

DEVELOPMENT IN THE AMERICAS

TRADING PROMISES FOR RESULTS

What Global Integration Can Do for
Latin America and the Caribbean

Edited by
Mauricio Mesquita Moreira and Ernesto Stein



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Inter-American Development Bank

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Preface

Thirty years have passed since Latin America and the Caribbean embarked on its liberalization journey, threading its way back into world markets after years of inward-looking strategies. Tariffs were slashed, nontariff barriers dismantled, and countries—some more actively than others—engaged in ambitious preferential trade agreements. What can be said of this large-scale policy experiment? Have expectations about growth, welfare, employment, and inequality been met? Where should the region go from here, particularly given a much-changed global economy marked by the rise of mega-economies, disruptive technologies, increasing global value chains, major concerns about sustainability, and heated trade and integration conflicts.

This edition of the Development in the Americas report takes on all these hard and pressing questions. It could not be more timely. Some countries have strengthened their commitment to liberalization with a variety of preferential arrangements that have expanded their trading opportunities, while some of the largest economies in the region have experienced significant backlashes, in most cases with poor economic outcomes. Now, some of the largest, wealthiest, and most integrated economies in the world are embroiled in complex trade and integration conflicts. The current trade turmoil makes it clear that the institutions underpinning the liberalization of recent decades—the rules-based multilateral trade system and comprehensive preferential trade agreements—can no longer be taken for granted. How should the region position itself in this period of great uncertainty?

This report offers evidence-based, down-to-earth answers, even when they may upset long-held views and expectations. Generally, the findings should comfort policymakers who led their countries to open up to the world economy, but they also lay bare the shaky theoretical and empirical foundations behind some of their rhetoric and the great expectations that eventually ended in disappointment and, in some cases, policy reversals.

On the bright side, liberalization made most countries better off, thanks to substantive productivity gains. The growth results are impressive;

without liberalization, the region's per capita income would have grown, on average, 30 percent to 40 percent less—a payoff rarely found among other public policies.

On a less auspicious note, employment and inequality outcomes fell short of expectations. To be sure, countries such as Mexico did enjoy palpable job gains in the 1990s—an estimated 14 percent net gain in formal manufacturing jobs with NAFTA—but stiff Asian competition and labor-saving technologies eventually cut this off. The call for action should be to preserve trade as an engine of growth, but to implement a pressing complementary agenda that ranges from labor market, institutional, logistical and productive development policies to the challenges posed by technology.

Thirty years later, trade policy could have been expected to become all but irrelevant. Unfortunately, as discussed in the report, new challenges emerged, while some old ones lingered. Current threats to free trade and to the rules-based international trade system call for improvements in the system's governance, dispute resolution, and coverage of subsidies. Trade can hardly be an instrument for prosperity in a world of balkanized blocs, ruled by power rather than law.

Automation and digital technologies also pose new challenges ranging from the elimination of unskilled jobs to new infrastructure requirements and regulatory dilemmas. The e-trade opportunities, however, particularly for small and medium firms, cannot be exaggerated.

Among the elusive issues, the unfinished regional integration agenda should begin with the convergence of at least the region's two major blocs: the Pacific Alliance and Mercosur. Consolidation could give more weight to the US\$5 trillion regional market, offering an insurance policy against further disruptions in world markets. There are also lingering national challenges, particularly in economies that suffered large-scale policy setbacks and whose overdue liberalization calls for strong unilateral action.

The challenge is not just to find the "right" policy remedies, but also to create the necessary political and institutional conditions to implement them. Trade policies are the outcome of a policymaking process that involves a variety of public and private actors, as well as, more recently, actors from civil society, each with their own preferences and incentives. Losers from trade reform (such as firms that compete with imports) are often powerful and have the resources and political access to block, or even reverse, policy. The report tackles these issues head on, showing how trade policymaking in the region really works. It also shows how different institutional arrangements to manage trade policy can have a powerful impact and help ensure that policies reflect the common good rather than narrow interests.

The report shows that, in spite of reform fatigue, disappointments, and policy reversals, nearly three-quarters of Latin Americans still support increased trade with other countries. However, many of them may be easily swayed by anti-trade rhetoric, particularly when it highlights the potential for job losses.

Writing a report on such an important and complex issue always involves trade-offs. Choices were made regarding what to include, and what to leave out. The IDB has published several other reports that focus on regional integration. This volume, however, focuses on Latin America and the Caribbean's global integration. Consequently, regional-level issues such as integration of labor markets, infrastructure, or financial markets, which are an important part of the Bank's research agenda, were mostly omitted.

The key policy question is how Latin America and the Caribbean can make the most of the opportunities afforded by global markets, while mitigating the associated costs. Helping those who lose from liberalization through labor market policies and other compensatory mechanisms is one of the cornerstones of a complementary policy agenda and a key to build the necessary coalitions to support trade reform. This broader policy agenda should also encompass initiatives to improve the efficiency of producing goods and services, such as measures to advance public and private sector coordination to boost productivity and restructure declining industries. The target should go beyond the often-overrated manufacturing sector to include other sectors such as services, and even agriculture, whose fast productivity growth and technological development offer valuable export opportunities in products in which the region has comparative advantages.

Overall, this is not a report with a diagnosis and policy agenda for the faint of heart. It builds on the liberalization lessons of the past to offer an evidence-based roadmap to meet the current and future challenges of global integration. I hope it provides a useful contribution to governments and relevant stakeholders as they navigate the trade and integration debate.

Luis Alberto Moreno
President
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1 Expectations for Trade Policy: Before and After

It was the early 1990s. Decades of inward-looking development in Latin America and the Caribbean had dissolved into paralyzing balance of payments crises and fiscal imbalances. Growth had ground to a halt. After rising 2.4 percent per year on average in previous decades, GDP per capita shrank at an annual average of 0.6 percent in the 1980s. Inflation, traditionally the region's Achilles' heel, spiraled out of control, jumping from an annual average of 30 percent in the 1970s to 228 percent in the 1980s. External debt indicators were troubling as well, reaching an average of nearly 100 percent of GDP, with many countries falling into default. Income inequality reached a historical peak.¹

In this apocalyptic climate, governments desperately sought alternative development strategies. Impressed by the fast export-led growth of East Asia and under pressure from their multilateral creditors, they eventually turned to more market-oriented solutions, buying into a broad package of policy reforms known as the Washington Consensus.²

In addition to fiscal adjustment, deregulation, and privatization, the package included comprehensive trade liberalization and a more liberal approach to foreign direct investment (FDI). The trade component was particularly ground-breaking. Changes in FDI policies were also noteworthy, but hardly trailblazing, since foreign investment was largely welcomed, even in the darkest days of the old regime. By contrast, trade had historically been the object of heavy criticism and skepticism from the region's most influential economists and politicians. It became their best hope for growth.

The shift in strategy was not straightforward. Some countries moved earlier and faster and went further than others, in different political and economic

¹ WDI data for growth. See Prados de la Escosura (2007, Figure 12.2) for income inequality estimates.

² See for example, World Bank (1987) and Williamson (2008).

contexts. However, a common thread ran through all the reform initiatives: a similar political and policy discourse that pinned many of the hopes for higher growth, welfare, employment, and lower inequality on trade and trade policy.

This political bent was clear in the speeches of politicians leading the Latin American chapter of what became known as the Great Liberalization (Estevadeordal and Taylor, 2013). Former Mexican president Carlos Salinas de Gortari, when speaking to a General Agreement on Tariffs and Trade (GATT) meeting in 1990, argued that “Mexico has made its commitment to modernize its economy through effective insertion into international markets. This change requires that we make an unprecedented export effort, since foreign trade will be the most important driver of growth in modern economic development.”³

Former Colombian president César Gaviria, in his 1990 inauguration speech, struck a similar chord: “Trade liberalization is exactly that: a dynamic process of modernization supported by the growth of exports and destined to guarantee us a position in the world market. Export more, import more, produce more, make our economy richer, and so generate more employment. That is the path followed by the nations that were devastated by the war and that today are industrial powers.”⁴

Carlos Boloña Behr—finance minister and architect of the trade reforms of Peru’s former president, Alberto Fujimori—was equally sanguine in the early 1990s, arguing that “precisely because we are a small country in economic terms, we must diversify our markets, expand the scale of our economy, benefit from the advantages of the foreign markets to grow and accumulate capital, to overcome poverty and achieve the desired levels of well-being and prosperity.”⁵

This line of argument continued well into the second decade of liberalization, as governments campaigned to win approval of major free trade agreements. Costa Rican President Óscar Arias had this to say in 2007 about the prospects of an agreement with the United States (Dominican Republic–Central America Free Trade Agreement, CAFTA-DR): “Those that come by bicycle, with the FTA will use a BMW motorcycle instead; those that come in a Hyundai, will come in a Mercedes Benz. This is development.”⁶

³ GATT/1474, February 1, 1990. Original in Spanish.

⁴ Sections of the inauguration speech of Dr. César Gaviria Trujillo on August 7, 1990, dealing with the internationalization of the economy and the foreign policy to be implemented in the upcoming four-year term. Taken from the newspaper *El Espectador*, August 8, 1990, p. 13-A.

⁵ Boloña Behr (1993).

⁶ Speech by President Óscar Arias on May 30, 2007 in Cartago, Costa Rica (*La Prensa Libre*). The agreement was eventually approved in a referendum. See Chapter 5 for details.

More than a quarter century after the first initiatives to open up the region's economies, what can be said of these expectations? Were they well-grounded in sound economic theory and robust empirical evidence? Did the results live up to the hype? Are they still valid today?

Out with the Old Regime

The search to understand these expectations begins with a long, hard look at the old trade regime. The chaos and stagnation of the 1980s may seem reason enough for change, but they were just superficial manifestations of a strategy based on shaky theoretical and empirical foundations.

The so-called import substitution argument relied on a precarious combination of two key elements: the yet-unproven Prebisch-Singer hypothesis of a secular (relative) decline in the prices of primary commodities, and a very loose interpretation of the infant industry argument.⁷ The case for infant industry protection did not pass what economists call the Mill-Bastable Test, which holds that protection should be temporary, address a specific market failure (say, social benefits are higher than private ones), and have expected cumulative benefits that exceed costs.⁸ Ignoring these guidelines, governments failed to impose time-frames. Protection lingered for decades (often to the benefit of very mature foreign affiliates), bypassed the exercise of identifying market failures, and used the dubious “savings” on the import bill as their cost-benefit metric.

Since specialization in primary commodities was seen as doomed by declining prices and bound to lead to permanent balance-of-payments constraints on growth, policymakers increased protection across the board for manufactured goods—a move reinforced by the belief that industries need protection to learn and grow.

This approach denied countries most of the gains from trade. For example, Brazil in the late 1980s was close to autarky, importing less than 5 percent of its demand for goods, and, ironically, reinforced the misguided perception of balance-of-payments constraints to growth (Mesquita Moreira and Correa, 1998). As economists have long known (Lerner, 1936), a tariff on imports is equivalent to a tax on exports and, *ceteris paribus*, it appreciates the exchange rate. Thus, countries in the region were frequently hit by balance-of-payments crises, as exports stagnated and

⁷ See Prebisch (1950) and Singer (1950). For a recent test of the Prebisch-Singer hypothesis, see Winkelried (2018). See also Powell (1991) and Mariscal and Powell (2014).

⁸ For a recent discussion of the argument, see Melitz (2005).

imports, limited to so-called essential items, were tightly linked to the level of economic activity and virtually unresponsive to price changes.

While much learning went on, only a few industries became globally competitive, despite costly export and financial subsidies that fueled rent-seeking and all-too-frequent fiscal and debt crises.⁹

Good Reason for Hope

If the foundations of the old regime were shaky, not so for the liberalization strategy. Policymakers based their hopes for immediate, once-and-for-all productivity and welfare gains on strong theoretical ground. More than two centuries of trade theory, building and expanding on David Ricardo's (1817) principle of comparative advantage, were certainly a stronger base upon which to build their hopes.

Back in the early 1990s, economists had already identified good reasons to trade. Gains would come from at least two other sources: intra-industry trade and pro-competitive effects. The former—defined as two-way exchanges of similar products, such as compact cars for SUVs—had come to dominate international trade. Access to world markets would give firms and countries enough scale to specialize in different varieties of the same product, while opening the door to lower prices, thereby providing a boon to variety-loving consumers as well as firms that benefited from a greater variety of cheaper inputs.¹⁰ Pro-competitive effects would arise from the impact of import competition on firms' market power—limiting their ability to raise prices above costs—as well as from greater efficiency among managers forced to raise productivity (Krugman, 1979; Leibenstein, 1978; Feenstra, 2018a).

An additional reason to trade stems from differences in productivity across firms within the same industry. The rationale is that trade hurts firms with low productivity and pushes resources toward more competitive, usually larger, counterparts more apt to survive in the global market. Good examples are *multilatinas* such as Brazil's Embraer, Argentina's Ternium, or Mexico's Grupo Bimbo. This reallocation effect increases the average productivity of the industry and, eventually, of the country (Melitz, 2003; Melitz and Redding, 2014).

Each of these three new effects can also justify a more liberal approach to FDI, as foreign affiliates increase variety, competition, and overall industry productivity as they replace some of their less productive local competitors (Markusen and Maskus, 2003; Antràs and Yeaple, 2014).

⁹ For a thorough critique of import substitution policies, see Krueger (1984).

¹⁰ See the early studies of Krugman (1980) and Ethier (1982), and Melitz and Trefler (2012) for a more recent review.

While the backbone of the theory was there, most of the hard, empirical evidence was produced after the decisions to liberalize were made. Researchers took advantage of a new treasure trove of evidence arising from the very experience of liberalization in Latin America and the Caribbean and elsewhere in the developing world.¹¹ In this sense, the move could be considered a leap of faith. But it was one that paid off, at least for this kind of static gains. The evidence confirms that most countries in the region enjoyed gains in welfare and real wages. Although the lure of workers exchanging bicycles for BMW motorcycles never materialized, there were tangible gains, whose estimates might look deceptively small because they are based on tariff removal alone—the least costly “weapon” in the old regime’s protectionist arsenal.

There is also hard evidence of the mechanisms behind these gains. Country and sectoral estimates point to liberalization’s strong positive impact on trade and FDI flows. The region’s median increase in the trade share of GDP jumped an impressive 28 percent (see Chapter 3). The gain helped the region recoup most of the world-market losses of the import substitution years, but was not enough to keep pace with fast-growing international trade. However, expecting trade policy alone to achieve this goal was unrealistic.

Firm-level estimates, in turn, reveal substantial productivity gains during the 1990s. These gains, however, have not carried over into the 2000s, when the region was hit by the China shock (see Chapter 4).

Where the Plan Fell Short

Leaders were on shakier ground when they raised the prospect of continuous productivity gains that could single-handedly drive faster, sustainable growth. Comparative advantage and the other arguments can justify expectations for a jump in productivity, but not the prospect of faster productivity growth, which is a key ingredient of economic growth.

Certainly, strong arguments link trade to growth, but they are considerably more nuanced. Unfortunately, despite economists’ centuries-old quest to understand why nations grow, “many mysteries remain.”¹² It is widely accepted, however, that economic growth has two key drivers:

¹¹ See Harrison and Rodríguez-Clare (2010), Goldberg and Pavcnik (2016), Feenstra (2018a), and Shu and Steinwender (2018) for reviews of the empirical literature on trade gains. On FDI, see Antràs and Yeaple (2014).

¹² Helpman (2004: 9).

accumulation of physical capital, for example factories and machinery; and accumulation of knowledge “embodied in textbooks and firms as *technology* and in people as *human capital*.”¹³

Trade liberalization, or globalization more generally—including all its trade and FDI channels—can have a positive impact on these two drivers of economic growth. This impact, however, is often contingent on countries’ overall policies, circumstances, and resources.

The case for greater accumulation of physical capital is the most straightforward. Protection raises the price of capital goods—as much as 100 percent in Latin America’s import substitution period—driving up costs and, consequently, suppressing investment. It is reasonable to expect lower tariffs on these goods to favor growth, as most standard growth models suggest (Estevadeordal and Taylor, 2013). A similar argument can be made for FDI restrictions. Eliminating FDI constraints can stimulate investments in physical capital, assuming local investment is not crowded out—a risk that appears to be discounted by evidence (Farla, de Crombrugghe, and Verspagen, 2016).

The accumulation of physical capital, though, faces diminishing returns; there is, for instance, a limit to the number of machines a slow-growing pool of workers can handle. Most of the hope hinges on the knowledge component, where the case for trade involves many more mechanisms and nuances. Scale, pro-competitive effects, and knowledge spillover are the most important sources of continuous, dynamic gains from trade. Unfortunately, they are far from certain, and trade can potentially make countries worse off (Grossman and Helpman, 2015; Melitz and Trefler, 2012).

The intuition behind the scale effect is that firms with access to bigger markets have a greater incentive to innovate because they can more easily recoup investments with higher sales. Embraer, Brazil’s aerospace company, is a case in point. The company would not be able to afford the development costs of its jets if its sales were limited to the domestic market. On the flip side, cutting tariffs can also boost imports, which might cut into firms’ domestic market, thereby reducing incentives to innovate.

The pro-competitive effect suffers from the same ambiguity. Greater competition reduces profits but can either increase or decrease the incentive to accumulate knowledge, depending on the relative impact on current versus post-innovation profits. If current profits are most affected, a firm has an incentive to innovate to escape competition. If post-innovation profits are the most affected, then the impact works in the other direction, as firms find it less profitable to innovate.

¹³ Grossman and Helpman (2015: 100).

The direction of the effect likely depends on how distant local firms are from the technological frontier: if firms are close, they would have a greater incentive to innovate, as small improvements are likely to make them competitive; if they are far from the technological frontier, the opposite is likely to prevail (Aghion et al., 2005).

The pro-competitive effect can also be counterproductive in terms of how resources are distributed across sectors; ultimately, it depends on the importance of experience, international knowledge spillovers, and sectoral differences in innovation. In a plausible scenario in which research experience matters, assimilating international spillovers is difficult, and opportunities to innovate vary markedly across sectors, liberalization could lead countries with less research experience to specialize in sectors with lower innovation potential, thereby compromising their growth opportunities (Grossman and Helpman, 1991; Feenstra, 1996).

The arguments about the positive spillover effect are clearer. The intuition is based on the plausible idea that knowledge flows through international business transactions. The question revolves around the magnitude of this effect, which is likely to depend on countries' absorptive capacity, meaning their ability to learn and assimilate new technologies.

Knowledge spillovers between foreign affiliates and local firms are more likely to be vertical (to their clients and suppliers) than horizontal (between competitors), as foreign firms have a strong interest in protecting their competitive edge. As in the case of trade, absorptive capacity also matters for FDI knowledge spillovers (Antràs and Yeaple, 2014).

The Bottom Line: Good but not Great

Ultimately, the case for liberalization as a vehicle for growth comes down to empirical support. Unfortunately, the empirics are not clear-cut, but there are certainly more reasons to be hopeful today than in the 1990s. Earlier research on the trade-growth nexus was based on indirect, and often misleading, trade policy indicators and generally ignored the role of other policy, institutional, political, and structural factors.¹⁴

More recent contributions not only address these shortcomings, but also ask a more reasonable research question: whether trade can *accelerate* rather than *fully determine* how much a country grows (Estevadeordal and Taylor, 2013). The analysis—motivated by a growth model in which physical investment plays a central role and technology is driven by noneconomic

¹⁴ See Rodríguez and Rodrik (2001) and Easterly (2005) for a review of these attempts.

factors—suggests that lower tariffs, particularly on capital goods, significantly accelerates growth.¹⁵

This empirical approach is replicated in Chapter 2 for specific regional impacts, and the results are encouraging: liberalization is estimated to have accelerated Latin America's GDP per capita annual growth by 0.6 to 0.7 percentage points on average.¹⁶ Although not enough to meet expectations of replicating the East Asian experience, such growth was enough to help close a widening growth gap with East Asia and deliver GDP per capita gains of up to 16 percent in two decades. As Estevadeordal and Taylor (2013) put it, this is not the sort of payoff easily found among public policies.

While this evidence lends credence to the physical investment argument, its ability to shed light on the other important knowledge channel is limited. Its interpretation relies on a model that assumes that technological change is not affected by trade or any other economic variable. The problem is that the other international evidence available, which directly targets this channel, is not conclusive.

A strong body of evidence attests to the relevance of international spillovers, driven by either trade or FDI.¹⁷ However, a prolific literature on the impact of trade on direct (e.g., R&D and patents) and indirect (productivity) measures of knowledge, mostly based on the pro-competitive effect, suggests that this relationship is nuanced and complicated.¹⁸

The studies of direct measures focus largely on developed countries, and the results are ambiguous, suggesting that they depend on firm size, market dominance, and distance to the technology frontier. The few existing studies of developing countries, where knowledge accumulation is more about imitation and diffusion, suggest a positive impact, but they are usually based on perception rather than objective measures of either import competition or knowledge (Gorodnichenko, Svejnar, and Terrell, 2010).

Evidence on indirect measures offer greater reassurance, particularly in developing countries. However, they overwhelmingly focus on

¹⁵ Estevadeordal and Taylor (2013). See Irwin (2019) for a review of the recent contributions to this literature.

¹⁶ Merchán and Mesquita Moreira (2019b).

¹⁷ See Coe and Helpman (1995) and Keller (2010) for trade-related spillovers based on macro data. See Shu and Steinwender (2018) for a review of studies using microdata. For FDI, see Baldwin, Braconier, and Forslid (2005); Keller (2010); Javorcik (2004); Javorcik and Spatareanu (2011); and Iacovone et al. (2015).

¹⁸ See Melitz and Trefler (2012) and Shu and Steinwender (2018) for a review. See Aghion et al. (2018) for one of the few exceptions looking at the export channel, which finds positive effects for French firms.

productivity—not always associated with knowledge accumulation—and are mostly about one-off improvements, which is not what matters for growth. They also suggest that a country's specific context matters and that broad generalizations are not always warranted (Goldberg and Pavcnik, 2016).

Therefore, the region's specific evidence becomes particularly important, and the picture that emerges is not reassuring. The country-level evidence on direct measures of knowledge suggests that the impact of liberalization, though likely positive, was hobbled by low levels of human capital (see Chapter 3). The balance of the micro evidence points to more robust gains, even though countries' total productivity growth in the last 30 years—which should at least partially reflect these gains—was dismal (see Chapter 4).

Expectations for Employment and Equality: A Reality Check

As with growth, high hopes for more jobs and equality rested on tenuous grounds. While the expectation did not surpass theory, it relied on a naïve interpretation of a well-established trade model—the factor proportion model—which had yet to be validated empirically.

In the model's simplest version, two countries with the same technology and different relative endowments of capital and labor trade two goods, such as textiles and machinery, and use these inputs in different proportions: textiles are more labor-intensive than machinery. The model predicts that the labor-abundant country will export textiles (and import machinery) and demand more labor, eventually leading to higher wages, lower capital returns, and, consequently, a decrease in income inequality. If, instead of capital and labor, skilled labor (used intensively for machinery) and unskilled labor (used intensively for textiles) are used as inputs, the same logic leads to a decrease in wage inequality.

Latin America and the Caribbean was assumed to be an unskilled-labor-abundant region and could thus expect trade liberalization to bring more (unskilled) jobs and lower poverty and inequality.

There were good reasons to think this model was right. Protection used to go hand in hand with policies to subsidize the cost of capital, through either policy-based loans or caps on interest rates, promoting the substitution of labor for capital. Its sectoral pattern was often biased toward more capital-intensive industries, such as steel mills and auto plants, as countries entered the more complex stages of import substitution.

Protection also fostered oligopolistic markets, with a few firms dominating import-substituting industries and benefiting from high markups at the

expense of consumers and firms further down the supply chain. Its implicit tax on exports was also thought to hurt employment and wages, as exports were more labor-intensive than import substitution industries.¹⁹ East Asia's export-led success story in the 1970s and 1980s also fed expectations of more jobs and lower inequality.²⁰

Reality, however, told a different story. Mexico is a good case in point. The country was particularly well positioned to take advantage of liberalization because of its relatively low wages and proximity to the United States. The evidence shows an initial job boost: NAFTA led to an estimated 14-percent net increase in formal manufacturing jobs (Trachtenberg, 2019). This boost, however, was soon weakened by China's emergence in the early 2000s. Without this shock, manufacturing employment would have been an estimated 8 percent higher by 2013, but the bottom line is that informality and migration continued to gain importance as margins of adjustment in Mexico's labor market throughout the liberalization (Blyde, Busso, et al., 2019; Levy, 2018).

Central America demonstrated similar patterns. Despite initial gains, El Salvador was also deeply affected by Asian competition. The China shock reduced manufacturing employment growth by at least 4 percentage points in 2000–13, a devastating amount given that manufacturing employment dropped 8 percent during the period. There, too, the labor market continued to be defined by high levels of informality and migration (Li and Mesquita Moreira, 2019).

In South America, the job bonus turned out to be even more ephemeral and elusive, as sizeable natural resource endowments put pressure on wages and exchange rates, ensuring that an export boom of labor-intensive goods never really materialized. China's emergence exerted severe pressure and took its toll in most countries during the period.

Reality also dispelled the theory's assumptions about a smooth reallocation of workers toward sectors with comparative advantage. The experience varied across countries depending on their macroeconomic environment and labor market institutions, but the few rigorous studies available using matched employee-employer data suggest that reallocation was far from smooth. The most-exposed regions and segments of the work force faced prolonged periods of steep losses.

Lackluster employment results set the stage for mixed, and arguably marginal, impacts on inequality, which actually rose in most countries in the first decade of liberalization. The region had to wait until the 2000s to see improvements in this area, but what exactly was the role of trade?

¹⁹ See Krueger (1978, 1983) and Balassa (1982) for a more detailed discussion of these issues.

²⁰ See Wood (1997) for a review of East Asia results.

The data are insufficient to make broad generalizations, but clearly one-size-fits-all expectations about trade and inequality did not apply to the region. The common denominator across countries was the relatively small impact of trade liberalization. During the 1990s, liberalization contributed slightly to higher wage inequality in most countries. New technologies demanded skilled workers, and since import substitution often did not go beyond labor-intensive industries, liberalization tended to hurt rather than favor the demand for unskilled labor.

During the 2000s, the picture was less conclusive, but evidence points to a swing toward lower inequality based on reductions in the poor's cost of living. Estimates for Brazil and Mexico suggest that these gains more than offset eventual job losses driven by Chinese competition, but in both cases, they explain less than 4 percent of the decline in inequality during the period (Blyde, 2019; He, 2019).

The Theory behind Trade and Labor: Back to the Drawing Board

These conflicting results, which were not exclusive to Latin America and the Caribbean, forced a rethinking of the theory behind the trade and labor relationship. They eventually led trade economists to relax key assumptions about technology, firms, and labor market frictions.

Trade promotes technological change, which, in the case of developing countries, mostly takes the form of labor-saving, skill-intensive technology developed in capital- and skill-intensive countries. Adopting this technology comes through a variety of import, export, and FDI channels. This trade-driven, skill-biased technological change at least partially explains the conflicting results in Mexico and elsewhere in the region and the developing world.²¹

As with technology, the canonical model assumes firms to be small, powerless, and indistinguishable entities. However, in the real world, firms vary in size and technology, which helps explain how trade affects inequality. Trade openness tends to reward larger, more productive firms, which have a greater incentive to adopt skill-intensive technologies and find and hire more skilled workers at higher salaries, potentially increasing wage inequality, even among workers with similar skills and employed in the same sector.²²

²¹ See Goldberg and Pavcnik (2007); Helpman (2016); Pavcnik (2017).

²² See Bustos (2011), Helpman et al. (2017), and Burstein and Vogel (2017). This mechanism leads not only to a wider gap between the compensation paid to workers with different skills, but also to higher inequality among workers with similar skills and employed in the same sector. This gap stems from the ability of exporters to extract higher productivity from their workers and, therefore, offer better pay.

These wage differences would be competed away were it not for imperfections (or frictions) in labor markets. These frictions come in many forms and are driven by public policies (minimum wages, mandated severance payments, payroll taxes, and misguided transportation and mobility policies); institutions (e.g., unions); or market failures (e.g., imperfect information about jobs and qualified workers, and training and education externalities) (Helpman, 2011).

Individually or as a whole, these frictions can hinder the mobility of workers across regions, industries, and occupations and may account for observed inequality patterns. They also help explain why some workers in the region, and even in the developed world, who have been displaced by import competition in certain industries and geographic locations, face long spells of lower wages, unemployment, or are absorbed by the informal sector (Autor, Dorn, and Hanson, 2013; Dix-Carneiro and Kovak, 2017).

More realistic assumptions also clarified trade policy's power to drive the labor market. Recent works, both theoretical and empirical, that present results for other parts of the world are consistent with those found for the region; they suggest that trade explains only a small part of the labor market trends following liberalization. However, some areas and segments of the population did sustain relatively large gains or deep losses. While small in the scheme of things, evidence in the region and elsewhere has shown that these repercussions can upset the political coalition behind liberalization, with catastrophic consequences (Pavcnik, 2017; Helpman, 2016).

Unrealistic assumptions, however, explain only part of the problem with expectations. The region was also miscast in the role of a labor-abundant economy. This predicament only worsened with the opening of Asia's extremely populous and natural-resource starved economies, which quadrupled the global supply of labor for manufacturing exports and set up a commodity boom.²³

A model with only two factors of production—capital and labor, or skilled and unskilled workers—was perhaps a good fit for the North-South manufacturing trade of the 1970s and 1980s, when the South consisted largely of resource-scarce East Asia. Not so when Latin America came into the picture in the 1990s with a stock of natural resources that set the region apart, not just from the East Asian Tigers, but from most other world economies.

When another factor such as land is introduced to the model, its predictions become fuzzy and do not fan expectations of a resource-rich

²³ See IMF (2007).

economy replicating an export boom based on unskilled labor.²⁴ This is even more the case when the macroeconomic consequences of commodity cycles are factored in—notably the long spells of currency appreciation, with its devastating impacts on other tradable activities, as described in Corden and Neary’s (1982) classic about Dutch Disease.

The Price of Unrealistic Expectations

The mismatch between expectations and what could realistically be delivered set the stage for much of the disappointment, skepticism, and fatigue surrounding trade policy in the region, particularly in the early 2000s. By setting the bar unrealistically high, governments and analysts made trade policies an easy target for special interests that were hurt by liberalization and for those ideologically opposed to free trade. The most immediate victims were the more tangible growth and welfare gains, whose relevance was lost amid the noise of grandiose visions.

Again, the political rhetoric is telling and accompanied the region’s most important trade policy reversals, which occurred in some of the most resource-rich economies: Argentina, Brazil, Bolivia, Ecuador, and Venezuela.

In Brazil, the 2002 presidential election, held a little more than a decade after the country embarked on trade liberalization, was won by a political party that accused trade reforms of “destroying and selling to foreign interests a significant part of our industry, particularly the intermediate goods sector.”²⁵ The party, which went on to govern the country for 14 years, did not immediately reverse trade liberalization, but did stall its progress for nearly a decade and eventually enacted significant measures to undo it.²⁶

In Argentina, the policy rhetoric from the administration that came to power in 2003 was equally heated. Policymakers argued that trade liberalization was an “economic disaster” and that the plan was to “recover the capacity to substitute imports to boost local industry and jobs.”²⁷ The

²⁴ See Feenstra (2016) for a textbook discussion of Heckscher-Ohlin models with multiple factors of production. See Wood (1997) for a discussion of the impact of Asia’s emergence on labor and inequality in Latin America.

²⁵ Resoluções de Encontros e Congressos & Programas de Governo - Partido dos Trabalhadores (www.pt.org.br) / Fundação Perseu Abramo (www.fpabramo.org.br).

²⁶ See Frischtak and Mesquita Moreira (2015) for details on the policy reversals in Brazil.

²⁷ <https://www.nacion.com/economia/kirchner-defiende-su-plan-economico-ante-criticas-de-oposicion/PW2VBYSQFE4PMDMKW3THZTU7U/story/>.

government went on to preside over one of the most comprehensive trade policy reversals in the region.²⁸

Venezuela, Bolivia, and Ecuador voiced similar anti-trade rhetoric, accompanied by trade policy reversals that ranged from comprehensive (Venezuela, including foreign exchange controls) to partial (Bolivia and Ecuador) and spilled over into FDI policies.²⁹ Rhetoric against multilateral and preferential trade agreements was particularly aggressive. Hugo Chavez, who led Venezuela from 1999 to 2013, once called multilateral trade rules biased against the “poor countries” and “a shameless and monstrous immorality.”³⁰

Rafael Correa, president of Ecuador from 2007 to 2017, forcefully stated that “if free trade agreements were the key to development, Mexico would be developed; that free trade benefits everyone, all the time, is a great fallacy; there are big losers, and I think the damage is greater than the benefits. Even if it were not so, you have to see who loses and who wins, and the winner is the big guy, the importer or the agribusiness, which can compete.”³¹

Evo Morales, who has been Bolivia’s president since 2006, had this to say about the prospects of a free trade agreement with the United States in 2006: “It is a pseudo free trade agreement in which the most powerful partner cheats by financing its producers to destroy the smaller competitors.”³²

Unrealistic expectations also led governments to overlook the context within which liberalization was taking place. More often than not, they needed to build institutions and political coalitions to ensure the long-term survival of the reform and coordinate trade with other public policies in the product and labor markets. The open-and-gains-will-come attitude—much like the Bible’s “If you build it, they will come”—not only left the region vulnerable to backlashes, but most likely undercut even the most realistic productivity, knowledge, and labor market gains.

The Second Time Around: Better Management of Expectations

Learning this lesson seems particularly important at a time when the region is still recovering from costly policy reversals and facing trade frictions involving

²⁸ See Cancino (2017) for details on Argentina’s trade policy during the period.

²⁹ For details on the trade policies of these countries during this period, see Grijalva et al. (2018) for Ecuador, WTO (2017b) for Bolivia, and EIU (several years) for Venezuela.

³⁰ <https://www.aporrea.org/actualidad/n70329.html>, 12/15/2005.

³¹ <https://www.eluniverso.com/noticias/2014/01/21/nota/2066066/rafael-correa-critica-tlc-propuesto-eeuu>.

³² <https://www.europapress.es/internacional/noticia-bolivia-evo-morales-descarta-firma-tratado-libre-comercio-estados-unidos-similar-vecinos-20060316003631.html> 03/16/2006.

two of its main trade partners: the United States and China. Some of the region's reversals—magnified by misguided fiscal and monetary policies—led to severe economic and political crises that are eerily reminiscent of the final days of import substitution. This important lesson applies not only to countries that were directly affected, but also to those that were more successful in opening up their economies. To keep them open and consolidate the gains, they too need to anchor expectations, strengthen their trade policy institutions and coalitions, and sharpen complementary policies.

Rethinking Priorities

Looking forward, some policy issues deserve special attention. The long-term survival of open trade policies requires better understanding and design of the political and institutional mechanisms used to forge these policies, a matter long neglected by Latin American and Caribbean policymakers and economists. Chapter 5 makes the point that the region's very mixed record of execution is closely correlated to how successful countries are in meeting the interrelated challenges of building trade policy institutions impervious to special interests and forging broad pro-trade coalitions nurtured by efficient incentives and compensation.

The institutional architecture plays an important role in trade policy management. It is best to involve in the decision-making process actors whose incentives are more closely aligned with those of the economy as a whole. This typically means more power to the executive branch, which has a broader vision than legislators, who are more likely to seek protection for the industries in their districts. However, congressional oversight is essential to avoid sudden changes in policy along the political cycle. Countries in the region, though, typically exert little congressional oversight, and within the executive, trade policy decisions usually fall to ministries whose preferences are closely aligned with those who benefit from protection.

Trade policymaking is also likely to benefit from independent institutions capable of providing sound analysis and advice, as shown in Australia. Unfortunately, Chile is the only country in the region that has moved in this direction.

Building strong pro-trade coalitions, in turn, involves shoring up public opinion. Importantly, despite all the disappointments and fatigue, the general public still overwhelmingly supports trade, but is also very sensitive to negative shocks to employment (see Chapter 6). This challenge demands meaningful incentives and compensation to soften the blow of trade shocks without hindering the reallocation of capital and workers toward more competitive firms and sectors.

A useful guideline is to avoid creating new trade policy distortions (or patching up old ones) or playing with inefficient and regressive subsidies. The focus should be on improving the workings of the labor and other markets, with interventions that increase workers' skills and mobility and address well-documented market failures, such as the provision of public goods.

The importance of improving the functioning of labor markets is hard to overstate in a region where frictions often originate in governments (e.g., prohibitive dismissal costs), which, at the same time, typically spend significantly less than the developed world on active (e.g., training) and passive (e.g., unemployment insurance) labor market policies. As argued in Chapter 8, the answer is not just money, which is perpetually scarce; more importantly, it is about finding well-tested initiatives that work. The empirics are still a work in progress, but they lean toward short-term, privately run retraining programs open to all workers, not just those displaced by imports, and well-tuned to the needs of the labor market. Some such programs are already producing results in the region.

These interventions are needed not only for today's trade shocks, but also for those being brought on by the rapid diffusion of new digital technologies and automation. These trends promise to disrupt comparative advantages and change the way goods and services are traded, posing new challenges and opportunities for policymakers. As discussed in Chapter 11, the reverberations extend well beyond labor markets. Requirements include new investments in telecommunications infrastructure and a new regulatory framework for digital trade and e-commerce to address important policy dilemmas: how best to encourage cross-border data flows while protecting privacy, and how to ensure speed and efficiency in the clearance process for small e-commerce shipments while also combating illicit trade.

A fresh, new look is also needed at interventions in other factor and product markets, which can often prevent countries from maximizing the gains from trade. The region has a long, checkered history of industrial or productive development policies that can be greatly improved if governments follow a strict set of guidelines that target intervention in specific market failures, while offering protection against the usual risks of policy capture by special interest groups (Crespi, Fernández-Arias, and Stein, 2014).

Chapter 9 discusses two classes of policies that do just that. The first is illustrated by Peru's *mesas ejecutivas*. The *mesas* are sectoral, public-private fora that seek to enhance productivity by identifying obstacles to their development (coordination problems, inadequate regulation, insufficient public goods) and rapidly implement the required solutions. The second is illustrated by Argentina's *Programa Nacional de Transformación Productiva*, which seeks to help transform uncompetitive firms and facilitate

the reallocation of workers from uncompetitive firms in uncompetitive sectors to more promising firms in competitive sectors of the economy.

Better trade policymaking also requires governments to overcome their historical obsession with manufacturing, a bias inherited from the heyday of import substitution. While this enthusiasm was justified for most of the twentieth century, when manufacturing was widely seen as the engine of growth, by the end of the century, after a decade of liberalization, it was clear that the region would have to take a broader view of development.

The combination of rapid technological change and the emergence of Asia's giant economies turned most manufactured goods into commodities with thin profit margins and declining prices (Wood, 1997; Rodrik, 2016; IMF, 2019, Chapter 4). Meanwhile, the same fast-paced technological change has created tradable opportunities in services and agriculture that are particularly promising given the region's comparative advantages. Chapter 10 discusses the case of modern agriculture, which bears little resemblance to the low productivity, low-skill activity of the import substitution days.

Addressing Old and New Challenges

Thirty years after the region embarked on large-scale liberalization, trade policy could have been expected to become all but irrelevant. Chapter 7 makes it clear that despite remarkable progress, new challenges emerged, while solutions to some old ones have proven to be elusive.

Among the new challenges, threats to the rules-based international trade system are almost existential. Trade cannot be an instrument for the region's prosperity if the world market splinters into balkanized blocs ruled by power rather than law. Well-known solutions to improve the governance and effectiveness of the system based on the World Trade Organization include relaxing either the consensus decision-making and single-under-taking principles, while largely preserving the best the system has to offer: reciprocity and nondiscrimination. The region has a huge stake in making sure these solutions are tested.

Among the old challenges that remain, regional integration, which has gained even greater strategic relevance in the current trade environment, begs for convergence among the 33 preferential trade agreements and a gap-filling exercise among the largest economies in the region: Argentina, Brazil, and Mexico. These initiatives are essential to lend more rationality and weight to the regional market. The gains are far from negligible—an estimated 11.6 percent increase in the region's intraregional trade (or US\$20 billion based on 2018 figures)—something the region can ill afford to leave on the table.

At the national level, protectionism is still alive and well in some of the largest economies in the region, all of which suffered trade backlashes, ranging from serious to catastrophic. This challenge can be addressed by a combination of preferential agreements (both regional and global) and unilateral moves (preferably aiming to converge with the levels prevailing within the Organisation for Economic Co-operation and Development). However, these efforts must be supported by measures to build institutions and coalitions.

If traditional trade barriers are still critical for some countries, addressing nontraditional trade costs should still be a priority for all countries. The region still struggles with the high costs of logistics, information, and border processing. The well-known remedies range from improving the array and efficiency of transport networks, to stronger risk management of customs flows, to better-funded and -targeted programs for export and investment promotion. The payoff from such remedies often dwarfs the gains associated with removing traditional barriers.

Finally, if 30 years of liberalization have taught anything, the lesson might be best expressed by borrowing from Winston Churchill's musings about democracy. Arguably, trade and integration is the worst form of development, except for all the others that have been tried from time to time in the region.³³

³³ The original quote: "Many forms of Government have been tried and will be tried in this world of sin and woe. No one pretends that democracy is perfect or all-wise. Indeed, it has been said that democracy is the worst form of Government except for all those other forms that have been tried from time to time." Winston Churchill, House of Commons, November 11, 1947 (Langworth, 2008).

