



## Policies to enhance participation

### Key findings

- **Factor endowments matter: Eliminating restrictions in factor markets enables countries to exploit their comparative advantage.** Avoiding overvalued exchange rates and restrictive regulations ensures labor is competitively priced. A favorable business climate and effective investment promotion facilitate foreign direct investment.
- **Market size matters: Liberalizing trade expands access to markets and inputs.** By reducing tariffs and eliminating nontariff measures, a country expands its sources of supply. Liberalization in destination markets through trade agreements expands market access.
- **Geography matters: Remoteness can be overcome by improving connectivity and lowering trade costs.** Costs related to delay and uncertainty can be reduced by customs reform, introducing competition in transport services, and improving port structure and governance.
- **Institutional quality matters: It can be improved by strengthening contract enforcement, protecting intellectual property rights, and improving standards regimes.** Deep trade agreements can help lock in institutional reforms.
- **Proactive policies can enhance and upgrade global value chain (GVC) participation.** Coordinating, informing, and training domestic small and medium enterprises helps link them to GVC lead firms. Investment in education and improvements in management encourage upgrading. Special economic zones can be a shortcut on the GVC development path when they successfully address specific market and policy failures.

**W**hat needs to be done to reap the benefits of global value chains (GVCs)? And what is the role of government policy in facilitating GVC participation and upgrading? Drawing on evidence from chapter 2 on the determinants of GVCs, as well as from cases from around the world, this chapter considers policies to enter and enhance participation in GVCs. It begins by highlighting four areas of policy that would support GVC participation.

First, because factor endowments matter, countries should exploit their comparative advantage by eliminating barriers to investment and ensuring that labor is competitively priced, by avoiding overvalued exchange rates and restrictive regulations.

Lead firms in GVCs are often multinational corporations (MNCs), and so policies aimed at attracting foreign direct investment (FDI) are especially important for GVC participation. As a starting point, countries should facilitate the establishment and operation of businesses (the agenda is outlined in the World Bank's *Doing Business* reports). An investment policy should facilitate GVC-oriented FDI and support investors throughout the investment life cycle. Relying on well-planned investment promotion strategies, countries such as Costa Rica, Malaysia, and Morocco have successfully attracted transformative GVC investments by large MNCs.

Second, because market size matters, countries need to liberalize trade to expand access to markets and inputs. By liberalizing imports of inputs and eliminating unnecessary nontariff measures (NTMs), a country can expand its sources of supply, as well as the possible roles it can play in the value chain. For example, the large unilateral tariff cuts by Peru in the first decade of the 2000s are associated with lower import costs, faster productivity growth, and expansion and diversification of GVC exports.<sup>1</sup> Liberalization in destination markets can expand market access. For example, preferential trade agreements (PTAs) have acted as a catalyst for GVC entry for a wide range of countries, including Bangladesh, the Dominican Republic, Honduras, Lesotho, Madagascar, and Mauritius.

Goods and services are increasingly linked, and so liberalizing the trade in services is an important part of any strategy for promoting GVCs. Policies should therefore seek to improve the environment for e-commerce, liberalize telecommunications services, and promote free movement of data, as well as support access to other important service inputs such as transport, finance, accounting, and other business support services.

Third, because geography matters, countries can overcome remoteness by improving their connectivity and lowering trade costs. Some countries are disadvantaged naturally by being landlocked or in remote locations. Others are disadvantaged by policy restrictions on transport services and by bureaucratic actions such as slow, costly, unpredictable border procedures. GVCs rely on the fast and predictable movement of goods. For many goods traded among GVCs, a day's delay is equal to imposing a tariff in excess of 1 percent. Improving customs and border procedures, promoting competition in transport services, improving port structure and governance, opening the domestic market to global providers of third-party logistics and express delivery services, and improving information and communication technology (ICT) connectivity—all are strategies that can reduce trade costs related to time and uncertainty.

Fourth, because institutional quality matters, countries need to strengthen enforcement of contracts, protection of property rights, and regulatory standards. GVCs thrive on the flexible formation of networks of firms. Contract enforcement ensures that legal arrangements within a network are stable and predictable. Protecting intellectual property rights creates an environment for more innovative and complex value chains, and it can be supported through deep PTAs. Governments can also facilitate participation in GVCs by strengthening their national certification and testing capacity to ensure compliance with international standards, public and private. Pakistan's ability to overcome an export ban on fish and expand horticultural exports attests to the value of building a strong national standards regime.

But being in a value chain today does not guarantee that a country will capture significant benefits from participation and that those benefits will grow. Many of the traditional approaches to industrial policy, including tax incentives, subsidies, and local content policies, are more likely to distort than help in today's GVC context, as Brazil's poor experience of promoting localization in the automotive sector illustrates. However, a range of proactive policies can enhance GVC participation.

Countries can promote linkages between domestic small and medium enterprises (SMEs) and GVC lead firms by coordinating local suppliers, providing access to information about supply opportunities, and supporting training and capacity building of SMEs. There are many examples of successful supplier linkage programs such as those in Chile and Guinea in mining, Kenya and Mozambique in agriculture, and

the Czech Republic in the electronics and automotive sectors. Governments can also help domestic suppliers gain access to finance and technology to support raising productivity and meeting global standards.

Countries can strengthen sector-specific human capital through targeted workforce development strategies, involving close coordination between the public and private sectors. The Penang Skills Development Centre in Malaysia, an industry-led training center, has played an important role in supporting Malaysia's upgrading in the electronics and engineering GVCs. Countries can also support firms in their efforts to upgrade management capabilities and strengthen the capacity for innovation. Turkey's upgrading into the branded segment of the apparel GVC was supported by both government and private sector initiatives, including workforce training, consulting and design services, and incentives for investment in research and development (R&D) and technology.

Governments can also strengthen national innovation systems to support upgrading in GVCs. Germany's dense networks of public-private collaboration involving foreign and local industry, academia, and government research institutions is one example of an effective model.

This chapter also considers whether and how special economic zones (SEZs) may be used as a shortcut on the GVC development path, recognizing that delivering on the policies just outlined is a medium-term agenda. SEZs can be successful when they address specific market failures. Getting conditions right, even in a restricted geographical area, requires careful planning and implementation to ensure that the needed resources—such as labor, land, water, electricity, and telecommunications—are readily available, that there are no unnecessary regulatory barriers, and that connectivity is seamless. The relatively few successful zone programs in places such as China, Panama, and the United Arab Emirates, and emerging in Ethiopia, offer important lessons for how best to take advantage of the instrument to establish an environment for different types of GVC participation.

## Facilitating participation

### Take advantage of factor endowments and eliminate restrictions in factor markets

As described in chapter 2, factor endowments matter for a country's entry and positioning in GVCs, and that is not surprising. Investment in most commodity GVCs (as well as the travel and tourism services GVCs) depends on access to *natural resources* such as land,

specific climatic conditions, and mineral resources. A move to basic manufacturing GVCs often relies on access to *low-cost labor*, while moving into more advanced and innovative activities requires higher levels of *human capital*. And entry in almost all GVCs requires access to capital—especially *foreign direct investment* in most developing countries. But just having favorable endowments is no guarantee of success. National policies fundamentally shape the price of factor endowments and how well they are able to contribute to GVC participation.

### Natural resources

Despite having favorable conditions for agricultural production, many countries have a regulatory and institutional environment that undermines investment prospects in the sector. Surveys of agribusiness investors<sup>2</sup> have identified land acquisition as a special concern. Lack of proper land registries and weak legal systems in many countries make it impossible to enforce land titles. The situation is aggravated in regions such as Sub-Saharan Africa, where countries may have parallel (and often conflicting) customary and statutory land tenure systems. In postconflict environments, forced displacement, land occupations, and loss of official title deeds may make it impossible to secure tenure. For example, in Liberia, despite the government granting large concessions to international investors in rubber and palm oil, competing land claims and community conflicts have resulted in investors managing to plant only on a small portion of the land concession, and the surrounding smallholders have been unable to secure finance to plant without land titles. The ensuing lack of production scale has also made it uneconomic for the lead firms to invest in processing facilities.

Governments should have a clear legal framework for land policy, along with a legal and administrative apparatus that can enforce land rights, while recognizing various acceptable forms of tenure. Such objectives can be supported by adopting a proactive process of engagement, beyond simply consultation, with communities likely to be affected by large investments in agriculture. For example, in Ghana the government has published guidelines on community engagement practices to help facilitate large-scale commercial agriculture investments.

For countries with large mineral endowments, the main issues revolve around the terms of concession agreements. Most notably, such terms relate to royalty and tax payments, but they also may include local content requirements, such as requiring investors to hire

a certain share of local staff, to purchase from local companies, or to carry out value-added processing in the country. Mining investments typically require large amounts of capital up front, with returns over the long term. Thus investors face many uncertainties, including production costs and future trends in commodity prices. Governments can reduce uncertainty by having legal frameworks such as mining codes or mining laws that clearly establish the terms under which mining concessions will operate. Botswana, Chile, and Namibia have high-quality policy environments,<sup>3</sup> whereas Zimbabwe, which nationalized and partly nationalized various mining sectors over the past decade and most recently threatened an export ban on platinum, is rated as having one of the least favorable policy environments for mining investment.

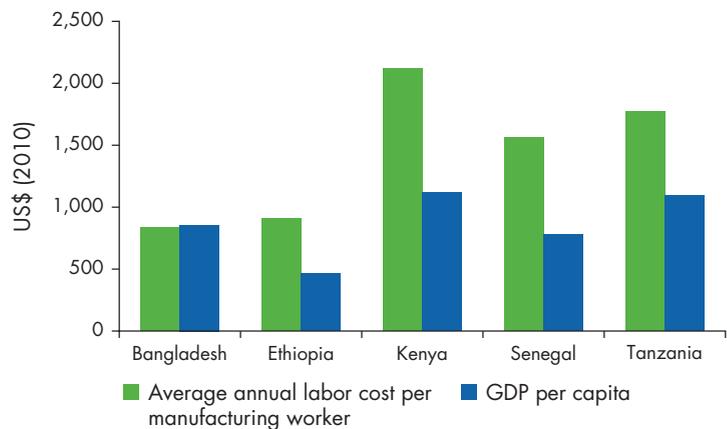
### Human capital

The empirical findings on the importance of low-cost labor for GVC entry in basic manufacturing is supported by the evidence of foreign investment in GVC-intensive sectors such as apparel. The shift of manufacturing to China and Vietnam, and now (as wages rise in these countries) to Bangladesh, Cambodia, and Ethiopia, reflects the importance of low-cost labor in this sector. At times, investors exploit large labor cost wedges in local environments—for example, when South Africa’s apparel production moved just over the border to Lesotho<sup>4</sup> and when apparel factory clusters emerged on the Dominican Republic’s border with Haiti.

But many countries with low levels of per capita income and large pools of moderately skilled, underemployed labor find themselves priced out of the market for GVC investments in basic manufacturing activities because of uncompetitive labor costs. For example, a recent study using World Bank survey data on 5,500 companies in 29 countries found that for any given level of GDP, labor is substantially costlier for manufacturing firms located in Sub-Saharan Africa.<sup>5</sup> As shown in figure 7.1, the average labor costs in Bangladesh are in line with the average GDP per capita, whereas in comparator countries in Africa they are often almost twice that average. Only Ethiopia has wage levels on a par with those in Bangladesh.

Addressing rigid labor regulatory policies, while ensuring protection of workers and appropriately sharing the gains from GVC trade (see chapter 8), is one step governments can take toward more competitively priced labor. But regulation is just one contributor to labor price gaps. Overvalued exchange rates are a significant threat to competitively priced labor.

**Figure 7.1** Manufacturing labor costs are out of line with national income levels in Sub-Saharan Africa but not in Bangladesh



Source: WDR 2020 team, using data from Gelb et al. (2017).

They raise the prices of domestic resources relative to imports, thereby deterring international investments in labor-intensive activities and making domestic investors more likely to import capital equipment to substitute for high-priced domestic labor. Historically, countries with competitive or undervalued exchange rates have undergone greater structural change<sup>6</sup>—the experiences of China and the Republic of Korea stand out here. Because overvalued exchange rates are common in countries that heavily rely on natural resources, they pose a threat when these countries transition into basic manufacturing value chains. For example, an overvalued exchange rate was a major factor in the failure of Trinidad and Tobago to develop its manufacturing sector.<sup>7</sup> Beyond the exchange rate, workers in many countries have high reservation wages because of the high cost of living in urban and peri-urban areas. For example, in urban areas of Sub-Saharan Africa workers often face high costs for food and housing, along with high transport costs, which can consume up to 50 percent of wages.

Therefore, getting the price of labor right requires policies that go well beyond the realm of labor and policies to support urbanization and public services. Governments also have to address other fundamental investment climate constraints, such as poor infrastructure, as well as skill mismatches, which compound labor price gaps by suppressing productivity growth.

As countries look to upgrade in GVCs, policy priorities shift to the quality rather than the quantity of human capital. Higher value-added positions in GVCs require both high-level technical skills and adaptability because changing technologies rapidly reshape the

kinds of skills needed. Research in Costa Rica and the Dominican Republic has found that large differences in the investments of each country in human capital is one of the primary explanations for the different development trajectories of the two countries over recent decades. Costa Rica's success in diversifying away from apparel to high-technology exports was supported by public social spending that averaged close to 20 percent of GDP in the 1980s and 1990s. By contrast, in the Dominican Republic, which struggled to move away from low value-added apparel exports, public social spending during this time averaged just 5 percent of GDP, the lowest in all of the countries in Latin America.<sup>8</sup>

### **Foreign capital**

In developing countries, foreign capital is especially important for GVC integration.<sup>9</sup> Foreign investors bring with them the technology, managerial expertise, and established market relationships needed for GVC integration. Thus policies and strategies to attract and retain FDI are important for countries seeking to participate in GVCs.

Attracting and retaining FDI in a GVC context requires a well-formulated investment policy. Certainly, the core elements of investment policy—what sectors are open to foreign investment, what assets may be foreign-owned, what rules exist for capital

flows and repatriation of profits, what form the taxation regime takes, and what fiscal and nonfiscal incentives (such as work permits) are available—are central to FDI decision making. But in the GVC world, where investments are fundamentally linked to import–export relationships, trade policy is equally important. Similarly, because of the service intensity of GVCs, domestic regulatory policy, including the role of state-owned enterprises (SOEs) and competition in infrastructural and business services, plays a big part in defining the attractiveness of a location for GVC-linked investments. Facilitating FDI for GVCs requires, then, effective coordination of investment, trade, and domestic regulatory policies.

Political stability, investor protection, and a business-friendly regulatory environment are especially important in attracting FDI. However, FDI is not homogenous. Investors with different motives consider different factors in their decision to invest. For example, MNCs that primarily seek access to natural resources—such as in extractive industries—care about access to land and resources, whereas market-seeking FDI tends to give priority to the size and purchasing power of the domestic market. Efficiency-seeking FDI, which characterizes most noncommodity GVC investments, focuses on factors that affect production and trade costs (box 7.1).

