Conventional wisdom has it that Africa’s failure to industrialize is primarily due to its poor investment climate, and notwithstanding our concerns with how the investment climate agenda has been implemented, conventional wisdom is still relevant. Africa entered the twenty-first century with large gaps in infrastructure, human capital, and institutions compared with other parts of the developing world. If Africa is to compete, it must get these basics right, but efforts to strengthen the investment climate on their own have not succeeded in helping Africa to reverse its industrial decline. We believe some unconventional wisdom is needed as well. In this chapter we outline a four-part strategy for industrial growth in Africa that combines conventional with some unconventional wisdom.

Two considerations led us to the conclusion that a new strategy is needed for African industrialization. The first is the need to be selective. Implementing an investment climate agenda that truly attempts to close the region’s infrastructure and skills gaps is likely to exceed the fiscal capacity of most African governments, even with the support of their development partners. For example, by one set of estimates, if efficiency gains are fully achieved through reforms,
at existing rates of expenditure Africa’s low-income countries will only meet modest targets for infrastructure development after twenty years. If the efficiency gains are not fully realized, it could take thirty years. This means that where and when infrastructure investments are made is critically important to short-run success in industrial development.

As the preceding chapters show, the drivers of firm-level productivity in low-income countries are interdependent and mutually reinforcing. Investments in infrastructure and skills, for example, raise the potential productivity of all firms, making some of them more likely to succeed in external markets. New industrial exports help to build firm capabilities, which are then transferred through agglomerations. Foreign direct investment is an important source of higher capabilities, but it is unlikely to seek out destinations that lack a critical mass of other firms. This leads to our second consideration: public actions to raise the productivity of firms need to take place across a broad front and recognize the interdependence of the sources of firm-level productivity.

We begin with the basics. More and better investments in infrastructure and skills are essential, especially those that enhance international competitiveness. Better-designed efforts at regulatory reform have a role to play as well. We suggest some new priorities for investment climate reform. We then draw on the results of our research to set out the three additional elements of the strategy—mounting an export push, building capabilities, and creating clusters. We conclude by turning to the question of how governments can set priorities in these four areas through closer engagement with the private sector.

**Getting the Basics Right**

Over the last fifteen years, African governments have attempted to reform their investment climate. Clearly, these reforms have not given

1. Foster and Briceño-Garmendia (2010).
the decisive boost to African industry that their proponents fore-
saw. Yet the basics are important. Our country studies all highlight
the productivity penalty that African firms pay as a result of poor
infrastructure and skills, and regulatory burdens and poorly func-
tioning institutions in many countries inhibit competition, increase
the cost of doing business, and reduce competitiveness. More infra-
structure and better skills have a bathtub effect on firm-level pro-
ductivity. Better and more reliable electrical power, lower costs of
transport, and workers who are better able to perform their jobs
raise the potential productivity of all firms in an economy. Reform
of regulations can promote competition. So, we begin with the ba-
sics. If it is to have any hope of industrializing, Africa needs to turn
around its growing infrastructure and skills gaps with the rest of the
world, and it needs to focus on appropriate regulatory and institu-
tional reforms.

Closing the Infrastructure Gap

African countries lag behind their peers in the developing world on
almost every measure of infrastructure coverage. The differences are
particularly large for paved roads, telephone main lines, and power
generation. Only about 30 percent of the population has access
to ground transport, while the average for the developing world is
50 percent. Internet penetration is about 4 percent, compared to the
average for the developing world of about 40 percent. Thirty coun-
tries face regular power shortages, and many pay high prices for
emergency power. By one estimate the current infrastructure deficits
in Africa contribute to a loss of about 2 percentage points per year in
GDP growth.

Infrastructure deficiencies are a significant barrier to greater
competitiveness. Africa’s infrastructure services are twice as expen-
sive as elsewhere, and poor infrastructure is strongly correlated with

3. Foster and Briceño-Garmendia (2010).
lower firm-level productivity.⁵ Africa has been expanding its infrastructure much more slowly than other developing regions, and unless something changes, the gap will continue to widen. Governments interested in industrializing will need to increase public investments in infrastructure substantially, particularly those that impact the ability of firms to compete.