2 Trade, Growth, and Welfare: The Big Picture

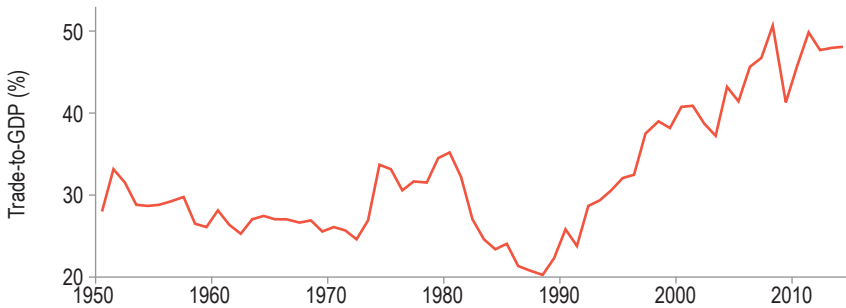
An evaluation of trade liberalization in Latin America and the Caribbean undoubtedly rests on its impact on economic growth and personal well-being. Were countries and their people better off after trade liberalization? Were the adjustments worth the pain of policy change? Overly optimistic expectations for growth and equality often blinded the general public to the important tangible gains attributable to trade policy in recent decades. For this reason, it's important to try to quantify those gains. To put it bluntly, what were the results of Latin America's Great Liberalization?

To answer these questions requires sifting through both the macro and micro facts of the trade liberalization. Macro facts refer to economy-wide and sectoral results and provide the big picture of trade's impact on growth and welfare. These macro facts are generated by either empirical or theoretical models using aggregated, multi-country data. They offer a comprehensive view of the results but can obscure the cause of trade policy impacts and the channels through which they travel.

Micro facts, by contrast, are revealed mainly through empirical models using firm—and individual-level data. They do not usually provide a broad overview but offer more specific information about the causes and channels of impacts. Chapters 2 and 3 analyze the macro facts. Chapter 4 details the micro facts and how these two sets of facts sometimes point in different directions but together offer the most complete picture of what happened during the Great Liberalization.

Defining the Great Liberalization

The Great Liberalization—a term first coined by Estevadeordal and Taylor (2013)—is defined as a process of reducing and eliminating tariff and nontariff barriers (NTBs) mostly in developing countries, through unilateral, preferential (i.e., preferential trade agreements, or PTAs), or

Figure 2.1 Latin America's Trade-to-GDP Ratio, 1950–2014 (%)

Source: IDB staff calculations based on PWT 9.0 data.

Note: Trade-to-GDP ratio is the sum of exports plus imports of goods divided by the GDP in current PPP US\$. It is the simple average of the ratios of Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

multilateral initiatives (e.g., WTO rounds of negotiations). The process began in the late 1980s and early 1990s and has yet to run its full course, as the scope and speed of its implementation has varied significantly across countries.

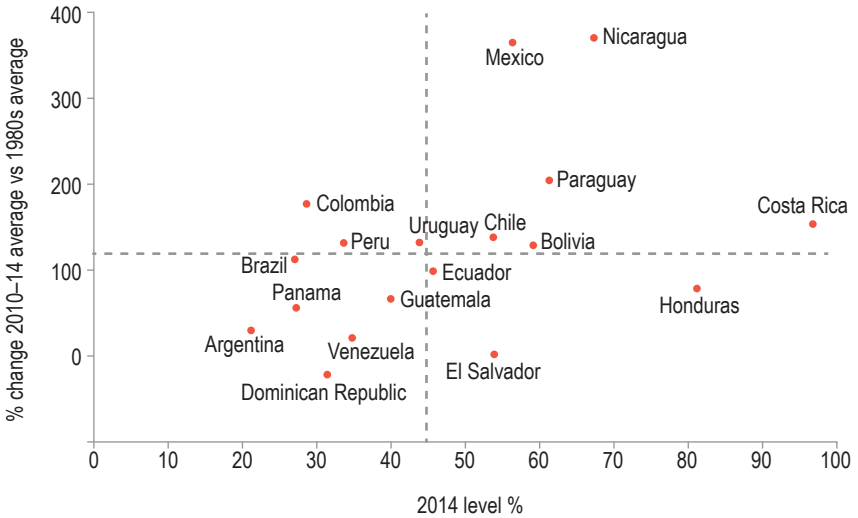
A couple of *de facto* indicators (i.e., trade outcomes) and *de jure* indicators (i.e., trade policy measures) show how this process evolved in the region. A commonly used *de facto* indicator of the extent of trade liberalization, or openness, is the trade-to-GDP ratio. Figure 2.1¹ shows the region's exposure to international trade bottoming out in the late 1980s in the final throes of the old regime and then surging to levels close to those observed right before the Great Depression.²

However, the average ratio hides considerable variation across countries. Some countries liberalized trade more extensively than others, reflecting their diverse economic, geographic, and political conditions—a fact already hinted at in Chapter 1. This diversity is evident in Figure 2.2, which shows how much the exposure to trade of a sample of Latin American countries has changed since the early 1990s and where they stand today. While the trade-to-GDP ratio shot upward in most countries, results

¹ GDP is measured in purchasing-power-parity (PPP) to mitigate measurement issues related to exchange rate volatility. Marked exchange rate devaluations or appreciations can significantly affect this indicator, even if trade or trade policy fundamentals have not changed.

² Not shown in the figure. According to Bulmer-Thomas (2003: 190) estimates for 13 Latin American economies, the (simple) average trade-to-GDP ratio in 1928 was 57.4 percent.

Figure 2.2 Trade-to-GDP Ratios: Level and Change, Selected Latin American Countries, Current PPP US\$



Source: IDB staff calculations based on PWT 9.0 data.

Note: Trade-to-GDP ratios are the sum of exports plus imports of goods divided by the GDP in current PPP US\$. Reference lines are the medians for the Latin American and Caribbean sample for each variable.

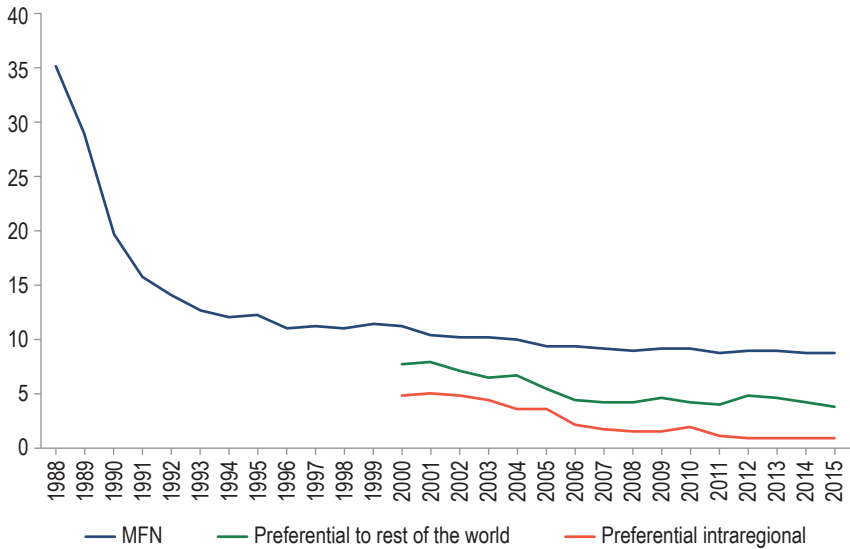
between countries vary widely from Mexico and Nicaragua in the top right quadrant to Argentina, for example, in the lower left quadrant.

Although informative, *de facto* indicators such as trade-to-GDP ratios must be interpreted with care. These ratios are influenced by changes in trade policy, but they also reflect other factors, particularly a country's size, geographical location, and other trade costs. That is why, for instance, countries like Peru and Brazil show similar values even though Peru has gone much further than Brazil in removing its trade barriers.

De jure indicators do a better job of tracking changes in trade policy. Two are particularly useful in telling the story of the liberalization. The first is average import tariffs—the canonical measure of protection—which tends to capture the imagination of politicians and the general public alike. The second is a composite index—the KOF Globalisation Index—which goes beyond tariffs and tries to capture changes in NTBs.³ These

³ The KOF Globalisation Index (Gygli, Haelg, and Sturm, 2018) is structured as: (i) 32.5 percent NTBs (WEF Competitiveness Report Survey) and compliance costs of importing and exporting (World Bank's Doing Business report); (ii) 34.5 percent taxes on international trade as a percentage of revenue (IMF, Government Financial Statistics Yearbook); (iii) 33 percent unweighted mean of tariff rates (World Economic Freedom).

Figure 2.3 Most Favored Nation and Preferential Tariffs, Latin America and the Caribbean, 1988–2015 (%)



Source: IDB staff calculations based on LAIA, Lora (2001), and CESIFO Group-World Bank data.

Note: Tariff data are simple averages from a balanced panel taken from LAIA and Lora (2001) for 1988–95 and from CESIFO-World Bank for 1996 onward. Preferential data are consistently available only from 2000 onward. Preferential rates are simple averages calculated at the country-pair-H56- product level, having Latin American and Caribbean countries as importers. Intraregional rates include only country pairs within the region, and rest-of-the-world rates have only exporters outside the region. Latin America and the Caribbean includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Paraguay, Peru, Dominican Rep., Uruguay, Venezuela, and Trinidad and Tobago.

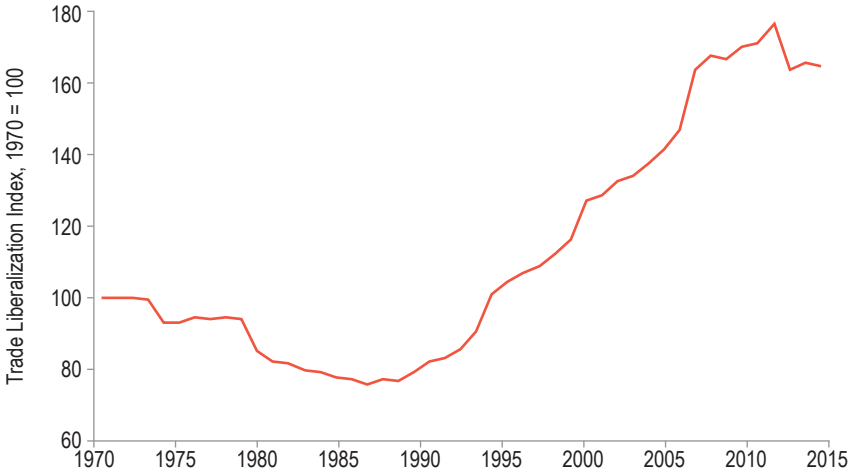
barriers played a particularly important role during the import-substitution years and in recent trade backlashes, in some cases making tariffs redundant.

Both indicators tell a story consistent with that of the trade-to-GDP ratio, setting the beginnings of the Great Liberalization at the turn of the 1990s, but with nuances (see Figures 2.3 and 2.4). Except for Chile, whose early 1970s liberalization was clearly an outlier, the biggest changes in average tariffs occurred in the late 1980s and early 1990s.⁴ The KOF index, though, which captures the business perception of NTBs, suggests that the liberalization’s momentum continued well into the first decade of the 2000s, when the trade policy backlash began to take hold.

The *de jure* indicators also confirm that averages conceal broad heterogeneity in trade liberalization. Figure 2.5 shows that Central America (e.g., Costa Rica and Guatemala) and the Pacific Alliance countries (Chile, Colombia, Mexico, and Peru) went much further in cutting their most favored nation (MFN) tariffs than the rest of the region, particularly

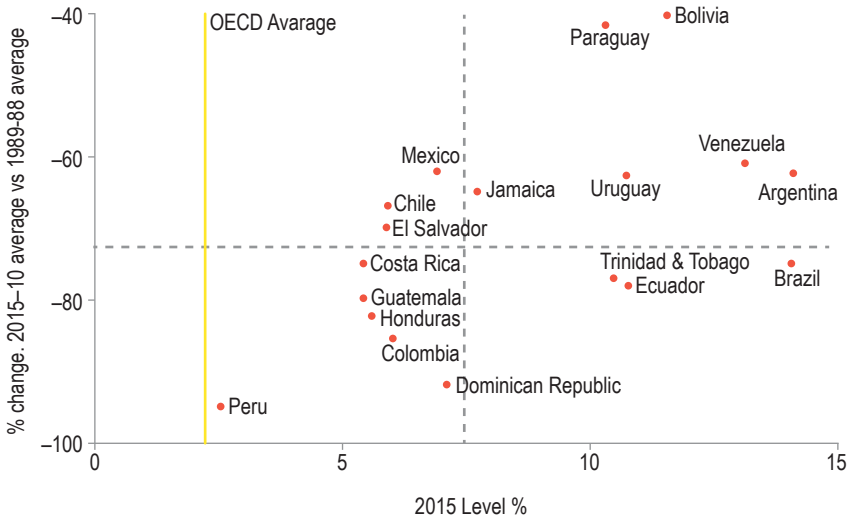
⁴ See Edwards (1985) for details of Chile’s experience.

Figure 2.4 KOF Trade Liberalization Index for Latin America and the Caribbean

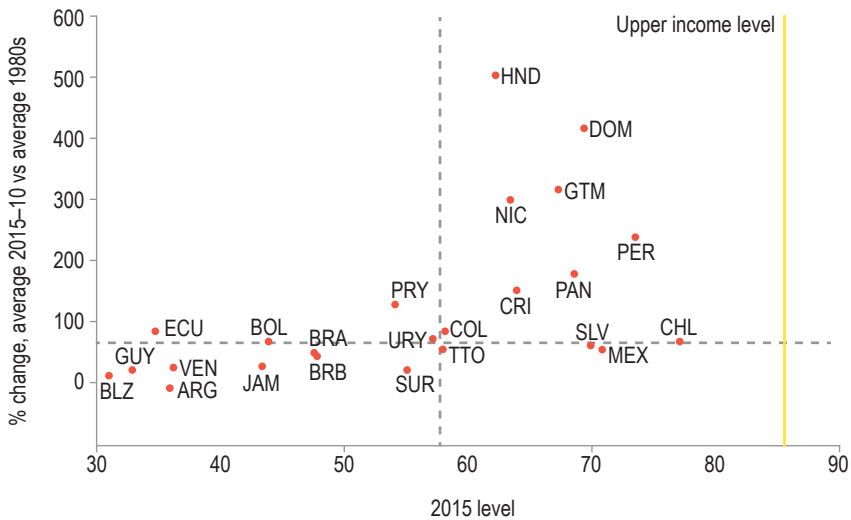


Source: IDB staff calculations based on KOF data.
 Note: The higher the index, the greater the liberalization. This *de jure* index is structured as: (i) 32.5%. Non-tariff and trade barriers to imports and exports (ii) 34.5%. Taxes on international trade as a percentage of revenue, and (iii) 33%. Simple mean of tariff rates. Sample includes Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Paraguay, El Salvador, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.

Figure 2.5 Most Favored Nation Tariffs: Level and Changes, 1988–2015, Selected Latin American and Caribbean Countries (%)



Source: IDB staff calculations based on LAIA, Lora (2001), and CESIFO Group-World Bank data.
 Note: Tariff data are simple averages taken from LAIA and Lora (2001) for 1988–95 and from CESIFO World Bank for 1996 onward.

Figure 2.6 KOF Trade Liberalization Index, 1980–2015

Source: IDB staff calculations based on KOF data.

Note: The KOF Globalisation Index (Gygli, Haelg, and Sturm, 2018) is structured as: (i) 32.5% nontariff and trade barrier costs of importing and exporting; (ii) 34.5% taxes on international trade as percentage of revenue; (iii) 33% Unweighted mean of tariff rates. Reference lines are the medians for each variable.

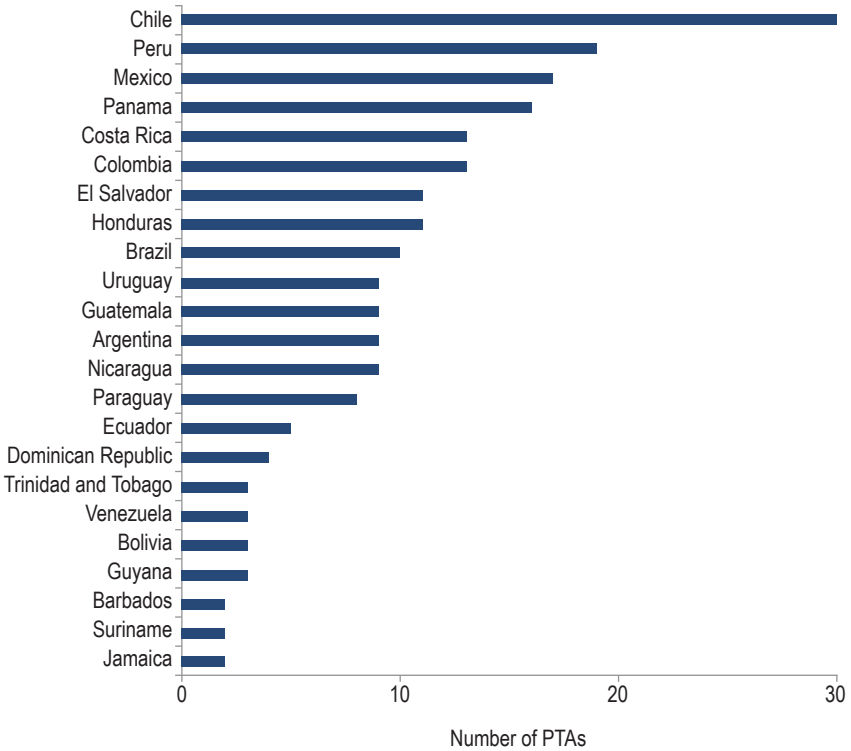
when compared to a group of Andean (Bolivia, Ecuador, and Venezuela), Mercosur (Argentina, Brazil, Paraguay, and Uruguay) and Caribbean countries (Trinidad and Tobago and Jamaica). This variety is also evident in the trade liberalization index (Figure 2.6).

The Pacific Alliance group and, to a lesser extent, Central America also lead the pack in the preferential dimension of the liberalization, signing the largest number of preferential trade agreements (Figure 2.7), which have translated into significantly lower applied tariffs than MFN tariffs, levied on their imports or exports (Figure 2.8).

To round out the picture of the Great Liberalization, more indicators are needed to cover services and foreign direct investment (FDI). Figures 2.9 and 2.10 present *de facto* and *de jure* indicators, respectively, for services. They cover only those services whose trade is usually affected by taxes and regulations: “cross-border trade” (e.g., consultancy or training delivered through the postal or telecommunications networks), and “movement of natural persons” (e.g., a foreign national locally provides construction services).⁵

⁵ “Cross-border trade” and “movement of natural persons” correspond to supply modes 1 and 4 of the General Agreement on Trade in Services (GATS), which entered

Figure 2.7 Stock of Preferential Trade Agreements, Selected Latin American and Caribbean Countries, 2018



Source: IDB staff calculations based on WTO data.

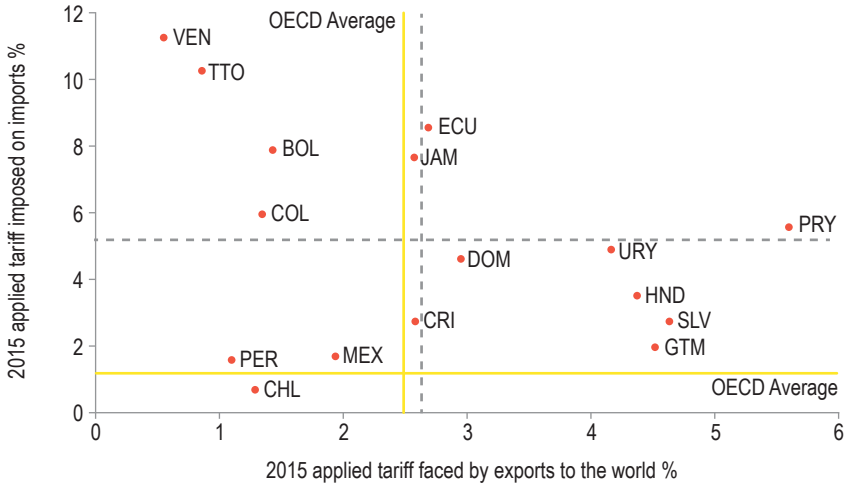
Note: PTAs include all reciprocal trade agreements, including free trade areas and customs unions.

What these figures reveal is, first, that there is no clear correspondence between the countries that liberalized the most in goods and those that did so in services. For instance, Mexico, Colombia, and Peru, which were aggressive liberalizers in goods, seem to have taken a more cautious stance in services. Second, the *de jure* STRI indicator suggests that the region progressed the most in the movement of natural persons—with most countries posting indices below the OECD average—whereas the opposite seems to be the case with cross-border services.

Figures 2.11 and 2.12 focus on FDI indicators. Despite the relatively FDI-friendly policies of the import substitution years, further liberalization

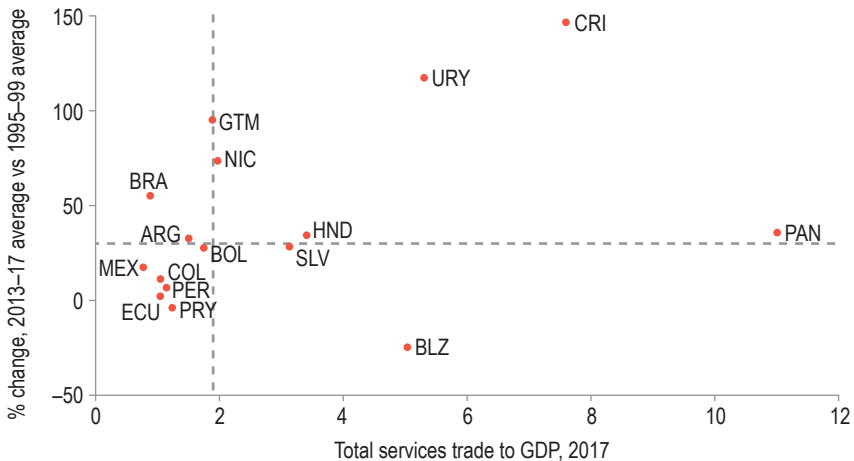
into force in 1995 following the Uruguay Round. The excluded modes are “consumption abroad” (mode 2, e.g. tourists, students, or patients) and commercial presence (mode 3, e.g., locally established foreign firm affiliates).

Figure 2.8 Preferential Liberalization in Latin America and the Caribbean, Applied Tariffs Levied on Imports and Faced by Exports, 2015 (%)



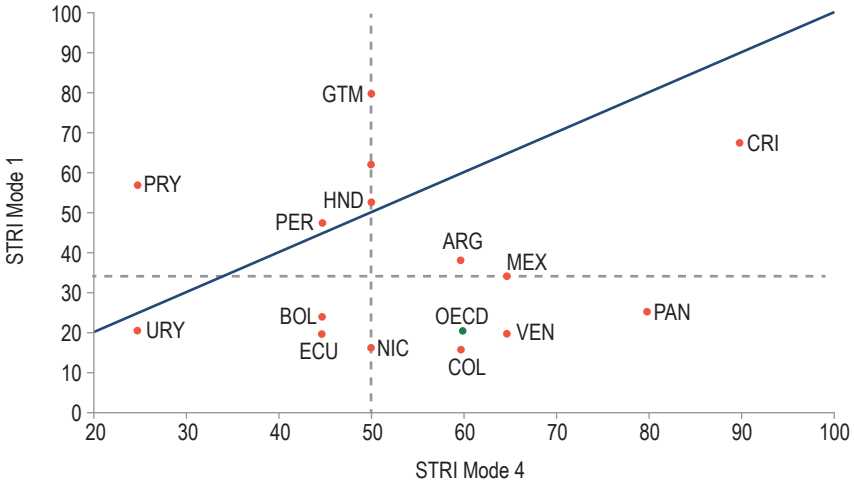
Source: IDB staff calculations based on CESIFO-World Bank tariff data.
 Note: Applied tariffs faced by exports are weighted averages, calculated in two stages: Stage 1 calculates for each imposing country the weighted average of the applied tariffs over all products. The weight is the share of each product in the exporter’s exports to the world. Stage 2 calculates the weighted average of the tariffs imposed by each importer obtained in stage 1. The weight is the share of each imposing country’s GDP (adjusted by the distance between the exporter and the imposing country) in the sum of the distance-adjusted GDP of all imposing countries. Applied tariffs faced by imports are also weighted averages following a similar two-stage procedure.

Figure 2.9 Total Services Trade to GDP: Level and Change, Selected Countries



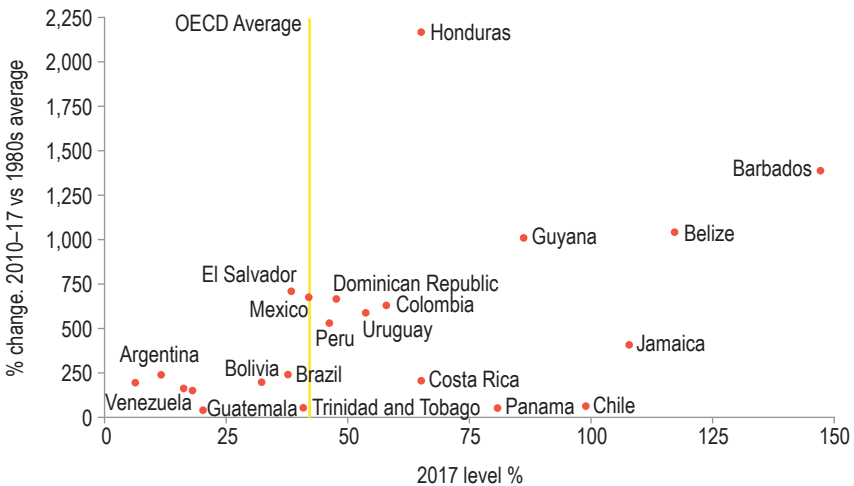
Source: IDB staff calculation based on data from the IMF Balance of Payments and World Development Indicators.
 Note: Services trade is services exports plus imports. Services sectors included are those defined by the GATS as Mode 1 (cross-border trade) and Mode 4 (presence of natural persons), which covers financial, telecommunications, transportation and professional services. Reference lines are the median for the Latin American sample for each variable.

Figure 2.10 Services Trade Restrictiveness Index (STRI) by Mode, Selected Countries



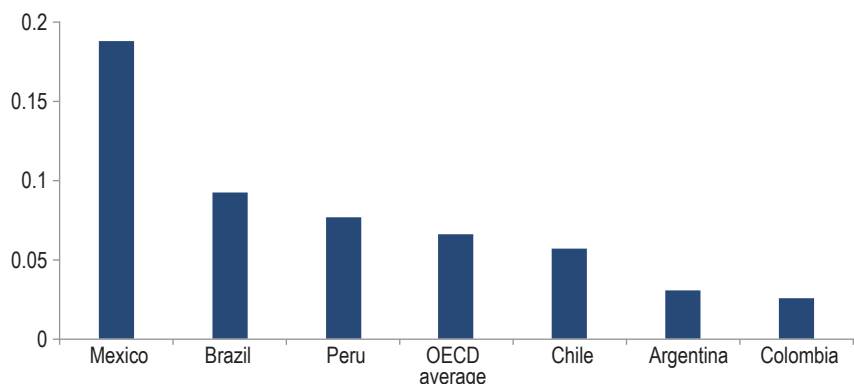
Source: IDB staff calculation based on data from World Bank’s Services Trade Restrictions Database. Note: STRI based on information on policies that impact trade in services collected from questionnaires sent to local law firms familiar with the policy regime in a country. Questionnaire answers were reviewed by local governments for feedback. Mode 1 services are supplied cross-border. The STRI covers restrictions in the following Mode 1 sectors: financial, transportation, and professional services. Mode 4 services are supplied by the temporary presence of natural persons in the territory. The STRI covers restrictions in Mode 4 professional services. For more information, see Borchert, Gootiiz and Mattoo (2012). Reference lines are the median for the Latin American sample for each variable.

Figure 2.11 Ratio of FDI to GDP: Level and Change, Selected Latin American and Caribbean Economies



Source: IDB Staff calculations based on UNCTAD data.

Figure 2.12 The OECD FDI Regulatory Restrictiveness Index, Selected Latin American Economies, 2017



Source: IDB staff calculations based on OECD data.

Note: The higher the index, the more restrictive the FDI policies. See Kalinova, Palerm, and Thomsen (2010).

since the late 1980s was accompanied by a substantial increase in FDI inflows, but with significant variations across countries (Figure 2.11). As with *de facto* trade indicators, these differences are driven not only by policies, but by other factors such as size and geography, making them harder to interpret.

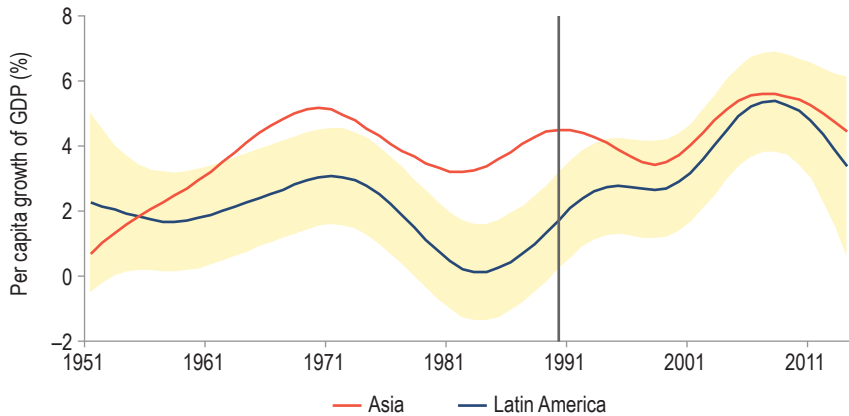
Unfortunately, a *de jure* FDI indicator that could help bring the picture into focus is available only for a handful of countries and for recent years. However, enough information is available to suggest that, as in the case of services, the FDI liberalization ranking does not necessarily mirror that of trade liberalization. Mexico, for instance, is much more restrictive than the OECD, whereas Argentina is much less so (see Figure 2.12).

Trade and Growth: Great Expectations

Arguably, growth topped the list of the high expectations placed on the Great Liberalization. This was hardly surprising, since the region was emerging from a decade of stagnation, and East Asia pointed to trade as a powerful engine of growth.

Certainly, there were good theoretical reasons to be hopeful. However, uncertainty about the impact of more open trade on certain growth fundamentals—particularly knowledge accumulation—and the complex nature of economic growth should have dictated a more cautious approach. The policy rhetoric, however, was anything but cautious, often feeding unrealistic expectations.

Figure 2.13 GDP Per Capita Annual Growth: Latin America and Developing Asia, 1951–2014



Source: IDB staff calculations based on PWT 9.0 data.

Note: Trends are based on simple averages at 2011 international dollars, using the Hodrik-Prescott filter, with a smoothing factor of 100. Shaded area is the 95% confidence interval. PPP data are available only up to 2014. Latin America includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela. Developing Asia includes Cambodia, China, Hong Kong, Indonesia, India, Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand, Taiwan, and Vietnam.

Unsurprisingly, Latin America and the Caribbean has not replicated East Asia's growth performance since the onset of the Great Liberalization, a frustration often directed at trade policy. Yet, as Figure 2.13 shows, since the early 1990s the region has made great strides toward closing the gap with developing Asia, although results vary widely among countries. This achievement may not be as impressive as the overly optimistic scenarios anticipated, but it is more realistically in line with trade and growth theories and countries' overall policy and structural constraints.

Trade liberalization contributed significantly to these results by improving productivity and capital accumulation through a variety of channels associated with trade flows, FDI, and structural changes in the economies. The size of this contribution—and its ultimate impact on growth—hinged on the extent of each country's liberalization and how that liberalization interacted with other policy, institutional, and structural dimensions.

Small Numbers, Big Impact: Trade-Driven Growth Accelerations

Identifying direct causal links between trade and growth has traditionally proved elusive, given the difficulties of filtering out the influence of other factors—some not readily observable—that drive economic growth. However, more recent contributions to the literature used longer data periods

and more advanced econometric techniques to address these issues. They generally find strong positive impacts of trade liberalization on growth, although some results are more reliable than others.⁶

For instance, Wacziarg and Welch (2008) use data for nearly 140 countries over the 1950–98 period and, netting out the influence of time-invariant characteristics (e.g., geography or culture), they find that trade liberalization increased annual growth on average by about 1.5 percentage points.

Instead of a cross-country analysis, Billmeier and Nannicini (2013) use a case study approach based on “synthetic controls.” For each country in their sample (30 cases, five of which are in Latin America and the Caribbean), they build a synthetic comparator that combines characteristics of similar countries in their region that share the same pre-liberalization growth trends but have not gone through trade liberalization. This comparator is used to answer the counterfactual question of how much these countries would have grown if they had not opened their economies. They generally find positive and robust impacts, particularly in Latin America and the Caribbean. A decade after the liberalization, GDP per capita is estimated to be about 57 percent higher than that of the regional synthetic comparator in Barbados, 23 percent in Colombia, 26 percent in Costa Rica, and 21 percent in Mexico. The exception is Chile, whose analysis is complicated by difficulties finding a reliable regional comparator.

Despite the greater reliability of these results, these studies still fall short of addressing all the limitations that have plagued the literature of the 1990s. For instance, trade liberalization is still represented by periods (instead of actual trade policy indicators), defined by arbitrary criteria that erase the significant differences in scope and implementation across countries. There is also limited control of the influence of other growth correlates that can vary over time: other public policies, institutions, and human capital.

Fortunately, another study (Estevadeordal and Taylor, 2013) pushes the envelope on all these fronts, offering a more promising approach. They suggest that the right research and policy question is not whether liberalizing countries grew faster than before or faster than non-liberalizers, but whether they experienced an accelerated growth rate compared with non-liberalizers.⁷

⁶ See Irwin (2019) for a review.

⁷ Easterly (2018) and Feyrer (2019) also make relevant contributions to the trade and growth debate, but they are not strictly related to trade policy. Easterly establishes positive correlations between the whole package of Washington Consensus reforms and growth, whereas Feyrer uses changes in transport costs to more rigorously identify the impact of trade on income growth. He finds that differences in predicted trade growth can explain roughly 17 percent of the variation in cross-country income growth between 1960 and 1995.

While this difference may sound subtle, it goes to the heart of the problem with overly optimistic expectations. It is reasonable to expect, given the theoretical arguments reviewed in Chapter 1, that trade liberalization may accelerate a country's rate of growth compared with a non-liberalization scenario. But it is a huge stretch to argue that this policy will completely define the country's rate of growth, regardless of all the other contributing factors, such as institutions, education, and demographics, that drive differences in long-term economic growth across countries.

In other words, it is reasonable to expect liberalization to accelerate Mexico's rate of growth compared with that of less-liberalizing Brazil, but not that the country would necessarily grow faster than its South American counterpart, whose growth may be propelled by other factors. For instance, Brazil could be enjoying an infrastructure or demographic boom that Mexico is not, fueling growth but bearing no relationship to trade policy.

Estevadeordal and Taylor use this more reasonable approach on samples of up to 75 countries (14 in Latin America) spanning 1975–2004. They find a positive and statistically significant impact of trade liberalization on growth accelerations, even after controlling for other growth correlates such as institutional and educational changes.

The trade policy's impact is measured in two ways: indirectly, by grouping countries into liberalizers (those that cut their MFN tariffs between 1985 and 2002) and non-liberalizers (those that did not), and, directly, by relating changes in per capita income growth to changes in MFN tariffs. In the first case, they find that liberalizers accelerated their growth between 0.8 and 1 percentage point per year relative to non-liberalizers; liberalizers that cut intermediate and capital goods tariffs showed the highest impact. This finding is consistent with the theory that cheaper and state-of-the-art capital and intermediate goods prompt gains in physical capital investment and knowledge accumulation.

In the second, direct, case, a 25 percent tariff cut (the median tariff cut during the period analyzed) accelerates growth between three-quarters and one percentage point per year, with the largest gains again linked to cuts in capital and intermediate goods tariffs.

These gains may not sound significant, particularly when measured against the region's expectations, but they are far from trivial when accumulated over the long term. As the authors argue, "Is there any other single policy prescription of the past 20 years that can be argued to have contributed between 15 percent and 20 percent to developing country incomes?"⁸

⁸ Estevadeordal and Taylor (2013: 1689).

Zooming in on Latin America

To gain more insight into the idiosyncrasies of the trade-growth relationship in Latin America, Estevadeordal and Taylor's analysis is extended in five ways: using data for a longer and more recent time period (1980–2010), experimenting with different tariff databases and trade liberalization indices, expanding the number of Latin American countries in the sample (18 out of 88), adopting an empirical strategy that allows regional idiosyncrasies to be identified, and looking at the trade-growth relationship at the sectoral level.⁹

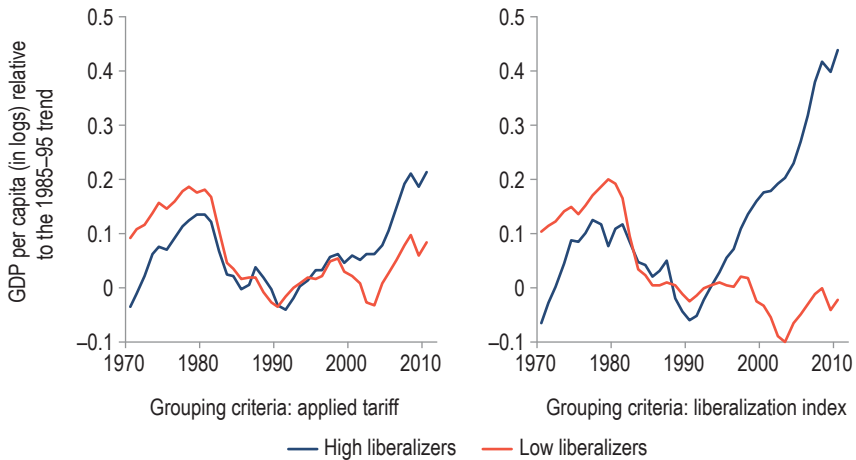
Before moving on to the results of the econometric analysis, some patterns in the raw data are noteworthy. For instance, Figure 2.14 categorizes the region along the lines of Estevadeordal and Taylor, dividing it into high and low liberalizers. The high group countries cut tariffs between 1980 and 2015 more than the median of the region's sample and had a 2015 applied tariff level below the median. Low liberalizers did not meet this criterion. An analogous criterion is applied for the KOF *de jure* trade liberalization index, discussed earlier.

Thus, while the two groups' trends were similar before the Great Liberalization (1985–95), they diverged significantly afterwards, with the high liberalizers enjoying significantly faster growth. This is particularly evident when using the KOF index, which has greater coverage of trade barriers. These figures also suggest that the fortuitous gains of the commodity boom in the 2000s, which helped countries such as Brazil and Venezuela to delay reckoning with their costly trade policies, might have masked the differences in the trend between the two groups. This hypothesis, however, needs to be more rigorously tested.

Despite its appeal, this categorization based on periods involves an inevitable element of arbitrariness in the metric and period used to define the groups. It also erases the policy differences within the groups. For instance, Chile and Mexico are grouped among the low liberalizers because they underwent a liberalization process earlier, but they are, by any measure, significantly more open economies than their peers in the group.

⁹ Two tariff databases were used: CESifo Group-World Bank and Economic Freedom in the World (EFW). The former included both MFN and preferential tariffs; the latter used effective tariffs (tariff revenue divided by imports) until 1995 and then MFN tariffs from World Integrated Trade Solution (WITS). The Latin American countries are: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Paraguay, El Salvador, Uruguay, and Venezuela. See Merchán and Mesquita Moreira (2019b) for the technical details of the exercise.

Figure 2.14 GDP Per Capita Relative to 1985–95 Trend, Selected High and Low Liberalizers in Latin America



Source: IDB staff calculation based on KOF *de jure* trade liberalization index data and tariff data from LAIA, Lora (2001), and CESIFO-World Bank.

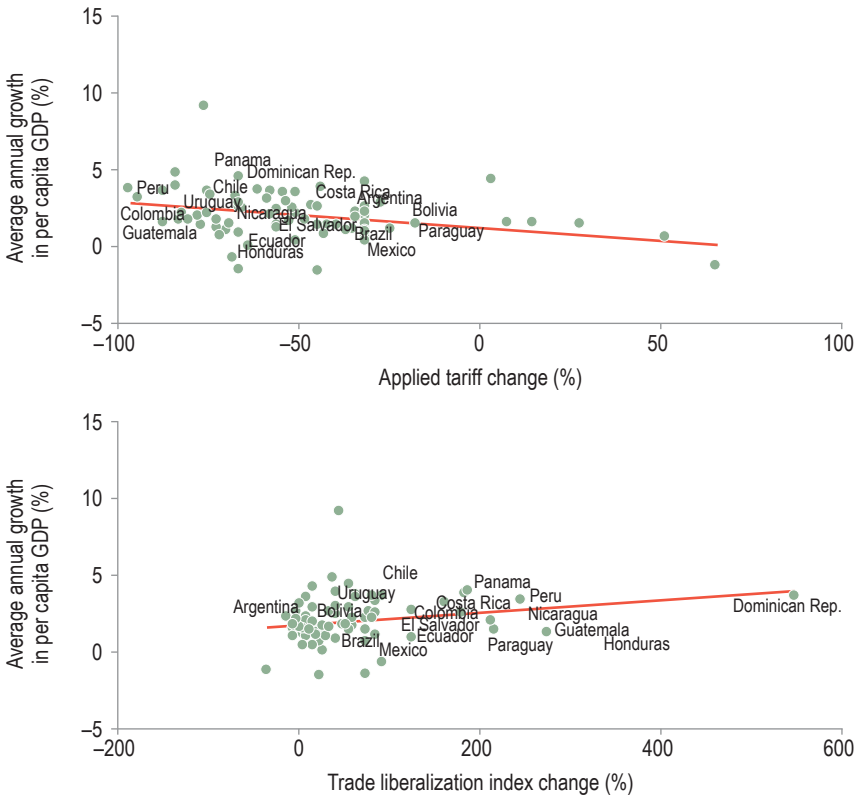
Note: This figure shows the difference in logs between the observed GDP per capita and the one predicted by the 1985–95 trend. The sample selection was based on data availability. The graph on the left divides countries into high liberalizers (Colombia, Costa Rica, Guatemala, Honduras, Peru and Dominican Republic) and low liberalizers (Argentina, Bolivia, Brazil, Chile, Ecuador, El Salvador, Mexico, Nicaragua, Panama, Paraguay, Uruguay, and Venezuela) based on changes in applied tariffs. The graph on the right uses changes in the KOF liberalization index, with the high liberalizers being Costa Rica, Dominican Republic, Guatemala, Honduras, Nicaragua, Panama and Peru, and the low liberalizers being Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Uruguay and Venezuela. GDP per capita is in PPP terms (WDI).