## **Box 7.1 Determinants of efficiency-seeking investment**

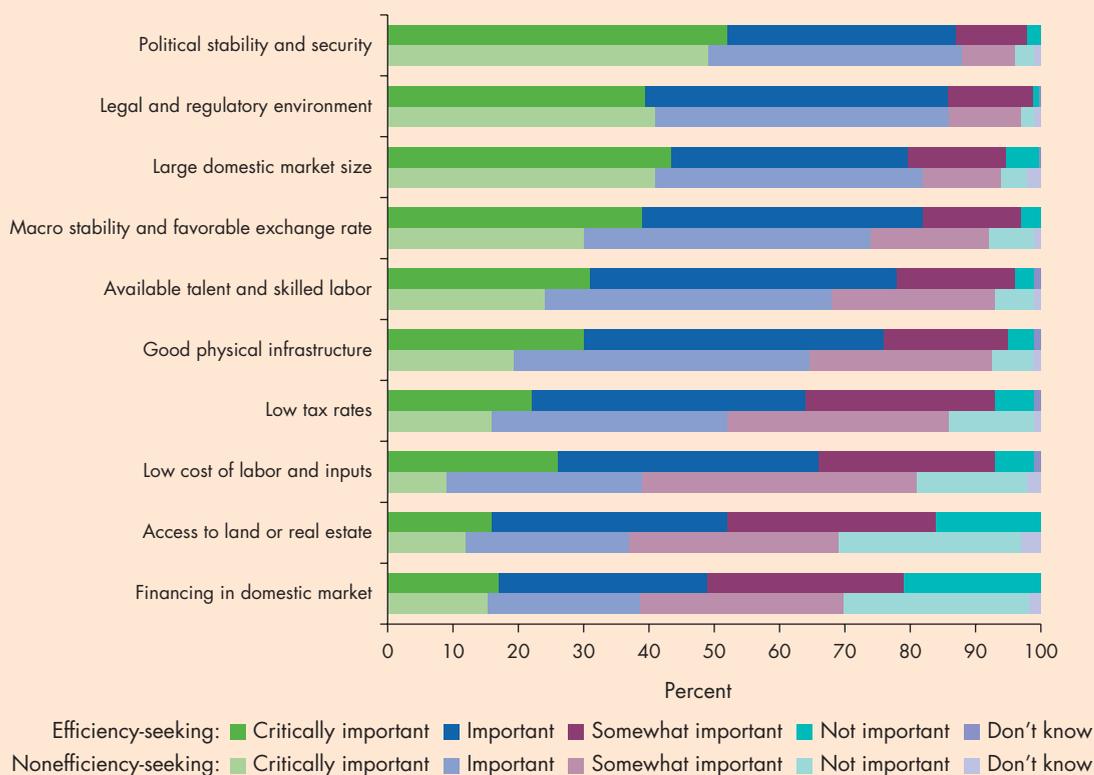
For multinational corporations (MNCs), what are the most important determinants of efficiency-seeking foreign direct investment (FDI)? Compared with investors with other motivations, efficiency-seeking firms, which connect countries directly to GVCs, find the following factors more important (figure B7.1.1):<sup>a</sup>

- *Characteristics of host countries.* Most are important, especially low-cost labor and inputs, which 66 percent of firms involved in efficiency-seeking investment find important or critically important, compared with only 39 percent of investors with other motivations.
- *Investment policy factors.* These factors include investment protection guarantees, owning all equity, hiring expatriate staff, importing production inputs, ease of obtaining approvals, bilateral investment treaties, and preferential trade agreements (PTAs). PTAs were found to be important or critically important by 65 percent of firms involved in efficiency-seeking investment, compared with only 45 percent of investors with other motivations.
- *Incentives.* Sixty-three percent of efficiency-seeking investors rate incentives as important or critically important, in contrast with 43 percent of investors with other motivations. These firms rated eight different incentive instruments more highly than other investors, with an average difference of about 13 percentage points.
- *Capacity and skills of local suppliers.* This factor was rated important or critically important by 77 percent of MNCs engaged in efficiency-seeking FDI, compared with 70 percent of investors with other motivations. To promote linkages, 55 percent of MNCs involved in efficiency-seeking FDI have internal “talent scouts” to find local suppliers, compared with only 45 percent of investors involved in other types of FDI.
- *Investment promotion agencies (IPAs).* Fifty-two percent of efficiency-seeking investors identify IPA services as important or critically important, compared with 37 percent of investors involved in other types of FDI.

*(Box continues next page)*

## Box 7.1 Determinants of efficiency-seeking investment (continued)

Figure B7.1.1 MNCs involved in efficiency-seeking FDI are more selective



Source: World Bank 2018.

Note: FDI = foreign direct investment; MNCs = multinational corporations.

a. This overview of locational determinants of FDI is based on findings from the World Bank's 2017 Global Investment Competitiveness survey on investor perceptions and preferences (World Bank 2018).

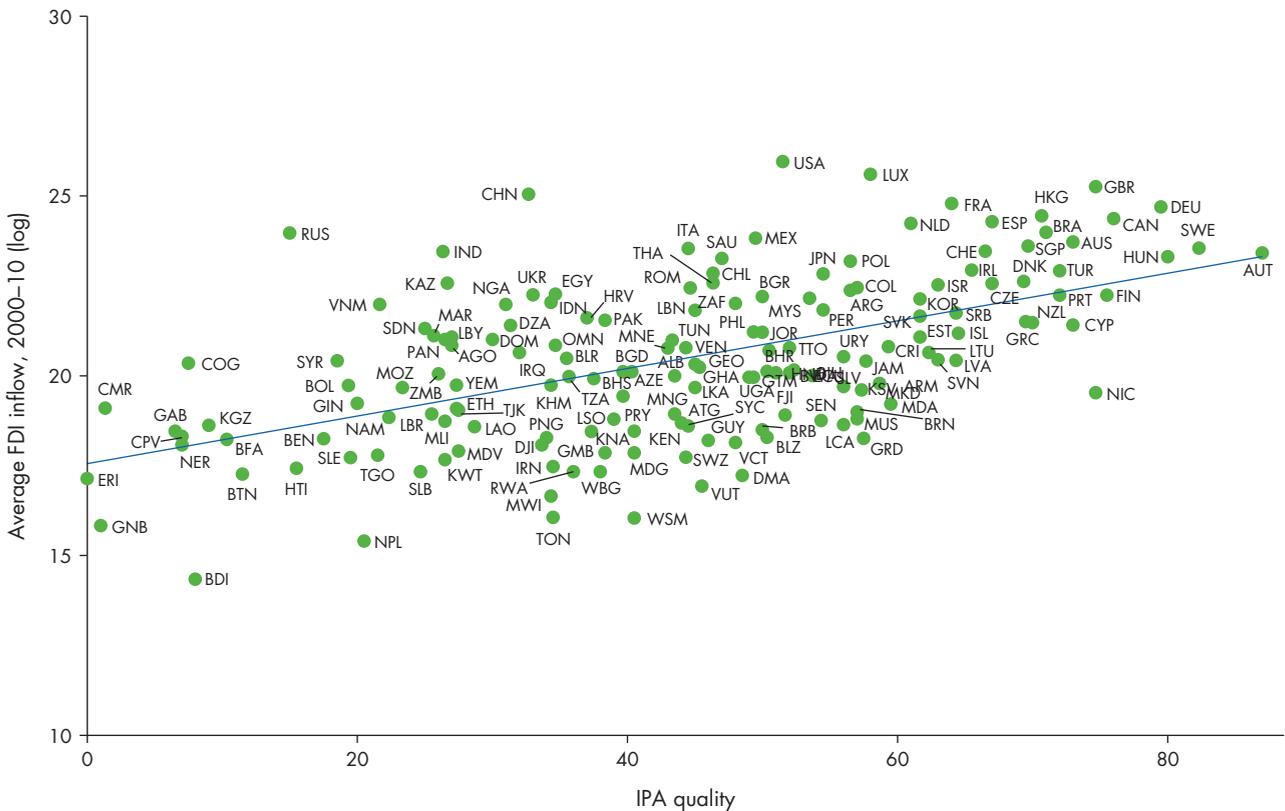
Beyond policy, strategies and tactics—and their implementation—matter for attracting and retaining GVC investors. Proactive efforts to attract and facilitate foreign investment, through the use of investment promotion agencies (IPAs), can help overcome problems of information asymmetry and coordination failures that may restrict FDI.<sup>10</sup> IPAs typically carry out image-building campaigns, undertake investment generation through targeted efforts to identify and attract specific investors, help investors to establish their businesses, and lobby government for investor-friendly policies. Research has shown that IPAs can contribute to larger FDI flows<sup>11</sup> (figure 7.2) and can be highly cost-effective, with one study finding that every \$1 spent on investment promotion yields \$189

in FDI inflows, for a cost of just \$78 to create one job in the promoted sectors.<sup>12</sup> IPAs can also improve the quality of investments and contribute to economic transformation by exploiting comparative advantage. For example, Costa Rica, Malaysia, and Morocco successfully attracted transformative, efficiency-seeking investments by large MNCs using well-targeted investment promotion strategies that built off core policies of macroeconomic stability and skills development. These economies saw a boost in revealed comparative advantage and better integration into GVCs.<sup>13</sup>

### Liberalize trade to expand markets

Market size matters because larger markets enable firms to benefit from returns to scale in terms of both

**Figure 7.2** Better-quality investment promotion agencies attract more FDI inflows



Source: Harding and Javorcik 2012.

Note: The IPI quality rating is based on the World Bank’s Global Investment Promotion Benchmarking (GIPB) series. The figure shows the average results of GIPB scores from the 2006, 2009, and 2012 GIPB series. FDI = foreign direct investment; IPA = investment promotion agency. For country abbreviations, see International Organization for Standardization (ISO), <https://www.iso.org/obp/ui/#search>.

production efficiencies and an ability to make the most of knowledge and technologies. But as chapter 1 describes, domestic market size is less relevant in a GVC world because scale economies can be reaped through deeper specialization and global market integration. This offers a critical shortcut for small developing countries. Taking advantage of this opportunity requires liberalized trade policies that support integration. Indeed, as chapter 2 notes, countries with low tariffs and greater market access are more likely to participate in GVCs.

**Tariffs**

Worldwide, most-favored-nation (MFN) tariffs fell by about a third between 2001 and 2013.<sup>14</sup> Of this liberalization, more than half was the result of countries cutting tariffs on their own initiative. This reduction included unilateral cuts of between 10 and 20 percent in ad valorem tariffs by India, Morocco, Nigeria, Peru, and Tunisia, and between 5 and 10 percent by Bangladesh, Kenya, and Mexico. Although there

is still scope for an international effort to lower tariffs—bilaterally, regionally, or in a multilateral round (chapter 8)—the scope for countries to engage in unilateral liberalization remains substantial.

Tariff schedules that place higher duties on processed goods than on unprocessed goods—a feature known as tariff escalation—have particularly negative effects on developing countries in GVCs. Escalation acts as a barrier preventing developing countries from upgrading to higher value-added segments of the value chain, potentially locking them into lower-value, limited-processing activities. Trade agreements have significantly reduced the extent of tariff escalation in high-income countries, but the process needs to go further, especially for agricultural products.

High tariffs and tariff escalation can undermine the development of regional value chains. For example, in southern Africa, despite the customs union of Botswana, Eswatini, Lesotho, Namibia, and South Africa, as well as the expressed strategic interests in developing regional agriculture value chains,

protection of domestic agricultural interests has resulted in multiple trade restrictions, including seasonal import bans and quotas, as well as duties of up to 40 percent on grain, feed, dairy, and poultry products.

Moreover, in many parts of the world tariffs and other forms of trade protectionism have seen a resurgence over the last two years, fueled in part by tensions between the United States and China. In the age of GVCs, where hyperspecialization and distribution of tasks across borders ensure that trade costs are incurred multiple times, this new wave of protectionism is likely to have significant negative implications. They will arise not only directly from higher trade costs but also from the costs of trade policy uncertainty, which can make firms reluctant to invest in supply chains and thus result in long-lasting disruptions in global investment and production.

Finally, as discussed in detail in box 2.5 in chapter 2, governments can exploit the opportunities created by PTAs, particularly when they offer duty-free market access, to catalyze GVC entry. This was apparent during the period of the Multifibre Arrangement (MFA) quota system, when footloose GVC investors sought opportunities to exploit unused quotas. For example, Korean investors kickstarted the apparel GVC in Bangladesh and Honduras; Taiwanese investors initiated the sector in Lesotho and Swaziland

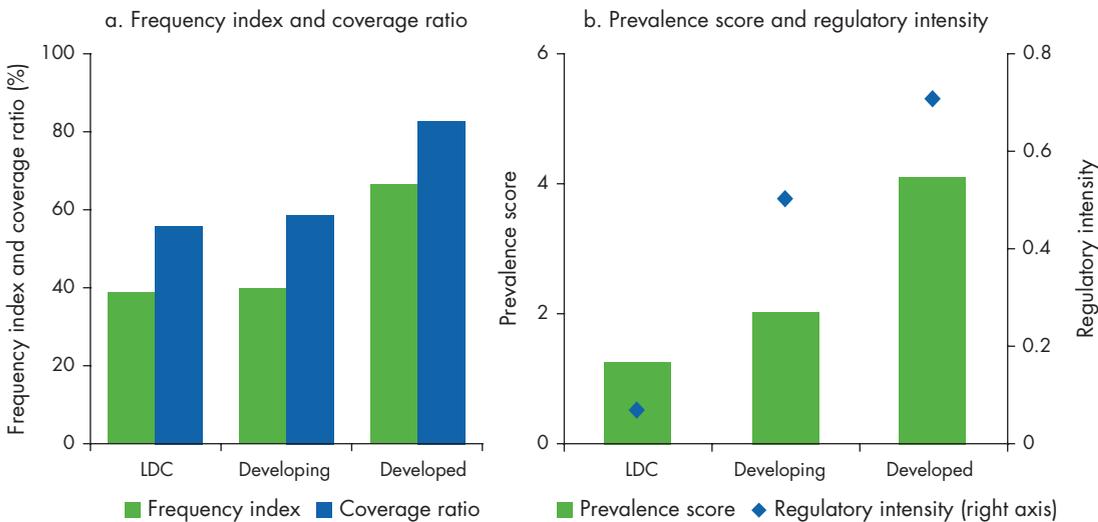
(now Eswatini); and Mauritian investors established some of the first apparel manufacturing facilities in Madagascar. Preferential arrangements such as the African Growth and Opportunity Act (AGOA) and the Everything but Arms (EBA) initiative of the European Union, along with regional trade agreements such as the Caribbean Basin Initiative (later the Dominican Republic–Central America Free Trade Agreement, DR–CAFTA) played a similar role. Recent fragmentation in the global trading system may in fact create opportunities for countries to exploit PTAs as a channel for GVC entry.

### Nontariff measures

The use of NTMs is increasingly widespread. The share of tariff lines covered by NTMs averages about 40 percent for the least developed and developing countries and more than 60 percent for developed countries. The trade covered by such measures is even higher (figure 7.3, panel a). Moreover, multiple NTMs are often applied to the same product category (figure 7.3, panel b).

Although it may appear that countries are simply substituting tariff protection for NTM protection, this is not necessarily the case. NTMs such as quantitative restrictions and nonautomatic licensing have effects similar to those of tariffs, and they serve primarily to

**Figure 7.3** Nontariff measure use increases by development status



Source: UNCTAD and World Bank 2018.