Reliable electrical power may be Africa’s greatest single infrastructure constraint. The quality of electricity service is ranked as a major problem by more than half of the firms in more than half of the African countries in the World Bank’s Investment Climate Assessments. The average number of power outages in a typical month in sub-Saharan Africa is 7.8. This is lower than in South Asia (17.2) but higher than in East Asia (3.5). However, the duration of outages is often longer, resulting in relatively high estimated costs (as a percent of sales) of unreliable electricity. The production loss in percent of sales among firms experiencing outages is 7.7 percent, more than double that of East Asia (3.0 percent).⁶ Lack of electrical power disproportionally impacts the region’s most successful economies. In countries that are growing faster than Africa as a whole, poor-quality electricity reduces the total factor productivity of firms more than in other countries on the African continent.⁷

Infrastructure directly affecting the competitiveness of exports has been particularly neglected. Road infrastructure has received little attention, and although concessions have been awarded to operate and rehabilitate many African ports and railways, financial commitments by the concessionaire companies are often small. Productivity losses from transport interruptions particularly affect countries such as Kenya, Tanzania, and Senegal. Access to communications services has increased dramatically, thanks to the cellular revolution, but high-speed data transmission, which is critical to exporting and especially to information technology-intensive exports, lags badly.⁸

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Our country case studies give an idea of the magnitude of the challenge faced by individual countries and point to some directions for change. Not surprisingly, power emerges as a major constraint in every country. Uganda has one of the lowest per capita electricity consumption levels in the world.\(^9\) Manufacturing firms surveyed reported, on average, 39 power outages in the previous year. Large firms reported 54 outages. Firms estimated the resulting production losses in the range of 4 to 7 percent of output.\(^10\) In Uganda, 35 percent of exporters cited energy as a major or severe constraint. Manufacturing firms in Tanzania experienced on average almost 9 power outages per month, costing about 15.1 percent of total sales for the firms affected by the outages.\(^11\) The median manufacturing firm in Mozambique faced an average of 1.6 power cuts per month, costing about 1.2 percent of total sales.\(^12\)

Transport finishes a close second. Ugandan firms on average lost 1.8 percent of domestic sales and 1.1 percent of exports due to delays in transportation services. Even more important, transport costs are high, in some cases half the value of goods, depending on bulkiness and weight. Almost one-quarter of the enterprises surveyed in Mozambique considered transportation to be a major obstacle to investment. Currently, it is more expensive to transport cargo within Mozambique than to ship it to a different continent.

Increasing public investments in power, transport, and other infrastructure will confront the reality that most African governments do not have the fiscal space to deal with all of their pressing needs. In part this can be addressed by increases in domestic revenue effort and efficiency, but the size of the gap is sufficiently large that it will also need the active support of the aid community and the private sector. For that reason we return to the subject when we set out our agenda for aid in chapter 9. Even with the support of donors, governments will need to sequence infrastructure investments to

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achieve maximum impact. Priority should be given to trade-related infrastructure and to addressing the spatial requirements for industrialization. Focusing infrastructure investments in limited geographical areas designed to attract export-oriented investors is an effective way to boost competitiveness when fiscal resources for infrastructure investments are constrained.

**Closing the Skills Gap**

Africa’s skills gap with the rest of the world is large and growing. At the most basic level, educational attainment across the region still lags relative to other parts of the world. Although Africa’s young people have more schooling today than any previous generation, they still have little overall. Nearly 60 percent of those age fifteen to twenty-four have completed primary school only. About 35 percent have continued beyond primary school, and only 19 percent have gone beyond lower-secondary school.13

At the postprimary level the gap grows wider still. Between 1990 and 2005, as East Asia increased secondary enrollment rates by 21 percentage points and tertiary enrollment rates by 13 percentage points, Africa (starting from a lower base) managed to raise secondary enrollments by 7 percentage points and tertiary enrollments by only 1 percentage point. Real expenditure on tertiary education in Africa fell by about 28 percent between 1990 and 2002, and expenditure per pupil declined.14

Educational quality is a problem at all levels. Learning assessments in Africa show that most primary students still lack basic proficiency in reading at the end of second or third grade. In Tanzania, for example, a 2011 assessment of children’s abilities revealed that 70 percent of students complete elementary level Standard Two without meeting the numeracy standards of that level. Assessments in Kenya and Uganda revealed similar shortfalls in students’ cogni-

ative skills.\textsuperscript{15} Employer surveys report that African tertiary graduates are weak in problem solving, business understanding, computer use, and communication skills.\textsuperscript{16}