A clearer picture emerges when changes in per capita income are shown in direct correlation to trade policy indicators, as in Estevadeordal and Taylor's second approach. Figure 2.15 plots changes in per capita income against changes either in applied tariffs or in the KOF *de jure* trade liberalization index. Both cases suggest trade liberalization has a positive impact on per capita income growth, even more so in the region than in the rest of the world.¹⁰

These hints of causality seem to be confirmed in a study that filters out the influence of other growth-related factors, whether observable (e.g., education and institutions) or not (see Merchán and Mesquita Moreira, 2019b). Due to the shortcomings explained above, it avoids using binary

¹⁰ The correlation coefficient between tariff percentage change and annual GDP per capita growth for the whole sample is -0.3 , statistically significant at the 5 percent level, -0.41 (at the 10 percent level) for Latin America and -0.28 (10 percent level) for the rest of the world. In terms of the KOF *de jure* trade liberalization index, the correlation coefficient for the whole sample is 0.24 , statistically significant at the 5 percent level, 0.36 (significant at 10 percent) for Latin America, and 0.22 (significant at 10 percent) for the rest of the world.

Figure 2.15 GDP Per Capita Growth and Trade Liberalization, Selected Countries, 1990–2015



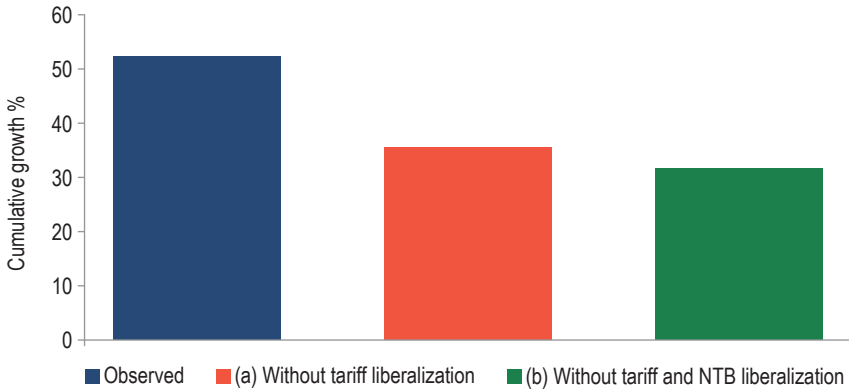
Source: IDB staff calculation based on Economic Freedom of the World database and KOF index. Note: The tariff sample covers 73 countries, including 17 in Latin America and the Caribbean. Tariffs are simple averages from Economic Freedom of the World database. The liberalization index is the KOF *de jure* trade globalization index. The higher the index number, the more liberalized the country. GDP per capita is in constant US\$ sourced from WDI.

variables (either for groups or periods) and focuses directly on continuous trade policy indicators (applied tariffs and the KOF index). It is run for two periods: 1980–2010 and 1990–2010.¹¹

The lower bound estimates for the 1990–2010 period suggest that a 56 percent tariff cut (the median cut during that period) would accelerate per capita GDP in Latin America by 0.61 percentage points per year, slightly less than that of Estevadeordal and Taylor. The exercise also confirms their findings that tariffs on intermediate and capital goods have the strongest

¹¹ The exercise does not go beyond 2010 because of data restrictions on key control variables such as education and quality of institutions.

Figure 2.16 Trade Liberalization and GDP Per Capita Growth, Observed and Hypothetical Scenarios, Latin America, 1990–2010



Source: IDB staff calculation.

Note: Scenarios (a) and (b) are based on the OLS coefficients of the applied tariffs and KOF trade index variables, respectively. See text and Merchán and Mesquita Moreira (2019b) for details. GDP per capita is in constant 2010 US\$.

effects. The estimates using the KOF liberalization index suggest that a 74 percent increase (the median gain during the period) accelerated growth by 0.74 percentage points per year.¹²

How significant are these gains? Without liberalization, Latin America's GDP per capita would have grown between 30 and 40 percent less between 1990 and 2010, depending on the policy indicator used (see Figure 2.16).¹³ These results do not suggest that the Great Liberalization was a panacea, but—to repeat Estevadeordal and Taylor's argument—it is hard to think of another policy measure that could singlehandedly deliver this sort of gain.

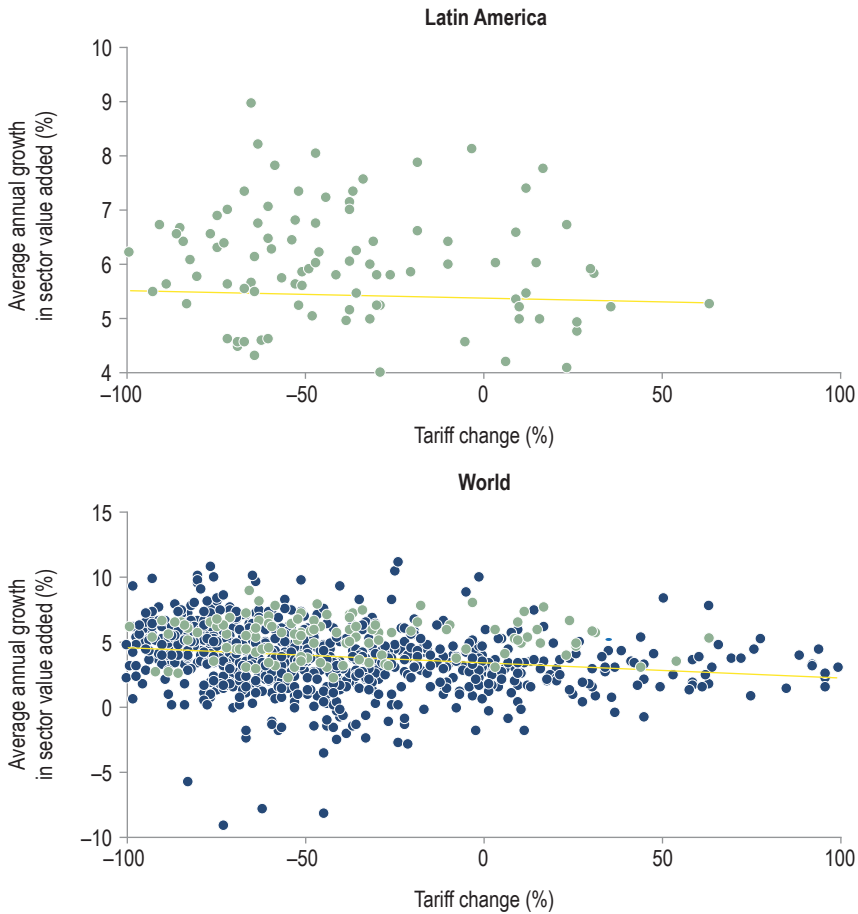
A Sectoral View

The evidence reviewed thus far refers to the economy as a whole. But how did trade liberalization impact specific sectors? Can the same sort of effects be expected? Not necessarily. Sectors, particularly those without a comparative advantage, can be hurt by lower domestic prices and more competition. However, this disadvantage can be offset by access to larger markets, more incentives to increase productivity and innovate, and

¹² See Merchán and Mesquita Moreira (2019b), Tables 1–3. Estimates were based on Tables 1b and 2b, columns 2 and 12.

¹³ A result comparable to Billmeier and Nannicini (2013) reviewed earlier. The change in tariffs explains 32 percent of the accumulated GDP per capita growth in the period. In the case of KOF index, the figure is 39 percent.

Figure 2.17 Tariff Change and Growth in Sector Value Added, Selected Countries, 1990–2015 (%)



Source: IDB staff calculation based on Eora and CESIFO Group – World Bank tariff data.
 Note: Observations are country-sector pairs. The coefficient is -0.03 for Latin America, not statistically significant, and -0.2 for the rest of the world (significant). World includes 89 countries. Latin American countries are in green.

access to cheaper and more technologically advanced capital and intermediate goods.

To shed some light on this issue, Figure 2.17 relates tariffs to long-term sectoral growth using data for 88 countries (14 in Latin America) and 10 sectors from 1990 to 2015.¹⁴ At least over the long term, a negative

¹⁴ The 10 sectors are agriculture, fishing, mining and quarrying, food and beverages, textiles and apparel, wood and paper, petroleum, metal products, electricity, and machinery and transport equipment.

relationship seems to exist between sector value added growth and tariffs, both for the world and for Latin American countries. In other words, higher tariffs lead to lower sector growth.

These results, of course, may reflect a spurious correlation driven by omitted factors. To say something more conclusive about causality, two econometric exercises are carried out. The first exercise looks at the average impact across all sectors. The most conservative estimates suggest that a 47 percent tariff cut on the sectors' final product (the Latin American median cut over the period) boosts the annual growth of sectoral value added by about 1.1 percentage points. As expected, since access to cheaper and better inputs can only help sectors grow, the estimated impact for the sectors' input tariff cut is stronger.¹⁵ The region's 57 percent median cut accelerates average annual growth by about 1.2 percentage points. These results explain an average 24 percent (26 percent for the input tariffs) of the accumulated value-added growth in the period.

The second exercise tries to capture the long-term impact of trade liberalization across broadly defined economic activities—mining, manufacturing, and agriculture—in the region and the rest of the world. Figure 2.18 summarizes the results and shows 95 percent confidence intervals for regional and activity-specific impacts on annual growth, broken down by tariff cuts on final products and inputs.¹⁶

Manufacturing is the only activity in the region in which tariff cuts are likely to have had a positive and statistically significant impact on annual growth, ranging from 1.7 (final products) to 2.4 (inputs) percentage points.¹⁷ This pattern contrasts with that of the rest of the world, where mining and agriculture were the only sectors with positive and statistically significant impacts. This result seems to be driven by the fact that manufacturing tariffs were already relatively low in most of the developed world and developing Asia.

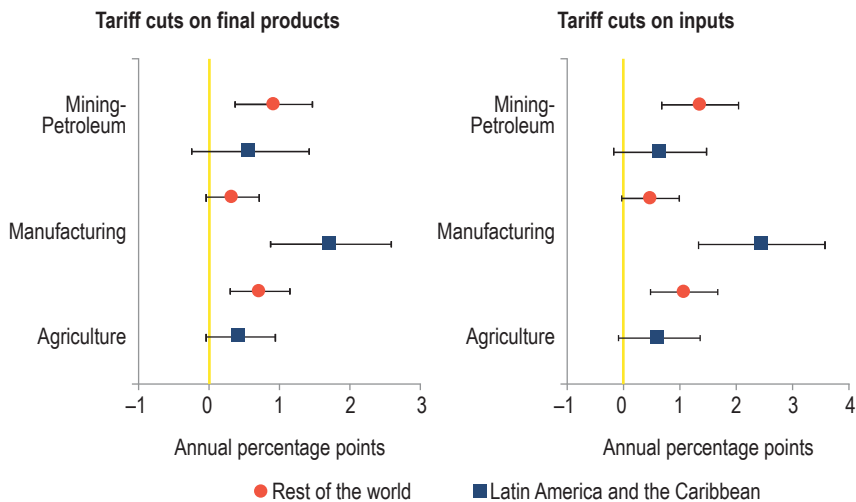
At least two important takeaways can be drawn from these sectoral results. First, the magnitude and the direction of the impacts are consistent with the GDP exercise and support the argument that the Great

¹⁵ The activities' final product tariffs are value-added weighted averages. The input tariffs are weighted averages of tariffs applied on goods used as inputs, with the weights coming from Eora input-output matrices. See Merchán and Mesquita Moreira (2019b) for details of the data building and econometric results.

¹⁶ Confidence intervals are a range of values that has 95% probability of including the actual impact.

¹⁷ Those estimates reflect median tariff cuts of 41 percent and 66 percent for final product and inputs, respectively. These results explain around 33 percent (43 percent) of the accumulated manufacturing value-added growth in the 1990–2015 period.

Figure 2.18 The Impact of Trade Liberalization on Sectoral Value-Added Growth, Latin America and the Caribbean and Rest of the World



Source: IDB staff calculation.

Note: These are 95% confidence intervals calculated as the product between region-activity OLS coefficients and the median percentage change in applied tariffs in the 1990–2015 period. Regressions were run at the 10 sector level. See Merchán and Mesquita Moreira (2019b).

Liberalization contributed significantly to the region's growth. Second, this contribution is likely to have come mostly from manufacturing, which was, on average, the most protected activity in the region.

It is also important to clarify what those results do not convey. They do not suggest the absence of both winners and losers, or resource reallocation, to use the more technical term. These are average, long-term (25 years), regional impacts. They do not rule out either short-term negative outcomes, or negative impacts for a particular activity in a specific country, even in the long run. In fact, evidence in Chapters 3 and 4 suggests a significant amount of trade-driven reallocation of resources within and across activities and countries—a process that is part and parcel of the welfare and income gains discussed in Chapter 1 and quantified in the next section.

Trade and Welfare: Is the Region Better Off?

The expectations for welfare gains from the Great Liberalization rested on centuries of comparative advantage theory, and that support became even stronger as economists found other important reasons to trade. Despite this support, however, estimates of the region's gains during the past 30 years of liberalization remain scarce.

This dearth of evidence is rooted in the complexity of determining if, and by how much, consumers are better off because of the opening of trade. Despite clearly identifiable drivers—the cut in tariffs and its immediate impact on trade flows—the outcome ultimately depends on how this trade shock affects the complex interaction between consumers' preferences and their income. This involves markets not only for goods that can be traded, but also for labor and services such as haircuts that do not cross borders.

To address the challenge of calculating the impact, economists have traditionally resorted to computable general equilibrium models, with their hundreds of equations covering every possible interaction. However, they have mostly been used in the region to predict the gains of prospective PTAs rather than to assess past unilateral or multilateral trade policy events. Moreover, despite their analytical value, these models have been criticized for their complexity, lack of transparency, and imputation of key parameters, as well as for the fact that their results are driven by very restrictive assumptions about how the economy works.¹⁸

Fortunately, a new crop of more parsimonious general equilibrium models addresses most of these concerns.¹⁹ However, the challenge remains to capture, in just one model, all the comparative advantage, intra-industry trade, pro-competitive, and reallocation gains discussed in Chapter 1. Typically, the estimates focus on just a subset of those gains, which still allows for powerful insights but leaves open the possibility of underestimating welfare impacts.

Caliendo and Parro (2015) and Caliendo et al. (2017) offer insightful examples of this new approach, with rare insights for Latin America. Caliendo and Parro is a case study of the welfare gains and impact on trade of the North American Free Trade Agreement (NAFTA), a PTA that attracted much interest in the region for being the largest and the first to involve a developed country. Using a model that focuses on David Ricardo's comparative advantages, they estimate that Mexico's welfare increased by 1.3 percent, whereas wages, a variable that tends to closely follow welfare effects, rose by 1.7 percent.

Caliendo et al. (2017) is a more ambitious study that estimates the welfare and trade impacts of the Great Liberalization for most of the world, including most of Latin America and the Caribbean. Using a theoretical model geared to capture the reallocation rather than the comparative gains from trade, they look at the impact of tariff cuts negotiated by the Uruguay Round (1986–94) and the PTAs signed from 1990 to 2010. Their

¹⁸ See Baldwin and Venables (1995).

¹⁹ See Costinot and Rodríguez-Clare (2014) and Feenstra (2018) for reviews.

findings point to an average welfare gain of 1.6 percent across the countries in the sample, 92 percent of which are driven by the Uruguay Round.

The size of these gains begs the question: Is trade liberalization much ado about nothing? They certainly do not support selling either preferential or multilateral liberalization as the cure-all for making consumers better off. However, they can hardly be interpreted as proof of these policies' irrelevance either. First, these estimates cover only tariffs—already low in most of the developed world—and leave out other trade barriers that were particularly significant in Latin America and the Caribbean²⁰; second, they do not cover all the possible trade gains discussed earlier, and, third, they offer a valuable but only limited analysis of the experiences of the countries in the region.

Even though the first two shortcomings cannot be effectively addressed—reliable NTB data are scarce and trade theory has yet to incorporate all the trade gains in one model²¹—the third issue can certainly be overcome by trying to replicate the exercise of Caliendo et al. (2017) and carrying out a more detailed discussion of the outcomes in Latin America and the Caribbean.

To further enhance this effort, an extended database is used (1990–2015), with broader and more reliable tariff information for the countries in the region.²² The base period of the analysis is also changed from the initial to the final year to better reflect the economies' current structure. This means that the comparison is between the 2015 outcomes and those that would have prevailed if the MFN and preferential tariffs of the region and the rest of the world were brought back to their pre-liberalization levels.

The results for the 26 Latin American and Caribbean countries in the sample are shown in Figure 2.19. They point to a 0.2 percent median increase in welfare and to a 0.8 percent gain in real wages, which is higher than the gains for the rest of the world (0.1 percent and 0.3 percent, respectively). Again, the size of the gains is troubling, but the qualifications about the coverage of NTBs and types of trade gains covered are also valid here.

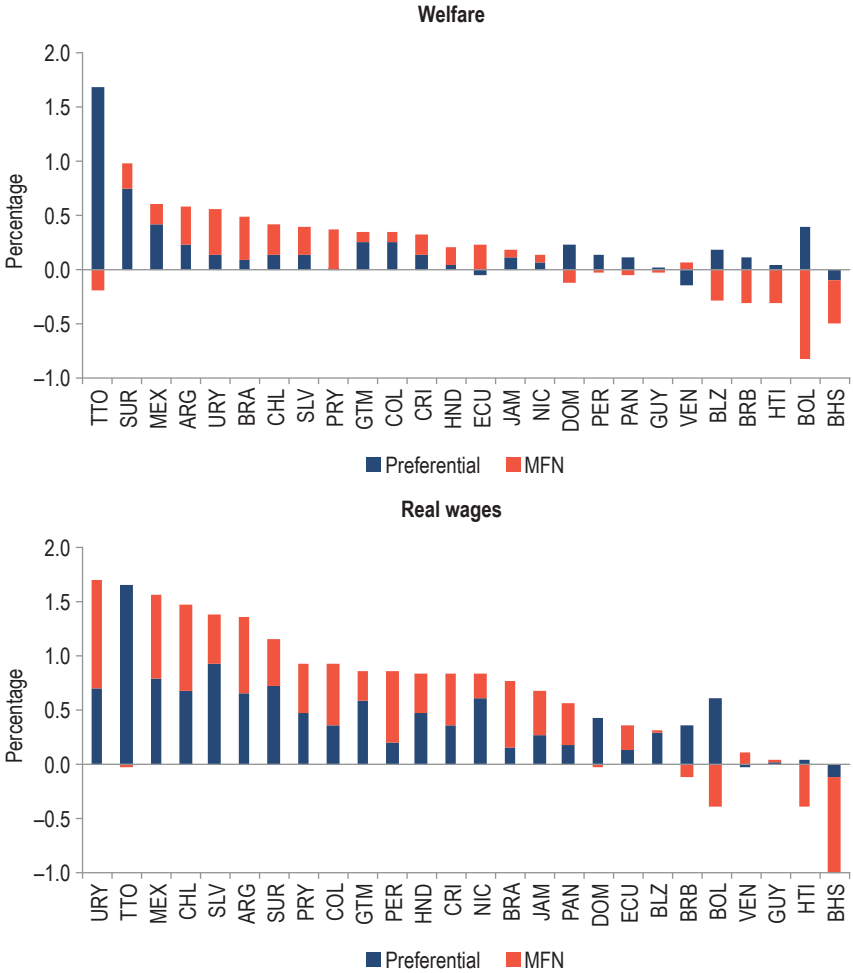
More telling than the median is the wide variation in gains around the region. Most countries are better off, but some showed losses in welfare

²⁰ As Caliendo and Parro (2015: 29) put it for the case of NAFTA: “Unquestionably, NAFTA had more provisions than only reducing tariffs between members and by no means our results should be interpreted as the trade and welfare effects of the entire agreement.”

²¹ See Feenstra (2018b) for a promising attempt in this direction.

²² See Cai and Li (2019).

Figure 2.19 Welfare and Wage Effects of the Great Liberalization, Selected Latin American and Caribbean Countries, 1990–2015 (%)



Source: IDB staff calculation.

Note: Simulation reflects changes in applied MFN and preferential rates all over the world. See Cai and Li (2019) for details.

(Barbados, Belize, Bolivia, Haiti, The Bahamas, and Venezuela) and real wages (Haiti and The Bahamas). These are, for the most part, countries whose MFN or preferential rates barely changed or even increased at the end of the period.

The decomposition between preferential and MFN gains also offers interesting insights. For a typical country in the region, preferential liberalization explains 20 percent of the welfare and 44 percent of the real wage

gains. These results contrast sharply with those of the rest of the world, where the same figures are 15 percent and 10 percent, respectively. This seems to reflect two hallmarks of Latin American and Caribbean liberalization: the scope and depth of the PTA network and the often-limited MFN liberalization, particularly in Mercosur and the Caribbean.

Another important peculiarity of the region is that the MFN-driven liberalization cannot be interpreted entirely as multilateral, at least not in the same sense used by Caliendo et al. (2017). Unlike the rest of the world—except for a few Asian countries such as India and Indonesia—most countries in the region have a significant MFN tariff overhang, that is, the applied MFN tariffs are significantly lower than those negotiated during the Uruguay Round (“bound tariffs”). The difference ranges from 10 to 30 percentage points.²³ Since applied and non-bound tariffs are used in the exercises, this implies that MFN liberalization has a clear unilateral component that goes well beyond the Uruguay Round. This tariff overhang is not just an analytical concern, but has clear policy implications, since it creates uncertainty over the stability of the region’s trade policies (see Chapter 7).

Despite the gap between the actual and expected impact of trade liberalization on growth and welfare, the bottom line is that opening up the region’s economies produced gains for the economy as a whole, for sectors (particularly manufacturing), and for individuals. Moreover, while the numbers may seem small, they are in fact significant and overshadow the impact of any other single policy change.

²³ See Bown et al. (2017, Chapter 3).

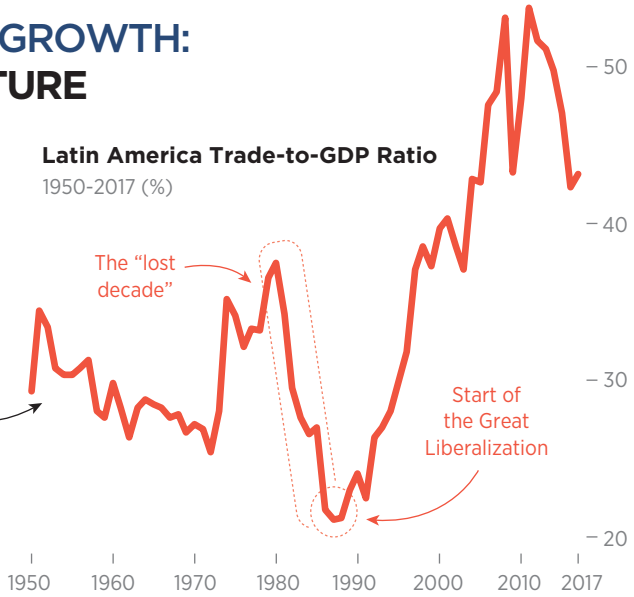
TAKING STOCK

TRADE AND GROWTH: THE BIG PICTURE



In the early 1990s, following the “lost decade” of the 1980s, Latin America and the Caribbean embarked on ambitious trade liberalization.

Latin America Trade-to-GDP Ratio
1950-2017 (%)



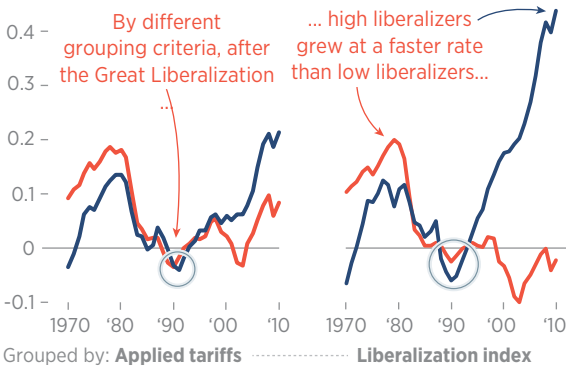
TRADE LIBERALIZATION AND GROWTH



Trade liberalization impacted growth.

GDP per Capita Relative to 1985–1995 Trend

In logs, selected Latin American countries

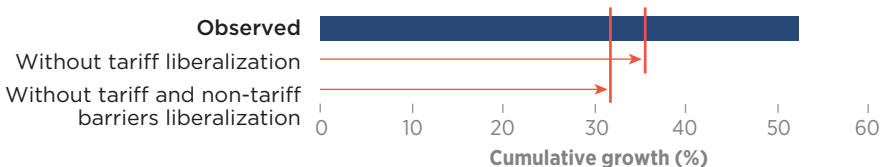


THE BOTTOM LINE

Openness helped to accelerate growth, producing an average income per capita gain of up to 16% in 20 years; a payoff hardly seen in other public policies.

Trade Liberalization and GDP per Capita Growth

Latin America, 1990–2010



3 The Mechanics behind Liberalization: The Macro Evidence

The Great Liberalization produced significant growth and welfare gains—but how? Through which channels did these gains travel? What roles did trade, foreign direct investment (FDI), and knowledge flows play? Did trade policies lead to different patterns of specialization—say agriculture and services versus manufacturing—that helped or hindered growth? This chapter reviews the available macro (country- and sector-level) evidence.

Trade Flows: Strong, But Not Strong Enough

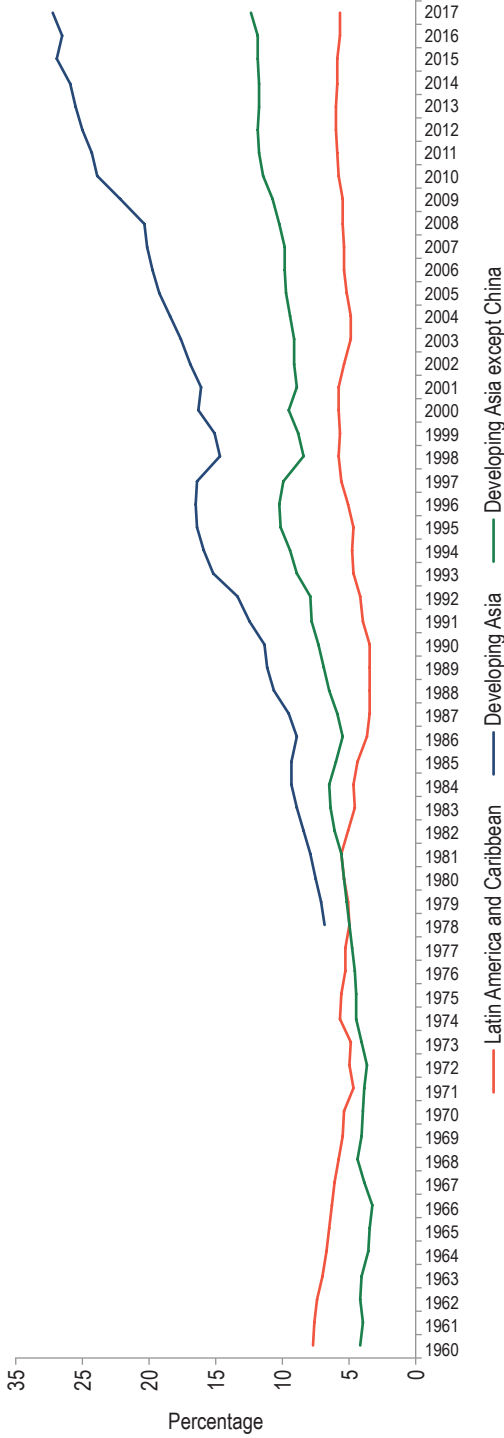
Import substitution policies drove Latin America and the Caribbean's share of world trade in goods into a tailspin, just as most of developing Asia was moving in the other direction with an export-promotion strategy. The region reversed this losing trend in the early 1990s, as the Great Liberalization gained steam. Unfortunately, the reversal was not strong enough for the region to either recoup its losses or catch up with developing Asia, which was policymakers' benchmark of choice, even when China is not counted as part of group (see Figure 3.1).

The figure hides significant differences in performance across countries. Those that went further in liberalizing their economies—Chile, Peru, Mexico, or Costa Rica—did significantly better than those that did not (e.g., Brazil or Argentina) (Figure 3.2).

In services, where liberalization was generally more tentative, the picture is gloomier. Figure 3.3 shows the region's share of world trade in those services for which liberalization matters the most.¹ The downward trend was only briefly interrupted in the first half of the 1990s, when the Great Liberalization took off, in sharp contrast to developing Asia's performance, led by China in the East and India in the South. This lackluster performance

¹ See Chapter 2, footnote 5.

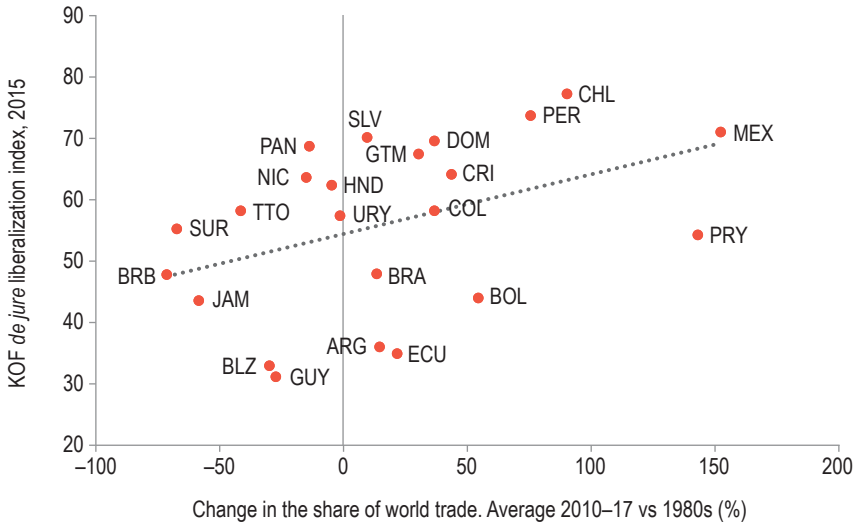
Figure 3.1 Share of World Trade in Goods: Latin America and the Caribbean and Developing Asia



Source: IDB staff calculations based on IMF-DOTS data.

Note: Latin America and the Caribbean includes Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, and Venezuela. Developing Asia includes Cambodia, China, Hong Kong, India, Indonesia, Korea, Malaysia, Pakistan, Philippines, Singapore, Thailand, and Vietnam. Data for China are available only after 1978.

Figure 3.2 Change in Share of World Trade in Goods and Trade Liberalization (KOF De Jure Trade Liberalization Index), 1980–2017



Source: IDB staff calculations based on IMF-DOTs and KOF data.

Note: The KOF Globalisation Index (Gygli, Haelg, and Storm, 2018) structured as: (a) 32.5% nontariff and trade barrier costs of importing and exporting; (b) 34.5% taxes on international trade as percentage of revenue; (c) 33% unweighted mean of tariff rates. The higher the index, the more liberalized the country. Dotted line is a linear trend line, statistically significant at 5%.

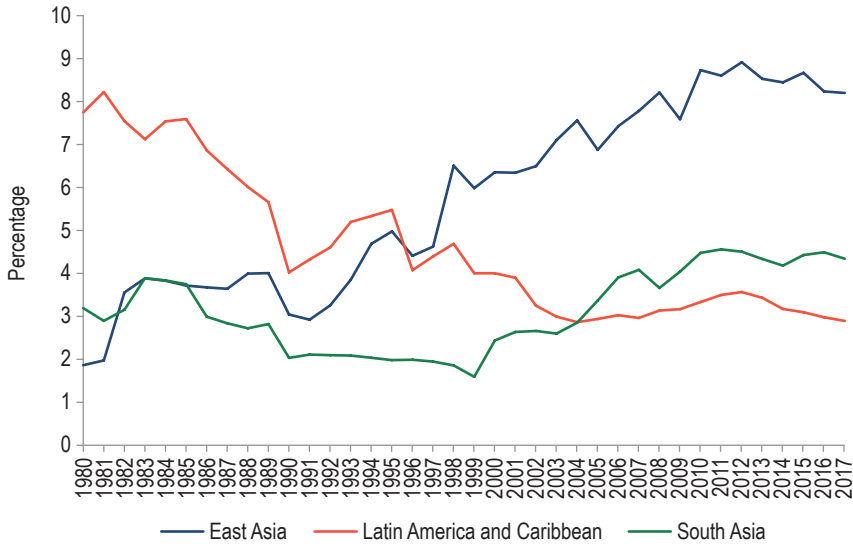
was shared by most countries in the region, whose share of world trade in the second decade of the 2000s was smaller than in the pre-liberalization period, except for Costa Rica and Uruguay (Figure 3.4).

It is tempting to attribute the changes in trade volume to trade policies, particularly because, in this case—unlike that of growth and welfare—they have a clearer and more direct impact. However, the evidence presented thus far, though relevant, is mostly circumstantial. Other forces and policies also played a role. China’s emergence, for one, completely reshaped the world trade landscape in the last two decades, exposing the region to both supply (manufacturing) and demand (commodities) shocks.²

Likewise, technological changes led to the development of global value chains, creating opportunities for trade in intermediate goods (see

² Chapter 4 presents an in-depth discussion of the manufacturing shock. See Mesquita Moreira, Soares, and Li (2016) for a thorough discussion of the region’s economic relationship with China.

Figure 3.3 Share of World Trade in Selected Services, Latin America and Caribbean and Developing Asia



Source: IDB staff calculations based on IMF-BOP data.

Note: Service sectors are those defined by the GATS as Mode 1 (cross border trade) and Mode 4 (presence of natural persons), which covers financial, telecommunications, transportation, and professional services. Latin America and Caribbean includes Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela. East Asia includes China, Hong Kong, Korea, Macau, and Mongolia. South Asia covers Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, and Sri Lanka.

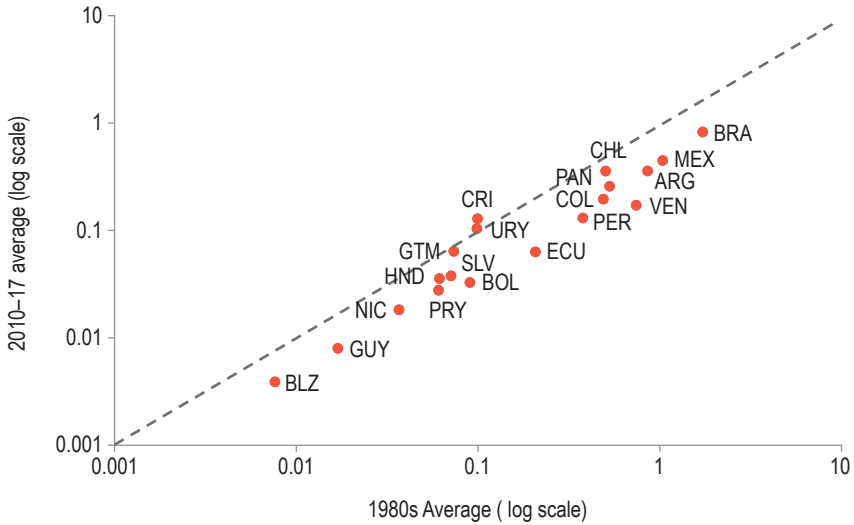
Box 3.1). And, of course, countries adopted a vast array of macro and exchange rate policies, some of them clearly misguided, which also likely affected trade.

Fortunately, the impact of liberalization on trade flows can be approximated using the same general equilibrium approach as Chapter 2, which considers both the direct and indirect effects throughout the economy. Now, instead of welfare or wages, the counterfactual uses the trade-to-GDP ratios that would have prevailed in 2015 if the region's and the rest of the world's most-favored-nation (MFN) and preferential tariffs had remained at pre-liberalization levels.³

The results point to a positive, sizable median impact of 28 percent, almost half of which is driven by preferential liberalizations (see Figure 3.5). As in the case of welfare and wages, these figures are higher than those for the rest of the world (17 percent median impact, one-third of which is

³ See Cai and Li (2019).

Figure 3.4 Share of World Trade in Selected Services, Selected Latin American and Caribbean Countries



Source: IDB staff calculations based on IMF-BOP data.

Note: Service sectors are those defined by the GATS as Mode 1 (cross border trade) and Mode 4 (presence of natural persons), which covers financial telecommunications, transportation, and professional services. Dotted line is the graph diagonal. Countries below the line lost market share. Latin America and Caribbean covers Argentina, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Uruguay, and Venezuela. East Asia includes China, Hong Kong, Korea, Macau, and Mongolia. South Asia includes Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Pakistan, and Sri Lanka.

explained by preferential trade agreements, or PTAs), reaffirming not only the region's higher gains, but also the greater relevance of its preferential dimension of liberalization.

The wide variation in results across countries underscores the differences in countries' initial positions and approaches to liberalization. The top winners usually present either very high pre-liberalization tariffs (e.g., Brazil), an aggressive stance towards preferential liberalization (e.g., Chile), or both (e.g., Peru and Colombia). The losers have generally increased their MNF tariffs (e.g., Bahamas and Haiti).

The general equilibrium approach also allows for more detailed analysis of preferential liberalization, which typically explains half of the impact on trade flows. This analysis is done with a counterfactual exercise covering five of the region's most consequential PTAs in the last 30 years, all of which were either signed or effectively implemented in the early 1990s: the Central American Common Market (CACM), the Andean Community (CAN), the Caribbean Community (CARICOM), the Southern

BOX 3.1 THE GREAT LIBERALIZATION AND GLOBAL VALUE CHAINS

Global value chains (GVCs)—the doling out of different stages of the production process to different countries—can be thought of as a byproduct of the Great Liberalization that swept across the developing world, opening up new opportunities to trade.^a It gained steam in the early 1990s and peaked in the years immediately following the global financial crisis.^b Unfortunately, despite Latin America and the Caribbean’s effort to liberalize its trade, its participation in GVCs has lagged behind other regions such as Asia and the European Union. Why has that been the case? What does the future hold?

Backward and Forward Linkages

There are two complementary measures of GVC participation: backward and forward linkages. Backward linkages capture the extent to which foreign goods and services are used to produce domestic goods that are exported. The yarn imported into Honduras that is then woven into exported cloth is an example of Honduras’ backward participation. Forward linkages capture the extent to which domestically produced goods and services are used to produce foreign exports. For example, the cloth exported from Honduras may go to a factory in Mexico where it is made into a shirt and then exported to the United States.

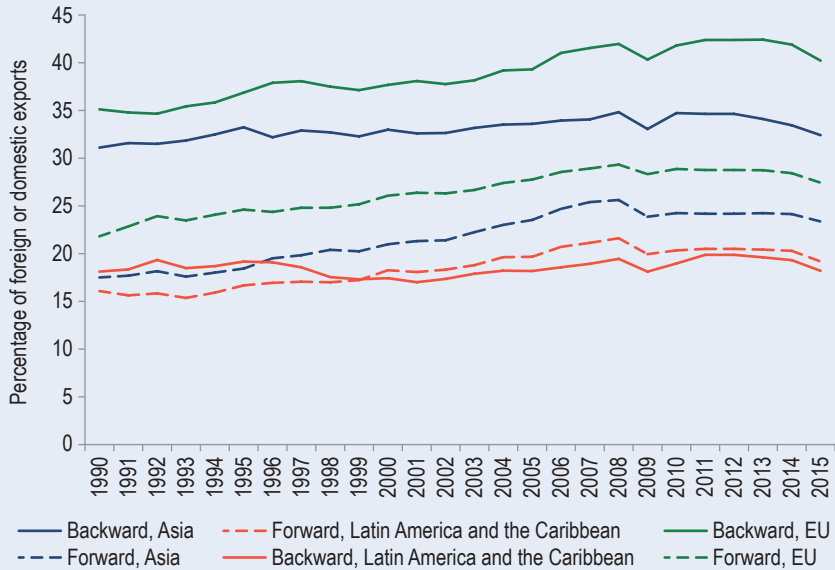
Figure 3.1.1 shows how the region’s GVC participation, according to these two metrics, has evolved since the Great Liberalization. The region lagged well behind Asia and Europe—the two regions that led the GVC boom—in backward linkages in the early 1990s and had a smaller gap in forward linkages, particularly with respect to Asia. Since then, participation in forward linkage has increased noticeably, but not enough to reduce the gap with other regions. The picture for backward linkages is more discouraging, since the region’s participation did not change significantly over the period, in sharp contrast with the increases seen in Asia and Europe.

These participations in forward and backward linkages can be broken down into intra- and extraregional links, revealing the strength of the value chains developed within and between the regions and the rest of the world. Figure 3.1.2 shows that after nearly 30 years of liberalization, Latin America and the Caribbean not only participates less in backward and forward linkages than the EU and Asia, but also has lower contributions from intraregional links, signaling the relative weakness of its regional value chains.

Why So Low?

Trade policy is just one of the many factors behind the development of value chains, and some of them do not favor the region, or at least its southern part.^c Among these factors are, for instance, the existence of a large and dynamic regional economy, such as Japan and China in Asia or Germany in the EU; or strong comparative advantages in manufacturing, where the potential to develop value chains is arguably greater than in agriculture or mining. However, the uneven de-

(continued on next page)

BOX 3.1 THE GREAT LIBERALIZATION AND GLOBAL VALUE CHAINS**Figure 3.1.1 GVC Participation in Latin America and the Caribbean, European Union, and Asia: Backward and Forward Linkages, 1990–2015, as Percentage of Domestic or Foreign Exports**

Source: Blyde and Trachtenberg (2019).