Note: Panel a: The frequency index captures a country's share of traded product lines subject to at least one nontariff measure (NTM). The coverage ratio captures a country's share of trade subject to NTMs. Unlike the frequency index, it is weighted by import values instead of traded product lines. Panel b: The prevalence score indicates a country's average number of distinct NTMs applied on regulated products. In doing so, it measures the diversity of NTM types applied and provides some indication of the intensity of regulation. The regulatory intensity adjusts the prevalence score for differences in regulatory intensity and trade importance across products. In doing so, it adjusts for the fact that some products are more traded and regulated than others such as medicines. Computed as an average for a country, the regulatory intensity is normalized by the average number of measures for each product around the world and then weighted by its importance in world trade. LDC = least developed country.

restrict trade—indeed, such NTMs can inhibit GVC formation. But a large share of modern NTMs are regulatory in nature. Technical barriers to trade (TBTs) and sanitary and phytosanitary (SPS) measures are at least ostensibly designed to protect human, animal, and plant life; health; and the environment. Moreover, their application is regulated by World Trade Organization (WTO) agreements. Higher-income countries, which tend to have lower tariffs, are more likely to make extensive use of TBTs and SPS measures.

However, regulatory measures, even when they have legitimate goals, can pose challenges for low- and middle-income countries as their producers strive to meet more stringent standards, which may be costly. For exporters, failure to meet standards—such as those for quality and traceability in agriculture—can lock firms out of markets. For importers, inappropriate standards may exclude firms from some valuable opportunities for GVC participation. For example, importers in many South Asian countries find it difficult to import synthetic yarn and fabrics, which inhibits their apparel producers from serving the market for higher value-added segments such as athletic wear.

On the other hand, the emergence of well-defined product standards can help firms in developing countries overcome technical, informational, and reputational barriers to market access and so play an important role in facilitating GVC participation and upgrading (this issue is discussed in more detail later in this chapter).

### ***Trade in services***

For many developing countries, the best opportunities for GVC integration will not come through natural resources or manufacturing, but instead through integration in services GVCs, notably through sectors such as tourism and business process outsourcing. And as discussed in chapter 1, even manufacturing and natural resources-focused GVCs are highly service-intensive. Thus eliminating impediments to trade and investment in services is a high priority to promote GVC participation.

The limited information on trade and investment policy for services suggests that much higher barriers remain to liberalizing the services trade than the goods trade. The World Bank's Services Trade Restrictions Database reveals that, although public monopolies are now rare and few service markets are completely closed, numerous restrictions remain on entry, ownership, and operations.<sup>15</sup> Even where there is little explicit discrimination against foreign providers, market access is often unpredictable because the

allocation of new licenses remains opaque and highly discretionary in many countries.

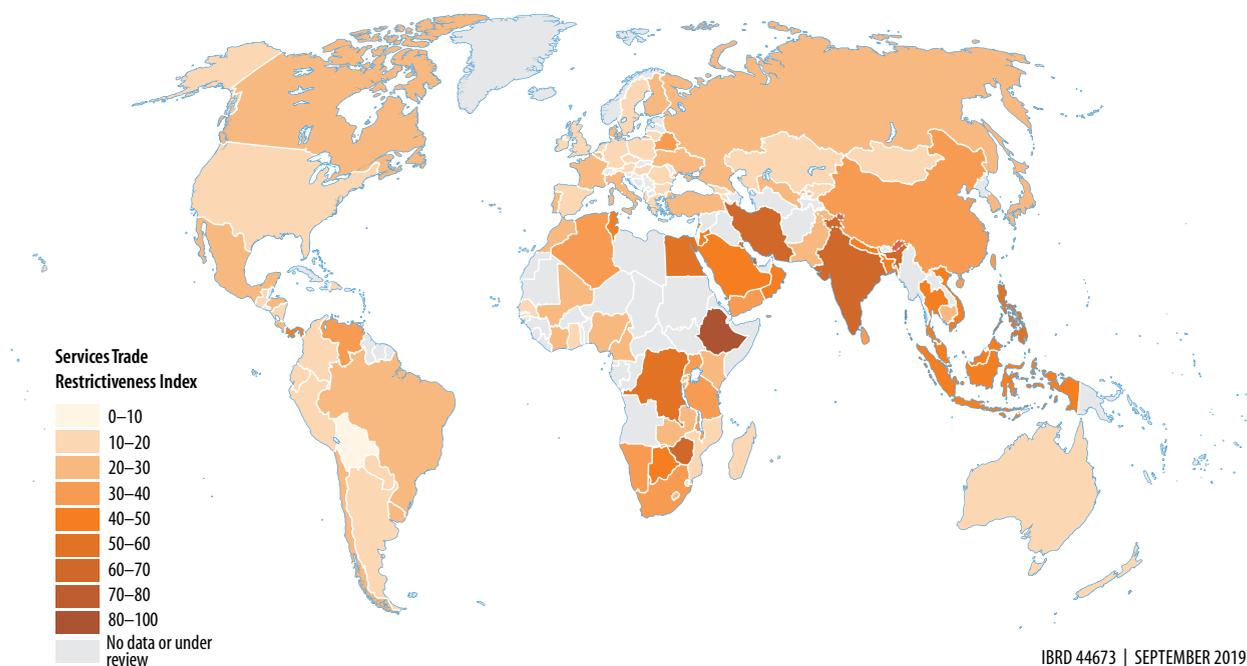
Across regions, some of the fastest-growing countries in Asia and the oil-rich Gulf states have highly restrictive policies in services, while some of the poorest countries are remarkably open, as measured by the World Bank's Services Trade Restrictiveness Index, which takes values from 0 for completely open regimes to 100 for completely closed (map 7.1). Across sectors, professional and transport services are among the most protected in both industrial and developing countries, whereas retail, telecommunications, and even finance tend to be more open.

National decisions to open markets to certain types of services trade are critical for GVCs. Among those types are third-party logistics providers and express delivery services. In addition, much of the innovation in value chains takes place at the downstream end, through retailers. It may be easier for large retailers to take advantage of new supply chain technologies to enhance GVC productivity than for the more traditional small retailers to do so, and even easier for e-commerce firms.<sup>16</sup> Thus policies that restrict the entry of large retailers (either domestic or foreign) can have a negative impact on efforts to exploit the full efficiencies of GVCs. To the extent that advanced supply chain technologies complement e-commerce, interventions to improve the enabling environment for e-commerce and policies to enable the free movement of data are likely to complement the development of GVCs. Liberalizing telecommunications services, including access to the Internet, is essential to facilitating the flow of information between buyers and sellers needed to promote GVCs (box 7.2). In addition, countries can remove impediments to importing services.<sup>17</sup> Initiatives such as liberalization of professional licensing are possible subjects for regional cooperation.

### **Enhance connectivity to lower trade costs**

Beyond tariffs, the cost of moving goods remains a substantial impediment to trade. Supply chains go where the logistics are smooth. To compete in GVCs, firms need to respond quickly to any changes in demand, which is costly when intermediate inputs face border delays that necessitate maintaining inventories. Supply chain efficiency has therefore emerged as an important determinant of trade performance. Improving supply chain-related trade costs associated with border administration and transport and communications infrastructure halfway to global best practice would, it is estimated, produce global GDP gains up to six times larger than the elimination of all

## Map 7.1 Services trade remains restricted in many countries



Source: Borchert, Gootiiz, and Mattoo 2014.

Note: The World Bank's Services Trade Restrictions Database covers 103 countries (79 developing) and financial, basic telecommunications, transport, distribution, and selected professional services. Data were collected between 2008 and 2010. The Services Trade Restrictiveness Index (STRI) takes on values from 0 to 100, where 0 indicates a country is completely open to trade without restrictions, and 100 indicates a country is completely closed to trade.

### Box 7.2 Foreign services firms in India's manufacturing value chains

India offers a powerful example of how foreign services firms help support greater participation in manufacturing value chains. Conventional explanations of the modest resurgence of Indian manufacturing since the early 1990s have focused on policy reforms in manufacturing industries. However, a central factor lies outside manufacturing in the services sector. Reforms in the 1990s visibly transformed services sectors, with greater openness and improved regulation leading to dramatic growth in domestic and foreign investment. Indian manufacturing firms were no longer at the mercy of inefficient public monopolies; they could now source services from a wide range of domestic and foreign providers operating in an increasingly competitive environment. As a result, they had access to better, newer, more reliable, and more diverse business services. These improvements enhanced firms' abilities to invest in new business opportunities and better production technology, to exploit economies of scale by concentrating production

in fewer locations, to efficiently manage inventories, and to coordinate decisions with suppliers and customers.

To analyze the link between service reforms and manufacturing productivity in India, Arnold et al. (2016) collected detailed information on the pace of reform across Indian services sectors, focusing on entry and operational restrictions. To make this information amenable to econometric analysis, the investigators aggregated it into time-varying reform indexes. They then related the total factor productivity (TFP) of about 4,000 manufacturing firms to the state of liberalization in the services sectors, taking into account other aspects of openness such as tariffs on output and intermediate inputs, as well as foreign direct investment (FDI) in the final and intermediate goods sectors.

The results suggested that pro-competitive reforms in banking, transport, insurance, and telecommunications boosted the productivity of both foreign and locally owned manufacturing firms. A one standard deviation increase in

*(Box continues next page)*

## Box 7.2 Foreign services firms in India's manufacturing value chains (continued)

the aggregated index of services liberalization resulted in a productivity increase of 11.7 percent for domestic firms and 13.2 percent for foreign enterprises. The largest additional effect was for transport reforms, followed by telecommunications and banking reforms.

Several other studies have confirmed that access to low-cost, high-quality (domestic or foreign) producer services can promote productivity and economic growth.<sup>a</sup> Firm-level data for the Czech Republic for 1998–2003 reveal that services sector reforms leading to greater FDI had a positive effect on the productivity of domestic firms in downstream

manufacturing.<sup>b</sup> Similarly, another study demonstrates that substantial FDI inflows in producer services sectors in Chile had a positive effect on the TFP of Chilean manufacturing firms.<sup>c</sup> The same study suggests that foreign investment in services fosters innovation in manufacturing and offers opportunities for laggard firms to catch up with industry leaders.<sup>d</sup> These benefits arise not just from foreign investment but also from cross-border trade in services. For example, services offshoring by high-income countries tends to raise the productivity of their manufacturing sectors.<sup>e</sup>

a. Hoekman and Mattoo (2008).

b. Arnold, Javorcik, and Mattoo (2011).

c. Fernandes and Paunov (2012).

d. Similar results have been found for Sub-Saharan Africa (Arnold, Mattoo, and Narciso 2008) and Indonesia (Duggan, Rahardja, and Varela 2015).

e. Amiti and Wei (2009a). Although offshoring of services has both positive and negative effects on domestic employment, Amiti and Wei (2009b) show that, at least for the United States, it tends on average to enhance domestic employment.

tariffs.<sup>18</sup> One aspect of these costs is trade facilitation and logistics. Delays due to shipping and border procedures have a negative effect on trade comparable to that of tariffs. A day's delay reduces trade by more than 1 percent in Africa,<sup>19</sup> and a day's reduction in inland transit times can boost exports by as much as 7 percent.<sup>20</sup>

Figure 7.4 shows the estimated tariff equivalent of a day's delay in shipping for a wide variety of product categories. The time costs in trade are significant for products with complex value chains such as motor vehicles; perishable products such as fruits and vegetables; and textiles and apparel, both of which involve complex GVCs and changes in fashion that reduce their shelf life. By contrast, traders are willing to wait longer for goods such as live animals, leather goods, and wood and forestry products.

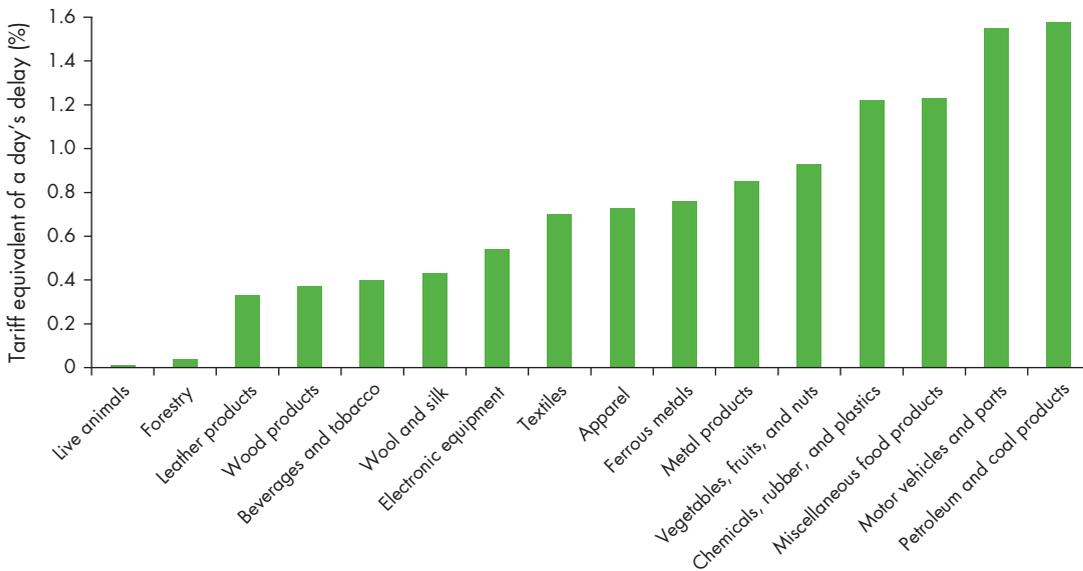
GVCs are impeded not only by the slow movement of goods but also by their unpredictable movement, which disrupts the ability of a value chain to perform its steps in the appropriate sequence. In Sub-Saharan Africa, the slowness and unpredictability of land transport impeded the formation of GVCs in almost all countries until very recently.<sup>21</sup>

Many poor, remote, landlocked countries are underserved by international shipping and air cargo services. In part, this is a vicious circle—because of weak economic activity few shippers schedule service to such countries, which increases trade costs. However,

countries can take measures unilaterally to promote increased connectivity and cost-effectiveness:

- *Rebalance and repurpose trade infrastructure.* For many developing countries, particularly in Sub-Saharan Africa, Central Asia, and parts of Latin America, trade infrastructure has been established primarily around extractive sectors. Such infrastructure, built around bulk and direct connections between often rural areas (such as mining locations) and ports, may not be supportive of the environment needed for value chain-oriented sectors, which may require denser, multimodal infrastructure. A study of port costs in South Africa found that, although export charges for mining commodities were well below the global average in 2014, charges for containerized exports were almost twice the global average.<sup>22</sup>
- *Improve port infrastructure and governance.*<sup>23</sup> There are vast differences between the world's most and least efficient ports in terms of the time it takes to unload ships, cargo dwell time (the time it takes for a container to be available for pickup after being unloaded from a ship), and the adequacy of warehouses and port customs procedures. Technological solutions do exist, such as use of electronics at customs or improvement in gantry cranes, but the reforms needed may be obstructed because some stakeholders benefit from delays.

**Figure 7.4 Shipping delays matter more for products with complex value chains**



Source: WDR 2020 team, using data from Minor (2013), based on USAID (2007).

Note: The tariff equivalent on the y-axis is measured as the percentage of an ad valorem tariff economically equivalent to a day's delay in shipping. For example, a day's delay in moving chemicals, rubber, and plastics is equivalent in economic terms to imposing a 1.2 percent tariff on imports of the same goods.