The skills gap poses a major constraint to industrial development and exports. Among firms owned by indigenous entrepreneurs, those with university-educated owners tend to have higher growth rates.\textsuperscript{17} In Mozambique we found that firms with better-educated managers were more likely to survive and expand in terms of employment. Cross-country research indicates that there is a strong link between export sophistication and the percentage of the labor force that has completed postprimary schooling.\textsuperscript{18} There is also evidence to suggest that enterprises managed by university graduates in Africa have a higher propensity to export.\textsuperscript{19}

What is lacking most are skills related to production. A survey of country experts from forty-five countries for the \textit{African Economic Outlook 2013} found that over 50\% of respondents cited lack of specialized skills as a major obstacle keeping African firms from becoming competitive.\textsuperscript{20} Growing firms in Uganda import skilled labor, and the Ugandan Labor Force Survey reports that a significantly higher share of secondary graduates are underemployed than those with more specific vocational training. In Mozambique there is a significant shortage of technical and higher level skills, especially in math and science, and firms see lack of employee skills as a serious constraint to growth.\textsuperscript{21} In Ghana, managerial education plays a strong and positive role in driving firm productivity and growth.\textsuperscript{22}

Major increases in postprimary and vocational/technical education are needed to address the skills gap, and quality must improve

\textsuperscript{15} Filmer and Fox (2014).
\textsuperscript{16} World Bank (2007a).
\textsuperscript{17} Ramachandran and Shah (2007).
\textsuperscript{18} World Bank (2007a).
\textsuperscript{19} Wood and Jordan (2000); Clarke (2005).
\textsuperscript{20} AEO (2013).
\textsuperscript{21} World Bank (2007b); DNEAP (2013).
\textsuperscript{22} Ackah and others (2014).
at all levels. As we show in chapter 9, closing the skills gap is at least as daunting a fiscal task as closing the infrastructure gap, in part because there is less certainty about how educational expenditures translate into educational outcomes. Secondary and tertiary education is a long-term investment; the payoff in terms of a more highly skilled labor force will only begin to appear after the first cohorts have finished secondary school or university.

These considerations again call for sequencing of the public actions to increase skills. In view of the identified shortage of skills in production, vocational and technical training is a logical place to begin. The lack of managerial capabilities and the success of management training programs (discussed in chapter 5) suggest that improving management education at the postsecondary level and specialized management training courses of shorter duration have the potential to boost firm-level productivity. As in the case of infrastructure, focusing specialized skills training in a limited geographic area, such as a special economic zone (SEZ), has proved an effective use of limited resources in China, Malaysia, and Vietnam.

Much of this training will have to be done by the public sector. Yet, education budgets across the Continent are limited. African governments have generally been reluctant to encourage private provision of educational services, especially in technical, vocational, and tertiary education. These activities do, however, have high private returns and are very suitable for private provision. In technical and vocational training, private-sector providers are often more attuned to the needs of the marketplace and more agile. Involving the private sector in skills development is an essential element of becoming competitive.

Reforming Regulations and Institutions

Our country case studies point to the many ways in which regulations and regulatory discretion affect firms. In Uganda, inadequate regulatory capacity, an unclear regulatory framework, and inconsistent interpretation of policies and regulations have increased the regulatory burden on firms. Senior managers of manufacturing firms
spend more than thirteen days a year on average dealing with government officials, and 40 percent of the manufacturing firms surveyed complained that regulations were not interpreted consistently. In Mozambique business regulations—and the opportunities for corruption engendered by the regulatory regime—increase firms’ costs and reduce competitiveness.

There is, however, a serious question about whether regulatory burdens are the binding constraint to industrial development in Africa. Better regulations raise productivity by promoting churning through the entry and growth of more efficient firms and the exit of less productive ones. The previous discussion of infrastructure and skills and the research described in chapters 4 through 6 make a strong case that bathtub sources of productivity growth are likely to be more relevant to Africa’s competitiveness at its current stage of industrial development.

The most widely used measure of regulatory burden is the World Bank *Doing Business* ranking, and it has become the centerpiece of the agenda for regulatory reform in most African countries. As we show in chapter 9, *Doing Business* is a flawed diagnostic tool, and it should be abandoned as an agenda-setting framework for regulatory reform. Instead, African governments will need to develop homegrown mechanisms to identify the problems that most constrain industrial development. At the end of this chapter we offer some suggestions for how that can be done.

