (Evans, 1995; Wade, 1990). Hence, effective civil service reform is likely to involve a combination of better hiring, and strengthening of incentives to work hard and without bias.

Incipient efforts at introducing better incentives in public agencies are encouraging, but should be carefully assessed before being scaled up. Pakistan has been trying different approaches to professionalize management and introduce more “corporate” structures in agencies responsible for public support programs, such as those involved in SME support.²¹ It has also experimented with personnel policy reforms, such as introducing pay-for-performance schemes among tax officials (Khan, Khwaja and Olken, 2014).

Such approaches could create the right incentives in implementing officials, but their impact on the performance of officials and program effectiveness should be carefully assessed before such schemes are scaled up. Pay-for-performance schemes are a case in point. Randomized evaluations of pay-for-performance schemes in frontline provision of public services finds that the performance of public officials in fulfilling their tasks improves when pay-for-performance is introduced.²² Pay-for-performance could also weaken the incentives of officials to take decisions to benefit narrow interest groups, if that would mean missing performance targets. However, an overreliance on financial incentives could backfire in agencies that have multiple policy objectives: making officials’ pay too dependent on achieving any one objective can lead to a disproportionate focus on that objective, to the exclusion of others (Tirole, 1994).

²¹ For example, the National Productivity Organization (<http://www.npo.gov.pk/about-npo/npo-evolution/>), and the Small and Medium Industries Development Corporation (SMEDA) (https://www.smeda.org/index.php?option=com_content&view=article&id=2&Itemid=689)

²² See, for example, Banerjee, Glennerster, and Duflo, 2008; Glewwe, Illias, and Kremer, 2010; and Gertler and Vermeersch, 2012.

The Government should also improve coordination and delineation of agendas between public agencies, both within provinces and between the federal and provincial government. For example, in some provinces the responsibility for industrial development policies seems to cut across several agencies, such as the Boards of Investment, the Labor Department, and the Industries and Commerce Department. A clarification and rationalization of agendas could help improve policy coordination and effectiveness.

The companion Pakistan@100 policy note on governance discussed these civil service reform issues in more detail.

Balancing influence in regulatory reform

Facilitating feedback and advocacy from a broad set of firms—not just powerful business groups—and consumers could help make regulatory policy more informed and balanced.²³ Responding to this need, most high-income countries have instituted formal participatory mechanisms in regulatory institutions. For instance, most high-income countries formally provide notice of regulatory changes, and make information about existing regulations publicly available. They have set up systems for formal feedback from the public, and report on the results and impact assessments of regulatory policies.

Similar to many low- and middle-income countries, such mechanisms are at an incipient, fragmented stage in Pakistan (Johns and Saltane, 2016.). They are mainly driven by industry associations such as the Federation of Pakistan Chambers of Commerce (FPCCI), the Pakistan Business Council (PBC) and the Overseas Investors Chambers of Commerce and Industry (OCCI). These organizations conduct dialogues with a range of government business-related authorities, representing their respective memberships.

Looking ahead, Pakistan should formalize and institutionalize such dialogue mechanisms. It could set up a ‘National Public Private Dialogue (PPD) Council’ to provide a structured mechanism for ongoing consultations on regulatory and investment policy reforms. The National PPD Council would comprise of:

- Working groups (WGs) with industry or thematic responsibilities, and with both industry and public-sector members; and
- A ‘Technical Advisory Committee’ comprising the civil service heads of each of the public-sector agencies that have a direct and substantial role in regulating and administering the business environment.

The WGs must have representation from a broad set of stakeholders, including small and micro firms. Smaller businesses are often underrepresented in industry associations. Hence, as a complementary measure, the Government should provide support to strengthening the

²³ Dal Bó (2006) reviews the empirical evidence on advocacy and other accountability interventions in the context of regulatory bodies. Schwarcz (2013) presents a case study of some citizen advocacy mechanisms in the context of insurance regulation across U.S. states.

representation of small firms in industry groups, and to advocacy groups for smaller firms, such as ‘Small Business Associations’. Industry associations with broader memberships are more influential and more ‘developmentally oriented’ (Doner and Schneider, 2000). They could play a critical role in the fight against capture; in other countries, they have been known to develop collective mechanisms that prevent members from colluding with state officials and subverting policies in their narrow interest (Dixit, 2015).

Table 1 summarizes the recommendations of this note.