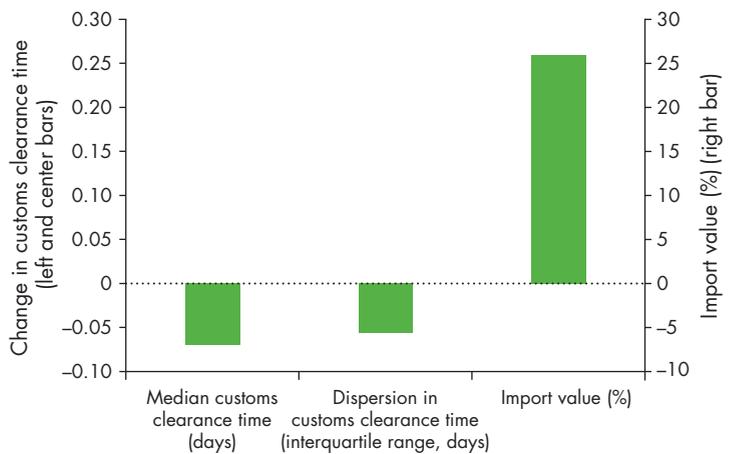
- *Improve connectivity of landlocked countries and of remote regions within countries.* Although landlocked and remote regions tend to be poorer (20 of 54 low-income countries were landlocked in 2011, compared with 3 of 35 high-income countries), human action adds to naturally high trade costs. For example, road transport cartels emerge in environments where roads are of low quality.<sup>24</sup> Cooperation between landlocked and transit countries may reduce costs, as well as cooperation between remote neighboring countries in the recognition of transit rights for trucking, harmonization of rules on transport (such as axle weight loads and insurance), and treatment of goods in transit. “Hard” multimodal infrastructure (rail, road, air, and pipeline) should complement “soft” initiatives such as pursuing better border procedures through trade facilitation.

Indeed, unilateral regulatory reforms to improve trade facilitation could have a significant impact on GVC competitiveness. Such reforms include modernization of customs systems and reforms and harmonization of customs rules and procedures such as implementing effective risk management systems, replacing paper-based documentation with electronic-based documentation, and improving transparency through trade information portals and single windows.<sup>25</sup> A concerted effort to implement the provisions of the WTO's Trade Facilitation Agreement could go a

long way in this area. In Albania, a risk management reform that sharply reduced the number of physical inspections of shipments shortened clearance times, reduced uncertainty of clearance, and expanded imports (figure 7.5).<sup>26</sup>

GVC integration can also be supported by liberalization of trade and transport services, including opening domestic markets to global providers of

**Figure 7.5 Customs reform can reduce delay and expand imports: Evidence from Albania**



Source: Fernandes, Hillberry, and Mendoza-Alcántara 2019.

Note: It is assumed that the probability that a shipment is inspected falls from 50 percent or more to under 50 percent.

third-party logistics and express delivery services. Advances in logistics include not only those related to companies (some of which are engaging directly in shipping and road and air transport), but also those related to freight forwarders, customs brokers, loaders and unloaders, “pick and pack” warehouses, and many other types of services. At the high end, the coordination of many of these services by a third-party logistics company can be critical in the design of a local or global supply chain (such as that for the organization of disc drive manufacturing in Thailand).<sup>27</sup> The supply of such services can be expanded both by liberalizing FDI in the relevant sectors and by removing impediments to doing business domestically in the same sectors.

Finally, as discussed in chapter 6, ICT is critical as a facilitator of information and coordination in value chains, especially for countries that are peripherally located. The Philippines is an example of a peripheral country that has utilized ICT to participate in relatively high-value segments of services GVCs. However, many developing countries have an insufficient ICT infrastructure and its pricing is uncompetitive. Moreover, the ICT capabilities of many smaller companies are limited. Governments can support efforts to improve ICT capabilities by investing in infrastructure (including “last mile” broadband), promoting competition in ICT markets, and ensuring that ICT

skills development is pervasive and deep, including through technical and vocational education systems and through support of firms seeking to invest in ICT systems/applications and training.

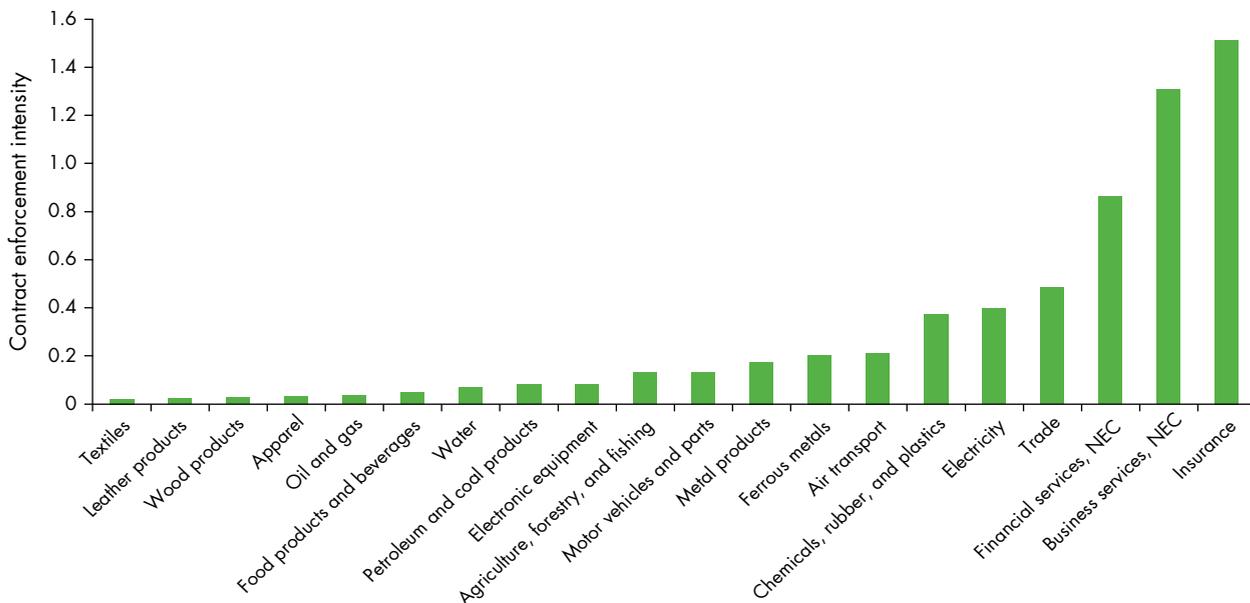
### Strengthen institutions for contracts, intellectual property protection, and standards

#### Contract enforcement

Coordination of a GVC involves managing large networks of firms, which must share dispersed knowledge and often commit assets to relationships with specific partners. It is therefore essential that the partners in a GVC enter and enforce complex contracts. In an environment in which contract enforcement is relatively weak, the formation and ongoing conduct of GVCs are inhibited.

Litigation between pairs of U.S. firms reveals that contract enforcement issues are most prevalent in relationships between firms and their suppliers of professional services, including insurance, business services, and financial services (figure 7.6). This finding implies that the supply of such services may be lower where the legal institutions to enforce contracts are weak. Since such institutions are generally weaker in lower-income countries, this accounts in part for the scarcity of business services in those countries (figure 7.7).<sup>28</sup>

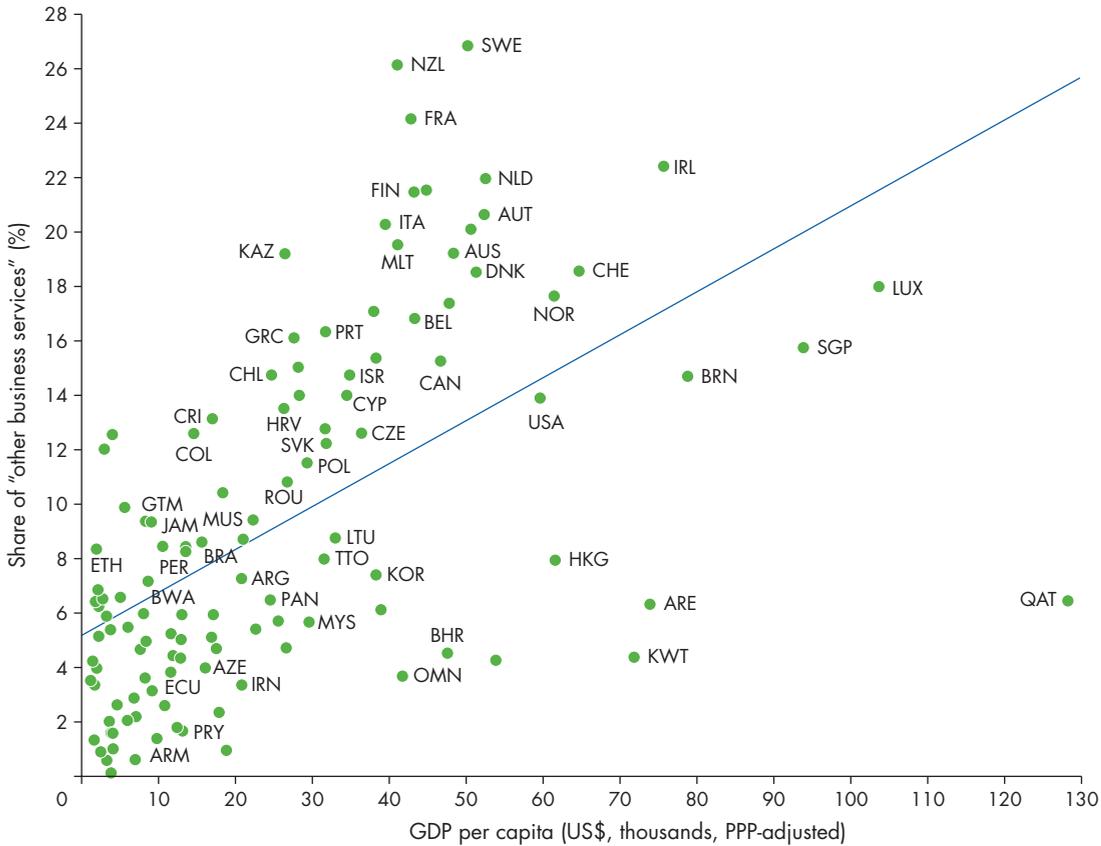
**Figure 7.6** Contract enforcement intensity is higher in services sectors: Evidence from the United States



Source: WDR 2020 team, using data from Boehm (2018).

Note: See Boehm (2018) for method of calculating contract enforcement intensity. NEC = not elsewhere classified.

**Figure 7.7** Share of “other business services” in intermediate inputs is low in poor countries



Source: WDR 2020 team, based on Boehm (2018).

Note: PPP = purchasing power parity. For country abbreviations, see International Organization for Standardization (ISO), <https://www.iso.org/obp/ui/#search>.

A survey of GVC sectors across 14 countries in Sub-Saharan Africa found that just 43 percent of lead firms outsourced critical business and technical services, with the majority choosing to bring the required expertise in-house.<sup>29</sup> Results from the survey suggest that this choice is driven in part by lack of access to a sufficient breadth of quality suppliers (reflecting barriers to trade and investment in services, among other things). Weak legal and regulatory enforcement mechanisms also contribute significantly to the underdevelopment of local markets for services.

### **Intellectual property rights protection**

Complex and innovative GVCs can be influenced by a country’s contract enforcement in the realm of intellectual property (IP). The very nature of outsourcing involves the application of know-how (such as design, engineering, production, and business processes) and may include formal licensing or some other form of technology transfer. Outsourcing is based on

contracting relationships with independent suppliers, raising the risk of replication of designs, technologies, and processes. How different national systems deal with contractual frictions and incomplete contracts is therefore important in driving firm choices of location and sourcing, as well as firm boundaries (what they outsource) in GVCs.<sup>30</sup> According to the evidence, countries with stronger IP protections tend to attract more FDI and receive more technology flows through licensing and royalties.<sup>31</sup> Weak intellectual property rights (IPR) protection and weak contract enforcement more broadly not only limit access to GVCs, but also are a significant barrier to countries seeking to secure higher value-added activities in GVCs.

Rules on protection of IPRs have become a common feature of PTAs over the last two decades either through specific provisions in trade agreements or as part of a bilateral investment treaty. However, the specificity and strength of IPR provisions vary across agreements, with PTAs led by high-income countries

(especially the United States and the European Union) most commonly paying significant attention to IPRs. By contrast, many other PTAs lack adequate provisions for IPR protection.<sup>32</sup>

### Standards

Standards for health, safety, the environment, labor, and quality are imposed by governments primarily to protect consumers, workers, and the environment. But in a GVC world, lead firms are increasingly applying standards across global supply chains. Driven by national regulatory pressures, but even more by consumer and social demands, private standards are growing in importance. On the one hand, these standards establish barriers to entry into global supply chains, and more so for firms in developing countries that may have lower levels of skills, knowledge, and technology. On the other hand, through standards, knowledge and technology from FDI can be transferred in a codified way to firms and workers in developing countries, offering them a shortcut to GVC entry, even where the broader policy environment may be weak.

Recent research highlights how, by overcoming problems of asymmetric information and negative reputational effects, the adoption of global standards

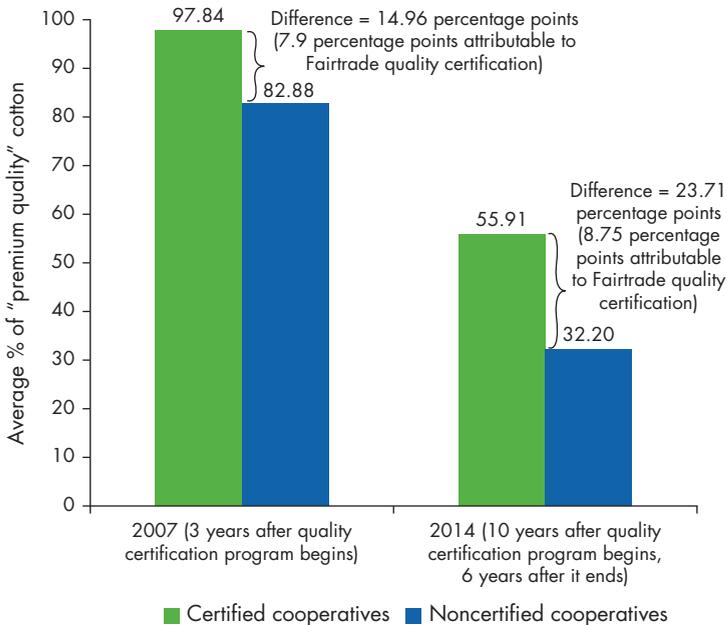
supports entry and upgrading in GVCs by firms in developing countries.<sup>33</sup> The research points out that although traditional factor endowment and demand-based explanations imply low-quality production from developing countries, in fact quality varies markedly across sectors within countries.<sup>34</sup> Certification of standards offers a way to overcome information asymmetries and signal the quality and capability of suppliers down the value chain. Without compliance, firms have limited opportunities to enter such GVCs. In the absence of a credible authority to enforce warranty contract and certification, repeated interactions—such as through long-term contracts in GVCs—can alleviate a quality signaling problem.<sup>35</sup>

Case studies and impact evaluations indicate that small institutional or technological changes can improve the quality of products dramatically in a very short time, and the effects can be long-lasting.<sup>36</sup> For example, in only three years the quality of Malian cotton doubled because of implementation of a credible quality certification program, and the effects of the system remained 10 years after the intervention (figure 7.8).<sup>37</sup>

Because adoption of private standards takes advantage of the relational nature of GVCs (that is, they are organized and governed by lead firms), they are especially attractive as a channel for GVC entry and upgrading. But governments can play a critical facilitating role through support for standards institutions. They can adopt flexible regulatory regimes based on principles of equivalence, which would help ensure compatibility between national and global standards. Governments can also promote the adoption of standards through both regulatory enforcement and advocating the adoption of voluntary standards. Most important, governments can build the capacity for domestic inspection, testing, and certification and open the domestic market to international agencies. Effective and efficient quality infrastructure, appropriately recognized internationally, is a precondition for delivering such demonstrable compliance. For example, Pakistan's development of a robust national quality standards regime helped to lift the European Union's ban on the country's fish exports and facilitated rapid growth in mango and mandarin exports by ensuring full traceability in the supply chain.