**Pushing Exports**

Although learning by exporting offers the potential to improve firm capabilities and raise productivity, there are often high costs of entering export markets that may not be recovered by an individual firm. This makes a strong case for public actions to promote industrial exports. Most of Africa has had little success in developing

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industrial exports. Cambodia, Mauritius, Tunisia, and Vietnam, in contrast, have had significant export growth. A major part of the difference in performance can be put down to differences in policy. The four export successes each employed a concerted set of public investments, policy reforms, and institutional changes focused on increasing the share of industrial exports in GDP. In short, they created an “export push.” Here, we set out some of the policy instruments we believe are appropriate—and World Trade Organization (WTO) friendly—to create an export push in Africa’s new industrializers.

**Policy and Institutional Reforms**

Because task-based exports depend on imported inputs, Cambodia, Mauritius, Tunisia, and Vietnam all established a “free trade regime for exporters” through various mechanisms to eliminate or rebate tariffs on intermediate and capital inputs used in export production. Tariff exemptions, duty drawbacks, and rebates of indirect taxes were well administered and timely, reducing the regulatory burden on exporters. This is not the case in most of Africa. While duty drawback, tariff exemption, and value added tax (VAT) reimbursement schemes exist, they are often complex and poorly administered, resulting in substantial delays. Port transit times are long, and customs delays on both imported inputs and exports are significantly longer for African economies than for their Asian competitors. Export procedures—including certificates of origin, quality and sanitary certification, and permits—can be burdensome.25 These institutional and regulatory barriers must be removed if Africa is to succeed in trade in tasks. One approach that has succeeded elsewhere is to streamline the regulatory regime first in special economic zones.

Trade-related institutions are also important for industries without smokestacks. The regulatory regime in telecommunications is vital to remote tradable services, and tourism is sensitive to the behavior of public officials ranging from immigration inspectors to the

police. Horticultural exports are perishable and particularly vulnerable to delays in shipping caused by inefficient or corrupt inspection procedures at airports. Officials have the power to use delaying tactics to cause the loss of an entire consignment. The relatively slow growth of airfreighted fresh produce exports from West Africa is in part due to corruption at airports.

**Improving Trade Logistics**

Trade in tasks has greatly increased the importance of trade logistics. Because new entrants to task-based production tend to specialize in the final stages of the value chain, poor trade logistics can make it impossible for firms to break into task trade. For this reason investments and institutional reforms to improve trade logistics are essential to export success. African countries have an average ranking of 120 out of 160 countries in the World Bank 2014 Trade Logistics Index. The region has an especially bad ranking in terms of trade-related infrastructure, and poorly functioning institutions and noncompetitive logistics markets further increase costs. Value chain analysis identifies several choke points: high costs of import and export logistics, lack of timely delivery of inputs, and low speed to market.

Poor logistics constrain the region’s ability to compete in tradable services and agro-industry as well. There is a strong correlation between the number of long-haul flights per week and the performance of a tourist destination. Africa’s top three countries for tourist arrivals, South Africa, Nigeria, and Kenya, are also the top three countries for long-haul flights per week. Africa is underserved by major airlines. Sixty-six percent of countries have either no major carrier connections or are dependent on just one airline. The aviation industry is heavily protected, generating a plethora of small and uneconomic national airlines. While adopting an open skies policy might endanger some national airlines, it would introduce greater

27. Subramanian and Matthijs (2007); Dinh and others (2013).
competition and reduce the cost of airfreight through the development of competing, specialized, private charter airfreight companies.

**Strengthening Regional Infrastructure and Institutions**

The small size of Africa’s economies and the fact that many countries are landlocked make regional approaches to infrastructure, customs administration, and regulation of transport in trade corridors imperative. Africa is the continent with the highest concentration of landlocked developing countries. For exporters in landlocked countries, poor infrastructure in neighboring coastal economies, incoherent customs and transport regulations, as well as inefficient customs procedures and “informal” taxes in transportation corridors slow transit times to the coast and raise costs. The median landlocked country’s transport costs for a standard twenty-foot container are 46 percent higher than the equivalent costs for the median coastal economy. Distance explains only about 10 percent of the difference. Poor road infrastructure explains three-fifths.28 Regional approaches to building and, equally important, maintaining transborder infrastructure are critical.

Institutional reforms at the regional level to improve trade logistics in transnational corridors—such as common standards, regulations, and one-stop border facilities—have moved slowly. Africa’s busiest regional transport corridor is the North–South Corridor, which is the most efficient in Africa. It links Kolwezi in the Democratic Republic of the Congo to the ports of Durban in South Africa (more than 3,500 kilometers away) and Dar es Salaam. The journey from Kolwezi to City Deep, an inland container depot in Johannesburg, takes on average fifteen to twenty days, 70 percent of which is spent as downtime at border crossings.29 Clearly, more extensive harmonization at the regional level is needed.