Table 1. Key Recommendations

Goal	Short/Medium-term recommendation	Medium/Long-term recommendation
Make business regulation more effective, but also simple, consistent, and transparent	<ul style="list-style-type: none"> • Implement sector and province level regulatory diagnostics to identify priority reforms • Establish PMO-attached ‘National Business Climate Reform Unit’ and its provincial counterparts to spearhead reforms • Improve regulatory transparency and ease of compliance through continued roll-out of e-governance initiative such as consolidated online repositories for information and single-windows for compliance 	<i>See under institutional reform to avoid capture</i>
Improve credit allocation to firms	<ul style="list-style-type: none"> • Expand and deepen credit information databases; consider introducing specialized SME credit information bureau • Operationalize secured transactions reform • Establish movable collateral registry 	<ul style="list-style-type: none"> • Pilot and evaluate new technology-enabled models of SME credit, subsequently scaling-up successful models • Develop and enact a reform plan to strengthen role of DFIs
Increase access to foreign markets	<ul style="list-style-type: none"> • Introduce more simple, transparent tariff structure with reduced tariffs and fewer discretionary provisions • Diagnose regulatory barriers to services trade, and subsequently enact reforms to services regulations • Further simplify border procedures and expand adoption of automated internet-based processing system 	<ul style="list-style-type: none"> • Assess and subsequently undertake investment to upgrade infrastructural bottlenecks at border
Build firm capabilities for better management	<ul style="list-style-type: none"> • Pilot management extension program for SMEs to discover a cost- 	<ul style="list-style-type: none"> • Support the market for business advisory services through

and technology absorption	<p>effective approach suitable for Pakistan</p> <ul style="list-style-type: none"> • Subsequently scale up appropriate management extension program through an agency, such as SMEDA • Assess the market for business advisory services in Pakistan to identify reforms to develop this market (such as rigorous quality ratings of providers) 	<p>measures identified by market study</p> <ul style="list-style-type: none"> • Strengthen quality assurance infrastructure for private business management training
Address market failures impeding innovation	<ul style="list-style-type: none"> • Conduct systematic review of the effectiveness of public spending science, technology and R&D spending to determine how to reallocate this spending more efficiently • Pilot and evaluate cluster-level development programs (such as technology extension and export development programs) 	<ul style="list-style-type: none"> • Gradually introduce technology extension programs in comparatively sophisticated clusters or sectors • Gradually introduce more sophisticated technology and export promotion programs when firms/clusters reach readiness
Strengthen institutions for better design and implementation of business regulations/policies and reduced scope for policy capture	<ul style="list-style-type: none"> • Collect better, regular data for analyzing constraints and reform impacts • Build analytical capacity in regulatory agencies • Improve inter-agency coordination by delineating roles • To balance influence, establish formal PPD mechanism through 'National PPD Council' involving high-level government participation and broad-based industry representation 	<ul style="list-style-type: none"> • Strengthen broad-based advocacy groups of consumers and small firms • Introduce personnel reforms to improve capacity and align incentive in regulatory agencies (Discussed in companion Pakistan @100 Policy note on Governance)

CHAPTER 5: CONCLUSION

When people think of structural transformation that accompanies economic development, they often have in mind the historical experience of today's high-income countries: an exit of workers from agriculture and into big manufacturing plants. This is only partially true of structural transformation today. While a movement of workers to more productive sectors is still an important source of resource reallocation and productivity growth, increasingly more important is the reallocation of resources toward more dynamic firms within the same sector, and the process by which firms make better, more innovative use of their existing workers.

This structural transformation—across and within firms—is proceeding unevenly in Pakistan. There are some highly productive and internationally competitive firms, or cluster of firms, in several sectors. Innovative new clusters, such as ICT clusters, are emerging. But the average firm is still relatively unproductive and static, and too many resources are trapped in such firms.

Curiously, some of Pakistan's islands of firm-level dynamics are driven not by large-scale or high-tech manufacturing plants, but by clusters of small firms that have proven to be surprisingly resilient and adaptive. The Sialkot cluster, for example, has not only retained its lead in the export of hand-stitched footballs, but also shows signs of moving into entirely unexpected products.

In a world where automation and other technologies are making traditional source of competitiveness—such as low-wage labor—less important, the resilience of such clusters is an encouraging sign that Pakistani firms have the capacity to evolve and adapt to such changes. But the key question is: how to harness this potential and scale up the islands of excellence?

This note has emphasized the cost of market distortions and the urgency of completing reforms that enable markets for a reason. It is because market distortions are most biased against precisely those small and medium firms that could drive positive structural change in Pakistan. Similarly, we have emphasized programs that build basic firm capabilities, such as management. This, too, is aimed at capacitating those firms that are currently the most constrained from innovating.

Past reform efforts have been undercut by policy capture. Hence, governance reforms that help balance influence in the policy arena will complement the above policy reforms. Together, the three legs of the strategy: removing distortions, building basic firm capabilities, and enhancing avenues of private-sector feedback into policymaking, can strengthen the constituency for future reforms and make it harder to undermine them.

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