Many countries reform their national infrastructure institutions in line with their trade, competitiveness, and regional integration frameworks. Efficient and effective standards institutions and mutual recognition by trading partners are essential enablers of trade facilitation. Some countries find it more feasible to share quality infrastructure services

**Figure 7.8 Certification had long-lasting effects on quality in Mali's cotton sector**



Sources: Auriol, Balineau, and Bonneton, forthcoming; Balineau 2013.

Note: The intervention was implementation of a Fairtrade quality certification in 2004. The figure shows the percentage of "premium quality" cotton from cooperatives that participated in the certification program versus those that did not—three years after implementation (2007) and 10 years after implementation (2014).

within a regional construct. For example, a laboratory for mass and volume in Trinidad and Tobago serves as a reference laboratory for 12 standards bodies in the Caribbean region.

## Policies to enhance benefits

As governments seek to facilitate entry into GVCs and upgrade to higher technology and value-added activities within GVCs, most will seek to go beyond “getting the basics right” and undertake proactive policies, including industrial policy. Some of the most successful efforts to leverage manufacturing exports for development, including those by China, Korea, and, more recently, Vietnam, have been closely associated with the adoption of government-led industrial policies. On the other hand, outside of these East Asian experiences, industrial policy has been implemented extensively with limited success. Although many of the traditional approaches to industrial policy are likely to be ineffective in today’s GVC context, that is not to say that government can do nothing. In fact, a range of proactive policies show significant promise for supporting enhanced GVC participation, including: (1) promoting linkages between domestic suppliers—typically SMEs—and GVC lead firms; (2) building sector-specific skills and management capabilities; and (3) strengthening national and regional innovation systems.

### Minimize the use of “traditional” distortionary instruments

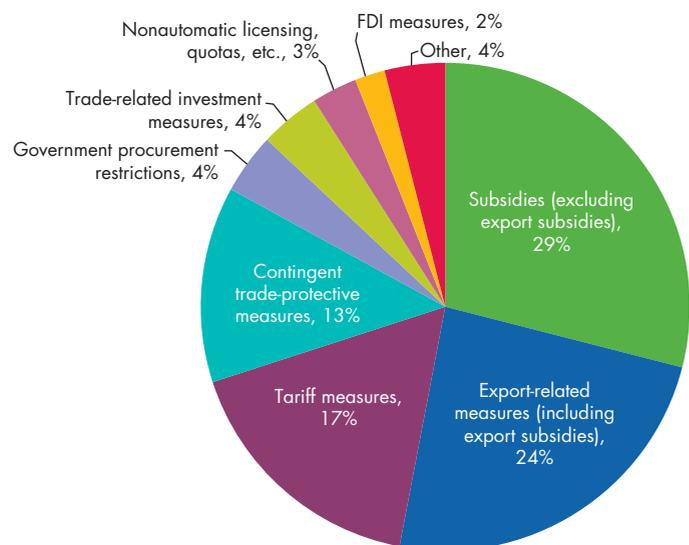
Standard industrial policy approaches of the past relied on tax incentives, subsidies, and other protectionist measures designed to build domestic supply chains in targeted sectors. Such instruments may have a role to play if they help overcome a market failure (such as information asymmetries), address a coordination failure (such as requirements for complementary investments in supply chains), or help capture an externality (such as technology spillovers). Indeed, countries such as Indonesia, South Africa, and Vietnam have commonly used such subsidies to attract FDI. Too often, however, these instruments have proven ineffective or have created efficiency-sapping distortions by contributing to rent seeking and misallocation of capital. They are also increasingly problematic in a GVC environment, where full supply chain development is not necessary and trade integration is paramount.

These traditional approaches have a number of other drawbacks as well. First, in the GVC context, which often finds national governments having

weaker bargaining power than that of the global lead firms, there is a significant risk that subsidies will amount largely to a transfer of rents to private investors at the expense of social returns. Second, subsidies may distort market outcomes (even when they seek to address a market failure). And, third, subsidies often create a political economy problem: once in place they are difficult to remove because the beneficiaries lobby to maintain them.

Subsidy-like support for GVC firms, whether foreign investors or network lead firms, is also likely to have a “beggar thy neighbor” aspect and create trade tensions. If all countries offered subsidies, the result would be global welfare losses and a race to the bottom.<sup>38</sup> In fact, in recent years more than half the potentially distortionary trade policy instruments employed worldwide have involved subsidies, export-related measures (including subsidies), trade-related investment measures, or FDI measures (figure 7.9). Under WTO rules, countries that find themselves importing cheap subsidized goods are allowed to impose countervailing duties; they may also impose antidumping measures that target specific firms or sectors. Thus any gains in exports that stem from subsidies (which for the most part are prohibited by the WTO) may be reversed by action by the other country. By the end of 2018, 218 instances of countervailing duties had been notified to the WTO and were currently in force.

**Figure 7.9** Subsidies account for more than half of distortionary trade policy instruments worldwide



Source: WDR 2020 team using data from Global Trade Alert (<https://www.globaltradealert.org/>).

Note: Data are from November 2018. FDI = foreign direct investment.

Of these, 162 were applied either to metals and metal products or to chemicals, rubber, and plastics and products thereof, suggesting that trade in those sectors is particularly distorted by subsidies. In addition, charges of export subsidies can entangle countries in WTO disputes about both the subsidies and the countervailing duties in response.

Local content policies have been similarly problematic. For example, in an effort to develop backward

linkages many countries employ local content requirements either as conditions for foreign investments or as requirements that foreign investors must meet to access public procurement (box 7.3). In the absence of quality local suppliers, however, such requirements can backfire, restricting investment.

Similarly, in many natural resource sectors policy makers may focus on developing forward linkages—and raising domestic value added—by requiring local

### **Box 7.3 Local content requirements are a mismatch in the global auto industry**

The global auto industry is characterized by extended value chains, with parts and components produced on a large scale and exported worldwide to maximize efficiency. Both Brazil and South Africa have invested heavily in and significantly protected development of their domestic automotive sectors over the past two decades. And yet, despite the huge costs, the countries are struggling to maintain competitiveness, and the long-term sustainability of the sectors remains in question.

#### **Brazil**

Notwithstanding already high levels of protection (roughly 60 percent local content requirement), automotive imports in Brazil rose in the late 2000s, prompting the domestic industry to lobby the government for further protection. The Inovar-Auto policy (2011–17) imposed additional local content requirements, this time including incentives for R&D spending, structured primarily around tax benefits. Although the policy diminished the effects of Brazil's 2014 economic crisis on the auto sector, it did not boost productivity, nor did it improve export competitiveness.<sup>a</sup> Indeed, a study of the 12 largest automakers between 2007 and 2015 revealed that average production per automaker declined from 233,186 units to 195,747 units per year. Scale efficiency likely worsened because of the overinvestment that was incentivized by the policy, and employment levels did not change. Meanwhile, rising costs, declining productivity, and declining profit margins continued across the industry. And although competition among domestic producers increased (the policy attracted new market entrants and increased investments from existing producers), prices went up because domestic automakers were protected from import competition.

Inovar-Auto is in the process of being replaced by Rota 2030, a new policy for the automotive industry, which came

into effect in 2019. Rota 2030 seeks to simplify complex local content rules and increase R&D spending requirements in part through additional government grants. Energy efficiency targets, vehicle identification, structural performance, and incentives for electric cars are also included. Like Inovar-Auto, however, the policy continues to focus on the domestic market over exports, and importers will be excluded from the program, suggesting that it may not be enough to bring Brazil's auto industry into modern value chains, which thrive on global content.

#### **South Africa**

The mixed performance of South Africa's extensive incentives and policy interventions in the automotive sector demonstrates how difficult it is to use industrial policies in an environment in which the comparative advantage is uncertain. The automotive sector has benefitted from state support since its inception, starting with the Motor Industry Development Programme (MIDP) from 1995 to 2012, which was replaced by the Automotive Production and Development Programme from 2013. The program started with extensive protection from import competition and local content requirements under the MIDP, shifting more recently to some liberalization and investor subsidies. Several major automakers operate in South Africa, and they have created some 150,000 jobs in the industry, but it has never managed to thrive on its own. Although the auto sector has become more competitive over time, it has not performed nearly as well as those in Mexico and Thailand, which benefit from better connectivity with both the Asian production hub and global consumer demand. South African producers export largely to receive duty drawbacks on imports, while linkages to local suppliers remain limited.<sup>b</sup>

a. Sturgeon, Chagas, and Barnes (2017).

b. Black, Barnes, and Monaco (2018).

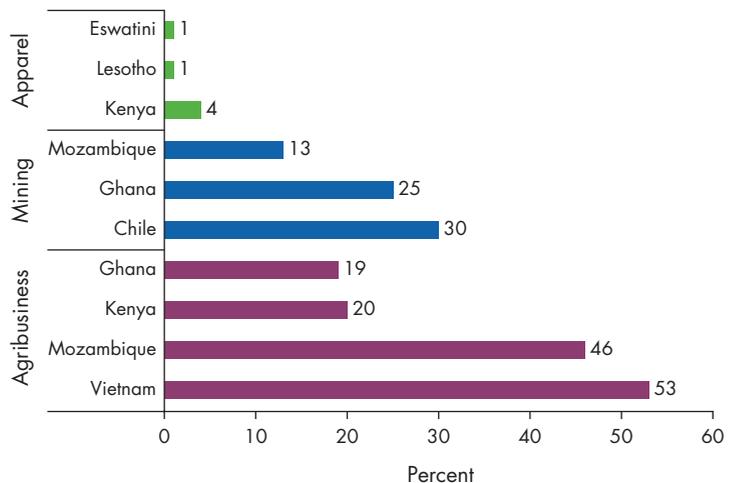
processing or by taxing exports of unprocessed or semiprocessed commodities. Such strategies have the potential to overcome coordination failures and unlock profitable, value-adding investments, but they are highly context-dependent and are determined by a combination of market power and the basic economics of production and transport. For example, Botswana's dominant position as a source of high-quality diamonds enabled the government to negotiate a relocation of De Beers's sorting, aggregation, and sales operations from London to Gaborone, which has contributed to substantially strengthening Botswana's value-added position in the diamond value chain. Elsewhere, export taxes have helped tip the balance to expand domestic processing of agricultural products such as cashews in India and Vietnam. On the other hand, the literature is filled with examples of poorly designed export bans or taxes that have contributed to collapsing prices for farmers or production (such as cashews in Mozambique and maize in Malawi and Tanzania) or otherwise created serious distortions across the value chain (for example, Argentina's 2006 beef export ban).

### Promote domestic supply chain linkages and FDI spillovers

Establishing linkages between lead firms and domestic SME suppliers is the starting point for leveraging spillovers and upgrading in GVCs. The extent of supply linkages varies dramatically across countries and GVC sectors (figure 7.10). Although some of the variation is structural in nature, there is scope for significant densification of GVCs in many developing countries. Support for building these domestic supply linkages would be an important proactive government policy that would help reap the benefits of GVCs.

Realizing the potential of GVCs for productivity gains through spillovers of knowledge and technology is by no means guaranteed. Indeed, the barriers to spillovers may be even higher than they are in non-GVC environments. GVCs, with their global governance of supply chains and often footloose investing, create an environment in which foreign investors may have little incentive to invest in research and labor market integration in host countries and in which technologies and processes for production may be significantly disconnected from local realities. The implication is that the process of upgrading within GVCs may be curtailed, risking the sustainability of investment in the first place because the attractiveness of a location remains reliant on access to inputs (labor or natural resources) whose price cannot remain

**Figure 7.10** The share of locally supplied inputs in GVCs varies by sector and country



Source: Farole and Winkler (2014), based on 400 surveys of lead firms and suppliers conducted between March 2012 and October 2012.

suppressed indefinitely. This scenario is apparent in many countries that have participated in apparel GVCs. For example, although Lesotho and Swaziland (now Eswatini) experienced the rapid transformation of their economies when they attracted foreign investment in apparel GVCs, after more than 20 years that sector remains almost wholly disengaged from the domestic economy and no upgrading of the sector has taken place. As a result, uncertainties over trade preferences and wage pressures constantly threaten the viability of investments.

Governments can play a role in providing the information needed to bring local SMEs together with FDI through supplier linkage programs (box 7.4). Where the local supplier base is fragmented and characterized by very small, often informal, enterprises, coordination of suppliers through cooperative structures or associations can be important for helping producers achieve greater scale, allowing for investments in common goods, and pooling knowledge and expertise. It can also enable suppliers to engage more effectively with lead firms.

Governments can help deepen domestic supply chain relationships through broad reforms of their country's investment climate. This is particularly critical for domestic investors, who may not be in a position to benefit from targeted investment incentives or SEZ programs that are available to large foreign investors. Moreover, and at minimum, governments must be sure to avoid displaying a bias against domestic investors. For example, many SEZs, either by rule or de facto, exclude domestic investors, especially

## Box 7.4 Supplier development programs help deliver inclusive, sustainable GVCs

### Guinea Linkages Program<sup>a</sup>

As part of the development of a major iron ore mine in Guinea, the International Finance Corporation (IFC), together with lead investors Rio Tinto and Guinea Alumina, initiated a pilot supplier linkage program centered on integrating local small and medium enterprises (SMEs) into the mining supply chain. The program combined informational support of mining procurement teams and comprehensive supply-side support for potential local SME suppliers, including training, managerial capacity building, support for achieving procurement standards, and assistance in gaining better access to finance. After just a couple years of operation, the program achieved significant results:

- More than 100 local SMEs upgraded their capacity through the program.
- Over \$9.1 million in new contracts were signed between local businesses and international mining companies.
- Over 700 new jobs were created in local businesses as a part of the mining sector's supply chain.

### Chile's World-Class Supplier Development Program<sup>b</sup>

Chile's World-Class Supplier Development Program was launched in 2008 by BHP Billiton, and it has since expanded to include other mining companies such as Codelco. The program is coordinated by Fundación Chile, a nonprofit corporation that is seeking to support technology transfer and innovation and increase the competitiveness of Chilean firms across the economy. The project's goal is to create 250 world-class suppliers in Chile by 2020. The model encourages mining companies to identify areas in which innovative solutions could contribute to operational efficiency across their operations and identify local suppliers who have the capacity to work on the problem. The selection procedure is rigorous—only 16 percent of identified projects at Codelco reached the implementation stage. Selection criteria include economic benefits, replicability, urgency of the problem, technological risk, and impact on health, safety, and the environment. Through 2014, more than 70 projects were implemented, and a number of suppliers have expanded exports as a result.

a. World Bank (2015).

b. Farole and Winkler (2014).

c. Malaysia Ministry of International Trade and Industry (2019).

d. Malinska and Martin (2000–2002).

e. The country had been one of the most successful at attracting FDI since the fall of communism in the 1990s, but relatively few of the investments were felt by the local economy.

### Malaysia's Industrial Linkages Program<sup>c</sup>

Established in 1996, Malaysia's Industrial Linkages Program (ILP) is a cluster-based program centered on fiscal incentives for both multinational corporations (MNCs) and SMEs. It includes components of business matching, support for skills development, access to industrial sites, and financing for SMEs. SMEs become eligible to participate in the program if they meet certain criteria. Most important, they must supply at least one MNC and manufacture a product on the "List of Promoted Activities and Products." Once accepted, they receive fiscal benefits, allowing them a tax exemption of 100 percent of statutory income and an investment tax allowance of 60 percent on qualifying capital expenditures incurred within five years. They are also offered "matching services" from SME Corporation Malaysia (the country's SME agency), which facilitates relationships with the MNCs to support upgrading. In its first decade of operation, more than 900 SMEs were registered with ILP, of which 128 were linked to MNCs.