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Building Capabilities

As we pointed out in chapter 5, one of the most important ways in which some newly industrializing countries have built capabilities has been through mounting an export push. Learning by exporting is a major source of the knowledge needed to raise capabilities. The relationship between exporting and capability building is a good example of how the drivers of firm-level productivity are mutually reinforcing. In addition to the export push, policies and institutions to attract foreign direct investment, deepen value chains, and provide management information and training have been used effectively in capability building by a range of countries and could be more effectively implemented in Africa.

Attracting Foreign Direct Investment

We saw in chapter 5 that foreign direct investment (FDI) is an important source of higher capabilities. Policies and institutions for attracting FDI are therefore potentially a key tool in capability building, and there is some evidence to suggest that they are most effective where they are most needed. One study uses data from 124 countries to study the effect of investment promotion on inflows of U.S. FDI. It tests whether sectors explicitly targeted by investment promotion agencies in their efforts to attract FDI received more investment relative to the period before targeting began and to nontargeted sectors. Controlling for other factors, the research finds that investment promotion leads to higher FDI flows to countries where red tape is likely to be severe and information asymmetries between potential investors and governments are large.\textsuperscript{30} Put differently, the results suggest that an FDI agency can help to overcome some of the negative aspects of the investment climate and is likely to be most effective where the institutional and regulatory regime functions least well.

Ireland’s Industrial Development Authority of the 1960s provided an institutional model for attracting and keeping FDI that has become

\textsuperscript{30} Harding and Javorcik (2011).
international best practice. A small, elite agency under the office of the president or prime minister is set up to manage the country relationship with potential and existing foreign investors. Four features of this agency play a crucial role—high-level political support, high-quality personnel, independence, and focus.\textsuperscript{31} Best practice FDI agencies excel at three phases of the foreign investment cycle: recruitment and screening, embedding, and aftercare.

Recruitment is for the most part a matter of responding to potential investors. Active recruitment, on the other hand, requires more—including selling the country. This is one reason the formal link to and the active participation of the national chief executive is critical. Inquiries from interested firms need to be screened to establish their credibility. In screening it is important to have personnel with sufficient breadth of private-sector experience to know what questions to ask, what issues to probe, and what characteristics to look for. This is why there must be a priority on selective hiring and adequate compensation in FDI agencies.

Screening should be an important part of the overall industrialization strategy. Ireland, Malaysia, and Singapore are good examples of how, after some initial success, FDI agencies sought specific types of foreign investors believed to offer more in terms of firm capabilities. At the start, FDI agencies in Africa must demonstrate that they can attract and retain foreign investors across a wide range of activities. Once they have achieved a track record, screening and recruitment should focus on two objectives: attracting a critical number of firms producing (and exporting) similar products or in related value chains in order to promote localization economies, and identifying and recruiting firms willing to engage local suppliers and purchasers in order to build domestic capabilities.

Domestic regulatory and administrative requirements may be complex, and the job of embedding is to minimize their costs to the new foreign investor. This is a task that requires active coordination across the government, independence, and a pragmatic focus on problem solving. It is also another area in which the active support

\textsuperscript{31} Barry (2004); Sutton (2005).
of the head of government is essential. Aftercare is concerned with removing unnecessary obstacles to the operation and growth of the foreign enterprise and reducing the barriers to the formation of linkages with domestic firms.

Although this approach to FDI promotion has been introduced into Africa over the past decade, implementation has not always yielded the results expected. Often FDI agencies lacked the active support of the chief executive. Personnel practices and compensation policies were frequently not sufficiently attractive to make it possible to recruit the high-caliber staff needed, and the agencies were frequently burdened with multiple objectives, diluting their focus. Embedding and aftercare have been largely neglected. Today, the vast majority of Africa’s foreign investment promotion agencies fall short of international best practice. Reform of the region’s FDI agencies must begin at the top. Africa’s national chief executives need to signal that attracting foreign investors is a national priority by placing the agencies in the office of the presidency or the prime minister and taking an active interest in their operations.

**Deepening the Value Chain**

Because transmission of capabilities most often takes place through firm-to-firm relationships, it largely depends on the existence of competitive local value chains. A striking finding of our country studies is how few linkages exist in most African countries between foreign and domestic investors. To deepen these vertical linkages, serious barriers up and down value chains need to be addressed. This is where capability building intersects with spatial policies. In many countries, current policies and regulations, especially in export processing zones (EPZs), place serious obstacles in the way of linkages between foreign and local firms.