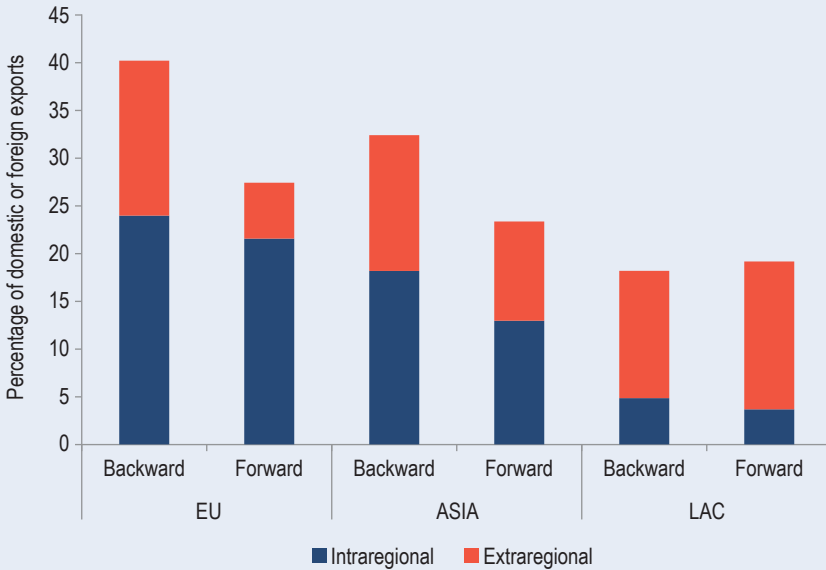
Note: Backward participation is calculated as the share of foreign value added in domestic production for export. Forward participation is calculated as the share of domestic value added in foreign exports. See Blyde and Trachtenberg (2019) for the regions' composition.

velopment of the Great Liberalization in the region, and the fragmented nature of its intraregional dimension, also played an important part in these results (see more in Chapters 2 and 7).

For instance, high trade costs can hinder the growth of supply chains, particularly when they affect manufactured intermediate inputs.^d This explains, at least partially, why countries in the region that were the slowest to liberalize and suffered the strongest backlashes, such as Brazil and Argentina, have the lowest backward linkage participations (12 percent and 17 percent, respectively). Mexico, by contrast, one of the top liberalizers, has one of the highest backward linkage participations (29 percent).^e

The region's preferential liberalization, which led to a fragmented network of PTAs lacking common preferences and rules of origin, also likely hampered the development of supply chains, particularly at the regional level. For instance, for the average country in the region 34.6 percent of exports go to members of trade agreements that do not include its partners in the region. This percentage

(continued on next page)

BOX 3.1 THE GREAT LIBERALIZATION AND GLOBAL VALUE CHAINS (continued)**Figure 3.1.2 GVC Participation in Latin America and the Caribbean, European Union and Asia: Intra and Extraregional Linkages, 2015, as Percentage of Domestic or Foreign Exports**

Source: Blyde and Trachtenberg (2019).

Note: Backward participation is calculated as the share of foreign value added in domestic production for export. Forward participation is calculated as the share of domestic value added in foreign exports. See Blyde and Trachtenberg (2019) for the regions' composition.

is substantially higher than those of Asia (15.2 percent) and the EU (0). That is, when it comes to sourcing inputs from its own region, a country in Europe or Asia has lower value-chain limitations because it sells larger shares of its exports to countries that are party to trade agreements of which a potential sourcing country from within the same region is also a member.^f

^a See Blyde (2014).

^b See Degain, Meng, and Wang (2017).

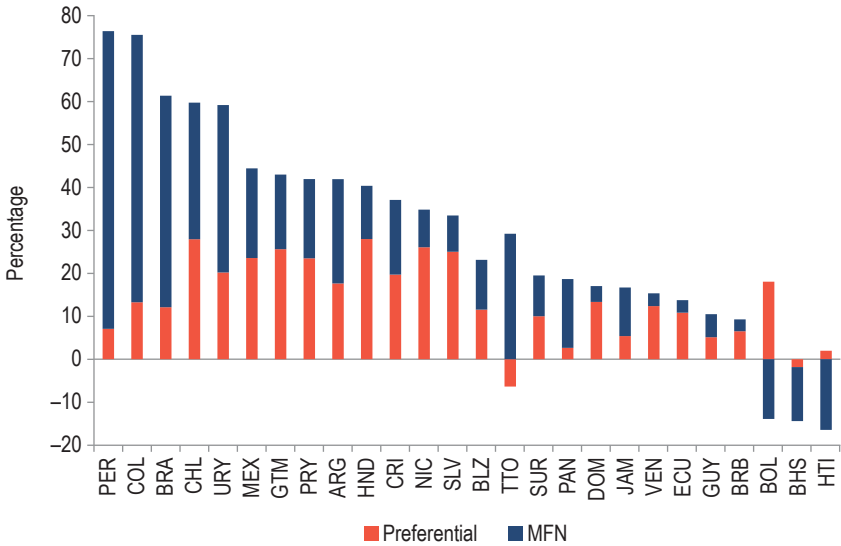
^c See Blyde (2014).

^d Johnson and Noguera (2017).

^e Data for 2015. Authors' own calculation based on Koopman, Wang, and Wei (2014) using data from the EORA Global MRIO.

^f See Mesquita Moreira (2018, Chapter 5).

Figure 3.5 The Impact of Liberalization on Trade-to-GDP Ratios, Selected Latin American and Caribbean Countries



Source: IDB staff calculations.

Note: This figure shows the general equilibrium impact on trade-to-GDP ratios of a reduction in worldwide most-favored-nation (MFN) and preferential tariffs between 1990 and 2015. See Cai and Li (2019) for details.

Common Market (Mercosur), and the North American Free Trade Agreement (NAFTA).⁴

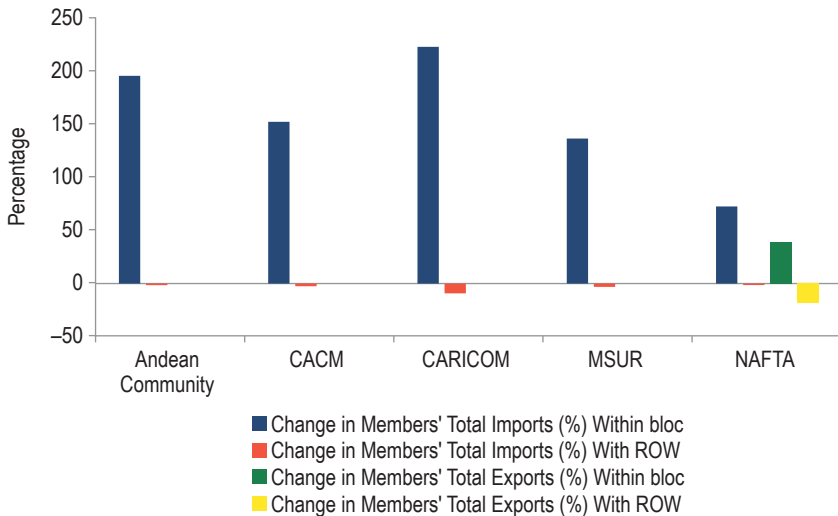
The estimates suggest that PTAs had a strong positive impact on intrabloc flows, more than doubling their value in all cases, except for Mexico's exports to NAFTA (see Figure 3.6). This confirms the importance of preferential gains. The ranking of the impact across agreements mostly reflects the importance of the initial barriers. The lower impact on Mexico's exports to NAFTA, for instance, is tied to its partners' low MFN tariffs.⁵

The estimated impacts on extraregional imports and exports are also revealing. The former point to a small trade diversion that was far outweighed by intrabloc gains, which suggests that these agreements did not boost exports to the rest of the world. The blocs' economies were not

⁴ See Mesquita Moreira (2018) for a detailed analysis of these agreements.

⁵ For all the blocs, except for NAFTA, the PTA impact on intrabloc imports and exports are identical because, by definition, they constitute the same flow. However, in NAFTA's case, since only the impact on Mexico's trade flows is considered, the impact on intrabloc imports and exports can differ.

Figure 3.6 The Impact of Selected Latin American and Caribbean PTAs on Trade, 1990–2015



Source: IDB staff calculations.

Note: This figure shows the general equilibrium impact on intra- and extrabloc trade flows between 1990 and 2015. Except for NAFTA, the green and yellow bars were omitted because, by definition, they constitute the same flows as the blue and red bars, respectively. See Cai and Li (2019) for data and methodology.

large and diverse enough to generate the expected scale and specialization gains (see more in Chapter 7).⁶

Export Diversification: Yes, No, or Maybe

Trade liberalization was supposed to allow countries to ship more of the goods and services it was already exporting, while also developing exports of new goods and services to new markets. These expectations, however, were tempered by concerns that exports would eventually return to focus on a few mining and agriculture commodities. Such a reconcentration was considered potentially damaging to growth after the Great Recession, echoing the ideas behind earlier import substitution policies.

The concern was less about concentration *per se*, but concentration in supposedly low-productivity natural resources, also known as the natural resource curse or Dutch Disease.⁷ Either way, the literature is far from

⁶ These results are consistent with the findings of Mesquita Moreira (2018, Chapter 3), which are based on a (partial equilibrium) gravity model.

⁷ See Corden and Neary (1982).

conclusive about their negative impacts on growth. For instance, export diversification increases as per capita income grows but declines after a certain threshold, following an inverted u-shaped relationship. However, it is unclear which way the causality runs.⁸ Likewise, a prolific empirical literature on the natural resource curse provides worrying evidence of its collateral effects on income volatility, institutional quality, and corruption. Yet, this is countered by equally convincing results suggesting the curse is far from inevitable.⁹

Just how much did the region diversify its exports? Excluding services, for which available data do not permit a detailed analysis, it is important to determine what has driven the growth of goods exports in nearly 30 years of liberalization. Figure 3.7 helps answer this question by breaking down countries' cumulative export growth in the 1990s and 2000s into four drivers: exports of goods already exported in the initial year to markets that were already active; exports of goods already shipped in the initial year, but that expanded into new markets; exports of new goods to already active markets; and exports of new goods to new markets.

The results show that liberalization brought with it significant export diversification into new goods and markets during its first decade, albeit with significant variations across the region. The new goods' median contribution to export growth (existing and new markets) was 24 percent, which is high by developing countries' standards.¹⁰ The gains were mostly driven by the smaller countries, which had the least-diversified exports. New markets (for existing and new goods) also made a significant contribution, with the median reaching 32 percent of overall growth, led, in this case, by a mix of small and large countries.

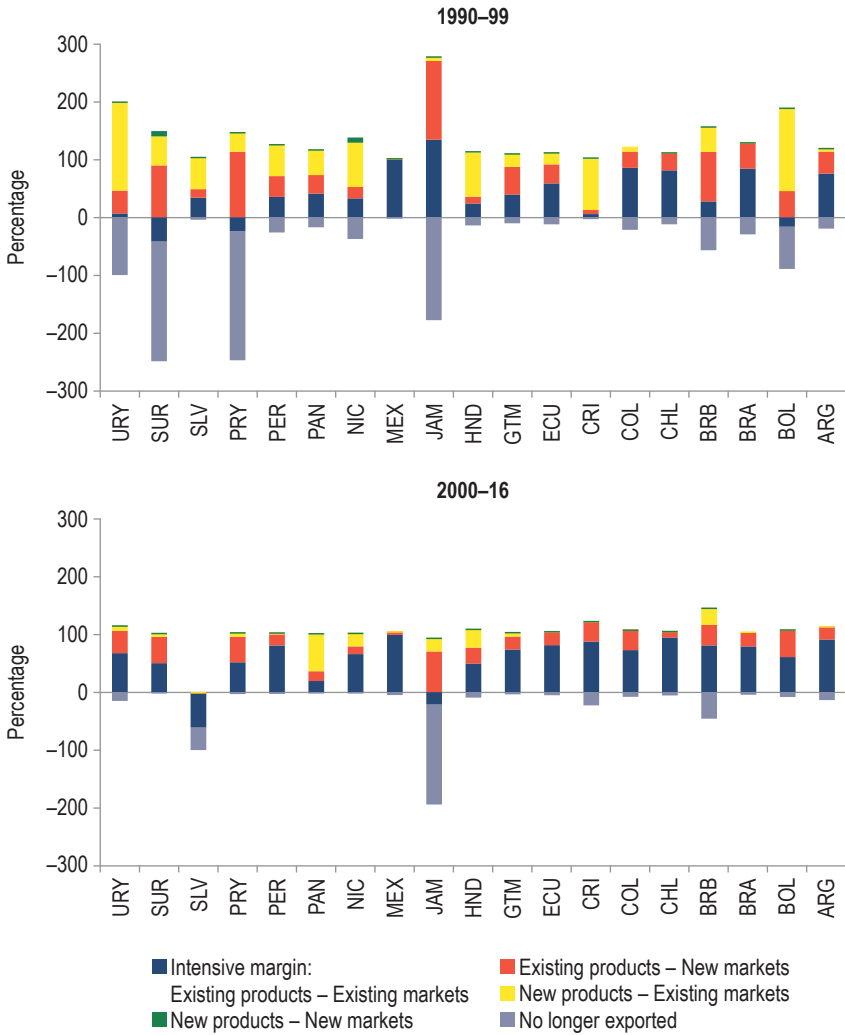
This pattern, though, changed significantly in the 2000s as the region waded into the waters of a China-led commodity boom. The new goods' median contribution dropped to 2 percent and that of new markets to 22 percent, with the change affecting commodity and noncommodity exporters alike. The exceptions were countries like Brazil and Mexico, whose new goods and new markets contributions in the first period were already small, reflecting an already high initial level of goods (Brazil and Mexico) and market diversification (Brazil).

⁸ Cadot, Carrère, and Strauss-Kahn (2011a).

⁹ See van der Ploeg (2011) and Cadot, Carrère, and Strauss-Kahn (2013) for reviews. See Allcott and Keniston (2018) for a recent discussion on the positive impacts of the fracking boom on affected counties in the United States.

¹⁰ Amurgo-Pacheco and Pierola (2008) found that new goods accounted for only 14 percent of export growth at the Harmonized System (HS) level for a panel of 24 countries over 1990-2005.

Figure 3.7 Decomposition of Export Growth by Goods and Markets, Selected Latin American and Caribbean Countries

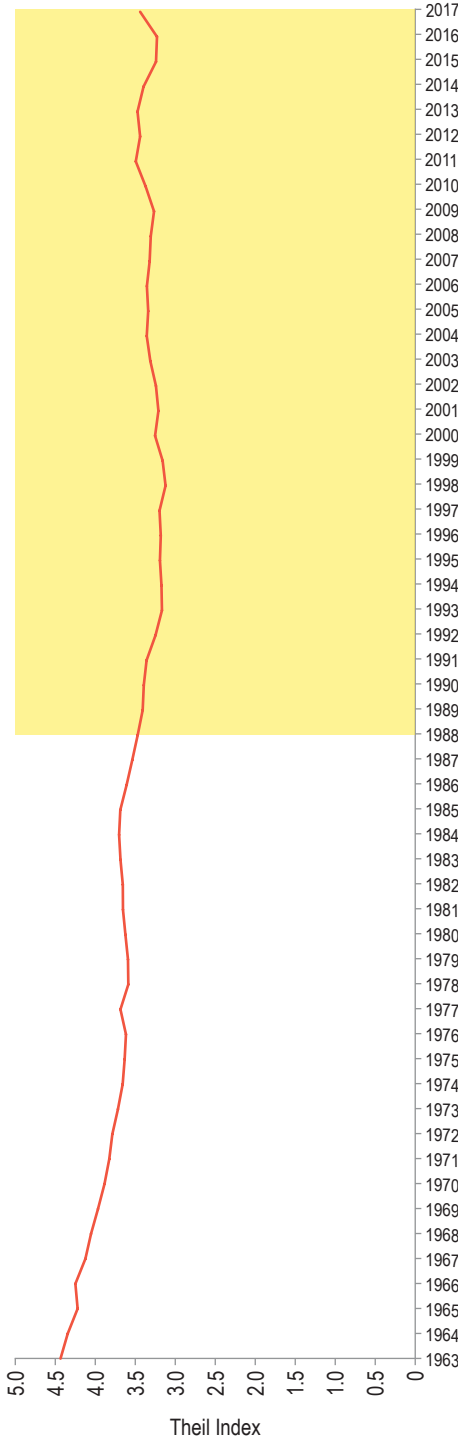


Source: IDB staff calculations based on WITS-Comtrade data.

Note: The figure breaks down the cumulative growth of a country's exports into goods and markets that were active in the base year and those that became active (new) during the period, including all the possible permutations. The export value for the base year was calculated as the average between of the first two years of the respective periods. All contributions sum 100% (-100% in countries where exports declined). Goods are defined at the SITC (Rev. 2) five-digit level for 1990-99 and at the SITC (Rev. 3) five-digit level for 2000-16.

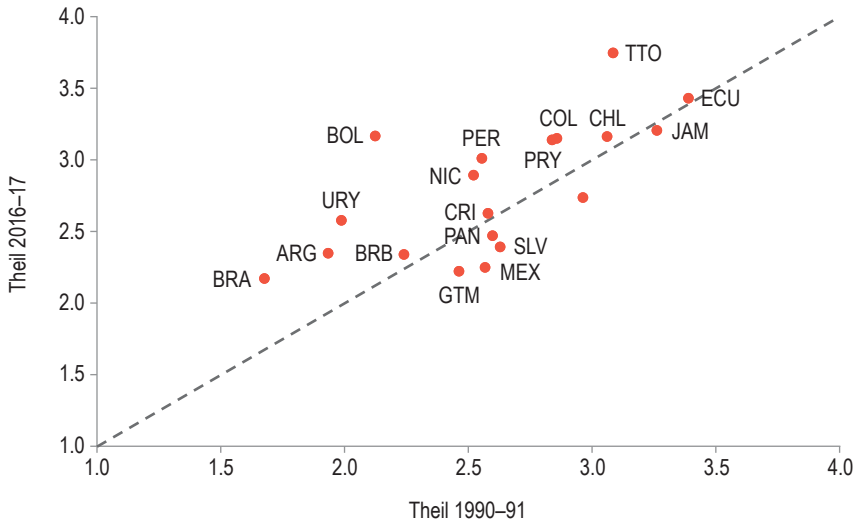
How has this dynamic over the two periods affected the region's overall levels of export concentration? Using the Theil index to answer this question, Figure 3.8 shows that the first decade of the liberalization extended

Figure 3.8 Export Diversification during the Great Liberalization, Selected Latin American and Caribbean Countries



Source: IDB staff calculations based on sources mentioned in note, below.

Note: The figure shows a Theil index, calculated as in Cadot, Carrère, and Strauss-Kahn (2011a), based on data at the SITC (Rev. 1) four-digit level. The 1963–2011 series is taken from the IMF export diversification database. WITS data and the same methodology was used to extend this series to 2017. The index is computed as a simple regional average. The lower the indices, the greater the diversification. The shaded area marks the period of the Great Liberalization. Latin America and the Caribbean includes Argentina, Belize, Bolivia, Brazil, Barbados, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Guyana, Honduras, Jamaica, Mexico, Nicaragua, Panama, Peru, Paraguay, El Salvador, Suriname, Trinidad and Tobago, Uruguay, and Venezuela.

Figure 3.9 Export Diversification

Source: IDB staff calculations based on WITS data.

Note: Theil index calculated as in Cadot, Carrère, and Strauss-Kahn (2011) at the SITC (Rev. 1) four-digit level. See note to Figure 3.8. The dashed line is the figure's diagonal. The exports of countries above (below) the line became less (more) diversified.

a diversification trend initiated during the import substitution years and largely driven by costly fiscal and financial incentives.¹¹ This trend, though, was reversed during the commodity boom; it remains to be seen whether this reversal is permanent or only cyclical.

As with other outcomes, this trend hides significant differences across countries, although most countries, particularly in South America, ended up with a less-diversified export basket after the commodity boom than at the onset of the Great Liberalization (Figure 3.9). The exceptions are Mexico and Central America, whose comparative advantages are not as heavily based on natural resources as are those of South America.

The Liberalization Footprint: Specialization or Diversification

While liberalization incontestably expanded trade and had positive results for the region, the rationale for its impact on diversification is more

¹¹ The Theil index measures how far the distribution of a country's exports is from a situation in which all goods have the same share. See Cadot, Carrère, and Strauss-Kahn (2013) for details. See Mesquita Moreira (1995) and Ros (1994) for an analysis of Brazilian and Mexican exports, respectively, during the import substitution years.

intricate. Mainstream trade theory shies away from discussing the determinants of export diversification and, if anything, hails the benefits of specialization that trade can bring.¹² In the context of post-liberalization Latin America—and given that protection spread the region’s resources too thinly—greater specialization, rather than diversification, would be the most likely scenario.

More recent trade models, though, highlight how lower trade barriers, both at home and abroad, can help increase the number of exporters of different varieties of goods, either because exports become profitable even for low-productivity firms or because knowledge and pro-competitive effects lift the productivity tide for all firms, increasing the pool of exporters. With this degree of theoretical ambiguity, the impact of liberalization becomes mostly an empirical question.

The descriptive data reviewed so far suggest that diversification has, on average, prevailed over the period of liberalization, although a significant part of the gains was erased during the commodity boom. This, however, is circumstantial evidence, and, as in the case of trade flows, more analytical tools are needed to weed out the impact of other concurrent factors from those of the Great Liberalization.

Some of these tools can be found in a limited empirical literature that points to a positive, worldwide impact of trade liberalization on export diversification, particularly in the case of PTAs.¹³ An extension of some of these analytical approaches can shed light on what happened in the region.

Kehoe and Ruhl (2013) find that export diversification—defined as an expansion of least-traded goods¹⁴—responded strongly to trade liberalization worldwide. An extension of their exercise, using a more rigorous econometric approach and direct trade policy measures (tariffs), identifies more reliably the role of liberalization in the region’s trade relationships. The results are consistent with the pattern of gains and reversal described in the earlier data, with least-traded goods responding strongly to tariff cuts in the 1990s, but not during the commodity boom in the 2000s (Figure 3.10).

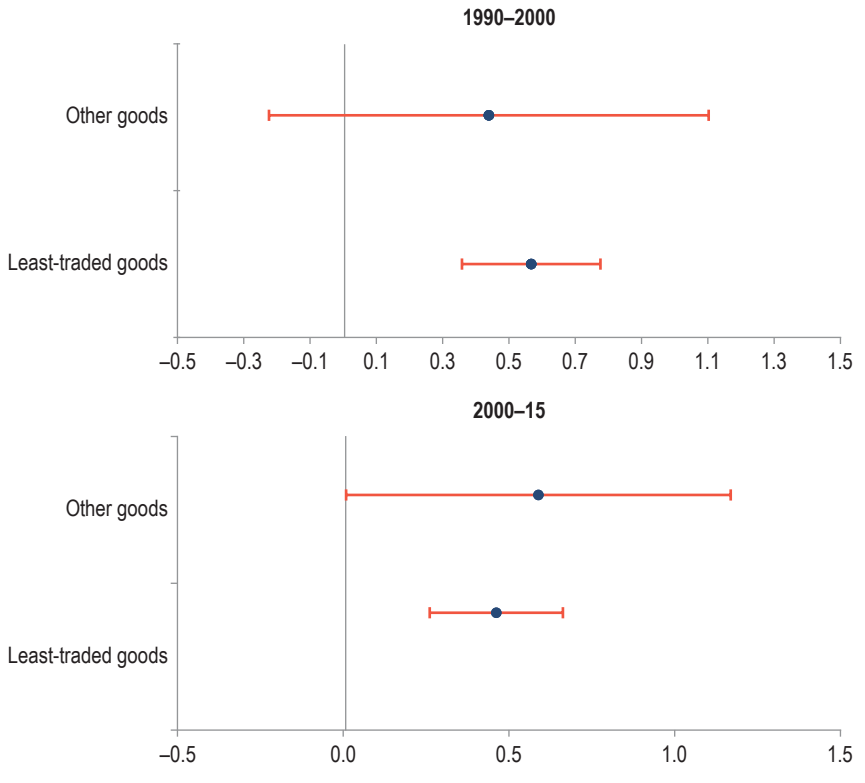
Debaere and Mostashari’s (2010) approach, on the other hand, helps put those gains into perspective. It estimates the impact of U.S. tariffs on

¹² See Cadot, Carrère, and Strauss-Kahn (2013).

¹³ See Cadot, Carrère, and Strauss-Kahn (2011b) for a review.

¹⁴ Least-traded goods are defined as SITC five-digit product codes with the smallest trade values, including all with zero trade value, which account for 10 percent of total trade in the first three years of the period.

Figure 3.10 Trade Liberalization and Export Diversification: Impact on Least-Traded Goods



Source: IDB staff calculations with WITS (trade) and CESifo Group - World Bank (tariffs) data.
 Note: The figure shows 95% confidence intervals for the average impact of the median applied tariff reduction at the country of destination on the annual growth of its Latin American country pair's exports of least-traded and other types of goods (SITC 5 digits). Least-traded goods are defined as in Kehoe and Ruhl (2013, footnote 26). Country pairs that do not trade in at least 10% of the possible Harmonized System (HS) goods are dropped. See Merchán and Mesquita Moreira (2019) for details of results and methodology.

the range of goods imported into the country and finds that lower tariffs diversify imports, but the impact is relatively small. A similar approach can be applied to all Latin American and Caribbean trade partners, using bilateral trade data from 1990 to 2015. The objective is to estimate the impact of a trade partner's tariff change (say a tariff cut brought about by the Uruguay Round or a PTA) on the probability of Latin American and Caribbean countries exporting a new good.

The estimates suggest that lower tariffs in the destination market have a positive, but small, average impact on the number of goods exported. Only 4.6 percent of the new goods exported could be attributed to lower

tariffs.¹⁵ Thus, trade policy is just one of several determinants of export diversification, and expectations should be managed accordingly.

Structural Change: Not as Bad as It Looks

Unlike the other channels discussed in this chapter, the analysis of the impact of trade liberalization on the region's patterns of specialization—and their implications for growth—is not motivated by mainstream theories. Its roots are in what was once called high development theory, which viewed development mainly as a process of structural change, where resources move from low-productivity (assumed to be natural resource activities) to high-productivity sectors (equated with manufacturing).¹⁶

Intentionally or not, these theories were used to justify the sort of manufacturing cult that dominated policymaking in the region and led it to turn its back on international trade. The key assumption was that under any circumstances and at all costs, manufacturing could deliver higher levels of productivity and economic growth.

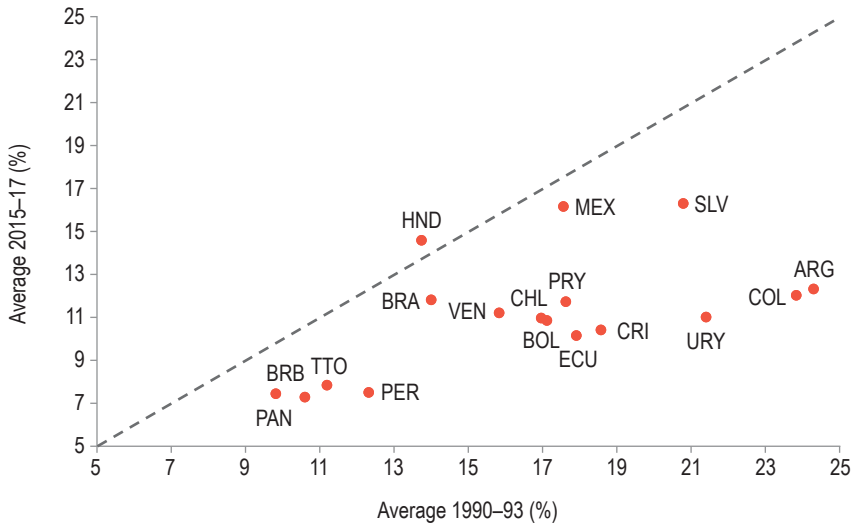
If the other channels were frequently used to justify inflated expectations, this one pushed in the other direction. Trade liberalization could be bad for growth because it could hurt the high-productivity sector that the region had spent decades nurturing. That was part of the rhetoric against liberalization, and once the expectations for liberalization fell short, it became an argument to explain its failure. Deindustrialization was the problem—or was it?

What do the data say about deindustrialization? As Figure 3.11 shows, deindustrialization cannot be disputed. During the liberalization period, the manufacturing share of employment declined in most countries, except for Honduras; the steepest losses occurred among commodity exporters such as Uruguay, Colombia, and Argentina.

It seems logical and consistent with theory to assume that these changes are closely related to trade liberalization, as manufacturing was the most protected sector. However, it would be wrong to assume that liberalization was the only driving force. The manufacturing share of employment has an inverted u-shaped relationship with per-capita income, driven by both demand (higher per capita income is associated with higher consumption of services) and supply dynamics (faster,

¹⁵ Results based on linear probability model, using bilateral data for Latin American and Caribbean exporters at the HS88 six-digit level. See Merchán and Mesquita Moreira (2019) for details.

¹⁶ See Krugman (1993).

Figure 3.11 Manufacturing Share of Employment

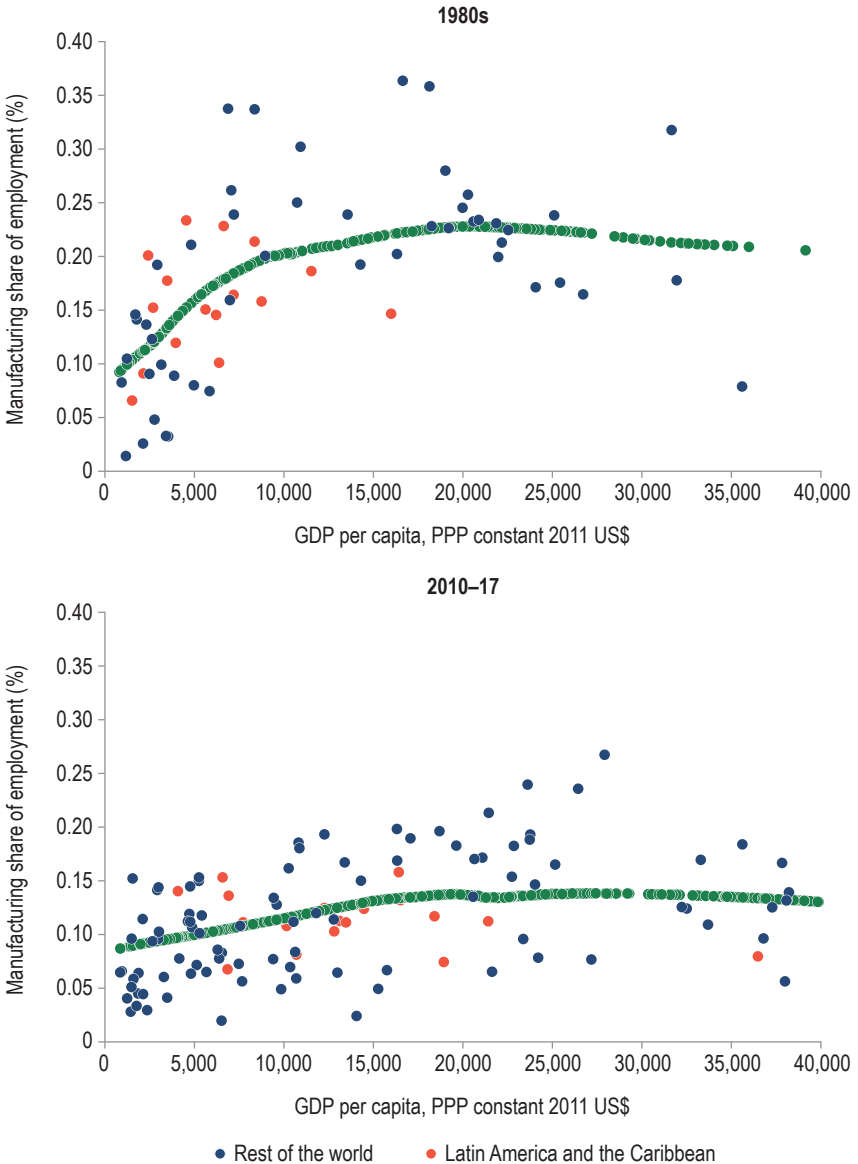
Source: IDB staff calculations based on International Labour Organization and IMF-WEO data. Note: Whenever the first and last three years in the period are not available, the average of the first (last) two available years is used. The last available year for Venezuela is 2011. Dotted line is the figure diagonal. Countries below the line experienced a drop in the manufacturing share of their labor force.

more-labor-saving productivity growth in manufacturing and agriculture than in services).¹⁷

The relevance of this relationship can be gauged by looking at the countries' position vis-a-vis the global pattern. In the 1980s, labor allocation to manufacturing varied widely across the region, reflecting countries' diverse characteristics (size and endowments) and policies (how far they went in pursuing import substitution) (Figure 3.12). However, in most cases, their labor allocations were consistent with their GDP per capita. Nearly 30 years later, this picture has changed significantly. There is less dispersion in the share of manufacturing employment, as most countries underwent some degree of deindustrialization, but they also adhere less to the global norm. With few exceptions, countries with comparative advantages in agriculture or mining either moved from above to below the norm (e.g., Argentina or Uruguay) or moved further away from it (e.g., Chile or Trinidad and Tobago). These trends are consistent with a story of comparative advantages playing a bigger role, but there are also strong signs of significant changes in the global norm; the share of manufacturing employment was peaking at significantly lower levels.

¹⁷ See, for example, Chenery and Syrquin (1986).

Figure 3.12 Manufacturing Share of Employment and GDP Per Capita, Global Trends and Selected Latin American and Caribbean Countries, 1980s vs 2010–17



Source: IDB staff calculations based on International Labour Organization (labor) and Penn World Table 9.1 (GDP per capita) data.

Note: The figure shows the estimated relationship between the share of manufacturing employment and GDP per capita (at purchasing power parity, 2011 US\$), using a non-parametric lowest technique. Country observations are averages for the periods.

Rodrik (2016) calls this global trend "premature deindustrialization," which he loosely attributes to globalization and labor-saving technological progress.¹⁸ The most powerful force, though, behind the globalization argument is likely the rise of Asia's economies, particularly China, which made the production of manufacturing goods extremely competitive, leading to a steep decline in their relative prices.¹⁹

Rodrik goes on to say that premature deindustrialization diminished growth opportunities for developing countries. But did that happen to the region? The evidence is scarce and mainly decomposes labor productivity growth into changes that occurred within sectors and those arising from reallocating resources from low- to high-productivity sectors.²⁰

Pagés (2010), in one of the first exercises of this kind for the region, suggests that after liberalization (1990–2005), the contribution of labor reallocation was marginal, which contrasts sharply to the heyday of the import substitution years, when it accounted for approximately half of labor productivity growth.²¹ McMillan and Rodrik (2011) reached a more worrying conclusion that reallocation actually hurt the region's growth during the same period.²²

There are good reasons to be careful with this evidence, particularly if the objective is to pass judgment on the impact of liberalization. First, correlation, not causality, is implied. Secondly, the focus is just on labor productivity, which ignores the efficiency of other factors of production, particularly capital. Since some sectors use more capital (say machinery) than others, differences in labor productivity might be just about that: capital intensity.

Third, measuring productivity growth during the import substitution years is not trivial, since manufacturing goods sold well above international prices during those years. When measured at these prices, value added was often negative.²³ It is also misleading to compare the early dynamics of structural change—when countries had a much lower per-capita income and more people were employed in subsistence agriculture—with that of a much more advanced stage, when the potential for reallocating resources is much lower.

¹⁸ Rodrik (2016) estimated the same relationship between manufacturing employment and GDP, imposing a quadratic functional form instead of the parametric technique used in Figure 3.13. He found that the peak occurs not only at lower shares but also at lower per capita incomes. This finding is not confirmed by the nonparametric technique.

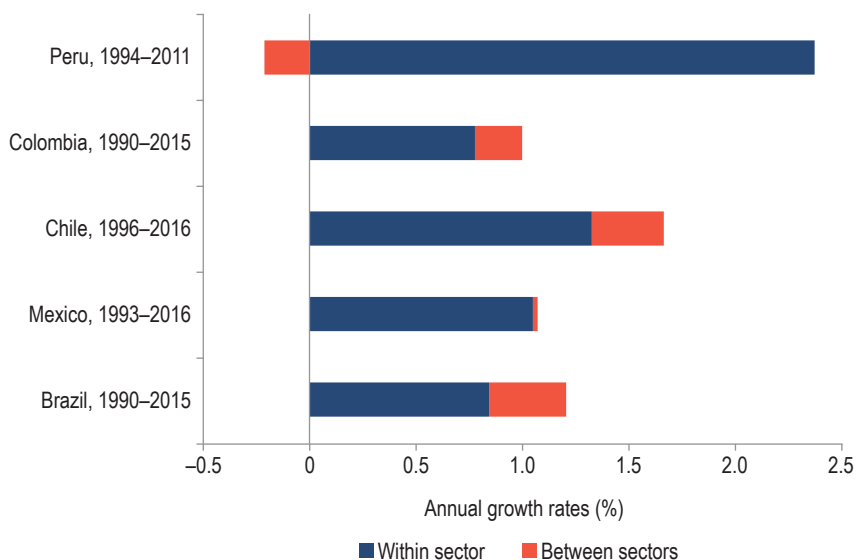
¹⁹ IMF (2019, Chapter 3) shows that the relative prices of machinery and equipment, for instance, fell by 50 percent between 1990 and 2018.

²⁰ Labor productivity is defined as the ratio of value added to employment.

²¹ See Pagés (2010, Figure 3.6).

²² Both Pagés (2010) and McMillan and Rodrik (2011) use the Groningen Growth Development Center's 10-sector database: <https://www.rug.nl/ggdc/productivity/10-sector/>.

²³ See Krueger (1984) for a review.

Figure 3.13 Decomposition of Labor Productivity Growth After Trade Liberalization

Source: IDB staff calculations based on value added and employment data collected from official sources and from IMF (2018).

Note: Decomposition follows McMillan and Rodrik (2011). Periods are defined according to data availability. See Martínez del Ángel and Mesquita Moreira (2019) for details.

Fourth, as shown throughout this report, painting the region with a broad brush can be misleading, given how countries vary in their characteristics and policies. And, lastly, the decomposition results tend not to be robust to the choice of data and periods.

To prove these last two points, McMillan and Rodrik's labor productivity decomposition is replicated for a selected number of Latin American countries (Brazil, Chile, Colombia, Mexico, and Peru) where primary, official data on value added and employment are available for the longest possible period after the start of the Great Liberalization.²⁴

The results are presented in Figure 3.13. When the decomposition covers a longer period, the only country where resource reallocation between sectors seems to have hurt productivity growth is Peru, but this did not prevent the country from having the highest productivity growth in the sample. Among those where the reallocation contribution was positive, Mexico had the lowest, even though it is one of the few countries in the

²⁴ See Martínez del Ángel and Mesquita Moreira (2019) for details on data sources and a more detailed analysis of the results.

region whose manufacturing share of employment is higher than predicted by its per capita income (Figure 3.13).

In short, while trade liberalization may have played a relevant role in the region's deindustrialization, whether this process hurt growth is still an open question. The right counterfactual might not be just the golden years, but the entire period of import substitution, including the 1980s debacle, when productivity all but stagnated. Keeping protection in place might have preserved not only the manufacturing sector, but also its mounting inefficiencies.

Looking forward, the challenge of raising economy-wide productivity seems not to be about reindustrialization. This is an unrealistic perspective for most countries in the region, given their natural resources and levels of per capita income, factors that are compounded by the intense global competition in manufacturing. More promising is the goal of raising productivity in services and agriculture, as well as in the manufacturing sectors that survived.

Services, which in 2017 absorbed an average 63 percent of employment in the region, need not be a low-productivity sector.²⁵ The rising share of services in employment since the early 2000s has helped support economy-wide productivity growth in most developing countries, including Brazil, Chile, and Colombia (IMF, 2019).²⁶ As technology helps services become more tradable, trade policy can play an important role in boosting services productivity by increasing competition and knowledge transfers. This is particularly relevant in a region where the liberalization of services lagged behind that of goods (see Chapter 2).

Likewise, agriculture, despite the fact that its labor productivity in the region is generally lower than that of manufacturing, is catching up fast in countries such as Brazil, Chile, and Colombia.²⁷ Agriculture's productivity surge has been driven by the intensive use of technology, which can be as sophisticated as in manufacturing, if not more (see Chapter 10). Here, too, trade and other public policies can help provide productivity-enhancing public goods and greater access to better inputs and larger markets around the world.

FDI: Preferential Trade and International Agreements Matter

Liberalization opened up countries not only to trade, but to FDI as well. While the policy rupture was much sharper in trade, both *de jure* and *de*

²⁵ Region's simple average for 2017 (WDI data).

²⁶ Martínez del Ángel and Mesquita Moreira (2019), working with a different database, obtain similar results for some of the countries in the region.

²⁷ See Martínez del Ángel and Mesquita Moreira (2019) for the data on sectoral labor productivity.

facto indicators point to a significant increase in the region's exposure to FDI in the last 30 years. Greater exposure was expected to improve resource allocation, investment, and knowledge accumulation.

Rather than focus on these impacts, this section examines the role that eased restrictions and trade liberalization played in the FDI boom. Given the lack of a reliable long-term indicator for multilateral FDI restrictions, the analysis concentrates on the direct and indirect impacts of the preferential dimension of liberalization. In terms of direct impacts, the focus is on bilateral investment treaties (BITs) and double-taxation treaties (DTTs), while indirect impacts come largely through PTAs.

BITs and DTTs lower the relative cost of FDI between countries.²⁸ In particular, BITs protect foreign investors' rights by establishing a transparent framework for issues such as investment admission, expropriation, and legal treatment, and by creating dispute-settlement mechanisms.²⁹ On the other hand, DTTs lower costs with rules to coordinate double-taxation relief and to share information between national tax agencies on the applicable tax base, on the withholding taxes that can be applied, and on other relevant tax measures.³⁰ Between 1985 and 2015, the number of country pairs with active BITs and DTTs around the world increased 10 times for BITs and six times for DTTs, reaching 4,000 and 6,000, respectively (Figure 3.14). The region has not been an exception, signing many BITs and DTTs, particularly with partners outside the region.