### Czech Pilot Supplier Development Program<sup>d</sup>

Through CzechInvest, the Czech investment promotion agency, the Czech government implemented a pilot National Supplier Development Program from 2000 to 2002 in the electronics and automotive sectors. The motivation for the program was to raise local content in these sectors to widen foreign direct investment benefits to the local economy and strengthen these sectors.<sup>e</sup> The program, which was demand-driven, sought to improve the competitiveness of Czech SMEs, thereby enabling them to enter GVCs by becoming suppliers to MNCs. A dozen MNCs were involved in the project, and 45 SMEs received targeted training based on needs uncovered during business reviews. An evaluation revealed that within 18 months of completion of the program, one-third of participants had gained new business, which they attributed to the program, benefiting from contracts worth \$46 million for the period 2000–2003. The share of components sourced from Czech companies by the MNCs participating in the program correspondingly increased, from a rate of 0–5 percent at the start to 2.5–30 percent by 2004. Driven by supply-side improvements in export performance, the Czech Republic experienced significant gains in global market shares and continual improvement in product quality.

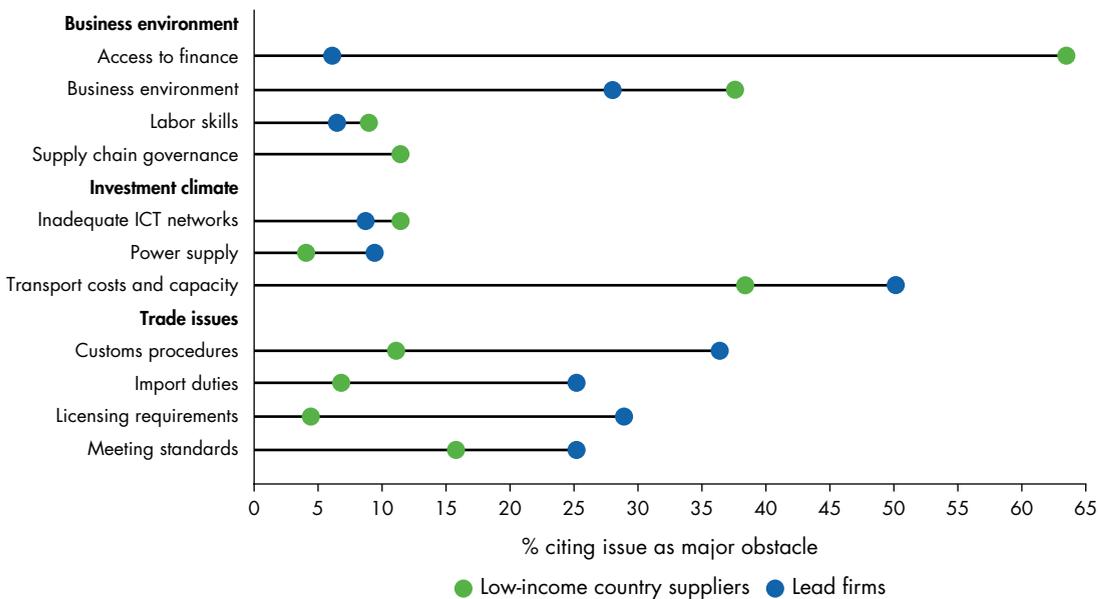
local SMEs, by imposing minimum size requirements, mandating establishment of a new business entity, and placing restrictions on mixing domestic and export businesses, among other things. Moreover, physical (customs gates) and financial controls, along with financial incentives (for example, firms inside SEZs can import inputs duty-free but must pay the value added tax or deal with complex drawback arrangements when buying from a local supplier) may prove to be barriers for local SMEs taking advantage of GVC opportunities. By contrast, in Bangladesh the government intervened directly to address two specific investment climate constraints faced by local manufacturers in the apparel GVC by introducing a bonded warehouse scheme that enabled duty-free imports for export production and a “back-to-back” letter of credit that would allow manufacturers to obtain credit for input purchases secured by export orders.

Governments also play a central role in building a local absorptive capacity. Research shows that direct technical assistance from lead firms—either through formal linkage programs or as part of the normal firm-client relationship—is one of the biggest sources of spillovers to local suppliers.<sup>39</sup> However, strengthening the absorptive capacity of local firms and workers also depends on government policies to support, among other things, access to finance and technology, as well as skills development.

For local SMEs to absorb spillovers from GVC participation, ongoing investments are required in technology, process improvements, and training. In fact, lack of financing is one of the main obstacles to GVC participation among suppliers in developing economies (figure 7.11). Policies that facilitate access to credit via financial sector reforms, the provision of information, as well as incentives such as matching grants and loan guarantees can play an important role. Beyond pure financing, incentives can be made available to support technology transfer and licensing, a major source of spillovers for local suppliers in GVCs.

New financial technologies are helping GVC suppliers improve their access to supply chain financing, effectively leveraging the higher credit rating of their global buyers to access financing on better terms. Tools such as electronic invoices and e-receivables speed and improve communication among customs brokers, freight forwarders, transportation carriers, government agencies, and banks. For example, seven global banks recently announced formation of the Trade Information Network to digitize trade finance. Other examples of financial technology (fintech) innovations include the use of “smart” factory technology, which collects frequent data on production and assembly lines and can be used for credit scoring, and Bluetooth scales, which are used in agribusiness chains to accurately weigh farmers’ harvests and provide real-time

**Figure 7.11** Lack of financing impedes low-income country suppliers the most from entering or moving up in GVCs



Source: Cusolito, Safadi, and Taglioni 2016.

Note: ICT = information and communication technology.

lines of credit at the point of sale. In addition, new models reward firms that have better sustainability ratings with cheaper financing to support the significant costs imposed on SMEs to meet international standards. For example, Puma, BNP Paribas, and the fintech firm GT Nexus offer better receivable financing (discount) terms to suppliers who score high on Puma's sustainability index. Levi's has a comparable arrangement with its suppliers through the Global Trade Supplier Finance program of the International Finance Corporation (IFC). Investors are also designing "green" bonds that pool smaller loans for GVC suppliers to invest in environmentally friendly technology.

### **Invest in sector-specific skills, management, and innovation capabilities**

#### ***Developing sector-specific skills***

Although human capital development is a long-term process going back to foundational education and early childhood development, much can be done to build industry-specific skills. In many developing countries, there are large gaps between the outputs of traditional education and skills development institutions and the needs of employers.<sup>40</sup> Targeted workforce development strategies can bridge these gaps, ideally linking lead firms and local institutions, including universities and vocational and technical centers. The German model, which includes a dual

education system and coordination through works councils, is being adapted to other countries. Other examples, such as the Penang Skills Development Centre in Malaysia (box 7.5), illustrate how governments, in coordination with the private sector, can build strongly territorialized capabilities through an industry or cluster-led skills development initiative.

Turkey is an example of a country that has managed to successfully move up the value chain in the apparel GVC. Its firms are assuming design roles and even building global brands. This achievement has been supported by both the private and public sectors and their active workforce development efforts. For example, the Istanbul Textile and Apparel Exporter Associations (ITKIB) partnered with the private sector and government agencies to promote vocational training in fashion design. The Istanbul Fashion Academy is a partnership of the European Union and ITKIB. The Small and Medium Industry Development Organization (KOSGEB), a quasi-governmental organization, has also been involved in workforce development; it provides marketing support, training, and consulting services. The movement into own branding has also been supported by government incentives, including reimbursement of up to 60 percent of the cost of personnel expenses for a maximum of three years (including training and recruiting highly qualified personnel), machinery, equipment and software, consultancy, and R&D-related materials.

### **Box 7.5 Building a workforce with industry-specific skills: Penang Skills Development Centre**

The Penang Skills Development Centre (PSDC), the first industry-led training center established in Malaysia, was conceived in 1989 in response to an urgent sense that if Penang was going to continue to attract foreign direct investment (FDI), its human capital would have to be trained to keep pace with changes in technology. Although the state and federal governments launched the initiative and provided the land and some financial support, Malaysian and foreign private companies played the leading role in establishing the center. Not only did these companies furnish the initial trainers and equipment, but they also designed the training programs to meet their needs.

PSDC has more than 200 members and operates as a nonprofit society. Its mission is to pool resources among the free industrial zones and industrial estates in Penang

to provide up-to-date training and educational programs in support of operational requirements and to stay abreast of technology. The center operates on a full-cost basis—companies (FDI and local) pay to send employees for training. To ensure that the training meets the needs of industry, the programs are continually upgraded and adapted to evolving skill needs.

The center has trained more than 200,000 workers by means of more than 10,000 courses, pioneered local industry development initiatives, provided input and helped formulate national policies for human capital development, and contributed directly to the Malaysian workforce transformation initiatives. Meanwhile, the PSDC model has been adopted throughout the country—skills development centers operate in almost all states in Malaysia.

*Source:* Adapted from Farole (2011).

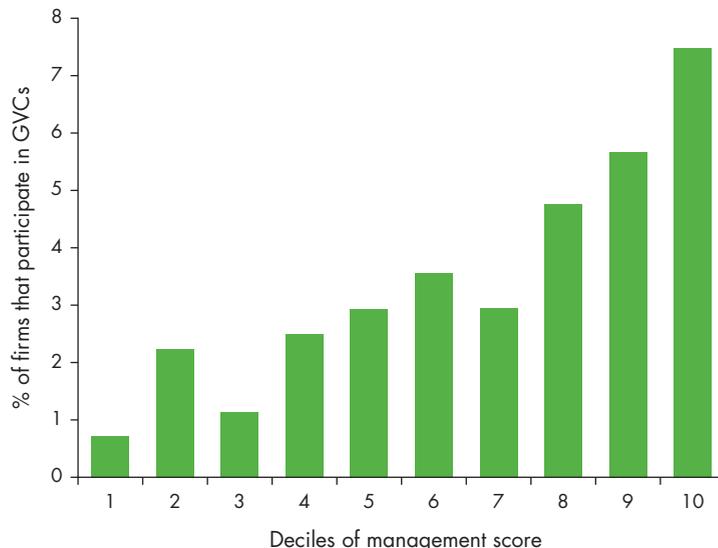
Governments can also facilitate access to skilled labor by ensuring open labor markets and helping match investors' needs with the available local skills. In many developing countries, lack of skills in technical and managerial positions is a binding constraint to upgrading in value chains. Pervasive skills gaps often result in a large wage premium for these positions, as well as in professions such as accounting and engineering. Nevertheless, explicit policies to promote "localization" of skilled jobs often result in investors facing high barriers to obtaining work permits to bring in skilled workers. By contrast, some countries actively help GVC investors identify skilled labor. For example, the Chengdu Hi-tech Industrial Development Zone gives priority to talent recruitment, assisting companies in the zone with their recruitment efforts both within China and abroad.

### Developing management and firm capabilities

Although most skills development policies target workers, an equally important constituency typically undersupported is firms and their managers. According to a growing body of research, firms differ greatly in management capabilities and practices, especially in developing countries, where productivity and profitability vary significantly.<sup>41</sup> Governments can support firm upgrading and boost firm productivity by correcting market failures, including encouraging firms to improve their managerial practices and build relationships with buyers.

Recent studies point to several market failures that result in firms underinvesting in management. Information asymmetries are manifested in managers who "don't know what they don't know," and therefore they systematically misdiagnose the quality of the organization and management of their company.<sup>42</sup> These asymmetries are further compounded by uncertainties about the returns on investments in improving management and organization, as well as lack of information on the quality of providers of management consulting services.<sup>43</sup> When firms do invest in improving management, they not only experience much higher profits, productivity, and job growth,<sup>44</sup> but also improve product quality and increase the likelihood of exporting.<sup>45</sup> In Mexico, firms in the top decile of the managerial practices index are more than seven times more likely to participate in GVCs than firms in the bottom decile (figure 7.12). This and other evidence from developed and developing countries indicate that financial incentives or direct support to firms to facilitate improvements in management is not only a cost-effective way to

**Figure 7.12** Managerial know-how is associated with greater GVC participation in Mexico



Source: WDR 2020 team, using data from ENAPROCE 2015. See appendix A for a description of the databases used in this Report.

boost productivity, but also a useful tool to support GVC integration.

Another type of market failure takes the form of uncertainty and limited information about demand. Firms are then unwilling to invest in searching for potential buyers when competitors may also benefit from their investments. This failure especially affects young firms, which are often more productive than incumbents but less likely to survive adverse shocks because of underdeveloped relationships with buyers.<sup>46</sup> In this context, helping firms discover markets and building relationships with clients can improve product quality and raise overall productivity. For example, in a randomized controlled trial in which Egyptian carpet producers were given access to demand from high-income foreign markets (such as the United States and the European Union), the treated firms experienced a 16–26 percent increase in profits, driven by higher quality and learning-by-doing as their product quality improved over time.<sup>47</sup>

The ability of firms to effectively match the needs of foreign buyers—a core requirement of participating in GVCs—requires a combination of good management and actively accumulating demand. Successful programs to support supplier development, such as those in Chile and the Czech Republic, typically combine interventions that address both supply-side and demand-side market failures. In Chile, the Chilean Innovation Agency (CORFO) set up a large matching grant program in which lead firms would apply for

support for their SME suppliers and CORFO would cofinance a six-month consulting diagnostic and up to three years of diagnostic implementation. An evaluation of the impact of the program revealed significant increases in supplier survival, sales, employment, and salaries, as well as positive effects on the sales and exporting likelihood of the lead firms two years after joining the program.<sup>48</sup>

### **Strengthening innovation systems**

The capacity of national and regional innovation systems also needs to expand.<sup>49</sup> The range of technical, engineering, and managerial skills to sustain complex manufacturing, much less innovation-intensive GVCs, is substantial. Although innovation systems—universities, government, firms, and specialized research institutions—vary in their configurations and role, the desired outputs of an innovation system’s capabilities are similar. Whatever forms such systems take, knowledge must flow among firms, government, and universities. Agglomerations of innovation—such as Silicon Valley in California, Cambridge (U.K.), Bangalore, London, Berlin, and Dublin—are a feature of this stage. Governments can even establish innovation parks to induce agglomerations of innovators.

The German innovation system primarily focuses on developing complex innovations along known technology trajectories. The existing knowledge in auto manufacturing, mechanical and electrical engineering, and chemicals is mature enough that incremental improvements tend to have clear market applications. In turn, the development of both services and advanced manufacturing is a central determinant of the long-run rate of economic growth.<sup>50</sup>

The development of a rich national innovation system involves a great deal of networking and a wide variety of institutions—in effect, value chains of knowledge. In Germany, knowledge-intensive service sectors include both traditional professional services such as marketing and advertising and technology-based services such as software and computer systems design and R&D. A wide array of institutions mediate the relationship among private sector R&D, the university system, and the government, fulfilling the functions of coordination and cooperation. These institutions vary both in their focus on nonappropriable basic research versus marketable applied research and in their mix of private and public funding. The Max Planck Institutes, “Blue List” institutes, national research centers, and subnationally focused “Länder” institutes are largely publicly funded institutions that focus on basic research. Universities receive a mix of public and

private funding. The Fraunhofer Society is responsible for applied contract-based research that bridges basic research and industrial demand. Emerging new forms of cooperation within the innovation system, mainly privately funded, involve the creation of institutions to bridge the existing centers of knowledge and skills. Of these, new forms of collaboration between universities and industry have proliferated.