The architecture of most African EPZs is “closed” in the sense that excessive concern with evasion of tariffs and other taxes by local investors has led to rules that choke off purchaser-supplier  

relationships between firms in the zone and domestic firms outside. In addition, in many countries regulations restrict the movement of managers and workers between EPZs and the rest of the economy. A key area for government action is to remove these obstacles.

Outside of the EPZs, governments need to reduce administrative and legal obstacles to the formation of value chain relationships. Some of these barriers are as simple as immigration policies that inhibit the temporary entry of the engineering and managerial personnel critical to the transfer of capabilities by equipment suppliers. Other obstacles operate through tariff and nontariff barriers to the import of capital equipment and intermediate goods that limit supplier-purchaser knowledge transfers.

Management Information and Training

There is very little incentive for firms to invest in the productivity and quality of their rivals. This raises a collective action problem. In most economies, and certainly in poor economies, firms will underinvest in capabilities if they are not able to appropriate their benefits fully. Establishing an institutional framework, perhaps in the form of a public-private partnership, within which domestic companies can have access to information on international best practice is one approach to solving this problem. As we noted in chapter 5, one initiative that has shown promise is supporting the formation of knowledge networks among firms. These networks “import” global best practices in a sector and make them available as public goods to their members. Governments in Africa can work with the private sector to form such public-private networks.

The management experiments in India highlight another potential channel of capability building: management training at the firm level. Should African governments, perhaps funded by their development partners, seek to replicate the Indian experience among larger domestically owned firms? Clearly, if firms do not adopt good management practices out of ignorance, then training programs in basic operations management, like inventory and qual-
ity control, offer a potentially substantial payoff in terms of increased productivity.

India also offers a cautionary tale. Unless the incentives are right in terms of competitive pressure and customs and attitudes adapt to allow firms to grow beyond the limits of the family, training may not achieve its full potential. African industry shares some important characteristics with its Indian counterparts. As we have seen, competitive pressures on large firms serving the domestic market are less than they might be, and many firms are family owned. Nevertheless, management training for larger firms is an area with enough upside potential to warrant further experimentation.

Creating Clusters

In Cambodia, Tunisia, and Vietnam the export push was accompanied by policies designed to promote the formation of industrial clusters. Government commitment to spatial industrial policies in these countries was not accidental. The productivity boost that agglomerations provide sets up another collective action problem. Because a critical mass of firms is needed in a new industrial location before they will realize productivity gains, no single firm has the incentive to locate in a new area in the absence of others. One of the key success factors in the industrialization experiences of Cambodia and Vietnam was the ability to attract a critical mass of Asian regional investors to relocate task-based export production from higher cost economies in East Asia to both countries. A similar mass movement of European investors took place in Tunisia. Africa in contrast has few large-scale, modern industrial agglomerations. For this reason it is both more difficult for existing African firms to compete and more difficult to attract new industry.

Spatial Industrial Policy

Governments can foster industrial clusters by concentrating investments in high-quality institutions, social services, and infrastructure
in a limited geographical area, such as a special economic zone.\textsuperscript{33} Public policies to bring a critical mass of investors into such areas are a prerequisite to breaking into global markets in manufacturing. Spatial industrial policies are also important in industries without smokestacks. In countries with unreliable public infrastructure, services export companies look for customized facilities such as information technology (IT) parks with modern office space, high-speed broadband links, reliable power supply (including backup supply), security services, and ancillary infrastructure including banks, travel desks, restaurants, transportation systems, and hotel accommodations for visiting executives. The Software Technology Parks of India (STPI) initiative was launched by the Indian government in 1991 to provide data communication facilities, office space, and “single window” government services to potential IT investors. The technology parks proved essential to the growth of the software industry in a broader environment of deficient infrastructure and bureaucratic red tape.\textsuperscript{34}

To date, Africa’s experience with spatial industrial policy has been largely disappointing. A review of the performance of SEZs—most of which are export processing zones—in Ghana, Kenya, Lesotho, Nigeria, Senegal, and Tanzania concluded that most African SEZ programs are underperforming. The African zones have low levels of investment and exports, and their job creation impact is limited. They have few links with the domestic economy, and from the perspective of agglomeration it is notable that African SEZs have a much lower density of enterprises within the geographical boundaries of the SEZ than zones in Asia or Latin America. Most African SEZs are disconnected from domestic value chains, limiting their utility in the transfer of capabilities. Business support services, training, and skills upgrading are also often ignored.\textsuperscript{35}