Latin America and the Caribbean's enthusiastic embrace of PTAs since the late 1980s was documented in Chapter 2. However, Figure 3.14 illustrates this same trend, adopting the same metric used for BITs and DTTs: numbers of country pairs. All three types of agreements took off around the same time—in the early 1990s when the Great Liberalization gained steam—and closely followed worldwide trends. The burning question is, why would PTAs matter for FDI flows? What impact do they have?

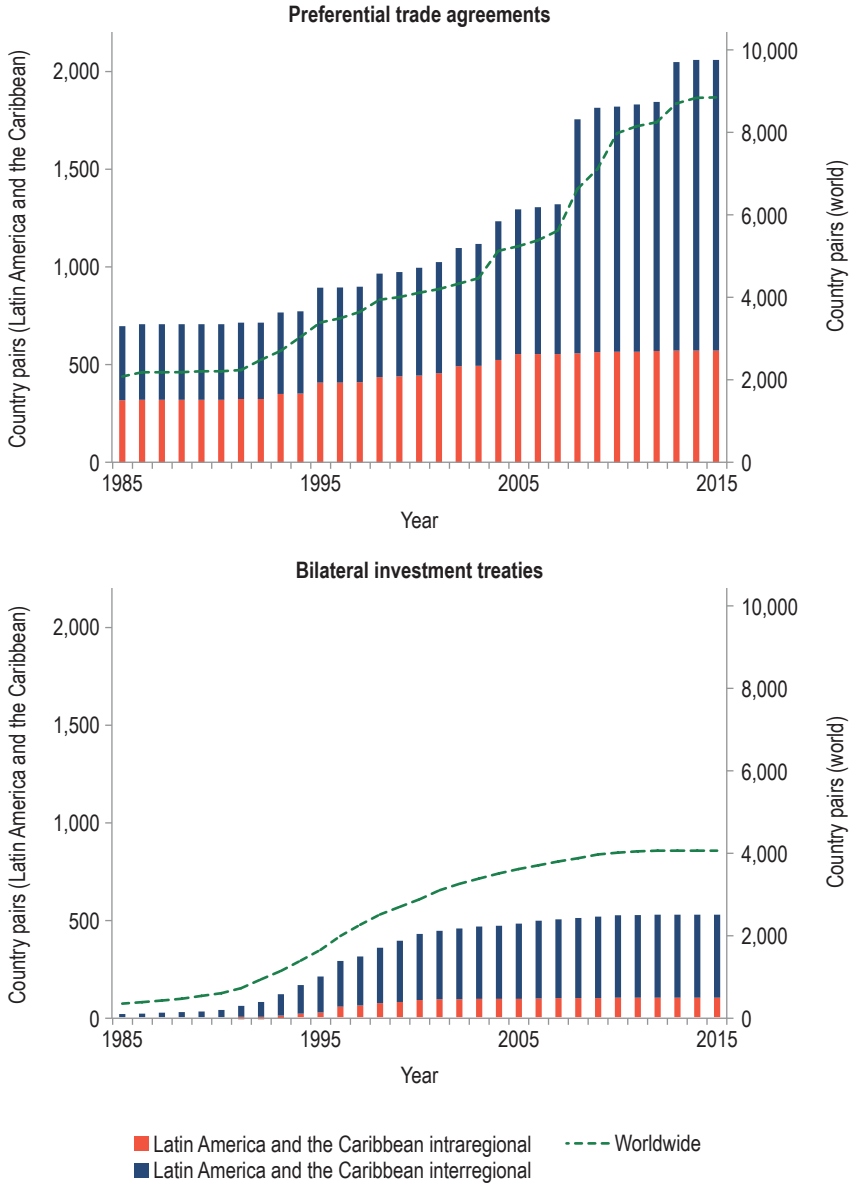
The impact of PTAs on FDI depends on whether the FDI is horizontal or vertical. Horizontal FDI takes place when multinational firms undertake the same production activities across countries and, as such, is a substitute for international trade. Vertical FDI, by contrast, occurs when these firms

²⁸ See, for example, Bergstrand and Egger (2013); Blonigen, Oldenski, and Sly (2014).

²⁹ See Houde (2006) and Egger and Merlo (2012). In particular, BITs create transparency and thus reduce the *ex ante* risk of investing in a country and ensure that firms have certain rights to protect them from expropriation (Egger and Pfaffermayr, 2004).

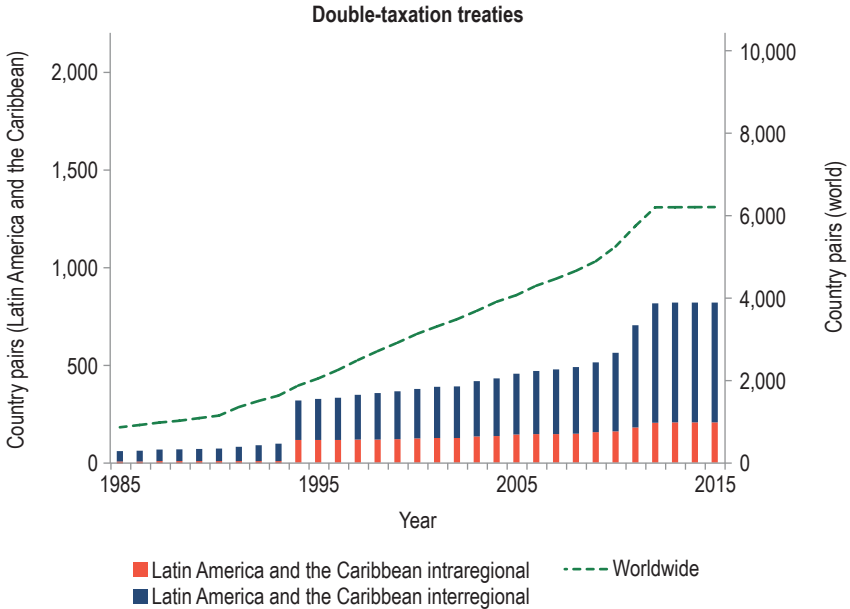
³⁰ Double-taxation relief is ensured through tax rules, not tax rates, which remain under the sovereign authority of each nation (Blonigen, Oldenski, and Sly, 2014). See also Aisbett (2009); Desbordes and Vicard (2009); Blonigen and Davies (2004); and Blonigen, Oldenski, and Sly (2014).

Figure 3.14 Evolution of the Number of Country Pairs Covered by Economic Integration Agreements, 1985–2015



(continued on next page)

Figure 3.14 Evolution of the Number of Country Pairs Covered by Economic Integration Agreements, 1985–2015 (continued)



Source: Authors' calculations based on data from Baier and Bergstrand (2017), Kohl, Brakman, and Garretsen (2016), WTO, UNCTAD, and OECD.

split their production processes across countries such that each stage is completed where the respective costs are the lowest and, accordingly, is complementary to international trade.³¹

Hence, PTAs are likely to have a differentiated impact on intraregional FDI, boosting vertical flows and reducing horizontal flows.³² How aggregate FDI reacts to the implementation of the PTA is, therefore, an empirical question. Deeper PTAs that include non-trade provisions (e.g., trade in services, harmonization of standards, customs cooperation,

³¹ See, for example, Helpman (1984); Helpman and Krugman (1985); Markusen (1984); Markusen and Venables (1998); and Aizenman and Marion (2004).

³² The analysis in this chapter will focus precisely on the impact of agreements on FDI activity between the parties. PTAs may also affect both horizontal and vertical FDI from nonmember countries. Horizontal FDI can increase because the larger PTA market can make more profitable activities subject to economies of scale, while vertical FDI can expand because vertical integration is facilitated within the economic area. Empirical evidence for the LAC region suggests that this may have indeed been the case (Levy Yeyati, Stein, and Daude 2003).

dispute-settlement mechanisms, and protection of intellectual property rights) and those containing cross-border investment provisions are likely to favor additional FDI regardless of its nature.³³

With liberalization, the values and the number of country pairs connected through FDI and affiliates of multinational enterprises increased substantially worldwide. The region was no exception, primarily through its connections with the rest of the world (Figure 3.15).

These parallel trends in international economic agreements, FDI stocks, and affiliate networks raise the question of whether they are linked and, more specifically, whether such agreements drive an increase in bilateral FDI stocks and the number of affiliates. According to a rich literature on the subject, PTAs are generally found to increase FDI activity.³⁴ In turn, the average impacts of BITs and DTTs are mixed and clearly point to various impacts along several relevant dimensions (e.g., country pairs).³⁵

Most existing studies separately examine the impact of each type of agreement on the intensive margin (i.e., on the level of FDI among country pairs with pre-existing FDI relationships) as opposed to the extensive margin (i.e., the impact on new FDI relationships). The question remains whether and how PTAs, BITs, and DTTs interact in shaping both the intensive margin for those country pairs that already have some multinational investment activity (proxied by the level of inward FDI stocks in U.S. dollars and the number of affiliates of the home country in the host country, provided these are positive) and the extensive margin (here proxied by a binary variable indicating either a positive inward FDI stock or positive number of affiliates of multinational firms from the home country in the host country).

To answer this question, an econometric study uses a comprehensive, worldwide database of FDI and international agreements covering the pre- and post-agreement periods (1985–2015).³⁶ The results suggest that all three types (PTAs, BITs, and DTTs) have positive and significant

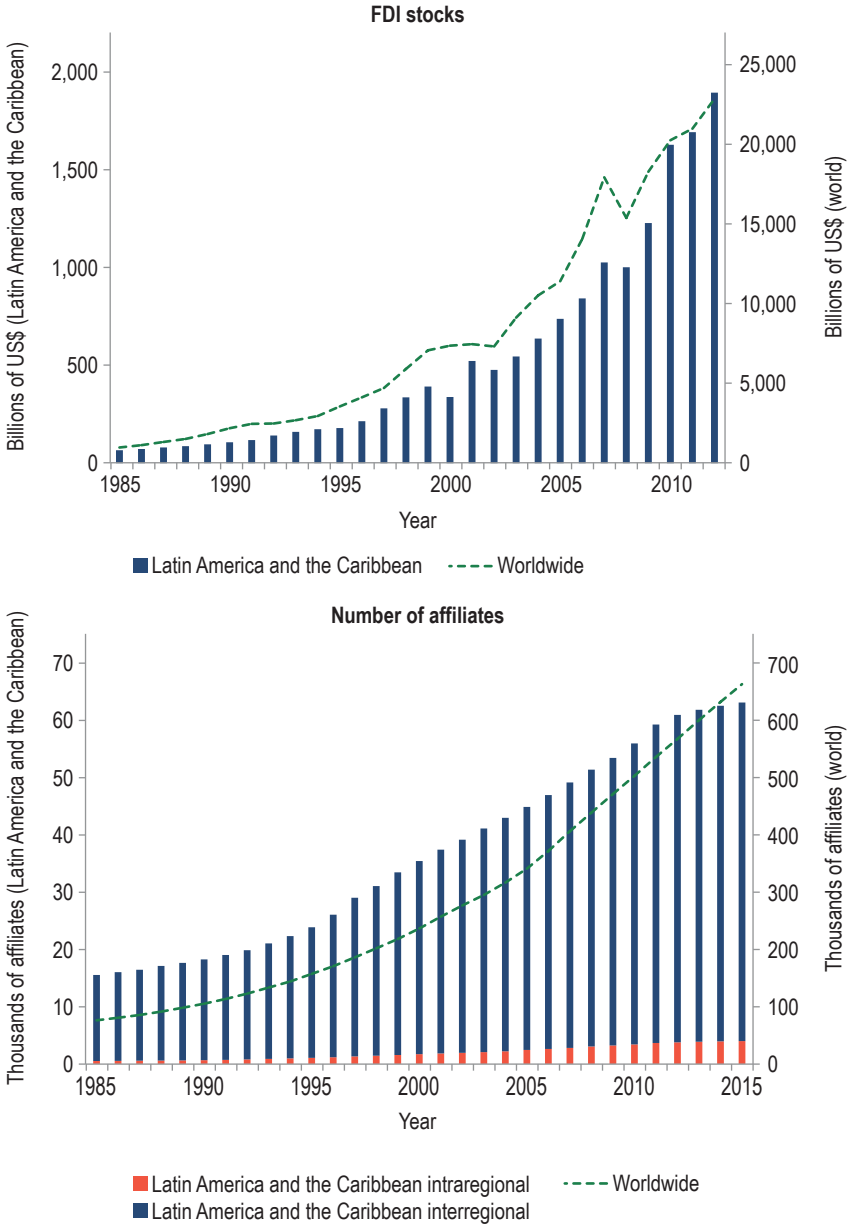
³³ See Levy Yeyati, Stein, and Daude (2003).

³⁴ See, e.g., Levy Yeyati et al. (2003); Medvedev (2012); Blyde, Graziano, and Volpe Martincus (2015); and Osnago, Rocha, and Ruta (2017).

³⁵ For BITs see, for example, Egger and Pfaffermayr (2004); Aisbett (2009); Desbordes and Vicard (2009); Busse, Koniger, and Nunnenkamp (2010); Egger and Merlo (2012); and Aisbett, Busse, and Nunnenkamp (2018) and, for DTTs, Blonigen and Davies (2004); di Giovanni (2005); Egger et al. (2006); Blonigen, Oldenski, and Sly (2014); and Azémar and Dharmapala (2019).

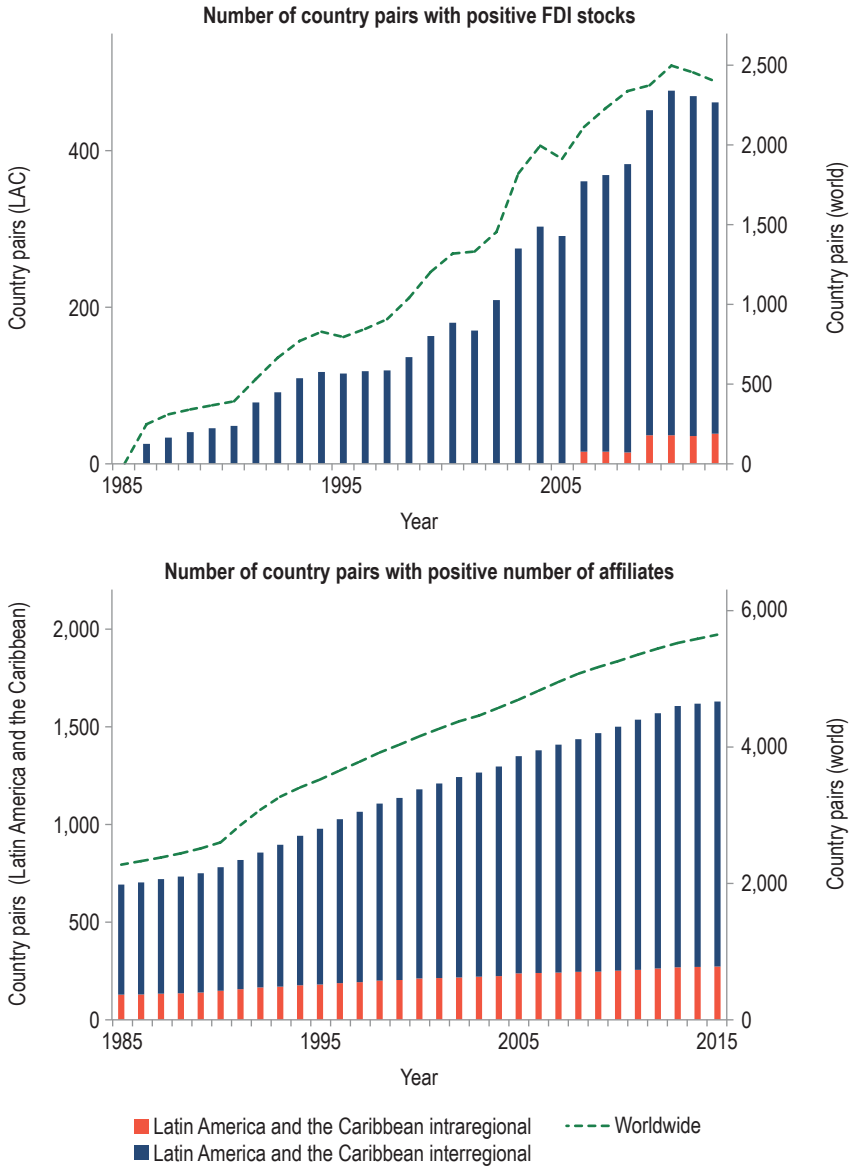
³⁶ See Marra de Artiñano et al. (2019) for details of the data and methodology.

Figure 3.15 Evolution of FDI Stocks and Number of Affiliates, Values, and Number of Country Pairs, 1985–2015



(continued on next page)

Figure 3.15 Evolution of FDI Stocks and Number of Affiliates, Values, and Number of Country Pairs, 1985–2015 (continued)



Source: Authors' calculations based on data from OECD, UNCTAD, and D&B's Worldbase.
 Note: The difference observed in the country-pair coverage between the two figures in the lower panel is due to the different nature (and sources) of the underlying data.

impacts on the FDI extensive margin, both in terms of stocks and presence of affiliates. BITs have the largest effects. Ratification of a BIT is associated with a 6–7 percent increase in the probability of having FDI from the partner country, either in the form of a positive inward FDI stock or the presence of affiliates of its multinational firms.³⁷ The corresponding estimates for DTTs and PTAs are 5–6 percent and 2–3 percent, respectively (Figure 3.16A.1). Estimated impacts for Latin American and Caribbean countries (i.e., when at least one of the countries in the pair belongs to the region) share the same general patterns, although in the case of the presence of affiliates, the magnitude is roughly 1 to 2.5 percentage points lower than the counterparts for the rest of the world (Figure 3.16A.2).³⁸

In contrast, international economic agreements have a weaker effect on the intensive FDI margin. More precisely, PTAs and BITs do not significantly affect FDI stocks or the number of affiliates of multinational enterprises. Only DTTs seem to matter. Their entry into force is associated with an increase of 10 percent in FDI stocks and of 3 percent in the number of affiliates (Figure 3.16B.1). Interestingly, the positive effect on the latter is primarily driven by agreements involving Latin American and Caribbean countries (Figure 3.16B.2).³⁹

The figure reports estimates of the effects of PTAs, BITs, and DTTs, both overall and only when there is at least one Latin American or Caribbean country involved in the country pair in question and when not on the FDI extensive and intensive margins. The dots correspond to the point estimates, whereas the segments represent the respective 95 percent confidence intervals. See Marra de Artiñano et al. (2019) for details of the estimation.

Of course, PTAs can vary in depth and, thus, have varying impacts on FDI. When PTAs are accordingly segmented into shallow PTAs, which consist of bilateral preferential and free trade agreements, and deep PTAs, which encompass customs unions, common markets, and economic unions, estimates suggest that the latter have a significantly stronger effect

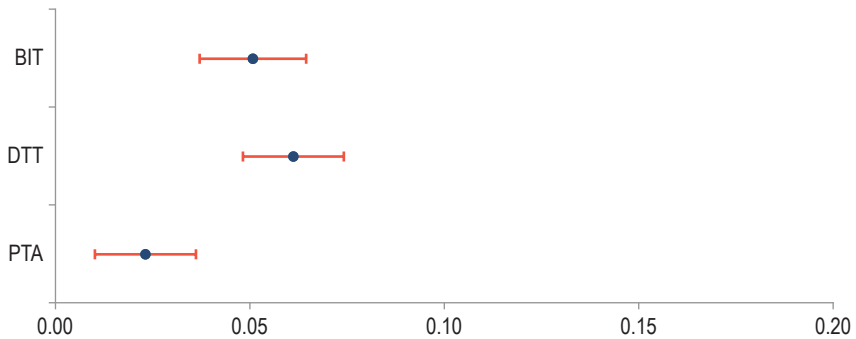
³⁷ More precisely, the range is related to how the extensive margin is measured, either through the existence of a positive inward FDI stock or the presence of a positive number of affiliates from the home country in the host country, and hence primarily on the country coverage associated with the respective samples. For further details see Marra de Artiñano et al. (2019).

³⁸ These effects correspond to cases in which at least one Latin American or Caribbean country is part of the country pair in question.

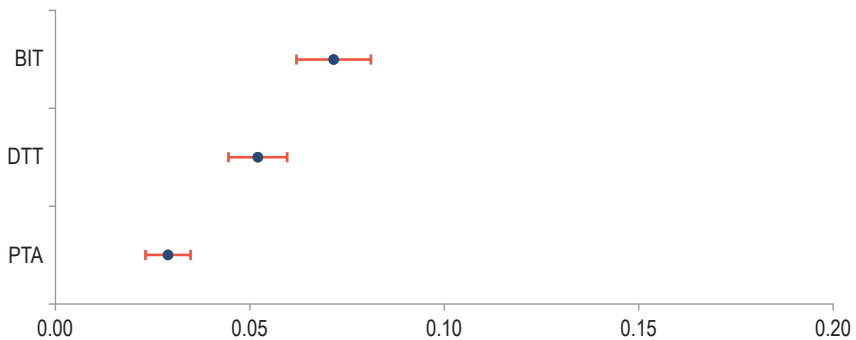
³⁹ On the other hand, PTAs only appear to make a difference in the FDI intensive margin for non-Latin American and Caribbean countries.

Figure 3.16 The Effects of PTAs, BITs, and DTTs on FDI Extensive and Intensive Margins, Latin America and the Caribbean vs Rest of the World, 1985–2015

A.1) Effect on the extensive margin, overall
Bilateral FDI stocks > 0



Bilateral presence of affiliates > 0



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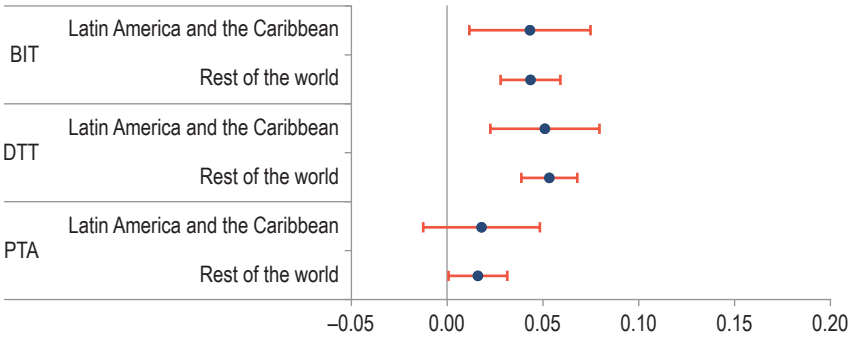
on the FDI extensive margin, both in terms of the presence of affiliates and, particularly, of the existence of a positive FDI stock. The estimated impact of deep agreements is three times larger than that of shallow ones in the latter case. However, deep and shallow agreements do not appear to exert different effects on the intensive margin.⁴⁰

Pairs of countries may have more than one agreement at a time, of course, and these can jointly influence FDI outcomes. The evidence consistently indicates that effects are stronger when the number of agreements is large and when country pairs have all three arrangements: PTAs, BITs,

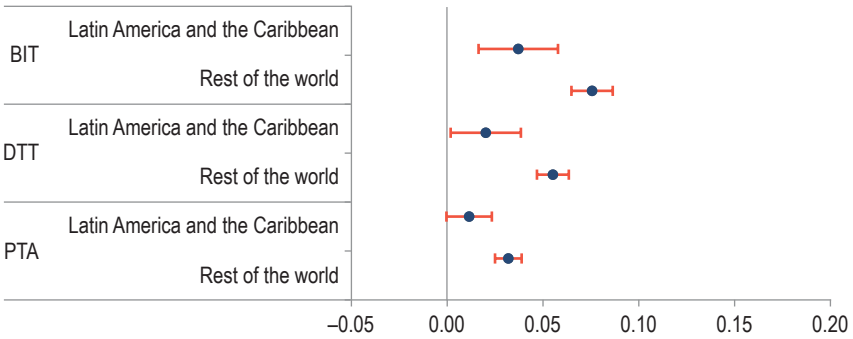
⁴⁰ See Marra de Artiñano et al. (2019).

Figure 3.16 The Effects of PTAs, BITs, and DTTs on FDI Extensive and Intensive Margins, Latin America and the Caribbean vs Rest of the World, 1985–2015 (continued)

**A.2) Effect on the extensive margin, Latin America and the Caribbean vs rest of the world
Bilateral FDI stocks > 0**



Bilateral presence of affiliates > 0



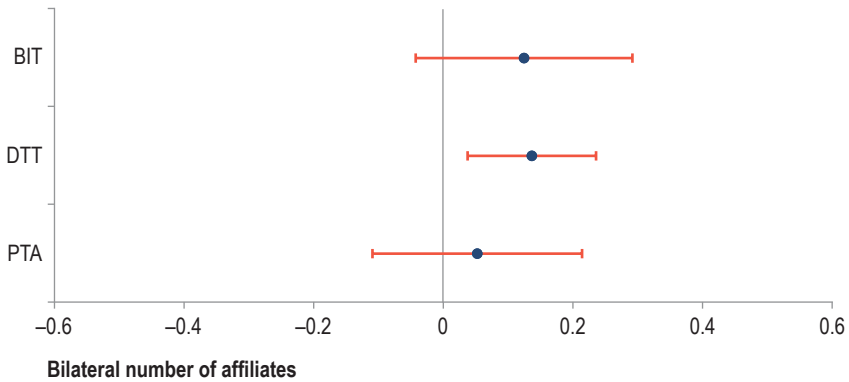
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and DTTs.⁴¹ In particular, implementing all three agreements is associated with an increase of more than 15 percent in the probability of having affiliates based in the partner country. Importantly, the estimated impact on the FDI extensive margin of having two agreements is larger than the sum of the respective individual estimated impacts, which suggests the existence of important synergies between the different types of international

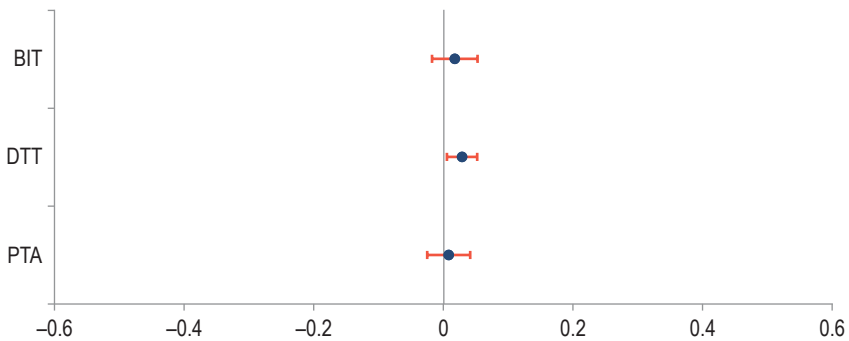
⁴¹ This analysis of the extensive and intensive margin of FDI can be done only as proxied by the presence and number of affiliates of multinational firms of the home country in the host country. Owing to the more limited coverage of the FDI stock data, the number of country pairs is very small for some combinations of agreements, making it impossible to identify their effects.

Figure 3.16 The Effects of PTAs, BITs, and DTTs on FDI Extensive and Intensive Margins, Latin America and the Caribbean vs Rest of the World, 1985–2015 (continued)

**B.1) Effects on the intensive margin, overall
Bilateral FDI stocks**



Bilateral number of affiliates



(continued on next page)

economic arrangements. With respect to the intensive margin, only this combination seems to make a difference (Figure 3.17).

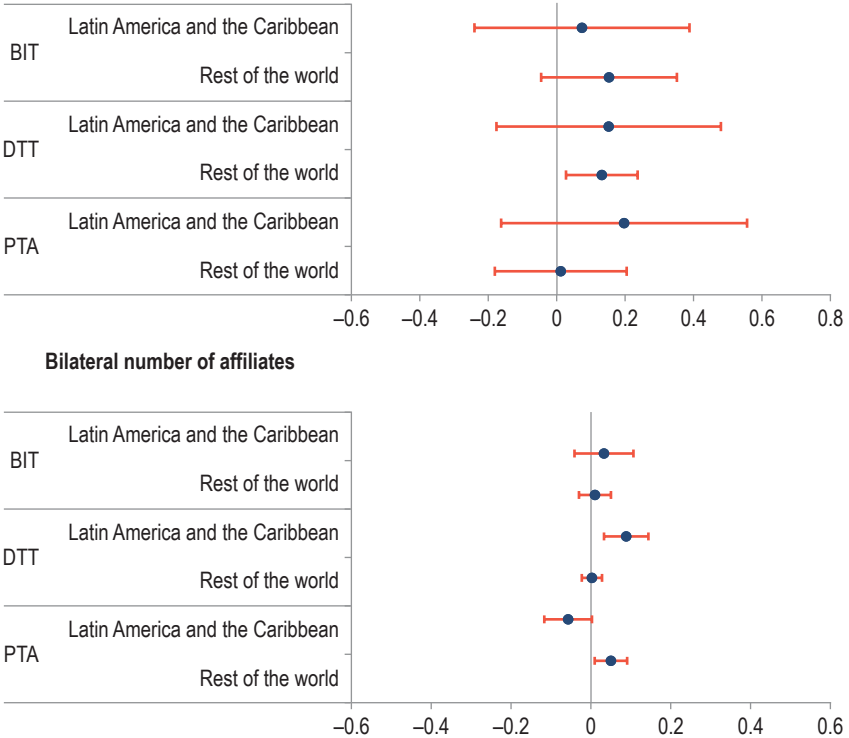
The figure reports estimates of the effects of PTAs, BITs, DTTs, and alternative combinations thereof on the extensive and intensive margins. The dots correspond to the point estimates, whereas the segments represent the respective 95 percent confidence intervals. See Marra de Artiñano et al. (2019) for details of the estimation.

Knowledge: Unmet Expectations

Much of the hope for a positive impact of liberalization on long-term growth rested on knowledge gains capable of fueling sustainable productivity

Figure 3.16 The Effects of PTAs, BITs, and DTTs on FDI Extensive and Intensive Margins, Latin America and the Caribbean vs Rest of the World, 1985–2015 (continued)

**B.2) Effects on the intensive margin, Latin America and the Caribbean vs rest of the world
Bilateral FDI stocks**



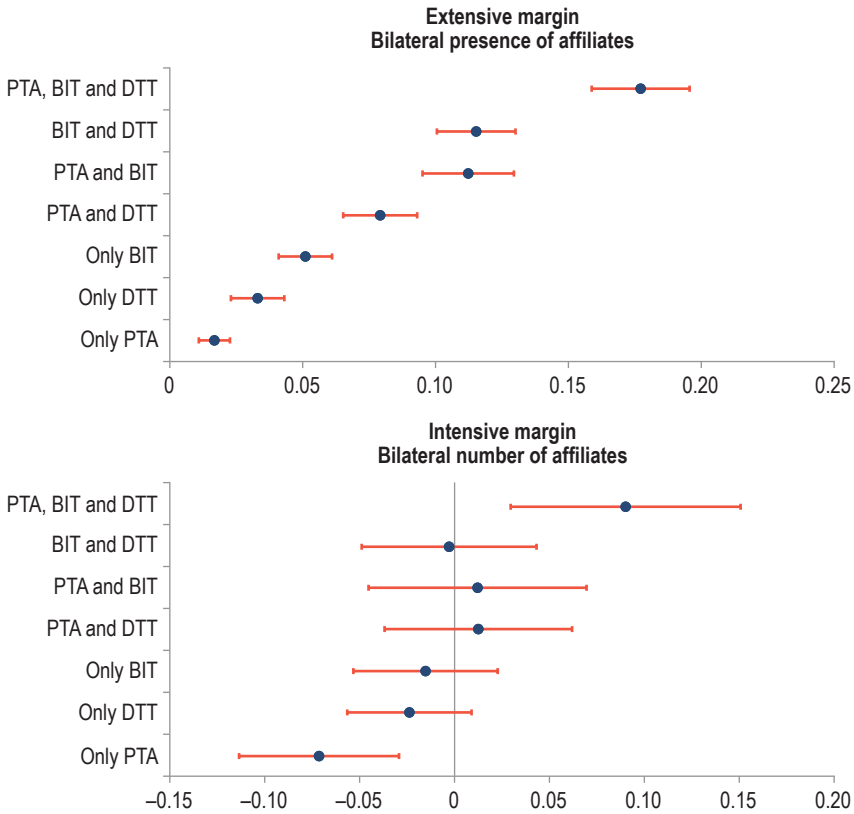
Source: Authors' calculations based on data from Baier and Bergstrand (2017), Kohl et al. (2016), OECD, UNCTAD, WTO, and D&B's Worldbase.

growth. The literature speaks of gains from scale, greater competition, and knowledge spillovers, but what exactly happened in the region?

A bird's eye view provides a less than encouraging picture. Productivity growth, as measured by total factor productivity (TFP, that is, the part of GDP growth not driven by the accumulation of capital and labor) has been disappointing in the last 30 years.⁴² When benchmarked against the United States, the region's TFP began declining in the mid-1970s and stabilized somewhat around the 60 percent level with liberalization in the early 1990s (see Figure 3.18).

⁴² See Pagés (2010).

Figure 3.17 The Effects of PTAs, BITs, and DTTs and Their Combination on Extensive and Intensive FDI Margins, Latin America and the Caribbean vs Rest of the World, 1985–2015

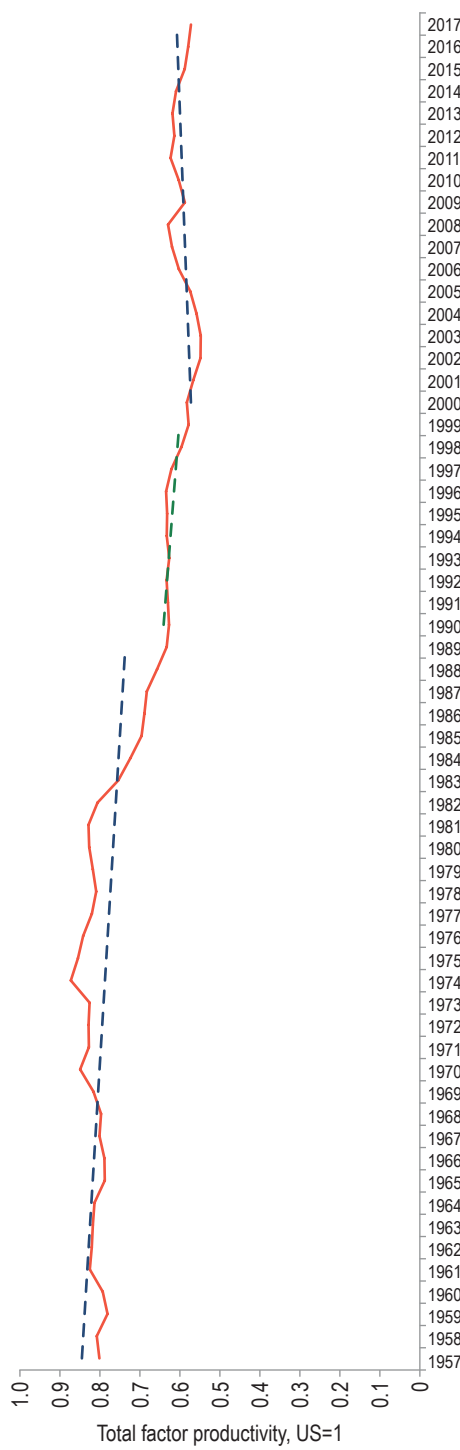


Source: Authors' calculations based on data from Baier and Bergstrand (2017), Kohl et al. (2016), UNCTAD, WTO, and D&B's Worldbase.

Even though productivity is closely related to the accumulation of knowledge, they do not always move in the same direction.⁴³ The more direct indicators of knowledge, however, are not very reassuring either. The three most commonly used knowledge indicators (numbers of patents per capita, payments for the use of intellectual property, and research and development expenditures)—all tell similar stories. The region's median patent issuance per capita dropped from 6.2 in the 1990s to 4.7 in the 2000s, well below the OECD's median of 143. Intellectual property expenditures, as a percentage of GDP, increased from 0.1 percent to 0.14 percent over

⁴³ See, for example, Hall (2011) and Syverson (2011).

Figure 3.18 Total Factor Productivity in Latin America and the Caribbean Relative to the United States, 1957–2017



Note: Total factor productivity at current purchasing power parity (U.S. =1). The index is a simple average that includes Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Jamaica, Mexico, Peru, Trinidad and Tobago, Uruguay, and Venezuela. The dashed lines represent the linear trend for the pre- and post-liberalization periods.

the same period, also far below the OECD's median (0.38 percent). Likewise, the region's current median R&D expenditures (0.38 percent of GDP in 2013-15) is a fraction of that of the OECD (2.4 percent).⁴⁴

What does all this say about knowledge as a channel for growth from liberalization? Certainly, one should use caution in attributing causality, since these results reflect the interaction of many determinants, particularly education and science and technology policies. However, an econometric exercise focusing on the determinants of ideas, based on a similar exercise by Griliches (1979) and Ang and Madsen (2013), can help single out the effects of trade policy. The intuition is that a country's production of knowledge is similar to that of goods; that is, it is the outcome of a process that combines different inputs, subject to different levels of productivity.

The country's production of knowledge is proxied by the number of patents applied for by domestic residents, whereas the relevant inputs are: R&D expenditures; GDP, to capture economies of scale; the domestic stock of knowledge, as measured by the country's cumulative R&D spending; human capital, as measured by the average years of schooling of the working age population, and the international stock of knowledge, to capture possible spillovers, as measured by the sum of other countries' domestic stock of knowledge, adjusted by the country's distance to the knowledge frontier (i.e., the country with the highest stock of knowledge).⁴⁵

To bring the trade liberalization angle into the analysis, another variable is added to the production function. It takes the form of either a binary variable, to capture the country's liberalization periods, or a more direct measure of trade policy: applied tariffs.⁴⁶ The rationale is that trade liberalization would make each of those knowledge inputs more productive because of the scale, pro-competitive, and knowledge spillover effects discussed in Chapter 1.

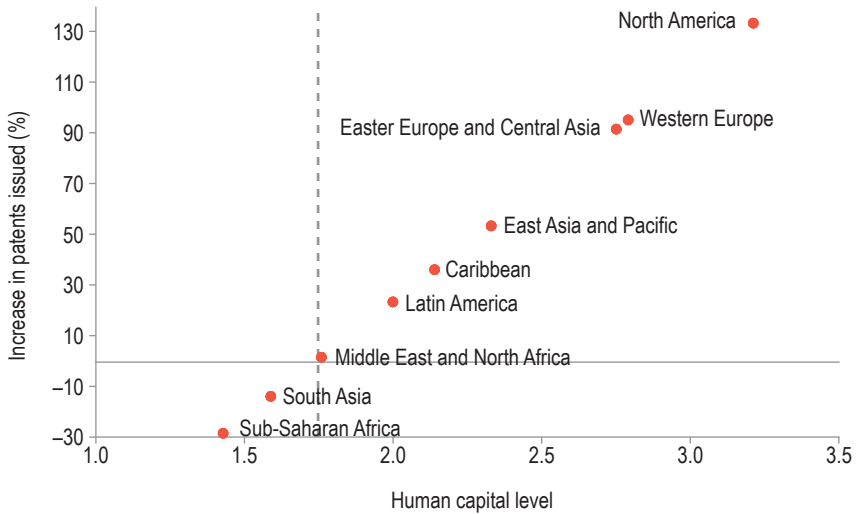
The results of the analysis, run for a world sample covering the 1962-2014 period, are a red flag for unhinged expectations. The impact of trade liberalization is estimated to be positive and statistically significant only beyond a certain threshold of human capital (see Figure 3.19).⁴⁷ The

⁴⁴ Data on intellectual property, patents, and R&D are from the IMF-BOP (IP) and WDI databases.

⁴⁵ The intuition is that the further the country is from the international frontier, the more relevant is the international stock of knowledge. See Alvarez, Benavente, and Crespi (2019b) for methodology and details of how the variables are constructed.

⁴⁶ The liberalization periods are defined as in Sachs and Warner (1995).

⁴⁷ See Álvarez, Benavente, and Crespi (2019b, Tables 2 and A.1).

Figure 3.19 Effect of Trade Liberalization on Patents Conditional on Levels of Human Capital

Source: IDB staff calculations based on estimates in Álvarez, Benavente, and Crespi (2019, Table 2).

Note: Human capital is measured as the average number of years of schooling in the working age population adjusted by the estimated return to schooling for each country. See Álvarez, Benavente, and Crespi (2019b) for details of the methodology.

region's stock is just above this threshold, which might have dampened the positive effects of trade.

This exercise, however, tells only part of the knowledge story. Macro indicators such as number of patents—or R&D for that matter—do not capture the bulk of knowledge accumulation in developing countries, where firms are more likely to imitate and adapt existing technologies.⁴⁸ Firm-level data, reviewed in the next chapter, offer better opportunities to identify causal effects on the absorption of foreign technology or on more incremental types of innovation.

Conclusions: Not Yet

What are the main takeaways from the macro evidence on liberalization channels? Trade policy had a strong positive impact on trade flows—a key carrier for the scale, specialization, and knowledge gains associated with higher growth and welfare—but the effect was not strong enough for the region to keep pace with the fast growth of international trade.

⁴⁸ See Goronichenko, Svejnar, and Terrell (2010).

Disappointing, perhaps, but a feat that was unlikely to be accomplished on the back of trade policy alone.

Export diversification played a limited role in this trade expansion—noticeable in the 1990s, but nearly negligible in the 2000s—an outcome not entirely out of line with patterns elsewhere in the developing world. In any case, diversification is not something that should necessarily be expected from liberalization, nor does it have a clear relationship with growth.

Trade expansion seems to have played an important role in the region's deindustrialization, but it is unclear whether this has hurt growth. In fact, the opposite may be true.