### **Consider special economic zones as a possible shortcut to GVC participation**

Delivering on the policy priorities outlined in this chapter is no easy task, least of all for developing countries, which almost by definition face significant weaknesses across many of these policy areas. What then can these countries and the firms operating in them do to improve their chances for GVC participation in the short term, while taking the steps needed to improve the policy environment over the medium term? This section discusses the possibility of using SEZs as a means of shortcutting GVC participation.

SEZs are demarcated geographical areas within a country’s national boundaries where the rules of business are generally more liberal than those that prevail in the national territory. Specifically, most economic zones create a “special” regime (box 7.6) that usually confers four main advantages to investors relative to what they could normally receive in the domestic environment:

- *Infrastructure* (including serviced land, factory shells, and utilities) that is easier to access and more reliable than is normally available domestically
- A *customs regime* that includes efficient customs administration and (usually) access to imported inputs free of tariffs and duties
- A *regulatory and administrative regime* that includes streamlined procedures for company setup, licensing, and operations
- A *fiscal regime* that includes reduction or elimination of corporate taxes, the value added tax, and other taxes; labor contributions; and sometimes training or other subsidies.<sup>51</sup>

SEZs are designed to facilitate trade and attract FDI, but governments may also seek to take advantage of other potential benefits of SEZs. Examples are capturing agglomeration economies,<sup>52</sup> which happens through exploiting backward and forward linkages;<sup>53</sup> labor pooling, which facilitates matching between firms and workers;<sup>54</sup> and technology spillovers.<sup>55</sup> In some countries, SEZs have been used to pilot experimental policy reforms. In China, for example,

## Box 7.6 Clarifying the terminology: SEZs versus industrial parks

The term *special economic zone (SEZ)* may be used to refer to any one of the similar spatial industrial instruments known as free zones, free economic zones, export processing zones, industrial zones, economic and technology development zones, high-tech zones, science and innovation parks, free ports, and enterprise zones.<sup>a</sup> Even though the terms *SEZ* and *industrial park* are often used interchangeably, there are important policy and operational differences between the two.

*Industrial parks* are property developments that are zoned for industry or manufacturing activity. A government or a private property developer may prepare services sites or even build infrastructure, but industrial parks are not necessarily governed by any special fiscal, customs, or regulatory regime. Thus industrial parks are not necessarily SEZs.

An SEZ may take the form of an industrial park, or an industrial park may be located in it. However, what makes an SEZ “special” is that it operates within a special

regulatory regime, typically covering customs (such as duty-free imports and exports), fiscal issues (such as taxation), and potentially a broad range of special regulatory regimes (such as on company registration and labor). SEZs may be geared to manufacturing, but often they accommodate mixed-use development, including services, and also may include commercial and residential activities.

These differences matter because they have important implications when choosing between an SEZ and an industrial park. When governments are dealing with land constraints, when they need to concentrate infrastructure investment, or when they are primarily seeking to promote agglomeration but do not need to create a policy and regulatory environment that differs from the existing domestic environment, an industrial park is likely to be sufficient. It is only when a special regulatory regime is needed and there are good reasons why this cannot be done nationally that an SEZ is the appropriate instrument.

a. Zeng (2015).

financial, legal, labor, and even pricing reforms were introduced first within its SEZs before being extended to the rest of the economy.

Whatever the objective, one of the main attractions of SEZs as an instrument has always been the idea that they can act as a shortcut to infrastructure investments or policy reforms that would take many years to deliver, if at all, across a country. Instead of building infrastructure or enacting a policy everywhere, which could be financially, technically, and politically infeasible, a country could concentrate its efforts on one or two specific locations where the environment could be designed specifically to meet the needs of GVC investors or where difficult policy reforms could be contained.

### **SEZs: A mixed record**

In some countries, the SEZ model has delivered spectacularly, playing a catalytic role in growth and structural transformation. Examples include China and Korea, which used SEZs as a platform to support the development of export-oriented manufacturing. In Latin America, the Dominican Republic, El Salvador, and Honduras, among other countries, have used free zones to take advantage of preferential access to U.S. markets and have generated large-scale

manufacturing sectors in economies previously reliant on agricultural commodities. In the Middle East and North Africa, SEZs have played an important role in catalyzing export-oriented diversification in countries such as the Arab Republic of Egypt, Morocco, and the United Arab Emirates. And in Sub-Saharan Africa, SEZs in Mauritius have been a central policy tool supporting a highly successful process of economic diversification and industrialization.

And yet despite these success stories, SEZs have a mixed record (box 7.7). In some countries, the zones have failed to attract investors, leaving “white elephants” that inflicted both fiscal and political damage. In other countries, SEZs have been exploited by investors to take advantage of tax breaks without delivering substantial employment or export earnings. And in many countries, traditional export processing zone programs have been successful in attracting investment and creating employment in the short term but have failed to sustain competitiveness in the face of rising wages or eroding trade preferences.<sup>56</sup>

Overall, any kind of empirical assessment of SEZs (beyond individual zones and country programs) and their determinants has proven difficult. Even the most serious studies have tended to be plagued by small sample sizes and difficulty in obtaining comparable

## Box 7.7 Comparing SEZ experiences: China, India, and Sub-Saharan Africa

### China

China's special economic zones (SEZs) have been a well-documented global success story. They account for about 22 percent of its GDP, 46 percent of foreign direct investment (FDI), and 60 percent of exports, generating more than 30 million jobs,<sup>a</sup> or about 60 percent of global employment in SEZs.<sup>b</sup> An analysis of panel data for 270 cities at the prefecture level over 23 years shows that opening a major zone in a city led to an increase in GDP of 12 percent on average in the postreform years, with the effect depending on the type of zone. The long-term (cumulative) effect of an SEZ could be a roughly 20 percent increase in GDP.<sup>c</sup> Another analysis of 321 prefecture-level cities between 1978 and 2008 finds that on average an SEZ program increases per capita FDI by 21.7 percent and the growth rate of FDI by 6.9 percentage points.<sup>d</sup> Moreover, the average wage of workers in municipalities with an SEZ increased by 8 percent more than that of the control group, against a 5 percent rise in the cost of living.<sup>e</sup>

The performance of Chinese zones has not, however, been uniformly outstanding. As zones have proliferated, especially at the provincial level, their marginal impact has diminished.<sup>f</sup> In addition, many zones have suffered from environmental degradation, as well as from challenges in social services delivery, including inadequate health, education, and transport services. They have also lacked cultural and recreational activities for workers. In the 2000s, China responded by shutting down a large number of poorly planned industrial zones, improving the coordination between zones and urban and regional planning, and seeking to increase the role of market forces.

### India<sup>g</sup>

Over time in India, policy decisions have contributed to erosion of the "specialness" of SEZs. For example, the overall incentive and support package available to firms in the domestic tariff area (DTA) is often more beneficial and easier to use than the zone-specific incentives. In addition, firms in the DTA can access the domestic market. With the proliferation of new free trade agreements with Japan, the Republic of Korea, and member countries of the Association of Southeast Asian Nations (ASEAN), exporters in the DTA can import with reduced or no duties from these countries instead of importing tariffed goods from zones. By contrast, India's SEZ policy framework restricts market access to the DTA, thereby constraining value chain development.

Suppliers and ancillary units co-locating within the SEZ to supply anchor investors are unable to claim income tax exemptions. Such tensions, a direct result of competing policy objectives, have limited the development of linkages between zones and the DTA, further eroding the "special" environment of zones in India.

The Indian experience suggests that zone performance depends on operational factors working in tandem rather than a single dominant factor. Zone performance, often measured by export growth, ability to attract investors, and other indicators, is a complex function of internal and external factors. In India, almost all zones with higher exports are in states with a supportive regulatory environment, are close to seaports, and have access to skilled labor through proximity to urban centers. Several were set up by the central government under the previous export promotion regime, giving investors a sense of confidence. New zones set up as public-private partnerships offer superior infrastructure and quick approvals, attracting more investors. But some zones could not sustain operations because of inexperienced private developers and underinvestment in infrastructure improvements, despite having state support.

### Sub-Saharan Africa

Several Sub-Saharan countries launched zone programs as far back as the early 1970s, but most came into being in the 1990s or 2000s. Modern SEZs did not appear until after 2006. The early SEZ record in Africa is less than spectacular. Except for Mauritius and some modest achievements in Kenya, Lesotho, and Madagascar, most Sub-Saharan SEZ programs have not had a transformative impact. A 2011 analysis comparing African SEZs with those in other parts of the world developed several stylized facts:

- The takeoff of export growth in African SEZs was less significant than that outside of Africa.
- SEZs accounted for a smaller share of industrial employment (except in Lesotho) and much smaller absolute levels of industrial employment than that enjoyed outside of Africa.
- Although structural transformation of exports, as measured by diversification into manufacturing, took place fairly rapidly in SEZ-intensive countries outside Africa, it has been more limited in Africa.
- African SEZs have provided weaker enabling conditions than those in the rest of the world.<sup>h</sup>

*(Box continues next page)*

## Box 7.7 Comparing SEZ experiences: China, India, and Sub-Saharan Africa (continued)

Despite relatively weak performance to date, SEZ programs remain highly popular across the continent, and policy makers seem determined to learn from the lessons of the past, both within Africa and globally. As a result, some countries, such as Ghana, Kenya, South Africa, and Tanzania, have revisited and reformed their SEZ programs in recent years. Other recently developed zones, such as Gabon's Nkok SEZ,

a public-private partnership involving Olam International, the Africa Finance Corporation, and the Republic of Gabon, are showing significant promise. And early evidence from the rapidly developing SEZ program in Ethiopia, including at Bole Lemi, Eastern, and especially Hawassa, suggests that Ethiopia may have the conditions and approach to make SEZs a successful instrument of GVC integration.

- a. Zeng (2010).
- b. Farole (2011, 43).
- c. Alder, Shao, and Zilibotti (2013).
- d. Wang (2013).
- e. Zeng (2015).
- f. Wang (2013).
- g. This section relies on Saurav (n.d.).
- h. Farole (2011).

measures of SEZ performance. More recent work examines 346 zones in 22 countries across the developing world and Korea using night lights data from satellite observations as a novel way of measuring zone activity.<sup>57</sup> One critical finding of the study, which reinforces conclusions from previous work,<sup>58</sup> is that SEZs find it difficult to significantly outperform the underlying economy. Few of the zones included in the study experienced growth much higher than the national average, and many grew at a rate lower than the national average. SEZs tend to perform better in national economies that are open, growing, and competitive than in those that are not.

### **Lessons for successful implementation of SEZs**

SEZs are not easy to get right. And even successful SEZs usually take a decade or more to start showing results. Policy makers should approach SEZs with a clear objective, a long-term commitment, and a strong technical team. Among the many lessons that they should take to heart in planning SEZs are concentrating on only the best location; understanding the market and leveraging comparative advantage; and, most important, ensuring that zones are “special.”

A consistent finding from empirical research is that location choice is critical to success. International experience supports that finding, with SEZs flourishing in core areas and around gateway infrastructure (seaports, airports). Cities offer features that tend to be essential to the success of large-scale, labor-intensive SEZs, including access to deep and specialized labor pools, specialized suppliers and business services,

social infrastructure, and connectivity to national and global markets. Yet governments continue to try (and fail) to use zones as regional development tools. The majority of countries with zones decide to locate at least one in a “lagging” or remote region, and few have done enough to address the infrastructure connectivity, labor skills, and supply access that these regions tend to lack. Not surprisingly, foreign investors typically shun these locations in favor of more central ones—a preference that has been on display in Bangladesh, Indonesia, Thailand, and Turkey, among other countries.<sup>59</sup>

Although SEZs are often implemented specifically to catalyze the development of new sectors, a location's comparative advantage remains essential. An extensive market assessment will reveal what factors drive investment decision making, and a realistic assessment of the location will reveal what it has to offer. Gaps between comparative advantage and SEZ targeting may explain why countries that have specialized in natural resources but do not have competitively priced labor and efficient infrastructure (such as Ghana, Kuwait, Nigeria, and to some degree Indonesia and Peru) have struggled to develop manufacturing-oriented zones. Mauritius is a good example of a country that has leveraged the zone instrument over several phases to exploit evolving sources of comparative advantage. The export processing zone model, so successful in transforming Mauritius from its reliance on sugar and vanilla plantations to becoming a major apparel exporter, eventually became obsolete. However, as its source of comparative advantage moved away from low wages,

the government returned to the zone instrument to promote emerging industries such as ICT and financial services.<sup>60</sup>

With a clear understanding of investors' needs, countries can design and deliver zones that fully overcome the existing constraints to investment. If investors need reliable electricity, the SEZs should guarantee no downtime. If they need smooth customs clearance as a priority, SEZs should ensure that customs authorities resolve all possible reasons for delays. Too often SEZs are not, in fact, special. For example, a survey of global SEZ investors found that infrastructure (especially electricity quality) was among their top considerations in choosing an investment location, and that customs and trade issues were also a high priority. However, that survey also found that although successful global SEZs in the survey virtually eliminated downtime from electrical power outages, issues with electricity remained fairly frequent in the African SEZs, even though there were some improvements compared with the situation in the rest of the country. As for customs clearance, the times at seaports were actually worse in the SEZ than outside the SEZ in half of the African countries surveyed.

Finally, it is important to recognize that SEZs cannot overcome all the constraints that may restrict access to GVCs. Once outside the gates of an SEZ, problems of poor infrastructure, predatory institutions, and lack of safety and security may become binding. Such problems can affect SEZ inputs and outputs traveling between the zone and the port. They can also affect the managers and workers who must go in and out of the zone on a daily basis. More broadly, macro factors, such as a volatile exchange rate, may present problems that are difficult to shield from SEZ investors.

## Policies for upgrading

This chapter has highlighted a broad range of policies that can help countries to accelerate GVC participation, to deepen the levels of participation, and to capture more of the gains from GVCs. But some policies are more salient than others, depending on the stage of GVC participation. Figure 7.13 is a summary of the policies that countries should consider as they plan their transition to the next stage of GVC participation.

### Transitioning from commodities specialization to limited manufacturing GVCs

To move into downstream manufacturing from a commodities base, a country would likely have to acquire new technological and managerial capabilities.

Attracting FDI would be the quickest way to amass such capabilities. A country would, then, have to address its business climate constraints and establish simple procedures for registering foreign investors. Foreign investors will also want to be assured of basic political stability and rule of law, but deep institutional reforms may not be critical at this stage. Competitive labor costs are important at this point, but less so for GVCs that involve processing of natural resources (such as agriprocessing) and more so for those that mainly make use of imported inputs (such as apparel and electronics).