\textsuperscript{33} See UNIDO (2009) and Farole (2011).
\textsuperscript{34} Dongier and Sudan (2009).
\textsuperscript{35} Farole (2011).
Most African SEZs have failed to reach the levels of physical, institutional, and human capital needed to attract global investors. For example, in the World Bank study cited previously, non-African SEZs had an average downtime from electricity outages of only four hours per month, compared with an average downtime of forty-four hours per month in African SEZs. A similar pattern was observed in customs clearance, where clearance times in African zones are about double that of their non-African counterparts. Much of the problem derives from a lack of coordination between SEZs and the local and national organizations that control public services and institutions outside the zones. Power, roads, and the public administration outside the SEZ often work at cross-purposes in the attempt to lower the costs of international transactions.\textsuperscript{36}

A major stumbling block to better SEZ performance has been the management of the zones themselves. Often senior SEZ managers lack an understanding of the private investors they are attempting to support. Many of the SEZs in the countries we studied were managed by political appointees or former civil servants. Management was often unavailable to existing occupants of the zone and to potential new investors. During three visits to the flagship Benjamin Mkapa EPZ in Tanzania by one of our colleagues, no senior member of the zone’s management team was ever present.

Institutional coordination is essential. Ideally, both the FDI agency and the SEZ authority should be located in the office of the presidency or the prime minister and should coordinate closely. There is a major disconnect in most countries between the institutions designed to attract FDI and the SEZs. For example, currently about 300 enterprises operate in Ghana’s export processing zones. EPZ manufacturing firms are involved in food processing, wood and veneer processing, processing of shea nuts and oil seeds, lubricants and biofuels, garments, and the manufacture of food processing machines and spare parts. The zones also host such tradable

\textsuperscript{36} Farole (2011).
services as data processing, telecommunications, and software development. The sheer variety of firms in the zones raises a red flag. In an economy like Ghana, clusters of firms connected along a value chain are more likely to realize significant firm-level productivity gains than geographical concentrations of unrelated firms. One reason for the heterogeneity of firms is that neither the FDI agency nor the SEZ management had a strategy for attempting to attract firms in the same or closely related value chains into the zones.

**Setting the Agenda**

To implement this new agenda for industrial development, African governments will need to do something that they have so far shown themselves not to be very good at doing: developing a productive engagement with the private sector in order to identify the binding constraints to industrial development. Consulting the private sector can be done in at least two ways. The first is through the use of firm surveys, such as those underpinning the World Bank Investment Climate Assessments.

These surveys have generated some important insights into the perceived obstacles to investment and growth by firms in Africa. Figure 7-1 provides a snapshot of the obstacles to the operation of small and large firms drawn from the World Bank Enterprise Survey database for the countries we have studied in sub-Saharan Africa.

The constraints are somewhat different depending on firm size. The differences, however, are less striking than one might expect. It

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37. As we pointed out in chapter 6, the nature and sources of agglomeration economies change with the level of per capita income. For countries in Africa, localization economies are likely to be most relevant during early industrialization, which calls for a strategic approach designed to promote linkages between domestic and foreign firms along a value chain.


is informative that regulatory constraints do not figure among the top-five constraints identified by either small or large firms. Tax administration and corruption rank sixth and seventh. Access to land and customs and trade regulations are in the middle of the list, below crime, theft, and disorder. This does not mean they are unimportant; it simply indicates that in the view of the business community, other constraints, notably those associated with inadequate infrastructure, are more binding. Surveys of this type can be used to set
priorities for public investment and policy reform and to check on progress in implementation.

A second way to engage with the private sector is to conduct a structured dialogue to identify reform priorities. Economists have termed this structured dialogue, close coordination, and many argue it is essential both for the design of appropriate public actions and for feedback on their implementation. While close coordination between public decision makers and private investors is needed, it is a risky business. The massive literature on rent seeking and government failures suggests that in many cases a close relationship between business and government can lead to inappropriate policies. Managing the tension between close coordination and capture is critical to the success of this approach to agenda setting.

Africa has some experience—both positive and negative—with efforts to design institutions to foster business-government communication and problem solving. A number of these were in the countries we studied intensively. Ethiopia provides the best example of success. Its head of government, the late prime minister Meles Zenawi, led a close coordination process in the cut-flower industry that identified the binding constraints to exports and resolved them through public-private action. An experiment in coordination, sponsored by the World Bank and the International Monetary Fund (IMF), may provide the best example of failure.