It has also become evident that the preferential arm of liberalization was instrumental in boosting FDI flows—another important channel for investment and productivity gains—either through PTAs, bilateral investment, or taxation treaties.

The evidence suggests that the knowledge channel—a key mechanism for sustainable growth—did not perform as expected. This disappointing result can be attributed, at least in part, to the region's relatively low levels of education.

A more thorough verdict on the Great Liberalization and its mechanisms, though, has to wait until the micro evidence is reviewed in Chapter 4. The view from above can reveal the overall patterns—but it can be deceiving with respect to causal relationships.

TAKING STOCK

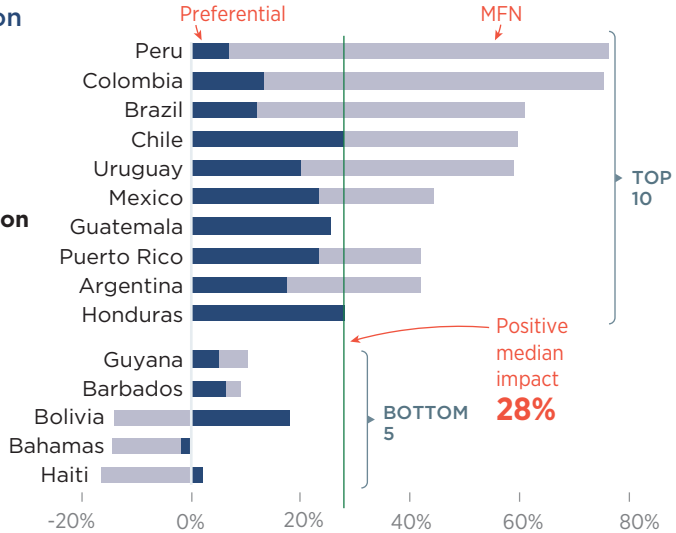
MECHANICS BEHIND LIBERALIZATION: THE MACRO EVIDENCE



The liberalization has boosted trade flows across the region...

Impact of the Great Liberalization on Trade-to-GDP Ratios.

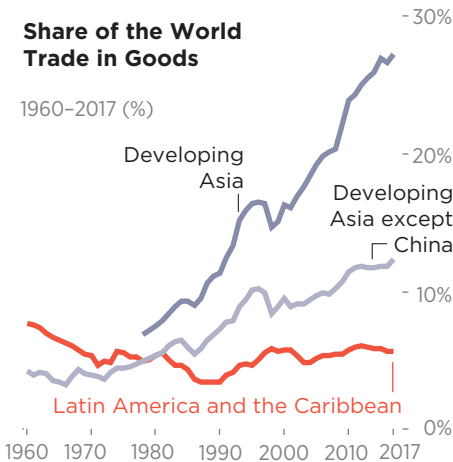
Most Favored Nation (MFN) vs. Preferential tariffs (%)



... enough to regain its share of the world market but not enough to keep up with developing Asia.

Share of the World Trade in Goods

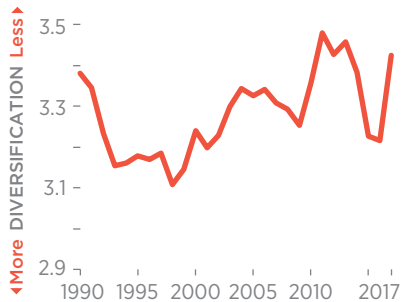
1960-2017 (%)



Export diversification was one of the drivers of the trade expansion in the 1990s, but the trend was reversed with the commodity boom.

Export Diversification in the Great Liberalization

Theil index, 1990-2017



THE BOTTOM LINE

Liberalization helped trade to boom, but complementary policies (education, science and technology, infrastructure) are needed to diversify exports and catch up with leading world exporters.

4 The Mechanics behind Liberalization: The Micro Evidence

Some things are better seen up close. Such is the approach taken by much of the recent empirical trade literature. That means leaving aside the kind of country and sector evidence reviewed in Chapters 2 and 3, and focusing instead on data from firms and individuals. The approach risks losing sight of the forest for the trees. The payoff is a more precise identification of impacts.

This chapter adopts a micro approach in the hopes of offering a more complete and realistic picture of the channels through which liberalization may have affected growth and welfare. Instead of looking at these aggregate results directly, it focuses on key intermediate outcomes—productivity, employment, and inequality—that likely were shaped by some of the same mechanisms of trade, foreign direct investment (FDI), and knowledge discussed in Chapter 3, but are now viewed through the lens of firms and individuals.

Productivity Gains? Yes, But Don't Take Them for Granted

One of the main takeaways of Chapter 1 is that productivity is arguably the mother of all trade gains. The higher productivity associated with moving resources to sectors with comparative advantage or to more efficient firms makes consumers better off. Similarly, the higher productivity growth driven by import competition, export opportunities, and access to knowledge allows countries to grow faster in the long term.

The country-level evidence reviewed in Chapter 3, though, suggests that if the impact of liberalization was positive, it was not enough to keep the region from turning in a generally lackluster productivity performance, hamstrung by its relatively low levels of education. But, what does the micro evidence say? One way to analyze the mosaic of evidence available is to think in terms of how it relates to the trade, knowledge, and FDI channels.

More Competition, Higher Productivity

The bulk of the micro evidence available approaches the liberalization-productivity link from the trade channel angle. It seeks to identify causal relationships between productivity and trade policy (i.e., tariffs) or trade flow variables (i.e., the share of imports in domestic consumption). It concentrates largely on the first decade of the liberalization and on medium to large manufacturing firms in four of the largest Latin American countries for which firm-level data are available: Brazil, Chile, Colombia, and Mexico (see Table 4.1).

The message that emerges from these studies contrasts with the gloomy picture painted by the country-level analysis. The message is that liberalization had a significant positive impact on firm productivity, mostly through what can be interpreted as the pro-competitive effect of imports, which means checks on firm market power and gains in managerial efficiency. These impacts are generally economically significant. In the case of Brazil, for instance, they explained approximately 15 percent of total factor productivity growth in the 1990s (Muendler, 2004).

There is limited evidence, though, of either the reallocation effect (that is, resources flowing to more productive firms), which seems to have

Table 4.1 Empirical Evidence on the Impact of Trade Liberalization on Productivity in Latin America, 1980s and 1990s

Authorship	Country and period	Channel	Outcome	Findings
Pavcnik (2002)	Chile, 1979–86	IC	TFP	Positive
Muendler (2004)	Brazil, 1986–98	IC and II	TFP	IC positive for large and medium firms
López-Córdova and Mesquita Moreira (2004)	Brazil, 1996–2000 Mexico, 1993–2000	IC, EO, II	TFP	IC (Brazil and Mexico), EO and II (Brazil) positive for large and medium firms
Schor (2004)	Brazil, 1986–98	IC, II	TFP	IC and II positive for large and medium firms
Fernandes (2007)	Colombia, 1977–91	IC	TFP	Positive for large plants and those in the less-competitive industries
Bas and Ledezma (2010)	Chile, 1982–99	IC, EO	TFP	Positive (negative) in export-oriented (import competing) industries
Iacovone (2012)	Mexico, 1993–2002	IC, EO, II	Labor productivity	IC, EO, II positive for large frontier firms

Source: IDB staff.

Note: IC is Import competition; II is access to imported inputs and EO is export opportunities. Only statistically significant results are reported.

played a significant role only in Chile (Pavcnik 2002), or of export-related gains (see Box 4.1), which is statistically significant in a few studies of Brazil, Chile, and Mexico.

BOX 4.1 MARKET ACCESS AND FIRM EXPORTS: HOW RELEVANT ARE TARIFFS?

Most of the evidence on the Great Liberalization focuses on the impact of lowering tariffs at home. Little is known about how firms reacted when tariffs were cut abroad, either because of new preferential agreements, multilateral agreements, or unilateral liberalizations, and thereby improved their market access and brought scale and learning gains within their reach. There are important policy lessons to learn about these impacts—their magnitude, their main drivers (are the established exporters shipping more goods or are new firms entering the export market?), and the types of firms—large or small—that benefit the most.

Morales, Pierola, and Volpe Martincus (2019) helps to begin answering these questions. It uses the trade economists' analytical workhorse—the gravity model—and the combination of a new tariff database (CESifo Group-World Bank) and the World Bank's Exporter Dynamics Database to estimate the average impact of destination tariffs on firm exports, breaking it down into intensive marginal effects (involving established exporters) and extensive effects (involving new exporters). It then looks at how these impacts affect firms of different sizes. Due to data limitations, it looks only at the later stages of the liberalization (2000–13) for a sample of up to 60 countries, 13 of which are in Latin America.

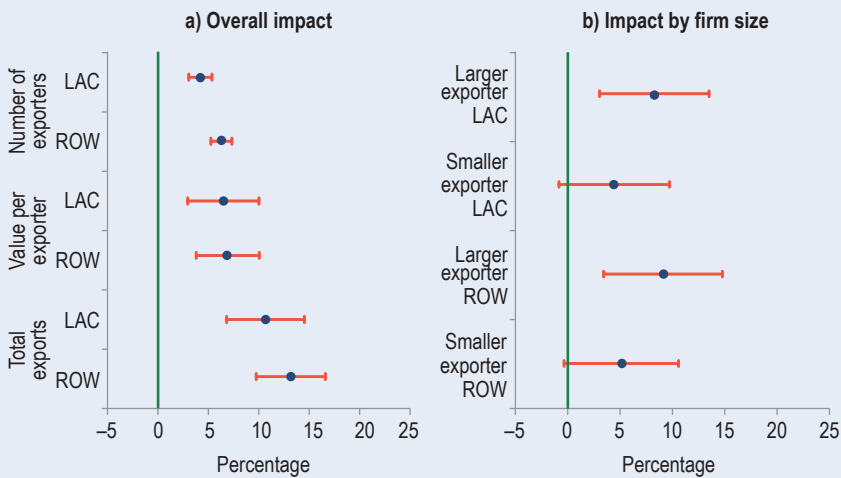
The first set of results points to a strong, economically and statistically significant impact of destination tariffs on firm exports, although the impact is lower in Latin America than in the rest of the world (Figure 4.1a). A 10 percent cut in the average destination tariff would increase exports by as much as 13 percent on average, with a substantial amount coming from an increase in the number of exporters (6 percent). Remember that tariff cuts during the Great Liberalization were significantly higher than 10 percent (see Chapter 2). The role of new exporters also highlights the firm dimension of export diversification, which complements the product angle discussed in Chapter 3. If these estimates are a good proxy for what happened earlier, it can be argued that liberalization contributed greatly to expand the base of exporting firms.

The second set of results suggests that, despite this boost to the exporting base, liberalization is likely to have benefitted larger exporters more, at least in the short run (Figure 4.1b), thereby raising questions as to its impact on diversification. According to the estimates, a 10 percent cut in destination tariffs would increase exports of the top 2 percent of exporters by 8 percent, while other exporters gained only half of that amount. This is consistent with the pattern in the rest of the world and with the high informational and entry costs associated with exporting. Another study (Fugazza, Olarreaga, and Ugarte, 2018), however,

(continued on next page)

BOX 4.1 MARKET ACCESS AND FIRM EXPORTS: HOW RELEVANT ARE TARIFFS? (continued)

Figure 4.1.1 Impact on Firm Exporters of a 10 Percent Reduction in Destination Tariffs, Selected Latin American Countries and Rest of the World, 2000–13



Source: IDB staff calculations based on Morales, Pierola, and Volpe Martincus (2019).

Note: The figure shows 95% confidence intervals for a 10% tariff reduction. Large exporters are the top 10%.

looked at the Peruvian case and added nontariff barriers to the tariff analysis. It found the opposite result, which, aside from data and methodological differences, underscores the importance of considering countries' specific conditions when designing trade and export promotion policies (see Chapter 7).

This mostly positive story, though, becomes more nuanced when the focus shifts to a later period of the liberalization: the 2000s. Most of the limited evidence available is in five papers commissioned for this report covering medium to large manufacturing firms in reluctant (Brazil) to aggressive (El Salvador, Colombia, Mexico, and Peru) liberalizers.¹ Since

¹ Blyde and Fentanes (2019); Pierola, Sánchez-Navarro, and Mercado (2019); Molina (2019), Li and Mesquita Moreira (2019), and Mesquita Moreira et al. (2019). Álvarez and Claro (2009) and Iacovone, Rauch, and Winters (2013) also look at the impact of the China shock in Chile and Mexico, respectively, but in its incipient phase. The first study, covering the 1990–2000 period, found no impact on TFP, whereas the second found a negative impact on sales in 1994–2004, particularly of smaller firms.

these studies cover a period when most of the liberalization had already been phased in, they use the sudden surge of Chinese competition, which followed the country's accession to the WTO in 2001, as the shock to identify the effects of trade on productivity.

The China shock was significant in all the countries studied and came mostly at the expense of suppliers from the rest of the world (see Figure 4.1).² Its impact on total factor productivity (TFP), though, was largely negative (Mexico, El Salvador, and Colombia) or not statistically significant (Peru). Brazil, despite having the highest levels of protection in the group and the lowest levels of import penetration, was the only case in which the effect was positive (Figure 4.2). These results contrast with those found by Bloom, Draca, and Van Reenen (2016) for 12 European countries, where the impact of the China shock on TFP was mostly positive.

Brazil was also the only country where greater Chinese competition in third markets had a positive effect on TFP. The evidence on another theoretically important channel—competition for the firms' inputs—was also mixed, ranging from a positive impact in Peru, to not statistically significant in Mexico and Colombia, to negative in Brazil.

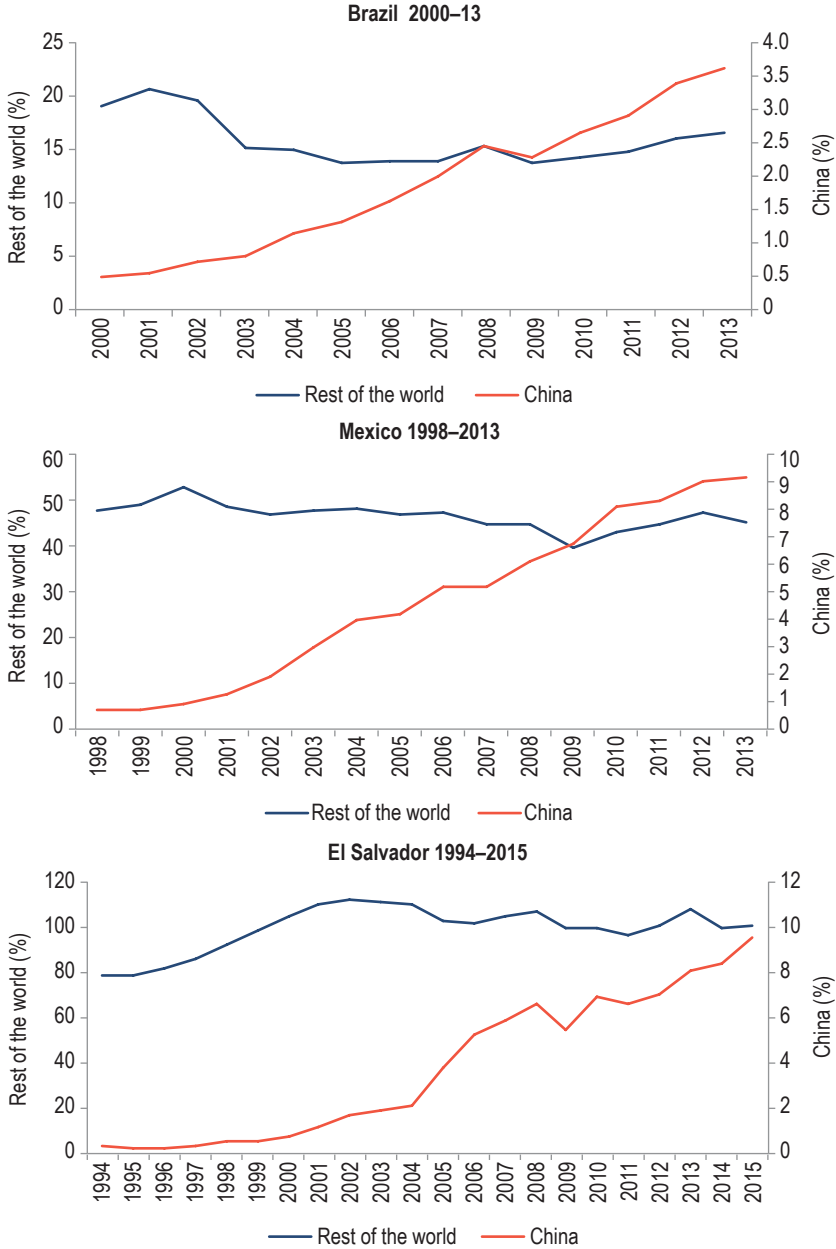
All these results refer to impacts within firms. What about the reallocation effect? Did resources generally move to more productive firms and sectors? It is difficult to identify the role of import competition in this process, but TFP growth decompositions in Brazil and Mexico suggest that the contribution to firm reallocation was as limited as it was in the 1990s.³

Figure 4.3 illustrates the case of Brazil. In this exercise, the aggregate growth of productivity is decomposed into effects between industries (resources flowing from, say, textiles to steel) and within industries (what happens to firms inside a sector). Within-industry effects are, in turn, decomposed into net entry effects (turnover), effects within firms, and effects between firms. It is immediately clear that while resources moved to sectors with higher productivity (a positive between-industry effect), the within-industry contribution was negative (-2.29%), thereby bringing the cumulative, aggregate TFP growth to just short of 1 percent. Even though resources moved to existing firms whose productivity was growing faster, the 4.8% gain was offset by the entry of lower productivity firms (-2.3%) and a drop in TFP among existing firms (-4.8%).

² Lage de Sousa (2018) shows that the impact of Chinese exports in third markets was also significant.

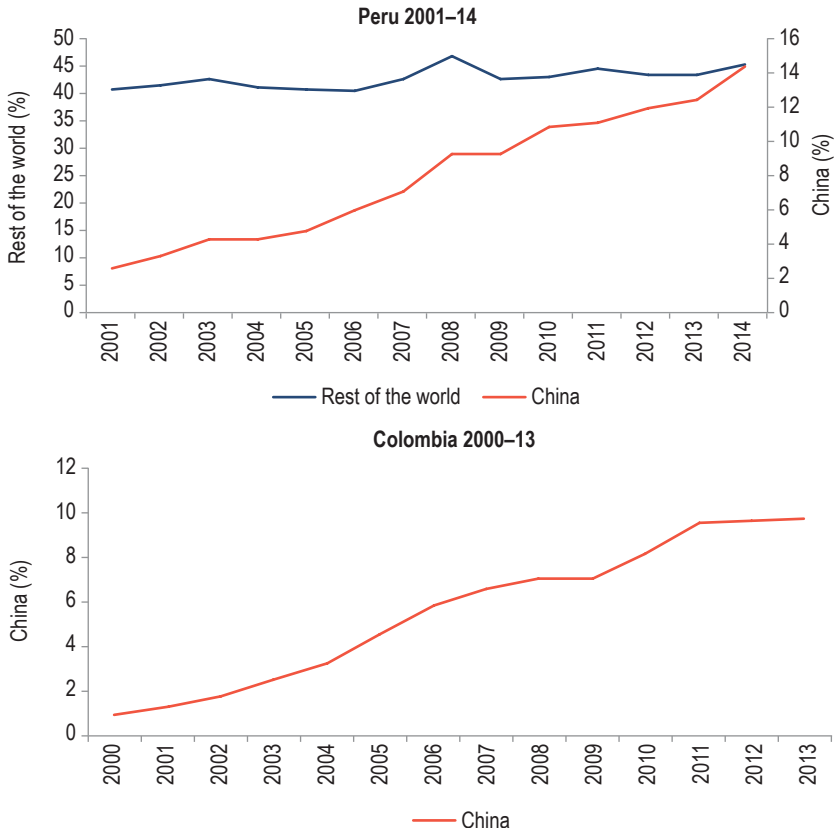
³ For Brazil, see Mesquita Moreira et al. (2019); for Mexico, see Blyde and Fentanes (2019).

Figure 4.1 Penetration of Manufacturing Imports from China and the Rest of the World: Brazil, Mexico, El Salvador, Peru, and Colombia



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Figure 4.1 Penetration of Manufacturing Imports from China and the Rest of the World: Brazil, Mexico, El Salvador, Peru, and Colombia (continued)



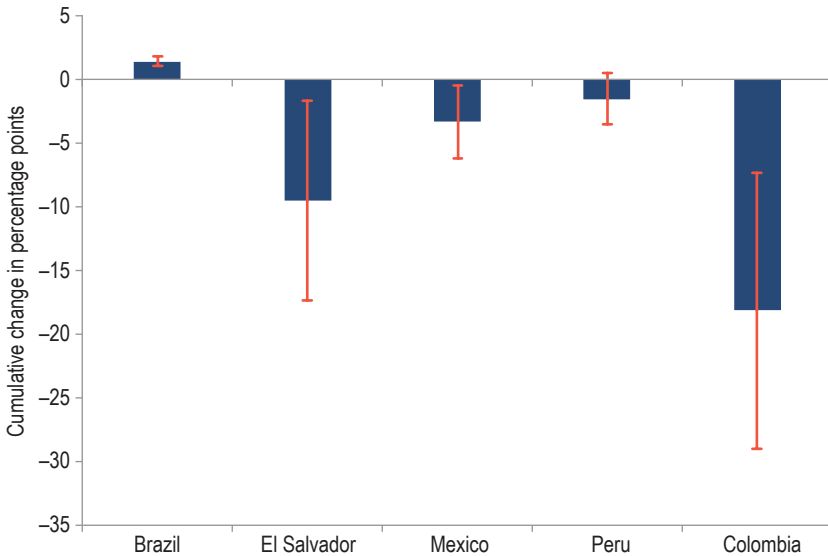
Source: IDB staff calculations based on Blyde and Fentanes (2019); Pierola et al. (2019); Li and Mesquita Moreira (2019); and Mesquita Moreira et al. (2019).

Note: Import penetration is defined as imports divided by apparent consumption (domestic output minus exports). Rest of the world data for Colombia were not available.

What does all the micro evidence mean? Despite limitations on country, sector, and firm coverage, as well as potential measurement errors (e.g., the TFP estimates rely on sales rather than the hard-to-find data on physical output), they are probably the best option for identifying the direct effect of trade flows on productivity.

The story they tell is of palpable gains in the 1990s that could not be sustained thereafter, particularly in the face of a new competitive shock. Even in places like Brazil, where the reaction to the new shock was positive, the gains were not large enough to avoid a lackluster performance, with manufacturing TFP growing at a meager 0.07 percent

Figure 4.2 The Impact of Chinese Competition on Total Factor Productivity Growth: Firm-Level Estimates for Manufacturing Sector, 2000–13



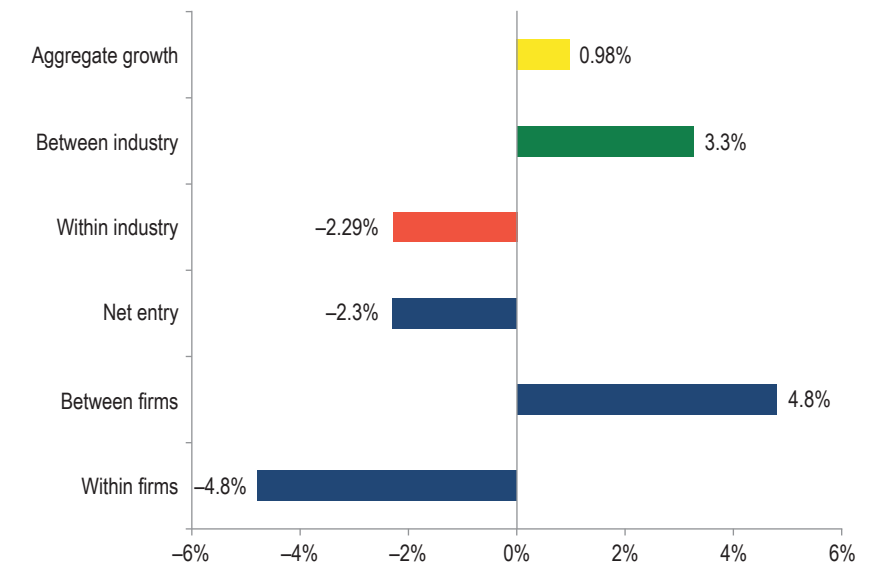
Source: IDB staff calculations based on firm-level estimates from Blyde and Fentanes (2019) for Mexico; Pierola et al. (2019) for Peru; Molina (2019) for Colombia; Li and Mesquita Moreira (2019) for El Salvador; and Mesquita Moreira et al. (2019) for Brazil.

Note: The figure shows the cumulative total factor productivity change driven by the change in Chinese import penetration during 2000–13, except for Peru, whose period starts in 2001. The bars are the point estimates, and the lines extending outside the bars are 90% confidence intervals.

average annual rate in 2000–13. This is well below the 2.7 percent rate estimated for 1996–2000 (López-Córdova and Mesquita Moreira, 2004). These results constitute another warning against taking the liberalization gains for granted.

More Trade, More Knowledge and Innovation?

The liberalization gains did not deliver robust productivity growth sustainable over the long term. That much seems clear from the micro evidence reviewed thus far. These studies, however, say little about the one mechanism that could have made it happen: knowledge acquisition and innovation. The country-level evidence discussed in Chapter 3 suggests that the impact of liberalization on these variables, though likely positive, was hobbled by low levels of human capital. But that evidence suffers from measurement and identification problems. What does the micro evidence say?

Figure 4.3 Decomposition of Brazil's Total Factor Productivity Growth, 2000–13

Source: Mesquita Moreira et al. (2019).

Note: Decomposition follows Foster, Haltiwanger, and Krizan (2001). Within-industry effect is decomposed into the impact of (i) the net entry of firms; (ii) productivity growth within and between firms. The latter includes the combined effect of within and between growth (cross-effect). Sample includes only formal firms with more than 20 employees.

Most of the limited evidence available (see Table 4.2) points to liberalization's positive impact, either through imports or exports, on several knowledge and innovation outcomes that are broader and more attuned to knowledge accumulation in developing countries than those reviewed in Chapter 3. Unlike the evidence on productivity, a clear change in direction between the 1990s and the 2000s is not apparent.

Two studies dig further into this relationship between trade and knowledge accumulation. Álvarez, Benavente, and Crespi (2019), in a study of import competition and innovation in Argentina, Bolivia, Chile, Colombia, Mexico, and Peru in 2006, find that import competition increases firms' probability of engaging in product innovation and spending for research and development (R&D). An increase in competition by one of the four levels of intensity reported by firms raises the average firm probability to invest in R&D or to launch a new product by 17 and 11.2 percentage points, respectively—a significant economic impact, given that the average probability of the firms in the sample is 37 percent for R&D and 75 percent for product innovation. There is no evidence, though, that foreign competition is correlated with process innovation.

Table 4.2 Empirical Evidence on the Impact of Trade on Innovation in Latin America

Authorship	Country and Period	Channel	Outcome	Findings
Álvarez and Robertson (2004)	Chile 1995, Mexico 1993–95	Exports (Mexico, Chile); inputs (Mexico)	New products, tools, packing, organization, design, R&D lab, tech transfer	Positive for most measures, particularly for large firms
Verhoogen (2008)	Mexico, 1984–2001	Exports	Quality upgrading	Positive
Teshima (2009)	Mexico, 2000–03	Import competition	R&D expenditures, process and product innovation	Positive on R&D and process innovation. Insignificant on product innovation
Bustos (2011)	Argentina, 1992–96	Exports (Mercosur)	Technology spending, product and process innovation	Positive for middle and large firms
Iacovone, Keller, and Rauch (2011)	Mexico, 1998–2004	Chinese import competition	Quality control, management techniques, job rotation	Small positive impact, particularly on more innovative firms
Fernandes and Paunov (2013)	Chile, 1997–2003	Import competition, inputs	Quality upgrading	Positive
De Elejalde, Ponce, and Roldán (2018)	Uruguay, 2004–15	Import competition	R&D expenditures, R&D efficiency	Negative on R&D expenditures, positive on R&D efficiency
Medina (2018)	Peru (apparel) 2000–12	Chinese import competition	Quality upgrading	Positive, particularly for large firms

Source: IDB staff.

Mesquita Moreira et al. (2019), in turn, focus on Brazil during the China shock of the 2000s. Using data for medium and large manufacturing firms (2000–13), they look at the impact of Chinese import penetration in domestic and third markets on five knowledge indicators: patents, innovation expenditures (e.g., R&D, equipment, licensing, and training), process and product innovation, and number of workers in innovation activities. None of these indicators was significantly affected.

Putting it all together, the balance of the micro evidence suggests that trade had a positive impact on knowledge accumulation around the region. This should bring some comfort to policymakers who bet their political careers on trade liberalization, but there is a significant mismatch between the macro and micro evidence that cannot be ignored. Even if the impact at the firm level was positive—and further research is needed to support

a more conclusive verdict—it was certainly not strong enough to support sustained productivity growth across the economy.

FDI Spillovers?

Expectations of productivity gains hinged not only on lower tariffs and more trade, but also on greater inflows of FDI brought about by deregulation and international agreements signed during the liberalization (see Chapter 3). Foreign affiliates were presumed to increase competition in the domestic market, replace lower-productivity firms, and generate knowledge spillovers to their clients and suppliers. What does the micro evidence say about these effects?

Table 4.3 summarizes most of the evidence available for the region, which, as in the case of trade and productivity, concentrates mainly on manufacturing firms in a handful of countries, predominantly in the 1990s. Most of the results point to a positive FDI impact on TFP through turnover effects (i.e., entry of foreign affiliates with higher productivity), positive knowledge spillovers to clients and suppliers (vertical spillovers), and other indirect channels, such as exports, size, and survival rates among spin-offs or suppliers. It can be argued that these gains are offset by negative horizontal spillovers (i.e., the negative impact on local competitors), but these can be viewed as part of the turnover effect of replacing low-productivity firms.

Although informative, most of these studies assume the existence of linkages between foreign and domestic firms based on highly aggregated input-output tables or geographic location. The exception is a study by Alfaro-Ureña, Manelici, and Vásquez (2019) of Costa Rica, which addresses the burning question of how these spillover effects look when actual linkages, based on administrative data, are considered. The study confirms the general trend of strong positive impacts on local suppliers, but how valid is this conclusion for the rest of the region?

Carballo, Marra de Artiñano, and Volpe Martincus (2019a) perform a similar analysis on another Latin American country (Uruguay), while examining the impact of these linkages on other relevant outcomes, such as exports. Its main data source is firm-to-firm sales and purchases from VAT declarations. The descriptive data alone are already revealing (see Figure 4.4). Foreign firms, particularly those selling abroad, are larger than their domestic counterparts in terms of sales, the number of firms they sell to, purchases, the number of firms they buy from, exports, imports, and employment, and they have greater labor productivity (as proxied by sales per employee). They are also at least 10 times more likely to export. This “foreign premium” holds even when sectoral and locational differences are considered (see Figure 4.5).

Table 4.3 Empirical Evidence on Foreign Direct Investment Spillovers in Latin America

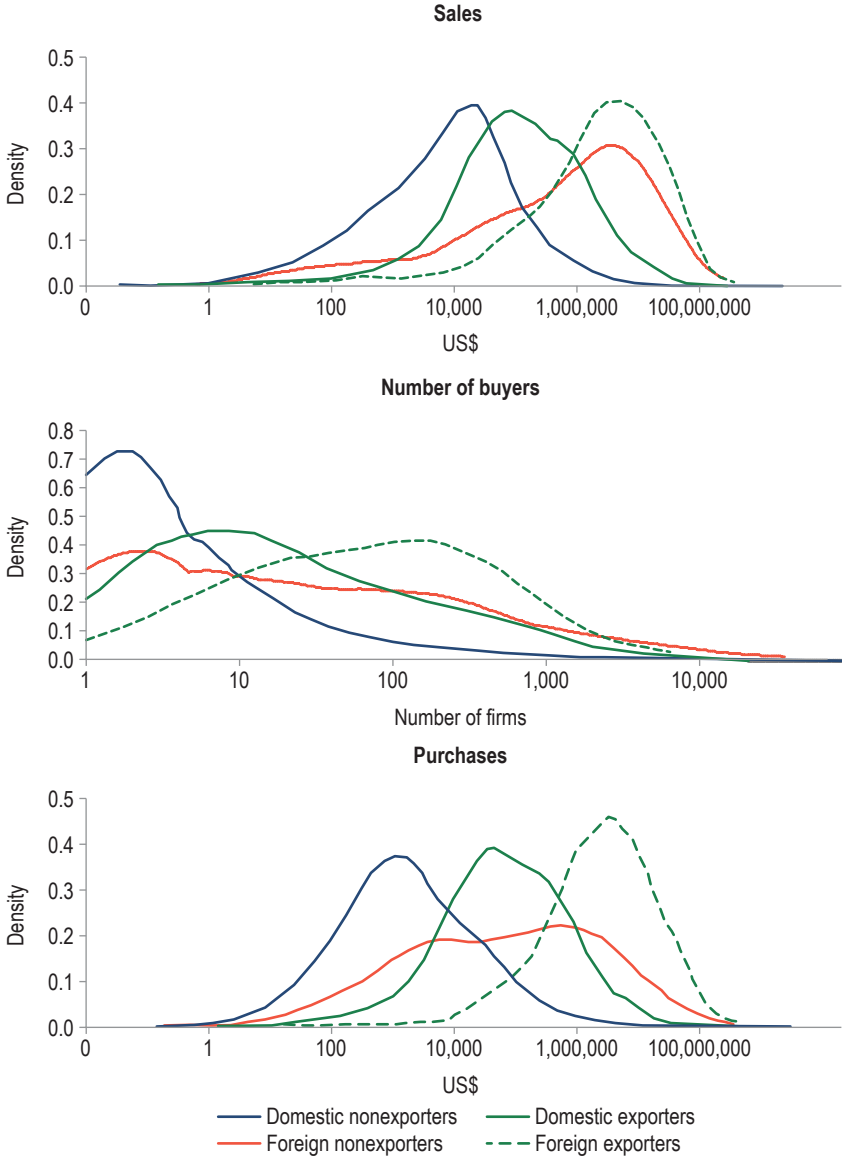
Authorship	Country and Period	Channel	Outcome	Findings
Aitken, Hanson, and Harrison (1997)	Mexico, 1986–90	Co-location (geographical concentration)	Export status	Export activity by multinational firms increases the probability that nearby domestic firms venture abroad.
Aitken and Harrison (1999)	Venezuela, 1976–89	Horizontal linkages	TFP	Negative for domestically owned firms in the same industry.
Blyde, Kugler, and Stein (2004)	Venezuela, 1995–2000	Horizontal and vertical (forward and backward) linkages	TFP	Positive spillovers, mainly between but also within industries, from export oriented MNCs to large domestic firms.
López-Córdova and Mesquita Moreira (2004)	Mexico, 1993–99 Brazil, 1996–2000	Horizontal and vertical (forward and backward) linkages	TFP	Mexico: positive for vertical but negative for intra-industry spillovers. Brazil: negative for both vertical and intra-industry spillovers
Muendler, Rauch, and Tocoian (2012)	Brazil, 1995–2011	Spinoffs	Size and survival rate	Employee spinoffs perform better on average than new firms without (identifiable) parents: their sizes at entry are larger and their survival rates are higher.
Muendler and Rauch (2018)	Brazil, 1995–2001	Spinoffs	Exports	At entry spinoffs access more parent markets than do exporting firms in the same industries and municipalities as the parents.
Alfaro-Ureña, Manelici, and Vasquez (2019)	Costa Rica, 2008–17	Vertical (backward) linkages	Sales, employment, and TFP	Starting to supply multinational firms is associated with increased sales (to other buyers), larger number of employees, and higher TFP.

Source: IDB staff.

Considering the linkages between foreign and local firms and netting out all other possible influences, the results echo those of the Costa Rica case (Figure 4.6).⁴ Linking up with foreign affiliates is associated with an increase in the number of employees and labor productivity, and additionally raises the likelihood to export. In particular, selling to

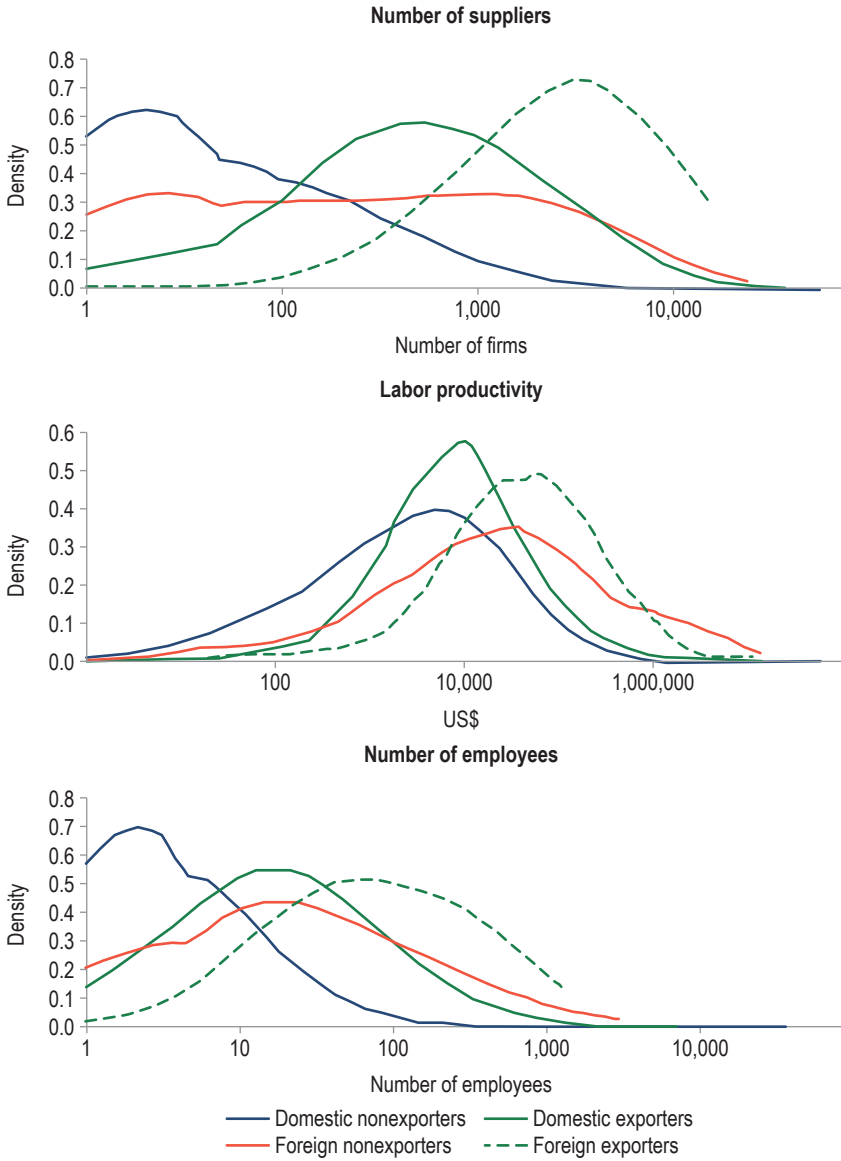
⁴ The analysis uses an estimation approach that allows for accounting for systematic differences across firms, time-varying sector-region factors, and other time-varying firm-level covariates (see Carballo, Marra de Artiñano, and Volpe Martincus, 2019a, for details).

Figure 4.4 Foreign Affiliates and Domestic Firms, Size and Performance, Uruguay, 2016



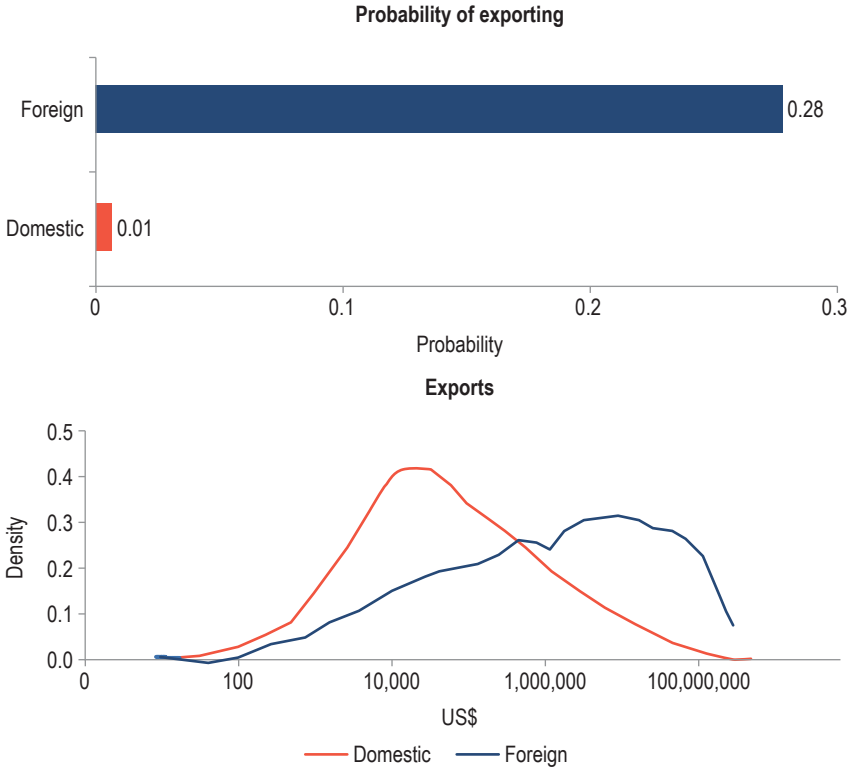
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Figure 4.4 Foreign Affiliates and Domestic Firms, Size and Performance, Uruguay, 2016 *(continued)*



(continued on next page)

Figure 4.4 Foreign Affiliates and Domestic Firms, Size and Performance, Uruguay, 2016 (*continued*)



Source: IDB staff calculations based on data from Uruguay's tax office (DGI) and national customs authority (DNA). See Carballo, Marra de Artiñano, and Volpe Martincus (2019a) for details.