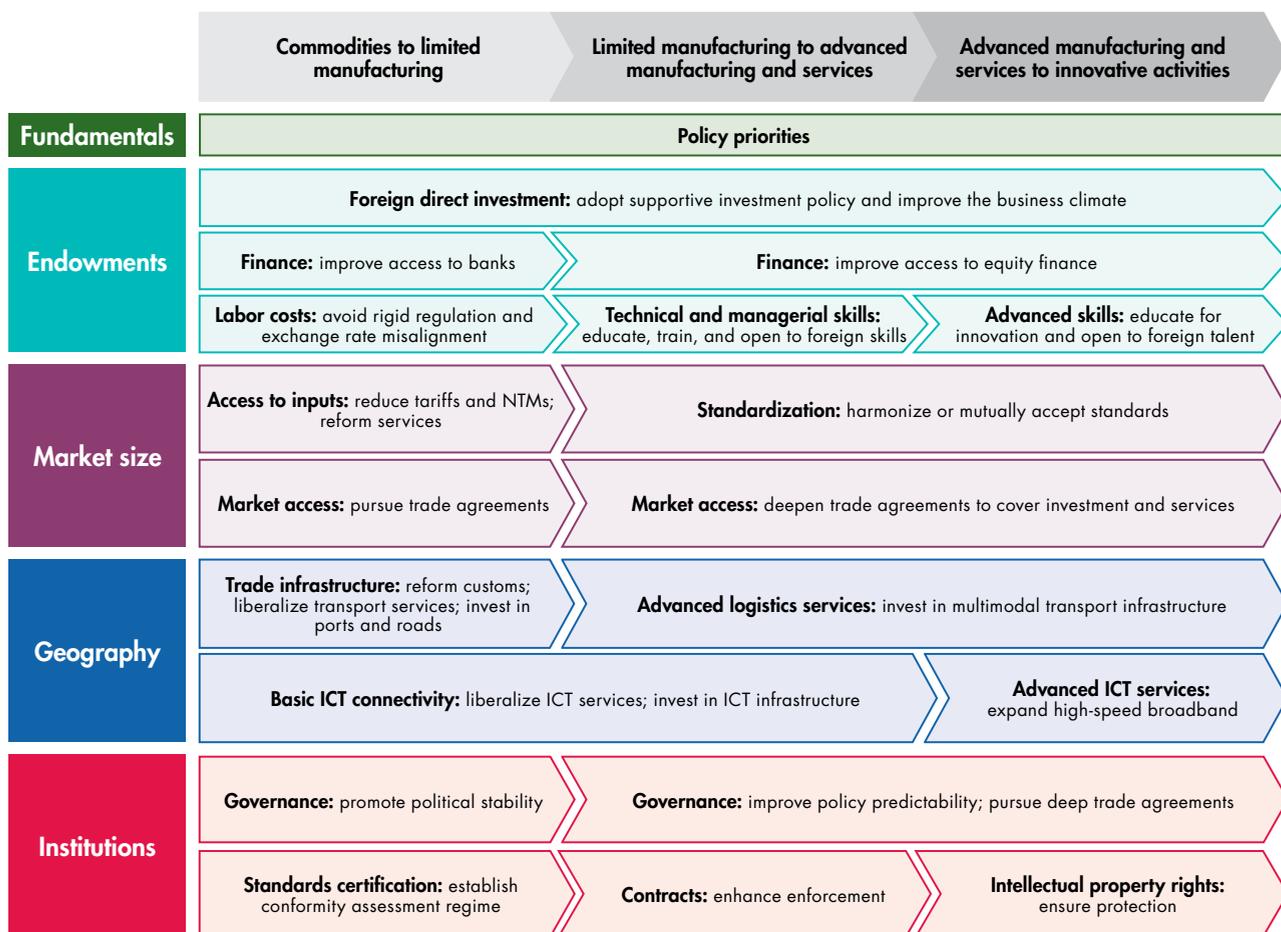
Because imported inputs play a large role in basic manufacturing GVCs, countries should give priority to measures that would support trade, including those that would improve physical connectivity, in particular through critical trade-related physical infrastructure such as ports and first-generation trade facilitation reforms. Tariff reforms—at least for selected goods—may ensure access to competitively priced inputs or involve the use of a mechanism such as bonded warehouses, duty drawbacks, or SEZs. Finally, countries should seek to secure market access through PTAs.

### Transitioning to advanced manufacturing and services

Transitioning to advanced manufacturing and services GVCs presents a much bigger challenge than that to basic manufacturing. Examples of such sectors are motor vehicles, medical devices, aerospace, and precision instruments. Countries that have recently succeeded in one or more of these sectors, though not necessarily on the aggregate, include Costa Rica (box 7.8), Poland, Turkey, and Vietnam. Moving into these activities requires a step change in the policy environment.

Although labor costs still matter for some parts of the value chain—for example, in the final assembly of electronics and in some auto components such as ignition wiring sets—advanced manufacturing GVCs typically require a more highly educated workforce. The range of technical, engineering, and managerial skills needed to sustain complex manufacturing is substantial. Improvements are needed in national education and employability policies and programs, but because many of these skills may be firm-specific, a policy environment that is open to bringing in foreign skilled labor and that incentivizes foreign investors to invest in training and transfer tacit knowledge is needed as well. Policies that prescribe the use of domestic partners or force technology transfers can be inhibiting. Finally, because domestic supply capabilities will be increasingly important for advanced manufacturing

**Figure 7.13** Different policy priorities underpin the transitions between types of GVC participation



Source: WDR 2020 team.

Note: ICT = information and communication technology; NTMs = nontariff measures.

and services GVCs, policies that promote linkages, build managerial capabilities, and facilitate upgrading of domestic SMEs come into play as countries look toward making this transition.

The demand for lower trade costs is even greater for complex manufactures than for simpler ones. Lower tariffs are important, including zero-tariff treatment of regional partners through trade agreements (see chapter 9). Trusted trader programs, which expedite customs procedures for shipments of established value chain firms, are also useful at this stage. But access to low-cost inputs must go beyond a limited range of goods inputs. Countries at this stage must liberalize access to competitive services inputs, including through trade and investment reforms. They must ensure that the domestic regulatory environment does not restrict competition by either limiting access by foreign services providers or protecting

state-owned or other domestic firms. One particular area in which services inputs matter is transport and logistics. At this stage of GVC development, trade facilitation becomes more complex and critical, requiring the development of a competitive logistics services sector. Linked to this is the need for high-quality, competitively priced ICT infrastructure and services to help coordinate increasingly complex activities and value chains.

At the institutional level, the shift to advanced manufacturing GVCs demands that greater attention be paid to contract enforcement and protection of intellectual property. The capacity of national innovation systems also must expand. Although universities, government, firms, and specialized research institutions play various roles in national innovation systems, the desired outputs of an innovation system's capabilities are similar.

## Box 7.8 Costa Rica moves into the medical devices GVC

As part of a concerted strategy to upgrade beyond basic light manufacturing exports (notably apparel), Costa Rica sought integration into higher value-added GVCs. The country has been highly successful, achieving a 10-fold increase in foreign direct investment (FDI) and GVC participation in less than 30 years. Costa Rica's shift to higher value-added GVCs has included semiconductors (the country famously attracted large-scale investment from Intel), global shared services, and medical devices, a value chain in which Costa Rica has been particularly successful in upgrading its position over the last two decades (figure B7.8.1). Its success can be attributed to effective public policy on issues such as workforce development, technology acquisition, and regulatory alignment, supported by high-quality trade and investment institutions.<sup>a</sup>

### Workforce development

The number of workers required to produce medical devices to standard specifications is unusually high compared with that in other manufacturing sectors because of the fatal consequences of human error and the potential for liability suits. Although Costa Rica is not the lowest-cost source of labor, the training of its workforce more than offsets this factor. Direct labor for medical devices tends to be drawn from technical high

school graduates, whereas the university system provides specialized workers such as material handlers, engineers, and microbiologists.

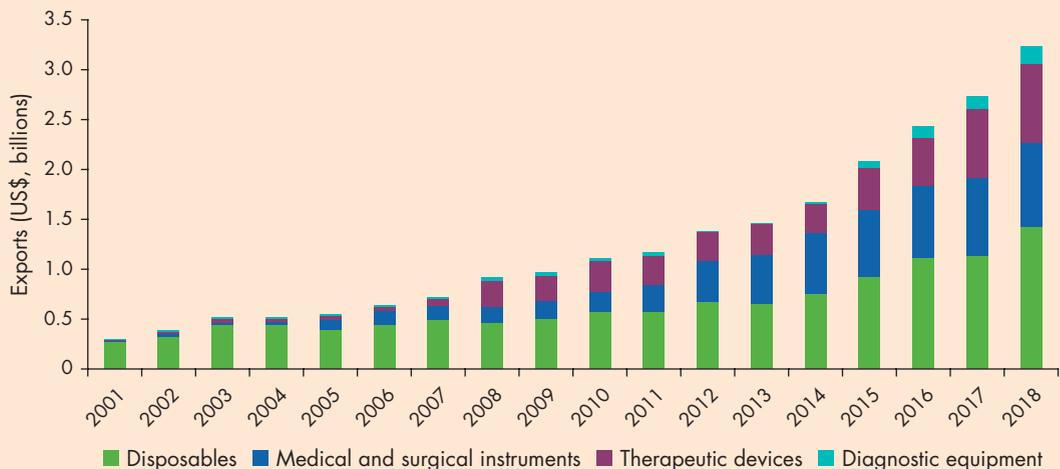
### Technology and management practices

The technology required to produce medical devices is proprietary. Similarly, the management practices required to secure regulatory approval for such devices in foreign markets are mostly found in firms with prior experience. Because foreign firms bring with them “follow-on” suppliers in the medical devices GVC (who are also foreign investors), this GVC activity has grown rapidly in Costa Rica. Linkages to Costa Rican domestic firms have been concentrated in areas such as packaging but are gradually deepening to include manufacture of parts and components.

### Regulatory alignment

The regulatory systems of the European Union, Japan, and the United States categorize medical devices according to the risk facing the consumer: more stringent regulations apply to higher-risk devices. Items such as elastic bandages, blood pressure cuffs, and X-ray film may be regulated lightly as Class I, whereas more stringent Class III regulations are applied to devices implanted in the human body such as pacemakers, artificial heart valves, and silicone breast

**Figure B7.8.1** Costa Rica's medical device exports have increased in volume and sophistication since 2000



Source: WDR 2020 team, based on data from Bamber and Gereffi (2013).

(Box continues next page)

## Box 7.8 Costa Rica moves into the medical devices GVC (*continued*)

implants. An increasing number of Class III products are being fabricated in Costa Rica, reflecting the growing confidence in the capabilities of producers to follow strict regulatory protocols. Regulatory cooperation across borders is also important. The Latin American headquarters of the U.S. Food and Drug Administration opened in San José in 2011 to enable access to regulatory information and to work with local regulatory authorities, industries, and academics.

### Trade and investment institutions

Costa Rica has a unique nongovernmental organization, CINDE, that is devoted to promoting economic growth through FDI. CINDE provides a forum in which firms can share information and address challenges in coordinating with other government and nongovernment actors. Among

a. Bamber and Gereffi (2013).

the government actors are PROCOMER, the export promotion organization, and COMEX, the Ministry of Foreign Trade, responsible for trade policy and trade negotiations and for fulfilling an investment promotion role. CINDE has enjoyed a high level of government support and strong partnerships since the late 1990s when it landed Intel, Abbott Laboratories (now Hospira), P&G, and other anchor investors in the country's most dynamic sectors. It has continually sharpened its focus, from an all-purpose development agency when it was founded in the mid-1980s to a full-blown investment promotion agency attracting and expanding FDI projects by the turn of the century. CINDE has also improved its service offering beyond attracting investors; it now accompanies strategic investors through their investment cycle.

## Transitioning to innovative activities

As countries move toward high-income status, innovation becomes the main determinant of GVC participation. Such status is normally delivered either entirely through services or in GVCs that are highly services-intensive. Because of the growing intertwining of services and manufacturing, the development of services in GVCs is not entirely autonomous.<sup>61</sup> Nevertheless, high-income countries have been able to establish leading positions in services value chains ranging from research and consulting to motion pictures to software design. Some middle-income countries have established positions in services value chains as well—Nollywood in Nigeria, call centers in the Philippines, and software, call centers, and Bollywood in India.

Overall, the policy priorities needed to support innovation and advanced services GVCs are similar to those needed for advanced manufacturing, although some policies are of even greater importance such as those for technical and managerial skills and for access to advanced services. To maintain international collaboration in services, national markets must be open to foreign participation—not only for cross-border supply and commercial presences but also for the temporary movement of national persons. Workers holding higher education degrees are needed to produce innovative services. A business environment

that supports start-ups and SMEs is also essential—many service firms are small start-ups that are “born global.”<sup>62</sup>

Innovation and advanced services GVCs also require a high-quality institutional environment that includes intellectual property rights protection and strong contract enforcement capabilities. They require, as well, policies that support a high-quality and flexible innovation ecosystem, including advanced ICT infrastructure and services; strong academic, private sector, and government partnerships; and a supportive R&D policy that incentivizes collaborative research and development.

## Notes

1. Pierola, Fernandes, and Farole (2018).
2. UNCTAD and World Bank (2018).
3. Stedman and Green (2018).
4. Morris and Staritz (2017).
5. Gelb et al. (2017).
6. Rodrik (2008).
7. Conrad and Jagessar (2018).
8. Sánchez-Ancochea (2006).
9. This section relies on material from Echandi (2019).
10. World Bank (2020).
11. Charlton and Davis (2007); Morisset and Andrews-Johnson (2004); Wells and Wint (2000).
12. Harding and Javorcik (2011).
13. Freund and Moran (2017).

14. Bureau, Guimbard, and Jean (2016).
15. See appendix A for a description of the databases used in this Report.
16. Ferrantino and Koten (2019).
17. Huria et al. (2019).
18. WEF (2013).
19. Djankov, Freund, and Pham (2010).
20. Freund and Rocha (2011).
21. Christ and Ferrantino (2011).
22. Pieterse et al. (2016).
23. Londoño-Kent and Kent (2003); Raballand et al. (2012). Some issues with transport may require regional or multilateral coordination, such as anticompetitive conduct in shipping and air markets (Clark, Dollar, and Micco 2004; Fink, Mattoo, and Neagu 2002) and low connectivity in remoter developing countries (Arvis and Shepherd 2011).
24. Arvis et al. (2011).
25. World Bank (2012).
26. Fernandes, Hillberry, and Mendoza-Alcántara (2019).
27. Hiratsuka (2006).
28. Boehm (2018).
29. Farole (2016).
30. Antràs and Yeaple (2013).
31. Smith (2001).
32. Fink (2011).
33. Auriol, Balineau, and Bonneton (forthcoming).
34. Henn et al. (2017).
35. Auriol, Balineau, and Bonneton (forthcoming).
36. Balineau (2013); Bold et al. (2017).
37. Auriol, Balineau, and Bonneton (forthcoming).
38. See the discussion in chapter 3 on the consequences of tax competition and the discussion in chapter 9 on tax cooperation.
39. Farole and Winkler (2014).
40. Fernández-Stark, Bamber, and Gereffi (2012).
41. See for example, Bloom and Van Reenen (2006, 2010); Bloom et al. (2019).
42. Bloom et al. (2013, 2019).
43. Cirera and Maloney (2017).
44. Bloom et al. (2013); Bloom, Dressel, and Yam (2018); Bruhn, Karlan, and Schoar (2018).
45. Bloom et al. (2018).
46. Foster, Haltiwanger, and Syverson (2016).
47. Atkin, Khandelwal, and Osman (2017).
48. Arráiz, Henríquez, and Stucchi (2011).
49. Fagerberg and Srholec (2008).
50. Koschatzky and Stahlecker (2010).
51. FIAS (2008).
52. UNIDO (2009).
53. Ottaviano and Puga (1998).
54. Combes and Duranton (2006).
55. Rodríguez-Pose and Crescenzi (2008).
56. Farole (2011).
57. Frick, Rodríguez-Pose, and Wong (2019).
58. See Farole (2011).
59. See Farole, Norman, and Kilroy (2014); Rothenberg et al. (2017).
60. Farole (2011).
61. Kommerskollegium (2012).
62. Knight and Cavusgil (2004).

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