In 2001, the heads of the IMF and World Bank made a joint visit to Africa. Shortly after, Presidential Investors’ Advisory Councils (PIACs) were created by the presidents of Ghana, Tanzania, and Senegal in 2002, and by Uganda’s president in 2004. Ethiopia launched a Public-Private Consultative Forum, loosely modeled on the PIAC, in 2010. The councils were expected to enable the presidents to hear the views of experienced and successful business leaders and to identify constraints to foreign and domestic investment

41. See, for example, Krueger (1974). A balanced review of the relevance of this literature is contained in the report of the Commission on Growth and Development (2008).
and generate recommendations for concrete action. In short, they were public-private coordination mechanisms.

Over slightly more than a decade, Ghana’s council disappeared, while Uganda’s has been judged something of a success. The councils in Senegal and Tanzania have had some impact, but fall between Ghana at one extreme and Uganda at the other in terms of their performance. Ethiopia’s council is still very new, but early signals are not encouraging. The councils suffered from a number of deficiencies as coordination mechanisms, including capture of the agenda-setting process by the international financial institutions (IFIs), but perhaps the single most important factor in the performance of these councils was the level of commitment of the head of government or head of state.

Uganda is the only country in which the president has found time to hold more than one council meeting a year, and in which he has a reputation for following up on council deliberations. Ghana and Ethiopia represent the other extreme. In Ghana, the president quickly lost interest and the council lost momentum. In Ethiopia, the late prime minister, who had a track record of close engagement with private investors at the sector and industry level, failed to call for a national meeting of the newly created council.42 Put bluntly, the region and its heads of state will need to raise their game in close coordination.

**Summing Up**

For most African countries investment climate reforms alone are unlikely to be enough to overcome the advantages of the world’s existing industrial locations. A strategy that recognizes and deals with the drivers of firm-level productivity is urgently needed. This chapter outlines such a strategy. It combines a refocused investment climate reform agenda with three new strategic objectives identified by our Learning to Compete research. It begins with the basics. Closing

the region’s growing infrastructure and skills gaps with the rest of the world can lower costs and boost firm-level productivity. Better approaches to the reform of regulations and institutions affecting the private sector are also needed. Because fiscal resources are constrained, early public actions to improve the investment climate should focus on supporting the specific strategic interventions needed to raise firm-level productivity.

The second component of the strategy is an export push—a coordinated set of public investments, public policies, and institutional reforms to boost the share of industrial exports in GDP. With the exception of Mauritius and Tunisia, African governments have largely failed to pursue effective, systematic efforts to promote non-traditional exports. Regulatory and institutional reforms to create an effective “free trade environment” for exporters are needed. Infrastructure focused on trade logistics and more strenuous efforts to build and maintain regional infrastructure are also important.

The last two components address building capabilities and agglomerations. Foreign direct investment is a key source of capabilities, and policies and institutions for attracting FDI are essential. Regulations that restrict the transfer of capabilities should be changed. Public policies to promote the dissemination of management information and to provide management training offer considerable promise. African governments can promote industrial agglomerations by concentrating investments in high-quality institutions, social services, and infrastructure in special economic zones. Until now, African SEZs have failed to attract global investors. Thus, a first order of business is to upgrade their performance to international standards. For upgrading to succeed, governments will need to take a very hard look at how they select and reward their SEZ managers. FDI agencies need to work in tandem with SEZ administrations to attract a critical mass of firms in industries related along the value chain into the zones.

The strategy for industrial development that we have outlined will not succeed if it is implemented in a piecemeal or haphazard way. Because the drivers of firm-level productivity are so closely interrelated, progress in one area—say, promotion of industrial
exports—will not achieve its desired effect in the absence of actions in the others. This calls for a level of coordination across government and a degree of engagement with the private sector that is far more demanding than that implied by the investment climate reform agenda. The industrial success of Mauritius, Tunisia, Cambodia, and Vietnam has been largely a result of their ability to undertake such a coordinated effort. It is surely not beyond the capability of some African governments to emulate them.

Earlier in this book we criticized one-size-fits-all approaches to industrial development, and we do not want to make the same error here. The extent to which our strategic recommendations fit each individual country’s circumstances will vary. For example, landlocked countries will undoubtedly face tougher headwinds in exporting manufactured goods than those with coastal locations. Nevertheless, because tradable services and agro-industry share many characteristics with manufacturing, we believe that the strategy we have outlined is applicable to industrial development—broadly defined—across a wide range of countries in Africa.