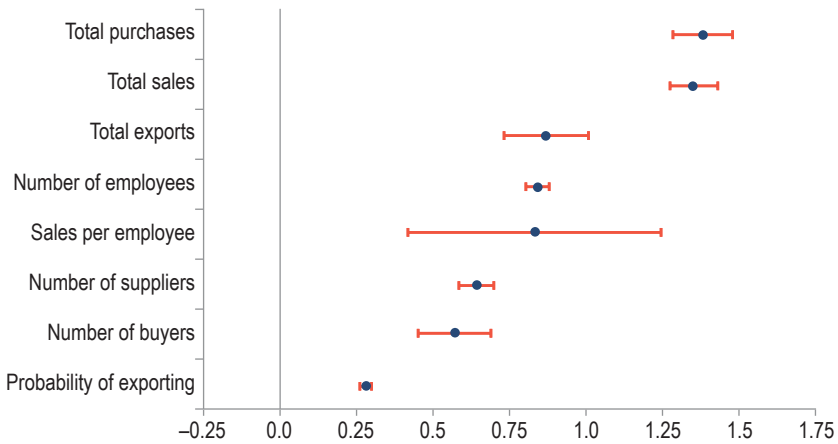
Note: The figures present kernel-density estimates showing the distribution of (the natural logarithm of) firms' total sales, total number of buyers, total purchases, total number of suppliers, number of employees, labor productivity (sales per employee), and total exports, as well as a bar graph reporting the shares of firms that export, for both multinational and domestic firms.

multinational firms is associated with a 6.5 percent increase in total sales (to other firms), a 2.3 percent increase in the number of employees, and a doubling of the firm's likelihood to export.⁵ Nevertheless, the linkage does not seem to affect the total volume of exports, suggesting that domestic firms that are already exporting do not gain any extra access to foreign markets.⁶ This has potentially important implications for the

⁵ The probability that a given domestic firm starts exporting is roughly 0.1 percent. Selling to a multinational firm increases this probability by another 0.1 percentage points.

⁶ Interestingly, domestic firms selling to more foreign affiliates do seem to experience gains in terms of export volumes.

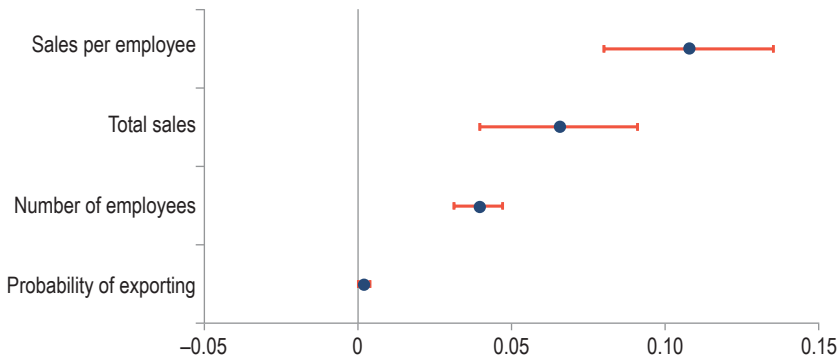
Figure 4.5 Foreign Affiliates "Premium" in Size and Performance, Uruguay, 2016



Source: IDB staff calculations based on data from Uruguay's tax office (DGI) and national customs authority (DNA).

Note: The figure reports estimates of a series of regressions in which the dependent variables are (the natural logarithm of) sales, the number of buyers, purchases, the number of suppliers, the number of employees, labor productivity (sales per employee), and exports, and a binary indicator that takes the value of one if the firm exports and zero otherwise. The main explanatory variable is a binary indicator that takes the value of one if the firm is a foreign affiliate and zero otherwise. Sector-region fixed effects are also included. The dot corresponds to the point estimate and the segment line to the 95% confidence interval. Robust standard errors are used for inference purposes.

Figure 4.6 The Effect of Linkages with Foreign Affiliates and Domestic Firms' Size and Performance, Uruguay 2013–16



Source: IDB staff calculations based on data from Uruguay's tax office (DGI) and national customs authority (DNA).

Note: The figure reports estimates of a series of regressions in which the dependent variables are the natural logarithm of sales (other than those to the foreign affiliates in question), the natural logarithm of the number of employees, the natural logarithm of sales (other than those to the foreign affiliates in question), and a binary indicator that takes the value of one if the domestic firm exports and zero otherwise, a binary indicator that takes the value of one if the domestic firm sells to a foreign affiliate the previous year and zero otherwise, and lagged time-varying, firm-level covariates (e.g., lagged number of employees for sales and exports), and sector-region fixed effects. The dot corresponds to the point estimate and the segment line to the 95% confidence interval. Standard errors clustered by firm are used for inference purposes. Only variables statistically significant at the 95% confidence level are included in the figure.

design of export promotion, investment promotion, and linkages programs (see Chapter 7).

As with the other micro evidence linking liberalization with productivity, the evidence related to FDI spillovers suggests that expectations were in the right direction, if not exactly in the right place. Greater FDI inflows helped raise productivity but fell short of delivering a big productivity boost, as evidenced by the region's overall low productivity. Again, this is not surprising given that, to a great extent, foreign affiliates face the same human capital, infrastructure, regulatory, and macro-policy constraints as local firms; these constraints, in turn, are key determinants of productivity. FDI deregulation is welcome and helps (particularly under the right incentives of an open economy), but, as in the case of trade policy, it is not a silver bullet and should not be sold as such.⁷

The figures present kernel-density estimates showing the distribution of (the natural logarithm of) firms' total sales, total number of buyers, total purchases, total number of suppliers, number of employees, labor productivity (sales per employee), and total exports, as well as a bar graph reporting the shares of firms that export, for both multinational and domestic firms.

Did Trade Work for Workers?

Much of the expectation that liberalization would usher in a better life for people in Latin America and the Caribbean hinged on the promise of more jobs, better wages, and less inequality. These expectations were inflated by a trade theory based on unrealistic assumptions about the workings of the labor market, which naïvely suggested that the region was poised to replicate the East Asian job miracle. Clearly things did not turn out as planned. But what exactly happened? What was the role of trade policy? Providing reliable answers to these questions is not just an academic exercise, but a critical step toward informing well-designed public policies. Micro data—whether on firms or individuals—arguably offer the best opportunity to find these answers.

⁷ Du, Harrison, and Jefferson (2014) shows that trade liberalization is associated with greater productivity impacts on FDI's backward linkages. Wang and Blomström (1992), Borensztein, De Gregorio, and Lee (1998), and Blalock and Gertler (2008), in turn, draw attention to the fact that FDI benefits depend not only on the level of openness, but also on the degree of financial development, intensity of competition, infrastructure, and local R&D and learning efforts.

Employment and Wages

Until recently, few studies had explored the impact of trade liberalization on employment in the region. This dearth of information reflects the long-standing view that trade should not be about the level of employment. Rather, the presumed story was that workers would be seamlessly reallocated from low- to high-productivity activities, enabled by a labor market with flexible wages and mobile workers. Yes, some frictional unemployment may arise as workers transition to new activities, but this would tend to disappear in the long run.

In the Beginning...

The few early studies on the first decade of the liberalization tend to corroborate this established view. Chile's liberalization of 1973–79 moderately increased unemployment, but this effect faded over time, possibly due to ensuing labor market reforms (Cox-Edwards and Edwards, 1997). A study of the first phase of Mexico's liberalization (1985–88) also found a moderate negative impact on employment; most of the shock was absorbed by wages, which fell between 5 and 6 percent over the period (Revenge, 1997). Haltiwanger et al. (2004) report an increase in the pace of job reallocation and a decline in net job growth for six Latin American countries (Argentina, Brazil, Colombia, Chile, Mexico, and Uruguay) over selected periods of their trade reforms (1980s and 1990s). In all cases, these effects are relatively small.⁸

The more recent studies, using matched employee-employer data and focusing largely on subnational effects, paint a more worrisome picture, although they cover only Brazil. Menezes-Filho and Muendler (2011), for instance, suggest that trade liberalization played an important role in the surge in the number and duration of reallocation failures over the 1988–97 period, with exporters and comparative advantage sectors shedding rather than absorbing workers.

Dix-Carneiro and Kovak (2017, 2019) cover a longer period (1986–2010) and take a subnational, regional approach. They find that individuals in regions more exposed to tariff cuts suffered declines in employment and earnings for as long as 20 years. These losses were partially compensated by a transition to informality, but, as is well known, informality comes with its

⁸ Although using sectoral rather than micro data, Mesquita Moreira and Najberg (2000) also find small adjustment costs for Brazil's trade reform (1990–97), reporting job losses amounting to 1.7 percent of total employment.

own welfare problems, including lack of access to social security and coverage by labor laws.⁹ The authors attribute these results to poor worker and capital geographic mobility, which is likely to have been compounded by the rigidities of Brazil's labor market regulation (Ulyssea and Ponczek, 2018).

The Preferential, Reciprocal Dimension

Both these early and recent crops of studies focus only on the unilateral dimension of the liberalization. Preferential initiatives were an important part of the region's reintegration into the world economy and yet there is little evidence of labor market effects. The reciprocal feature of these initiatives makes them better equipped to minimize reallocation frictions, as better market access increases the probability of exporters absorbing displaced workers. Moreover, these agreements offer a valuable opportunity to better understand the intricate relationship between trade policy and migration, a preeminent margin of labor market adjustment in parts of the region such as Mexico and Central America (see Box 4.2).

A study on Mexico's experience with NAFTA (Trachtenberg, 2019) helps to fill the gap in information. It estimates the agreement's formal employment impact in its first decade by analyzing the exposure of local labor markets (defined as commuting zones) to expanded export opportunities and increased import competition.¹⁰

Assuming that NAFTA changed not only the relative, but also the absolute, level of formal employment across commuting zones, exports generated 1.3 million new jobs and imports displaced 456,000 jobs from 1993 to 2003, resulting in a net gain of 870,000, or 13.7 percent of formal employment (Table 4.4). This gain is driven by production workers who are most likely to be employed in manufacturing industries exporting to the United States and Canada.

These employment effects, though, are not evenly distributed. States in the north close to the U.S. market, and in the central regions,

⁹ Paz (2014) uses household survey data to look at Brazil's trade liberalization experience. He finds weak evidence that domestic tariff cuts increase informality slightly, but cuts in trade partners have a more robust negative impact. Attanasio, Goldberg, and Pavcnik (2004) also find that the adjustment in Colombia resulted in greater informality, with a 10-percentage point cut in the tariff rate increasing the probability of a worker having an informal job by 0.9 percentage points.

¹⁰ The commuting zones include Mexico's 59 metropolitan zones defined by the Instituto Nacional de Estadística y Geografía (INEGI) and another 730 zones, which cover the rest of the municipalities in the country that exhibit a high degree of social interaction.

BOX 4.2 PREFERENTIAL TRADE AGREEMENTS AND MIGRATION

Some of the major preferential trade agreements (PTAs) in the region—such as NAFTA and CAFTA—were motivated, at least in part, by the expectation that they could help curb illegal migration. “Export goods, not people” was one of their well-known mottos. The reality, though, proved to be more complicated, as the number of migrants from Mexico and Central America continued to increase (Garcia Zamora, 2009 and Boucher et al., 2007). That does not necessarily mean that these PTAs did not work as expected, but even if they did, their impact was clearly not big enough to stop the flows.

The reality, however, is that the mechanisms by which PTAs interact with migration and the labor market can be complex. PTAs tend to increase trade between partner countries by lowering trade costs. Increased trade, though, can encourage or discourage migration, depending on its impact on income distribution, employment, foreign direct investment, relative wages between partners, and migration costs, among other factors (see Rapoport, 2018). For example, theory suggests that PTAs among countries with very distinct comparative advantages are more likely to promote wage convergence (Venables, 2003) and, therefore, reduce the economic incentive for migration. Yet, other factors can come into play, as shown by NAFTA, which does not seem to have had any effect on wage convergence between Mexico and the United States (Robertson, 2007). Another important piece of the puzzle is the impact of labor-related provisions—increasingly a feature of these PTAs—that may further restrict or encourage migration.

Thus, the relationship between PTAs and migration, particularly in Latin America and the Caribbean, has yet to be properly answered. The few studies available focus on the OECD countries and generally find a positive association, which is even stronger when the agreements include labor-related provisions (Orefice, 2015 and Figueiredo, Lima, and Orefice, 2016).

Abuelafia and Robertson (2019) focus on the region and present new evidence, particularly on the role of labor provisions. The authors use a keyword text search to classify PTA provisions that might affect migration into five broad categories: temporary entry of business persons, movement of natural persons, labor cooperation, service providers, and labor standards. They find that PTAs increase migration in a sample of 154 countries. However, controlling for the possibility that countries with more migrants are more likely to sign trade agreements, migration declines. The inclusion of migration provisions is also associated with less migration, particularly for those related to labor standards.

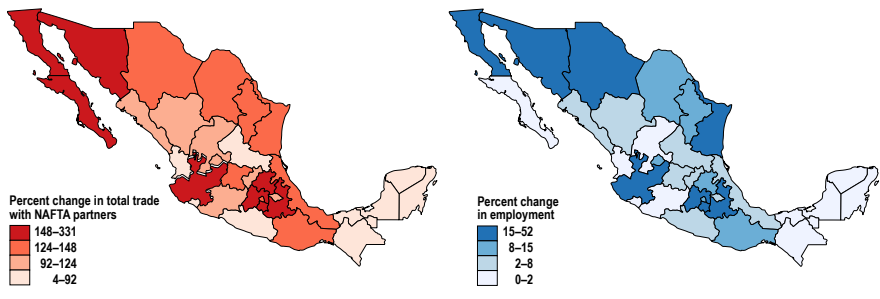
When the sample is restricted to Latin American countries, PTAs do not significantly impact intra-Latin American migration. Some labor provisions, however, are statistically important for migration. Provisions related to the movement of natural persons tend to restrict intra-Latin American migration, while provisions related to temporary entry and labor standards have the opposite effect.

While these results are already food for thought for the region’s policymakers, further research is needed to better understand the peculiarities of PTA effects on the region’s migration and the nature and implementation of labor-related provisions.

Table 4.4 National Change in Employment Due to NAFTA, 1993–2003

	Net effect (percent change)	Net effect (thousand workers)	Export effect (thousand workers)	Import effect (thousand workers)
All workers	13.7	870	1,325	-456
Production workers	32.7	940	1,453	-513
Other workers	-2.2	-75	-141	67

Source: Trachtenberg (2019).

Figure 4.7 Percent Change in Mexico's Total NAFTA Trade and Trade-Related Employment by State, 1993–2003

Source: Trachtenberg (2019).

Notes: Trade data are deflated to 1993 values. Calculations for Oaxaca exclude data for the Tehuantepec commuting zone.

where manufacturing and the transport infrastructure have been historically concentrated, experienced the largest effects on employment (see Figure 4.7).¹¹

The China Shock

Most of the evidence reviewed thus far focuses on the short- to medium-term effects of liberalization. Little has been said about labor market outcomes occurring after most of the tariff cuts had been phased in and countries became more exposed to trade shocks. And those shocks came, with China's emergence in the 2000s arguably the most relevant since the onset of liberalization. The China shock shattered the region's hopes of being competitive in labor-intensive manufacturing, a specialization that could have sparked an East Asian style boom to the job market.

¹¹ See Mesquita Moreira (2013) for a discussion of the impact of transport costs and trade policy on the geographical distribution of Mexico's industry and exports.

The China shock hit the region in at least two ways: as a demand shock, pulling resources toward commodities, and as a supply shock, putting intense competitive pressure on manufacturing, particularly labor-intensive manufacturing. Labor markets were once again severely tested in their ability to reallocate workers, with the severity of the test varying according to the countries' comparative advantages, labor market institutions, and extent of liberalization.

One of the pioneer studies using firm-level data, Álvarez and Claro (2009), found that China's import penetration hurt Chile's manufacturing employment growth, even before China joined the WTO in 2001. Costa, Garred, and Pessoa (2016) and Brummund and Connolly (2018) use individual data on local labor markets to extend this analysis to Brazil during the 2000s, when the shock was in full bloom.

They both go beyond manufacturing and find, as expected, that the impacts depend on the locality's trade orientation. Export-oriented, commodity producing localities enjoyed faster growth in wages, a decline in informality (Costa, Garred, and Pessoa 2016) and a greater probability of formal employment (Brummund and Connolly, 2018). The opposite was true for localities that were more exposed to Chinese manufacturing competition. Neither study is conclusive about the overall net impact on either jobs or wages. Unlike the studies of the 1990s, though, Brummund and Connolly (2018) find some evidence of labor mobility, with workers moving into (out of) the exporting (import-competing) localities.

Nine country studies help broaden the picture. They cover a wide range of comparative advantages in the region, from significant commodity exporters (Brazil, Colombia, and Peru) to manufacturing exporters (Mexico and El Salvador) (see Table 4.5). The studies use both firm and household data and focus on the most vulnerable sector, manufacturing.

The adjustment occurred mostly through a decline in employment, and in certain cases an increase in informality, with little evidence of significant changes in wages. The magnitude of the job losses, though, varies significantly across countries (see Figure 4.8 for the firm-level estimates). Brazil is at the low end of the spectrum, likely because of a drastic trade policy reversal that began in 2004 and which, by some estimates, erased a substantial part of the liberalization of the early 1990s (Frischtak and Mesquita Moreira, 2015). While this reversal helped minimize job losses, it was done at the expense of an inevitably larger adjustment later, as workers continue to flow into protected and inefficient sectors.

El Salvador, a country heavily specialized in labor-intensive manufacturing, is at the other end of the spectrum, with a story of significant job losses. The shock is estimated to have reduced manufacturing employment

Table 4.5 IDB Studies of Labor Market Impacts of Chinese Import Competition on Manufacturing

Country	IDB study	Data	Employment	Wages	Informal sector
Brazil	Mesquita Moreira et al. (2019)	Firm	Small negative impact driven by unskilled workers. Effect is economically small and not robust across all estimations.	N/A	N/A
	Paz (2019)	Household	Evidence that Chinese and rest of world import competition resulted in decline in manufacturing employment, but not robust across estimates.	Increase in worker-level wages. Larger effects for labor-intensive industries. Inter-industry wage premium increases.	Decline in informality at the worker-level.
Colombia	Molina (2019)	Firm, household	Decrease in future employment growth. Increase in nonproduction workers' future share of workforce composition.	Decrease in future wage growth.	No impact
El Salvador	Li and Mesquita Moreira (2019)	Firm	Employment decline, driven by production workers at small- and medium-sized firms.	No impact on wages on average. Positive impact on wages of nonproduction workers in high productivity firms.	N/A
	Li (2019)	Household	Decline in manufacturing and nontradables employment. Increase in agriculture employment. Decline driven by unskilled workers who were reabsorbed into agriculture.	No impact	Decline in informality in manufacturing and non-tradables, increase in informality in agriculture, suggesting transition of informal workers across sectors.

(continued on next page)

Table 4.5 IDB Studies of Labor Market Impacts of Chinese Import Competition on Manufacturing *(continued)*

Country	IDB study	Data	Employment	Wages	Informal sector
Mexico	Blyde and Fentanes (2019)	Firm	Reduction in employment growth for smaller and less-efficient firms. Minor or no impact for large firms.	N/A	N/A
	Blyde, Busso, et al. (2019)	Firm	Decline in paid employees, substitution towards contract and illegally hired workers. Production workers most affected.	Small negative impacts, particularly for nonproduction and legal workers.	N/A
Peru	Pierola, Sánchez-Navarro, and Mercado (2019)	Firm	Small firms reduce employment; large firms adjust capital instead of labor.	N/A	N/A
	Pierola and Sánchez-Navarro (2019)	Household	Focus on informal sector employment. Increased likelihood of informal sector employment for least educated.	Less-educated workers experienced decline in wages, particularly in informal sector. Most-educated experience an increase in wages.	Increased likelihood of informal sector employment for least educated.

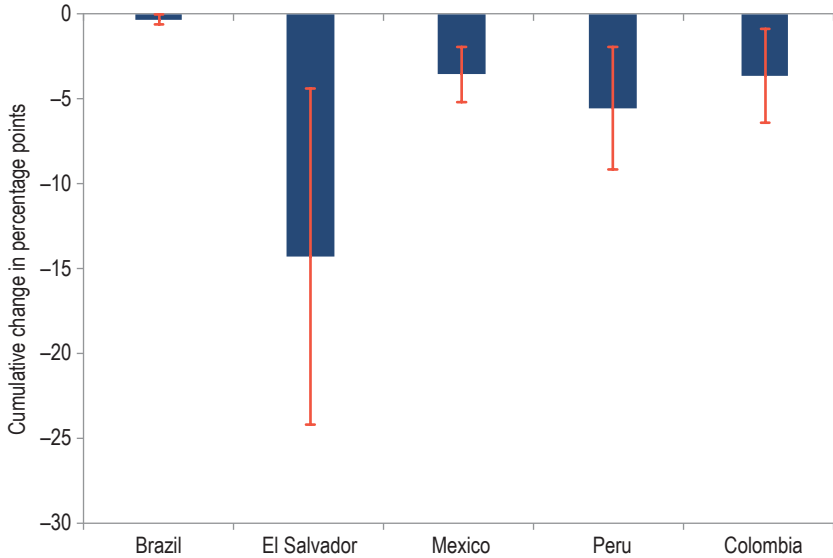
Note: "N/A" means a study did not address the impact of Chinese import competition on the particular outcome.

growth between 4 and 24 percentage points, an impressive amount given that manufacturing employment dropped 8 percent during the period. The study (Li, 2019) suggests that some of the displaced workers, particularly low-skilled ones, transitioned into low-productivity, informal agricultural jobs. This all happened in a job market where informal employment was historically high and now hovers around 64 percent for nonagricultural workers, one of the highest in the region.¹²

Colombia, Peru, and Mexico, which are among Latin America's most liberalized countries, fell in between Brazil and El Salvador's experiences, but are also likely to have endured significant pain, particularly in the more-exposed localities. In Mexico, for instance, Blyde, Busso, et al. (2019) predicts

¹² World Development Indicators.

Figure 4.8 The Impact of Chinese Competition on Manufacturing Employment, Firm-Level Estimates, 2000–13



Source: IDB staff calculations based on firm-level estimates from Blyde and Fentanes (2019) for Mexico; Pierola, Sánchez-Navarro, and Mercado (2019) for Peru; Molina (2019) for Colombia; Li and Mesquita Moreira (2019) for El Salvador; and Mesquita Moreira et al. (2019) for Brazil.

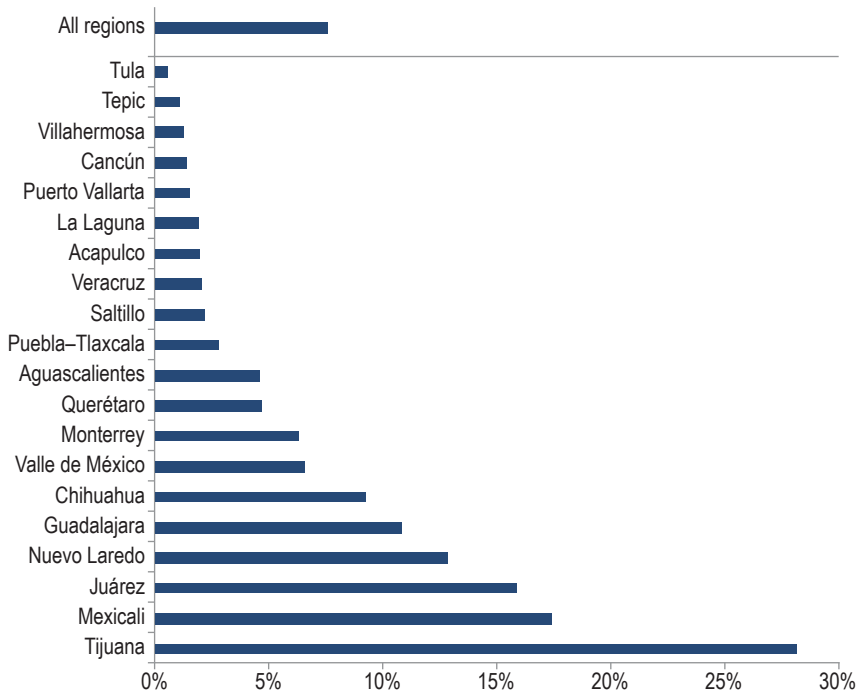
Note: The figure shows the cumulative employment growth driven by changes in Chinese import penetration during 2000–13, except for Peru, whose period starts in 2001. The bars are the point estimates, and the lines extending outside the bars are 90% confidence intervals.

that manufacturing employment would have been 8 percent higher in 2013 if Chinese import penetration had remained at the 1998 level; that figure is significantly higher in northern localities, where most of the manufacturing plants are located (Figure 4.9). These predictions are even more startling given the 11 percent drop in overall manufacturing employment during the period. The shock also contributed to the surge in job informality that the country experienced during the period (Levy, 2018).

Inequality

As in the case of jobs, expectations that the region's high levels of inequality would improve were based on a naïve interpretation of the factor-proportion trade model that mistook Latin America and the Caribbean for an unskilled-labor-abundant region. As discussed in Chapter 1, this interpretation was naïve, but not baseless. Protection was often biased toward capital-intensive industries, was paired with capital subsidies, and

Figure 4.9 Probable Increase in Mexican Manufacturing Employment by 2013 Had Import Penetration Remained at the 1998 Level, Selected Regions



Source: IDB staff calculations based on estimates from Blyde, Busso, et al. (2019).

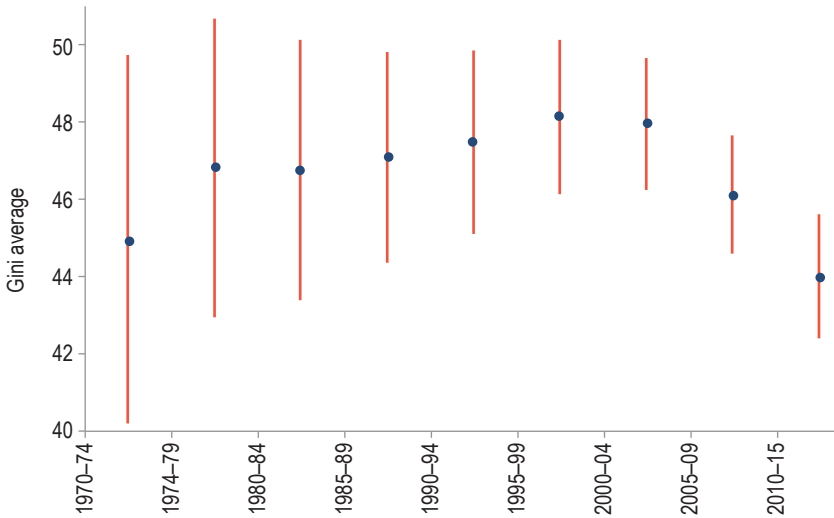
Notes: The figure presents a counterfactual exercise, based on economic and population census data, indicating how much larger employment in different regions would have been had import exposure from China remained at the 1998 level.

allowed a few local players to impose high mark-ups on consumers. Liberalization was supposed to unleash the demand for labor, particularly unskilled labor, and reverse the rising tide of inequality.

Unfortunately, income inequality continued to rise throughout the first decade of the liberalization for most countries in the region and began to dip only in the 2000s (see Figure 4.10). But what role did liberalization play? As with other outcomes analyzed in this report, trade is not the only factor behind changes in income distribution. Again, micro data offer the best chance of finding an answer to this question.

The First Decade

Virtually all the micro evidence available is about wages rather than income inequality and, as in the case of employment and productivity

Figure 4.10 Income Inequality in Latin America, 1970–2015

Source: IDB staff calculation based on data from the Standardized World Income Inequality Database (SWIID).

Note: Simple average of Gini coefficients and 95% confidence intervals for Argentina, Brazil, Chile, Colombia, Costa Rica, El Salvador, Mexico, Panama, Peru, and Venezuela.

impacts, focuses largely on manufacturing in a few countries (Argentina, Brazil, Mexico, and Colombia) during the 1990s.¹³ There are not enough data to make broad generalizations, but enough to reveal that one-size-fits-all expectations about trade and inequality did not work for the region. There is, however, a common denominator: the relatively small impact of trade liberalization.

Most of the early studies for Mexico (e.g., Hanson and Harrison, 1999), Colombia (e.g., Attanasio, Goldberg, and Pavcnik, 2004), and Argentina (e.g., Galiani and Sanguinetti, 2003) suggest that trade liberalization contributed, but only modestly, to the rising skill premium during this period. They offer explanations that help reconcile theory with results: Mexico and Colombia, after all, could not be considered unskilled-labor-abundant compared with the rest of the world, especially in the presence of a structure of protection tilted toward labor-intensive industries. By removing protection for these industries, trade liberalization would have dampened rather than boosted the relative demand for unskilled workers.

¹³ There are also studies about Chile but using more aggregate data. See, for example, Beyer, Rojas, and Vergara (1999).

Chiquiar (2008), using a regional labor market approach, offers a more nuanced view of Mexico's story and an alternative way to reconcile theory with results. He finds that states with greater trade exposure, particularly after NAFTA was implemented in 1994, did see a decline in skill premiums, a trend that would not have spread to the rest of the country because of the lack of labor mobility.

Esquivel and Rodríguez-López (2003), in turn, using sectoral rather than micro data, argue that technology rather than trade explains Mexico's unexpected results. However, it is difficult to disentangle the two; as argued in Chapter 1, there are good reasons to believe that trade promotes technological change and that, in the case of developing countries, this mostly means adopting developed countries' labor-saving, skill-intensive technology. Thus, adding technology to the equation might boost rather than diminish the role of trade.

Another trade channel in this story is driven by the divergence in performance between exporting and nonexporting firms. This disparity can lead to a wider wage gap across different skills as well as higher inequality among workers with similar skills employed in the same sector. This gap would be competed away were it not for imperfections, or frictions, in labor markets. This channel seems to have played a significant role at least in one country in the region: Brazil (Helpman et al., 2017).

Greater within-sector and across-firm wage inequality, however, did not keep Brazil from going in the opposite direction from its neighbors in the region in terms of overall trade impact. Studies using either sectoral data (Gonzaga, Menezes Filho, and Terra, 2006) or a local labor market approach (Dix-Carneiro and Kovak, 2015) suggest that trade liberalization contributed to the country's overall decline in the skill premium in the 1990s. This reflects Brazil's decision to go much further in the process of import substitution than other countries in the region, covering a critical mass of capital- and skill-intensive sectors. There is disagreement, though, on the relevance of the impact. Gonzaga, Menezes Filho, and Terra (2006) argue that trade liberalization explains most of the drop in the skill premium, whereas Dix-Carneiro and Kovac (2015) point to a contribution of not more than 15 percent. Whatever the contribution, Brazil's overall income distribution barely changed in the 1990s.

The 2000s

Inequality in the region improved significantly during the 2000s, when most of the trade liberalization had already been phased in and the China shock hit (see Figure 4.10). What explains this improvement? Can trade

take any of the credit? Since the China shock probably harmed rather than helped labor-intensive activities, it is unlikely that trade reduced inequality through the traditional wage channel.

Yet, two studies suggest that the effect on inequality might have come through a less-discussed channel, the analysis of which was pioneered by Porto (2006), related to trade's impact on the cost of living of the poor. Trade can affect individuals' real wages through their nominal wages and their consumer price indices. Their nominal wages are a function of the price of the goods they make and, eventually, the demand for their skills. Their consumer price indices, in turn, are a weighted average of the prices of the goods they consume.

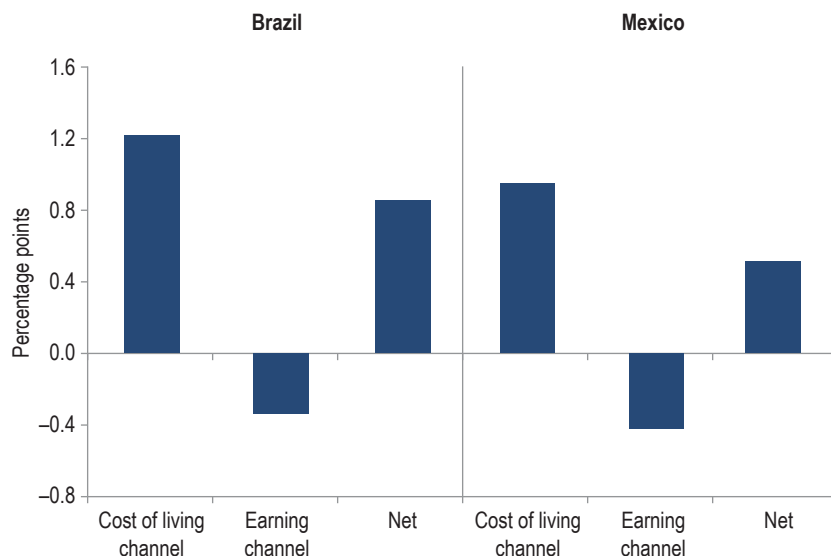
In Mexico in 2002-17, import competition from low-wage countries, particularly China, reduced consumer prices by 7 percentage points, on average, with most of the benefits accruing to low-income households (Blyde, 2019). For instance, the purchasing power of low-income households (the 10th percentile of the income distribution) rose an estimated 81 percent more than that of high-income households (the 90th percentile). However, the contribution of these gains to Mexico's overall decline in income inequality in the 2000s is estimated to have been small.

Extending this analysis to include both the earnings and cost of living channels in Brazil and Mexico¹⁴ shows that these channels had opposite effects on income inequality. In both countries, Chinese import competition reduced the price of goods heavily consumed by the poor, but disproportionately hurt the labor-intensive sectors, thereby reducing the relative earnings of unskilled labor. The net impact, though, is positive in both countries, with the cost of living topping the earnings channel by a large margin (see Figure 4.11).

However, as in other studies, this positive contribution hardly explains the income distribution trends in both countries during the 2000s. In Mexico, for example, the ratio between the income of rich and poor households (90th percentile versus 10th percentile) dropped from 9.9 in 2000 to 8.6 in 2016. But the trade-related changes can explain only about 4 percent of

¹⁴ The study incorporates the cost of living and earning effects in a general equilibrium trade model, which allows the consumption baskets of high-income and low-income individuals to differ. Different datasets are used to set up the model. In particular, the structure of the world economy is parametrized using a sample of 40 countries and 35 sectors with data from the World Input-Output Database (WIOD) and with population census data from the Integrated Public Use Microdata Series (IPUMS). Then, the model is used to evaluate the effects on income distribution in Brazil and Mexico induced by the increase in exposure to imports from China during the 2000s.

Figure 4.11 Differences in Trade-Related Changes in Real Income between Poor and Rich Households (percentage points)



Source: IDB staff estimates based on He (2019).

Note: The figure shows the difference in trade-related changes in real income between households in the 10th percentile of the income distribution (poor) and households in the 90th percentile (rich). A positive number indicates that the increase (decline) in income of poor households is larger (smaller) than the increase (decline) in income of rich households.

this decline. In Brazil, the same ratio dropped from 16.4 in 2001 to 10.4 in 2015, but, again, only about 2.3 percent of the change can be explained by trade. This is consistent with other analyses that disentangle the role of different forces behind the decline in wage inequality in the 2000s. The findings usually assign trade only a limited role, well behind other factors such as improvements in education (Messina and Silva, 2018).

Opening Eyes to Open Economies

This review of the micro evidence behind the Great Liberalization is a sobering exercise. The growth and welfare gains reviewed in Chapter 2 vindicate the region's decision to move away from a trade regime that brought widespread stagnation and high levels of inequality.

However, the analysis of the mechanisms behind these gains leaves no doubt that governments grossly underestimated the challenges of achieving sustainable and equitable growth in an open economy.

The productivity and knowledge results are particularly disappointing when seen from an aggregate perspective but more encouraging when

analyzed at the firm level. Still, it is clear that the gains—either through trade or FDI—were not substantial enough to shift an entire economy to a more productive path or to remain on it over the long term.

Arguably, some countries in the region did not go far enough in liberalizing their economies. These half-hearted efforts were frequently aggravated by policy reversals and a macroeconomic environment that was often far from ideal. However, the results tend to be shared by countries across the trade and macro policy spectrum.

This analysis suggests that the observed growth gains are more likely to have been driven by physical capital (access to cheaper and better capital goods), rather than human capital through the knowledge channel. The bad news is that the capital channel eventually faces diminishing returns.

The results in terms of employment, wages, and inequality are perhaps the most humbling. They clearly fell well short of the optimistic expectations of the early 1990s, and there is plenty of blame to go around: politicians desperate to find alternatives in the rubble of the import substitution regime; economists who relied heavily on a theory with restrictive assumptions about technology and labor markets; and a naïve theoretical interpretation that ignored changes in the world economy, particularly, the emergence of labor-abundant Asia.

While these results may be disappointing, they should not provoke nostalgia for the old protectionist days. The recent disastrous experiences of Argentina, Brazil, and Venezuela are a powerful reminder that a return to the past can be extremely costly. Rather, they should be a wakeup call for policymakers and economists to avoid, at all costs, the insidious tendency to attribute superpowers to trade policy.

Long and costly transitional unemployment, failed reallocations, steep localized welfare losses, limited and confounding impacts on inequality—these results cry out for more government attention to the frictions that beset labor markets in the region. These frictions come from both policy and market failures that governments have largely neglected at their own and their constituents' peril. These failures are important not only for the all too obvious but often forgotten humanitarian reasons, but for the political sustainability of liberalization itself.

TAKING STOCK

MECHANICS BEHIND LIBERALIZATION: THE MICRO EVIDENCE

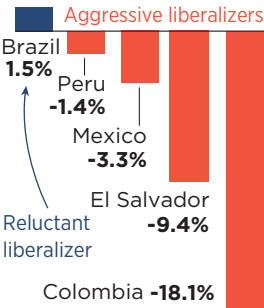
PRODUCTIVITY

The positive impact on productivity was strong at first. Tariff cuts, for instance, explained more than 50% of productivity growth in Brazil and 33% in Mexico during the 1990s. However, these gains lost momentum and even reversed direction in the 2000s.



The China Shock and Manufacturing Productivity

Cumulative change in percentage points, 2000-13

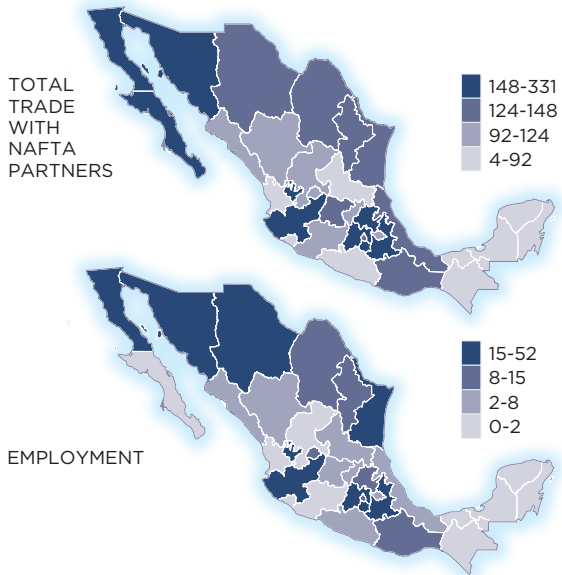


EMPLOYMENT

Trade agreements fueled important gains in Mexico and Central America in the 1990s ...

Mexico's NAFTA Trade and Related Employment by State

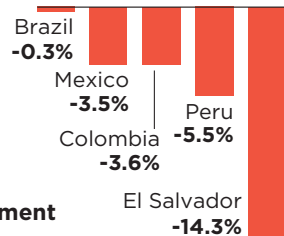
Percent change, 1993-2003



... but the China shock hurt labor-intensive manufacturing.

The Impact of China Competition on Manufacturing Employment

Cumulative change in percentage points, 2000-13



THE BOTTOM LINE

Substantial early productivity gains lost momentum in the long run. There were also important early job gains, mostly in Mexico and Central America, but they were hard to sustain in the face of stiff Asian competition.

5 The Political Economy of Trade Policy: A Balancing Act

Reducing trade barriers is almost always controversial. The positive impact on aggregate social welfare runs up against the interests of those whose profits and jobs depend on trade protection. Most people in the region recognize the advantages of integration into world markets, but many also know that the gains from trade are unevenly distributed and can create both winners and losers.

In principle, some of the gains could be used to compensate the losers, so that everybody benefits. In practice, however, compensation can be politically difficult. Once trade is liberalized, winners may resist sharing the benefits, and *ex ante* promises to compensate potential losers may not be credible.

Thus, those who expect to be harmed by trade are likely to oppose liberalization. Moreover, opponents of liberalization are often powerful and may have the resources and political clout to block reform. Understanding trade policy, therefore, requires an analysis of the constellation of actors—both public and private—who participate in the making of trade policy, their interests, and the nature of the making of policy institutions involved.

Most of the time, trade policy involves policymakers and special interest groups—private sector actors for whom the stakes are high. These include firms (and their workers) that compete with imports, firms that import, firms that make substantial use of imported inputs, and firms that export and fear retaliatory protection by trading partners. Consumers, who benefit from trade liberalization through access to a wider range of products and lower prices, are not typically active participants in this game. They are a diffuse, disorganized group, for whom the stakes are lower. To be sure, policymakers may have broad consumer, and voter, interests in mind as they formulate trade policy, but final consumers rarely impact trade policy directly.

Occasionally, something happens that turns trade policy into a central issue in the broader political game. This may be triggered by a specific

negotiation (such as CAFTA-DR in Costa Rica), or a recession that turns public attention against a country's imports. Understanding these episodes requires a better understanding of attitudes toward trade among the general public, and of its determinants and consequences, both in terms of policy and electoral outcomes.

The trade policymaking process, with its key actors and institutions, shapes trade policy. But changes in trade policy, in turn, can have substantial feedback effects on that process. Such was the case with Latin America's Great Liberalization of the late 1980s and early 1990s, which opened domestic markets to foreign competition while seeking better access to foreign markets for local producers (see Chapter 1). New exporting firms and economic activities emerged, while previously protected firms either adapted or exited, thus transforming the constellation of actors involved in trade policymaking and their interests. But since the depth of trade liberalization varied across countries, the extent to which the new policies changed the underlying political economy varied as well.

Countries' trade policy experience since the 1990s shows substantial variation. Some countries sustained or extended liberalizing policies. Others followed periods of liberalization with policy reversals, increasing tariffs and nontariff barriers. Many governments extended special protection to favored economic sectors and used anti-dumping instruments extensively.

How can the different patterns of trade policy in the region be explained? Why has liberalization marched on in some countries, while others have reversed course or applied protectionist measures? Why have some sectors been favored over others? Looking forward, what constraints do governments face to further liberalize? This chapter uses insights from economics and political economy, along with the results of an ongoing multi-country project on the political economy of trade policy in Latin America (plus additional work on the United States and Australia), to explore these issues.¹ A detailed discussion of attitudes towards trade in Latin America, based on the Latinobarómetro survey, follows in Chapter 6.

Making Trade Liberalization Last

Once trade is liberalized, there is no guarantee that it will remain liberalized. In fact, countries in the region have followed different policy

¹ For a recent review of the literature on the political economy of trade policy, see McLaren (2016). An early review can be found in Rodrik (1995). For earlier work on trade policymaking processes in Latin America in the 1990s and early 2000s, see IDB (2002) and Sáez (2005).

trajectories since the liberalization of the 1980s and 1990s. Some, such as Chile, Colombia, Costa Rica, and Mexico, have continued to reduce trade barriers, signed preferential trade agreements with an increasing number of regional and extraregional partners, and persisted in maintaining and deepening open trade. Others, such as Argentina, Brazil, and Venezuela, have resurrected some trade barriers or come up with new ones. What explains whether trade liberalization persists?

One key source of persistence is mobilized winners. Those regions, industries, firms, and workers that gain from access to world markets constitute a potential force to sustain and extend openness. They can push for trade agreements with other countries, and support them in the national public debate. They can oppose protectionist measures when they are proposed. And they can, as in the recent case of Mexican firms faced with the prospect of American protectionism, work with like-minded interests in partner countries to preserve existing commercial ties (Córdoba et al., 2019).

Protection, indeed, changes the very nature of interests in an economy. Trade policies have a powerful impact on the structure of production and, therefore, on the interests in play. In addition to mobilizing winners, liberalization has another important effect relevant for the subsequent politics of trade policy. Over time, firms and industries that had been protected either adjust to import competition or go out of business (and thus no longer lobby for protection). Some, in fact, may discover that the effects are less negative than expected (Fernández and Rodrik, 1991), and that liberalization creates new, unsuspected opportunities. The Chilean experience clearly illustrates these sources of persistence.

A related point is that once a country liberalizes its trade relations, it can be costly to turn back, particularly when doing so implies reneging on prior international commitments—even the commitments of previous governments. This may help explain why Costa Rica's Partido de Acción Ciudadana opposed the Central American Free Trade Agreement in the country's 2007 referendum but did nothing to reverse course when it reached power in 2014.

The (Not So) Boring Case of Chile

A prominent Chilean economist remarked that the political economy of trade policy is not very interesting in his country: “this issue in Chile is boring... everyone is in favor of free trade.” But the story of how this shared vision emerged in Chile, as told in Rebolledo (2019), is anything but boring.

The opening of the Chilean economy began in 1973. The military government embarked on a deep process of unilateral trade liberalization,

reducing tariff levels from an average of about 100 percent, with high tariff dispersion, to uniform tariffs of 10 percent in 1979. The return to democracy in 1990 represented a critical juncture for Chilean trade policy, which could have resulted in policy reversals. Instead, Chile continued along the path of liberalization, this time on the basis of a wide web of bilateral free trade agreements (FTAs). As a result, today Chile has 26 trade agreements with 64 countries in Latin America, North America, the European Union, and Asia, representing close to 90 percent of world GDP.

A crucial question is why the democratic government that took office in 1990 did not reverse the trade policy of the military dictatorship. One important consideration is that by 1990, the constellation of private actors with a stake in trade policy had changed dramatically from the import substitution periods. After nearly 20 years of liberalization, many of the influential import-competing sectors—including most car manufacturers and most of the country's textile and footwear industry—were gone.

The export sector had replaced the highly protected industries in influence.² By 1991, fresh fruit exports had soared to \$1 billion, taking advantage of off-season markets in developed countries. Together with other booming export sectors, such as fish and wine, these sectors became active participants in the trade policymaking process.

The process of opening did more than change the identity of the players; it also shifted the preferences of some of the remaining players. The result has been a surprisingly broad consensus favoring trade agreements that includes labor unions, along with the remaining textile and footwear manufacturers.

In almost any other Latin American country, the notion of unions and the textile sector supporting liberalization would be unthinkable. The explanation in Chile is rather simple. Average most-favored-nation (MFN) tariffs in Chile are now at 6 percent. Due to the extensive network of trade agreements, most important countries already have free access to the Chilean market. Thus, applied tariffs actually average 0.8 percent. If Chile negotiates an FTA with another country, it provides access to an already-open market, while Chilean firms gain access to a more protected one. Chile would give up little, and receive much in return. That is why unions support FTAs. They believe, correctly, that they generate jobs.

How about textile companies? Consider the case of Caffarena, an apparel company responsible for the majority of Chilean textile exports. Starting in 2007, it relocated an important part of its production to Asia,

² The fact that the import substitution process was not as deep as it was in countries such as Argentina and Brazil, owing in part to scale, may have facilitated the process as well.

after opening an Office of Purchases and Development in Shanghai. Design and material selection are still done in Chile, but the company takes full advantage of the FTA with China signed in 2005. Some apparel lines are still produced in Chile, and, as of 2010, were exported to nine countries: Argentina, Bolivia, the Dominican Republic, Mexico, New Zealand, Paraguay, Peru, United States, and Uruguay. All but the Dominican Republic have FTAs with Chile. Given the way in which they have adapted to liberalization, it is not surprising that the remaining textile companies support FTAs.

The Chilean experience illustrates how trade policies adopted in one period go on to affect the policymaking process in the next.³ An open trade regime can lead to broad support for further liberalization, so much so that it can render trade politics almost ... well, boring.⁴

Trade Policy as Citizen's Choice: The CAFTA-DR Referendum in Costa Rica

The general public does not normally focus on trade policy as a prominent political issue. However, there are times when the public, including voters, does pay attention to trade policy. Episodes when major international trade agreements are being considered are one of those times. Such is the case of Costa Rica's CAFTA-DR referendum, which illustrates the dynamics of mass participation in the political economy of trade policy (Monge-González and Rivera, 2018).⁵ This episode also illustrates how today's policy decisions affect tomorrow's policymaking process and outcomes. In particular, the dynamics set in motion by the highly contested CAFTA-DR vote would be very costly to reverse, even though preferences regarding trade policy remain deeply divided.

Unlike the case of Chile, after years of gradual but steady trade reform, a broad pro-trade consensus had not emerged in Costa Rica when the country confronted the CAFTA-DR decision. While most of the private sector supported trade, public opinion and policymaking elites were at odds with regards to trade policy.

Costa Rica signed the CAFTA-DR treaty in January 2004, but President Pacheco, sensing opposition, did not send it to Congress until

³ This is in line with the conclusion in Ostry (2002) that "policy influences process and process influences policy."

⁴ Recent discussions seem to be heating up, however, in relation to Chile's participation in the Trans-Pacific Partnership.

⁵ For a more thorough analysis of the political economy behind the CAFTA-DR decision in Costa Rica, see also Hicks, Milner, and Tingley (2014).

October 2005. With the 2006 elections looming, Congress postponed the debate. Thus, when President Arias was elected, CAFTA-DR had not yet been ratified. Facing a March 2008 ratification deadline and the prospect of a deadlock in Congress—where procedural rules allow small minorities to stall any debate—President Arias called for a referendum.

The alignment of political parties and civil society organizations for and against ratification had begun years earlier, when, in March 2000, a proposal to open up the electric power market polarized Congress and sparked street demonstrations. Most of the private sector and the two major political parties supported the reform; public sector unions, student organizations, antiglobalization groups, and left-wing political parties were against it. The same forces faced off in the 2006 election. Those in favor of the export-oriented, liberalizing reforms lined up behind Oscar Arias, while those opposed to such reforms supported Ottón Solís. Arias won the election by the slimmest of margins.

Public opinion polls tracked public sentiment on CAFTA-DR until the October 2007 referendum. As public knowledge of the treaty increased, so did opposition. The gap between positive and negative opinion went from +24 percent in May 2007 to a virtual tie in September. Dwindling support did not reflect voters' interests: throughout the period, the share of respondents who thought the treaty would either benefit them or have no impact was stable around 60 percent. But other drivers of public opinion changed. Between May and September, an increasing share of respondents thought the treaty would reduce public services in health and education (from 32 to 40 percent), would not benefit the poor (from 57 to 68 percent) and would hurt small farmers (from 55 to 59 percent). Moreover, by October, 66 percent of respondents thought the treaty would give the United States excessive influence over Costa Rican internal affairs (Rodríguez, 2013).

Despite the drop in support, the “Yes” movement won by a very narrow margin, obtaining 51.2 percent of the vote. There is some evidence of economic self-interest motivations, as “Yes” did best in export-oriented districts (Hicks, Milner, and Tingley, 2014). However, interviews with leaders of both campaigns highlight the importance of noneconomic, worldview factors (Monge-González and Rivera, 2018). The virtual draw between the two worldviews and their political expression persists. Nevertheless, in the long run, the triumph of the “Yes” movement is undeniable and has brought with it almost irreversible changes in Costa Rica's trade policy.

By 2014, the Partido de Acción Ciudadana, which had opposed CAFTA-DR in the referendum, came to power. The new president, Luis Guillermo Solís, had the authority to unilaterally withdraw from the treaty. However, by the time he took office, a package of 13 legal reforms associated with the CAFTA-DR had already been approved by Congress. The

telecommunications and insurance markets were already open; intellectual property rights had been strengthened. The institutional changes that motivated the “No” movement to oppose CAFTA-DR had already taken place, and repudiation of the treaty would not undo them.

The slim but strategic victory of the “Yes” movement may not have settled the battle of ideas, but the long-term configuration of economic interests has been altered in fundamental ways. With few exceptions, protection for agriculture and agroindustrial sectors is on a clock. However gradually, protection is slated for disappearance. Once gone, those who depend on it for survival will no longer be part of the economic landscape, while those who can adapt to the new environment will do so.

This is not to say that CAFTA-DR is irreversible. But the costs of reversal are huge, and barring a dramatic change in the political landscape, the battle for free trade in Costa Rica seems to be over.

Special Interest Trade Politics

While in special circumstances, such as the CAFTA-DR referendum in Costa Rica, trade policy takes center stage in the broader political debate, most of the time trade policy is the province of interest groups for whom the stakes are high: import-competing firms and their representative associations, seeking protection; importers and users of protected inputs, who stand to lose from protection that raises the prices of what they sell or use; and exporters, who favor open markets to lower their production costs, obtain reciprocal access to other markets, and minimize the risk of retaliatory protection by trading partners. A recent episode in Brazil illustrates some of the actors and processes involved.

Players in the Trade Policymaking Game

On July 20, 2016, Brazil initiated an anti-dumping investigation of imports of flat steel from China and Russia at the request of two domestic steel producers. The Department of Trade Defense of the Ministry of Development, Industry, and Foreign Trade (MDIC) concluded that imports from both countries were dumped and recommended the application of duties.

The MDIC report generated much controversy. In one corner were the steel producers, represented by their association, Aço Brasil, with the support of MDIC. In the other corner stood a broad coalition of public and private players, including the ministries of finance and agriculture and some 20 business associations of sectors that use steel intensively, under the leadership of ABIMAQ, Brazil’s association of machinery manufacturers.

On the eve of the decisive meeting at CAMEX, the interministerial council charged with implementing Brazilian trade policy, the Ministry of Finance published a note stressing the adverse effects of duties on downstream sectors and the consumer price index, and challenging the claim that steel imports had caused “serious harm” to Brazilian producers. The Ministry of Agriculture also argued against the duties, citing the risk of Chinese retaliation against Brazilian exports. Consumers—who would have been affected through the price of appliances and cars, for example—were nowhere to be found.

This episode, detailed in Veiga et al. (2019), illustrates the contending private sector interests in play. It also shows that the public sector is not monolithic. Ministries of industry tend to support industries facing import competition; ministries of finance, in contrast, are more likely to consider the impact on the economy as a whole.⁶ All these public and private actors, in turn, interact within the context of a given set of formal and informal institutions that define the way the game is played.

The role of private sector actors can also vary according to circumstance. Import competitors are almost always central actors, but the engagement of other private actors depends on several factors.

Consider the case of exporters. They may be active if they fear retaliation, but not if the threat of retaliation is not serious enough. China accounts for nearly 20 percent of Brazilian exports, including 75 percent of Brazilian soybean exports. Primary exporters cannot risk retaliation from China, and neither can the minister of Agriculture. Russia, in contrast, receives 1.2 percent of Brazilian exports. If the antidumping case were against Russia, would exporters and the minister of Agriculture be playing a similar role? Most likely not. Exporters may also engage in the process in the context of bilateral trade negotiations, when providing market access to a partner country entails receiving market access in return. They may be less likely to participate in discussions regarding unilateral liberalization.⁷

Finally, exporters may be active because they care about access to inexpensive and high-quality inputs, which they need to be competitive in export markets. However, exporters can be neutralized by policies such as special drawback regimes, exempting them from paying tariffs on imported inputs. This mechanism, prominent in Brazilian trade policy,

⁶ Ministries of agriculture tend to defend the interests of their stakeholders, which may be offensive or defensive depending on the issues under discussion.

⁷ An historic example will be illustrated below in the discussion of the U.S. Reciprocal Trade Agreement Act of 1934.

solves the exporter's problem, but in doing so also reduces their incentive to participate in trade policymaking.

The Brazilian steel case suggests that sectors that use protected inputs intensively may also play an important role in demanding liberalization. While this coincides with the theoretical expectation, the episodes studied in the preparation of this report suggest that this is not always the case. There are instances where, contrary to expectations, suppliers of a protected input and their clients push in the same direction, or at least do not get in each other's way.

Firms producing protected intermediate inputs can purposely attempt to "deactivate" potential challenges by their customers, particularly when they are the dominant market player. In one of our case studies, a dominant firm in the steel sector used a number of strategies to align their customers' interests with their own. For example, the company invests heavily in activities for the whole value chain. It created a program to support their small and medium clients and suppliers, which lists among its objectives to improve their management practices, strengthen their export capabilities, and promote "efficient import substitution." An example of their help in improving management practices is that, according to a firm executive interviewed, all courses available for their executives are also accessible to their clients.

In terms of "efficient import substitution," the company makes its ample legal resources and expertise available to its clients for their own antidumping cases. Rather than be challenged by their clients, who would benefit from lower prices if steel protection were reduced, they lobby to protect downstream industries, so that everyone's interest align.

In addition to these positive incentives, there are cases where fear of retaliation may discourage challenges to protection. This is particularly relevant when a supplier is a dominant player, and downstream firms cannot risk having their supplies cut off. Even if the downstream firm is successful and obtains access to cheap products from abroad, the risk of policy reversals means that downstream firms must think twice before challenging the dominant supplier. Trade policies may not be enough to deal with this problem. They may need to be complemented with competition policies that challenge the dominant power of the domestic market leader.

The Challenges of Leaving Protectionism Behind

Argentina illustrates the challenges that a reformist government faces when trying to reverse years of protectionist policies in the midst of

macroeconomic and political difficulties. The case illustrates why, in pursuing trade liberalization, governments may treat different sectors differently. It also shows the role of compensatory policies in facilitating trade reform.

The Macri administration pursued a “smart integration” strategy, but needed to proceed gradually given negative public opinion of the 1990s reforms, high unemployment, and an impending midterm election. From the outset, the decision was made to advance faster in liberalizing intermediate inputs and other products affecting downstream competitiveness, while proceeding more slowly in sensitive sectors in which many jobs—particularly in politically sensitive electoral districts—would be at stake.⁸

The study by Marin, O’Farrell, and Obaya (2019) compares trade policy in three sectors. Here, we will focus on two of them, computers (and other electronics) and textiles.

Computers and Other Electronics

Under the previous administration, computers were assembled domestically using imported components. Personal computers, notebooks, and tablets paid 35 percent tariffs, while their components paid 12 percent. More importantly, a discretionary system of import licenses (called DJAIs) made it easy to import components, but almost impossible to import the final products.

Protection of computers clearly affected competitiveness downstream and was unpopular with consumers. Local value added was minimal, and little employment was generated. The industry had two main locations: the outskirts of Buenos Aires, populated by specialized small and medium-sized enterprises, and the island of Tierra del Fuego, where large, diversified firms produced cellphones, TVs, and computers under a special industrial promotion regime. These groups of firms are represented by different business associations. AFARTE, representing producers in Tierra del Fuego, has ample access and resources. It is stronger than CAMOCA and CADIEL, which represent firms on the mainland. Given that benefits for the island discriminate against mainland firms, the relationship between these associations is characterized by conflict rather than cooperation.

Given all these factors, it is not surprising that the computer sector was the first to be liberalized. In February 2017, the government eliminated

⁸ Obviously, this is not the only possible gradual liberalization path. From a normative perspective, an across-the-board gradual reduction in tariffs and nontariff barriers may have been more efficient, eliminating distortions and discouraging rent-seeking. But it would have been incompatible with Mercosur’s common external tariff and, from a political economy perspective, probably detrimental to electoral success.

tariffs on final goods and components. Later that year, nonautomatic licenses (NALs) were eliminated as well. Requests for a more gradual approach by CAMOCA, CADIEL, and UOM, the worker's union, were denied. AFARTE, meanwhile, was happy to sacrifice computer production in exchange for continued benefits for cellphones and TVs, which make up a larger part of their firms' product mix.

The government dealt with the losers with mechanisms of compensation, transformation, and coordination (Marin et al., 2019). Compensation happened through Conectar Igualdad, a national program to distribute domestically produced notebooks in schools.⁹ Transformation happened by including several computer manufacturers in the Programa Nacional de Transformacion Productiva (discussed in Chapter 9), which provides expanded unemployment insurance for displaced workers, subsidies for reemployment, and credit to help firms pivot toward activities with more competitive potential.

Finally, the government implemented a three-way coordination process designed to increase competitiveness and reduce prices, involving TV and cellphone production in Tierra del Fuego. Tariffs were preserved temporarily and internal taxes eliminated.¹⁰ Labor unions agreed to wage freezes for two years, and firms committed not to fire workers during that time.

Textiles

Textiles were also heavily protected. Tariffs were 26 percent on fabrics, and 35 percent on apparel. According to e-commerce platform Linio, Argentina was the most expensive place to buy apparel in Latin America. Nevertheless, the government adopted a more gradual approach than in the computer case. Several factors explain the difference.

The first factor was employment. In contrast to computers, which directly employed fewer than 5,000 workers, the textile and apparel sector employed more than 250,000. The second factor was politics: most jobs are located in the politically sensitive Conurbano Bonaerense, the electorally crucial district surrounding the city of Buenos Aires.

The third important factor was lobbying: in contrast to computers, the sector has strong business representation acting cohesively on behalf of the entire value chain. Particularly interesting is the case of Pro-Tejer, an

⁹ Although the program was deployed prior to the liberalization of computers, the domestic purchases requirement was a clear compensation for this liberalization.

¹⁰ Over a five-year period, it will gradually eliminate these taxes on the mainland, effectively ending the special regime.

NGO created in 2003 by the owners of a large yarn and fabric company who understood that to survive they had to protect downstream apparel and design firms. They worked to shift the sector's public perception, arguing that the sector was efficient but that systemic "Argentine costs" (taxes, labor regulations, logistics, etc.) hindered its competitiveness. Thus, they proposed that the sector be opened only once these systemic costs were reduced through tax and labor reform.

Given these very different circumstances, it is not surprising that trade policy outcomes were different as well. In this case, tariffs were not changed, and when DJAIs were replaced with NALs, more than half of the products covered were in the textile and apparel sector. Still, unlike the DJAIs, which were completely discretionary and did not have time limits (and were successfully challenged at the WTO), the NALs had to be granted within 60 days. As a result, imports of apparel increased sharply and production along the value chain contracted significantly.

Even though the government preserved protection through tariffs and NALs, it still introduced a number of compensatory measures in response to the import surge and lobbying by the sector. First, it established a fund to finance consumption of domestic apparel in six interest-free monthly installments. Second, it created an express facility for sensitive industries for the Program of Productive Recovery (REPRO), which provides employment subsidies to firms in crisis in exchange for a commitment not to fire personnel. Third, in November 2018, it reduced employers' social security contributions for the textile and footwear industry. Finally, the government and the sector established a roundtable (Mesa Sectorial) focused on resolving labor issues, product quality and internationalization.¹¹

These contrasting cases illustrate the challenges faced by a government that wants to leave protectionism behind and engage in "smart integration." It is not easy, especially in the midst of a recession (as in Argentina now) or with an appreciated exchange rate (as it had until mid-2018), particularly when the government wants to win reelection. The comparison of these sectors and their differences clearly suggests that issues like the number of jobs at risk, the political importance of the districts where those jobs are located, the strength and cohesion of sector representation, and the degree to which protection affects the competitiveness of relevant

¹¹ Not all textile products received the same treatment, however. Consistent with the analysis of this section, synthetic yarns, a highly concentrated, capital-intensive activity that produces intermediate inputs affecting competitiveness downstream, was liberalized more aggressively.

downstream industries are important elements that contribute to explain differences in trade policy outcomes.

Agricultural Protectionism: A Hard Nut to Crack

Trade liberalization in agriculture has been slower than in most other sectors. Tariffs have declined more gradually, and exemptions in FTAs are more frequent, as is the use of nontariff barriers to compensate for tariff reductions. The cases of rice and sugar in Colombia (Arbeláez et al., 2018) and Costa Rica (Monge-González and Rivero, 2018), two countries that are largely open in other sectors of the economy, provide insights into the specific features of the political economy of agricultural trade policy.

Sugar and Rice...and Everything Nice

Sugar and rice are agroindustrial products: before reaching consumers, they must be processed at industrial mills. While sugar and rice farms come in different sizes, the milling stage is highly concentrated in both crops. To give an extreme example, Colombia has more than 32 thousand rice producers, but only two important rice mills. Small farmers are dependent on millers to sell their crops.

In Costa Rica, rice is the only product with regulated prices at every stage of the value chain. Tariffs are 35 percent but, when domestic production falls short of local consumption, rice millers are assigned tariff-free import quotas in proportion to the share of domestic crop they buy (including their own production when vertically integrated). Average applied tariffs for refined sugar stand at 45 percent. In Colombia, MFN tariffs on rice are 80 percent, and the sector was protected by a price band system until 2003. Sugar, also formerly covered by the price band system, is subject to 55 percent tariffs, although they were even higher in the past.

The coexistence of very large, politically and economically powerful millers and a large number of small, relatively poor farmers or agricultural workers in rice and sugar production in Colombia and Costa Rica goes a long way in explaining the strong protection and long tariff phaseout periods these sectors have secured. The millers provide the lobbying capabilities; the farmers help garner sympathy and support. No one ever said, "Let's rise to defend the millionaire mill owners." Agricultural support programs and agricultural protectionism are always justified as a means to protect small farmers, the quintessential embodiment of the hard-working poor.

Despite this, trade agreements have proven to be a powerful tool for reform. In Costa Rica, tariffs on rice imports from the United States will be phased out over 20 years.¹² In Colombia, the United States was granted increasing tariff-free quotas, and tariffs will be phased out in 25 years for sugar and 15 years for rice. Thus, trade agreements—particularly those with the United States—have achieved what once seemed unthinkable: gradual but significant liberalization of these countries' agricultural trade.

Impact of the Institutional Structure

Governments are not monolithic: legislatures, the executive, and different ministries may have different trade policy preferences and different capabilities. Thus, the institutional architecture for trade policymaking—who is responsible for what, how different actors engage in the process, etc.—can have a profound effect on policy outcomes. The organization of the trade policymaking process may vary across time and across countries, which helps explain differences in trade policy outcomes.

Making Trade Policy in the United States: The Legislative and Executive Roles

The U.S. Constitution explicitly assigns Congress the power to set tariffs. Congress is made up of 435 representatives, each representing geographically delimited districts, and 100 senators, two from each state.¹³ Districts vary enormously in their industrial composition: some are heavily agricultural, others largely urban and industrial. Industries tend to cluster, so many congressional districts (and states) have heavy concentrations of specific industries. For example, Kansas produces grain and cattle while Detroit—and the state of Michigan—is the country's automotive leader. Members of Congress fight for industries located in their districts, and if a locally powerful industry is protectionist, the representative is likely to support protection. Protection imposes costs on downstream industries and consumers, but these externalities are not fully internalized by the members of Congress, who are accountable only to their voters. Legislators have incentives to engage in a process known as logrolling, in which members of Congress trade support for the protection of each other's industries. This can lead congressional trade policy to a high-tariff equilibrium.

¹² The phaseout period for sugar is 15 years, but it is contingent on the United States becoming a net exporter, which is not expected to occur anytime soon.

¹³ This section draws heavily from Frieden (forthcoming).

The president is elected by an Electoral College comprised of all districts.¹⁴ This means that, unlike members of Congress, the president internalizes the broad national impact of policies.

For over 150 years, Congress used its constitutional power to dominate trade policymaking, generating a strong protectionist bias. This reached its height during the Great Depression with the passage of the Smoot-Hawley Tariff of 1930, which raised tariffs to one of their highest levels in American history and elicited retaliation from trading partners.

As the Depression dragged on, the Democratic Party, with a strong base in the pro-trade, export-oriented farm South, won control of both the legislature and the presidency. As a result, during Franklin Roosevelt's presidency (1933–45), Congress passed the Reciprocal Trade Agreements Act (RTAA) of 1934, giving the president the authority to negotiate up to a 50 percent reduction in tariffs in exchange for similar concessions from trading partners. Moreover, the reciprocal nature of the deals gave exporters an active interest in supporting liberalization, since reducing tariffs would mean increased access to foreign markets for their products. By 1940, agreements had been signed with 21 countries, covering 60 percent of U.S. imports.¹⁵

The RTAA and successive related mechanisms—fast-tracking and, more recently, Trade Promotion Authority—allow the president to present a trade agreement to Congress that cannot be amended or filibustered. This gives the executive control and forces Congress to decide whether it prefers the executive's proposal to the status quo. The fast-track procedure shifts bargaining power from Congress to the president. This may be the actual purpose of the legislation: Congress ties its own hands to keep itself from logrolling its way to higher aggregate trade barriers than it would like.¹⁶

Congress has not given over all control to the executive branch. It can refuse to renew fast-track authority, and it plays a major role in treaty negotiations. Yet in many relevant instances the president controls the agenda and strongly influences outcomes. This typically reduces the impact of the local particularistic interests best represented in Congress, and increases the impact of national-level considerations. Until recently, the ability of the president to make take-it-or-leave-it offers to Congress on trade policy issues pushed policy in the direction of trade liberalization. Box 5.1

¹⁴ The distribution of electoral votes across states (based on the number of representatives and senators) is roughly proportional to population.

¹⁵ See Irwin (1998) for details.

¹⁶ The rationale for Congress to delegate fast-track authority has been explored in detail by Bailey, Goldstein, and Weingast (1997) and Schietz (2000).

BOX 5.1 THE TWISTS AND TURNS OF U.S. TRADE POLITICS

At the time of this writing, the United States is engaged in a trade war with China, after recently renegotiating NAFTA. What explains the recent evolution of trade politics in the United States? Recall that the post-1930s logic of U.S. trade policy was to give presidents control of the trade-policy agenda, as presidents favor trade liberalization more than members of Congress. That institutional logic depended on the idea that presidents, unlike individual members of Congress, represent the national interest when it comes to trade policy.

This logic is challenged in an environment in which most U.S. states are solidly and predictably Democratic or Republican. Presidential candidates must compete over the swing states, whose votes determine the outcome of presidential elections. U.S. presidential elections are not decided by the popular vote, but in an Electoral College, in which *all* of the votes of nearly every state are allocated to the party that obtains the most votes in that state. This means that presidential candidates need to win the median voter in swing states, rather than the median voter in the country. If the pivotal voters of the pivotal states are protectionist, the president will need to attend to their desires.

In fact, the Industrial Belt contains some of the most hotly contested states in U.S. politics. Elections in such states as Pennsylvania, Ohio, Michigan, Illinois, and Wisconsin are fiercely disputed by Democrats and Republicans, which makes them central to the politics of trade policy.

The dramatic increase in manufactured imports from low-wage developing countries since the 1970s contributed to the decline of traditional U.S. manufacturing, whose share in employment fell from 26 percent in 1970 to 10 percent in 2010. This decline, along with stagnant real wages and median household income, fueled skepticism about international economic integration, especially in the country's industrial heartland. The pivotal electoral nature of these states profoundly affected the politics of trade policy.

Two important factors contributed to growing dissatisfaction with globalization. First, U.S. social and labor market policies did little to compensate those harmed by the decline of manufacturing or help them transition into new activities (see Chapter 8). Second, many Americans felt that the country's political leaders were not taking seriously the concerns of those who were not doing well. These *failures of compensation* and *failures of representation* contributed to an upsurge of hostility to existing political elites and political institutions (Frieden, forthcoming). Donald Trump took advantage of this sentiment, and of the country's electoral geography, in 2016. His messages played well in regions that had lost many manufacturing jobs to trade and to technology.

U.S. trade policy today has departed from the standard postwar model, in which the executive, generally with a pro-trade stance, negotiates free trade agreements that Congress approves, while sectoral protection is provided by antidumping regulations and other special trade barriers. Today, the president's stance regarding trade agreements has shifted and he becomes directly involved

(continued on next page)

BOX 5.1 THE TWISTS AND TURNS OF U.S. TRADE POLITICS *(continued)*

in matters of sectoral protection. Moreover, trade has risen from the relative banality of special-interest politics to the high drama of national electoral competition.

Public opinion on trade is deeply divided and has become increasingly partisan. As the Republican Party turned toward protection, its voters tended to follow suit, while Democrats moved in the opposite direction. In 2009, 59 percent of Republicans and 53 percent of Democrats supported free trade agreements. By 2017, 67 percent of Democrats supported them but only 36 percent of Republicans. For the first time in decades, Republican voters are significantly more protectionist than Democratic voters.^a

This discussion illustrates the fact that while, in general, delegating decision-making power to the executive brings an economy-wide perspective to trade policy, excessive executive discretion may lead to policy volatility as parties with different preferences alternate in power. In this context, preserving or even strengthening the oversight function of the legislature on trade policy may lead to more stable and predictable policy outcomes.

The politics of American trade policy are likely to be increasingly volatile. The Industrial Belt will continue to be a battleground where this conflict is fought out. Future presidential candidates may find a winning platform that eschews protection; but a protectionist stance has been an important part of national political success over the past few years and will likely continue to be so.

^a See, for example, Jones (2017).

discusses contemporary trade politics in the United States, which seem to be at odds with this logic.¹⁷

Institutional Architecture for Trade Policy in Chile and Brazil

As in the United States since the 1930s, trade policy initiative in most Latin American countries is mainly in the hands of the executive. Legislatures approve trade legislation and vote on trade agreements, but they can only vote them up or down (Sáez, 2005). While executives have to consider legislative preferences, they have agenda-setting power and dominate

¹⁷ For lack of space, this chapter will not discuss another important component of trade policy that has a different institutional structure: the management of antidumping and countervailing duties, delegated to the International Trade Commission. These policies act as an escape valve, providing relief through protection to industries facing difficulties due to import competition. For a discussion of the political economy considerations regarding this everyday component of U.S. trade policy, see Frieden (2018) and Irwin (2005).

trade policymaking. Within the executive, the role of different ministries varies from country to country, which can have consequences for trade policy. Ministers of industry or trade tend to be closer to industry and more protectionist than finance ministries, which usually consider the economy-wide implications of protection.

Chile: Strong Trade Institutions

In Chile, trade policy is managed by the Directorate General for International Economic Relations (DIRECON), within the Ministry of Foreign Affairs. DIRECON's director is jointly appointed by the ministers of foreign affairs and finance, which gives the Ministry of Finance influence over trade policy.

In addition, Chile's Interministerial Committee on International Economic Relations (CIREI) advises the president on international economic negotiations. CIREI is composed of the ministers of foreign affairs, finance, the economy, and agriculture, the secretary general of the Office of the President, and DIRECON's general director, who acts as the committee's executive secretary.

CIREI, which has a ministerial level decision-making body and a technical committee chaired by DIRECON, with representatives from the ministries of foreign affairs and finance, is instrumental in coordinating negotiations among government agencies over the broad issues raised by trade agreements. When agencies cannot reach consensus on an issue, it is brought to CIREI's technical committee. If the committee cannot resolve the conflict, it is brought to CIREI's ministerial committee. In the rare cases when this does not settle the issue, the president has the final word.

During Chile's negotiations with Mercosur, in October 1995, such a contentious issue arose, and its course illustrates the policymaking process. The minister of agriculture wanted a long list of products to be exempted from the agreement, and this was unacceptable to the partner countries. Presented with the inability of CIREI to resolve the conflict, President Frei made it clear that Mercosur was a priority and ordered the list of exemptions revised to complete the negotiation.

Negotiations with Mercosur also offer a good example of the role of Congress, as well as the importance of compensation in order to advance trade liberalization. In Chile, as elsewhere in the region, Congress is limited to approving or rejecting international agreements, without amendment. Governments do have to take into consideration the political viability of the treaties they propose, so the preferences of members of Congress matter. The Mercosur negotiations potentially affected some sensitive agricultural products in regions that were overrepresented in Congress.

Parliamentarians representing these regions conditioned their support on measures to offset the negative impact of opening agricultural markets, especially to Argentine producers. To approve the deal, the government put together a compensation package, committing money and services to agriculture.

Much of the compensation program aimed to transform Chilean agriculture into an export industry. It included: (i) a fund to promote agricultural exports; (ii) appointing representatives responsible for furthering Chilean agricultural exports in target markets; (iii) credit guarantees for small farmers; (iv) irrigation infrastructure; (v) programs for innovation, and for soil and forestry management; and (vi) a price band system to shield domestic prices from the volatility of international prices. These commitments exceeded \$200 million per year (Rebolledo, 2019), and helped Chilean agriculture increase exports from \$4 billion in 1996 to more than \$15 billion today.

Private actors also take part in Chilean trade negotiations, mainly through the *Cuarto Adjunto* ("side room"). This allows information exchange, public-private consultation, and consensus building to formulate national bargaining positions. During the TPP negotiations, representatives from civil society, including NGOs, unions, and academia, were added to the side room, thereby expanding the set of actors involved in the trade policymaking process.

Brazil: Strong Industries

While Chile is among the most-open economies in the region, Brazil ranks last in terms of imports/GDP.¹⁸ Tariffs fell substantially at the beginning of the 1990s but have remained around 13 percent on average in the context of Mercosur's common external tariff. Some manufactured goods, such as automobiles, textiles, toys, furniture, and shoes, have tariff rates of up to 35 percent. Moreover, Brazil has signed few trade agreements. Despite a huge increase in agricultural exports and a substantial drop in the share of manufacturing in GDP over the years, protectionist interests at least until recently, had continued to dominate Brazilian trade policy.¹⁹ What are the institutional underpinnings of this result?

Like Chile, Brazil has a high-level interministerial council, CAMEX, which is responsible for all trade policy matters and chaired until very recently by

¹⁸ See <https://data.worldbank.org/indicator/ne.imp.gnfs.zs>. See also Chapter 2 of this report.

¹⁹ The participation of the industrial sector in GDP peaked at 32 percent in the mid-1970s but fell below 12 percent by 2017.

the MDIC.²⁰ Before 2001, the relatively more liberal Ministry of Finance was responsible for tariff policy, and other protectionist measures were decided jointly by this ministry and the MDIC. Institutional changes in 2001 reduced the power of the Ministry of Finance and strengthened the MDIC, whose main constituency is the import-competing industrial sector (Veiga et al., 2019).²¹

CAMEX determined policies on antidumping, subsidies, and countervailing duties, but the MDIC's Department of Trade Defense conducted investigations and proposed trade remedies. The dominant influence of the MDIC may help explain why between 2010 and 2017 Brazil ranked second in the world in antidumping cases, having initiated 230 investigations.²²

The main private-sector participant in trade policymaking is the Brazilian Business Coalition (CEB), which brings together industry, agriculture, and services, and participates in trade negotiations through a semi-formal channel analogous to Chile's "side room." While the CEB seeks consensus among sectors, it is dominated by the powerful Confederação Nacional da Indústria, which represents Brazilian industry, especially import-competing sectors. Thus, both on the public and private sides, interests of import competitors were well represented in Brazilian trade policymaking.

Brazil's institutional setup resembles Chile's in some respects. Trade policy in both is managed by an interministerial council, with substantial private sector participation through the side room. However, there are significant differences. Chile's interministerial council is led by DIRECON, whose director is appointed jointly by the finance and foreign affairs ministers, who both support liberalization. In Brazil, CAMEX was until very recently dominated by the MDIC, which is close to industry and regards protection as a crucial component of Brazil's development strategy. On the private side, protectionist interests in Chile were weakened by years of liberalization, while exporters gained substantial power in the policymaking process, whereas in Brazil, despite industry's relative decline and the rise of export agriculture, industry continues to dominate the trade policymaking process.

It is puzzling why Brazil's exporting agricultural sector has not been more active in supporting trade liberalization. Perhaps, with surging demand from Asia and particularly from China, agricultural interests simply do not think existing trade barriers are significant enough for them to confront powerful industrial interests. As long as exports to China are not

²⁰ As discussed below, the government of Jair Bolsonaro eliminated the MDIC in 2018, and subsumed it as a secretariat within the Ministry of Economy.

²¹ For a discussion of the Brazilian trade policymaking process in the 1990s and the decline in the role of the previously dominant Foreign Ministry, see Veiga (2002).

²² *PC em Foco: Observatório de Política Comercial*, various issues.

threatened, the sector has kept its distance from the trade policy arena, allowing defensive industrial interests to take hold.

Which leads back to the case of steel antidumping discussed earlier. The case provoked fears of Chinese retaliation, which spurred agricultural export-oriented actors into action. They were represented by the Ministry of Agriculture, which publicly argued against imposing antidumping duties ahead of the decisive CAMEX meeting. The Ministry of Finance, for its part, issued a technical note stressing the adverse effects of adopting protectionist measures. On January 18, 2018, the CAMEX plenary of ministers decided to apply the antidumping measure as recommended by the Department of Trade Defense within the MDIC. However, it suspended the application of duties for one year, and recently extended the suspension for another year.

Brazil's trade policymaking process seems to be changing. The Bolsonaro administration has overhauled the cabinet structure, eliminating the MDIC, and putting it under the new Ministry of Economy. The new institutional architecture for trade policy is still a work in progress. For one thing, the new composition of CAMEX has yet to be defined. Despite this, there are already important changes in Brazilian trade policy. On June 28, 2019, after 20 years of negotiations, Mercosur reached an agreement with the European Union that must still be ratified by the legislatures of each member country. Within Mercosur, changes to the common external tariff are being negotiated, with Brazil taking a more liberal stance. While it is difficult to know for sure the extent to which policy changes are attributable to changes in the institutional structure—for example, they could be associated with the change of ideology in the government—these changes are at least consistent with the idea that trade policies are not independent of the relative power of different ministries in the trade policymaking process.

The discussion of the U.S., Chilean, and Brazilian cases suggests that institutional architecture matters. To complement this analysis, Box 5.2 presents the case of a unique institution, Australia's Productivity Commission, (and its predecessor, the Tariff Board), which played an important role in the process of liberalizing trade in what had long been a highly protected economy.

Understanding the Rules of the Trade Policymaking Game

Thus far, the report provides support for the notion that countries gain from trade. This is more than just a theoretical expectation. It is supported by the empirical analysis of Chapters 2 through 4. As expected, the analysis also shows that trade liberalization produces winners and losers.

BOX 5.2 AUSTRALIA'S PRODUCTIVITY COMMISSION

Until the early 1970s, Australia was among the world's most-protected economies. A competitive primary sector based on abundant natural resources coexisted with a large, inefficient manufacturing sector, protected by substantial trade barriers. Strong unions and highly regulated labor markets ensured that the benefits of protection were shared with workers. Protection had broad support from all parties in Parliament, and from the public.

Beginning in the 1970s, Australia embarked on a profound trade liberalization process, which gathered steam in the 1980s under the labor governments of Bob Hawke and Paul Keating. With some exceptions, such as automobiles and textiles, which had special regimes and were liberalized later, trade barriers were gradually but relentlessly dismantled. As a result, Australia became a substantially open economy. But how did this transformation occur? This box analyzes the role of a unique institution that played a key role in this process: The Productivity Commission and its predecessors.

From the Tariff Board to the Productivity Commission

The history of the Productivity Commission goes back to the 1920s, with the establishment of the Tariff Board, an independent advisory body charged with recommending the level of protection to be accorded to industry. Early on, the Tariff Board was an instrument of protectionist policy. While its mandate was to encourage the development of "economic and efficient" industries, no clear criteria existed to determine whether an industry was economic or efficient. The common practice was to focus on the level of protection required for domestic production to remain competitive, without considering the impact on downstream industries or consumers. To quote a former official, the Tariff Board was "a calculating machine for made-to-order protection."^a

But beginning in the late 1960s, under Alf Rattigan's leadership, the Board changed. Following recommendations from the influential Vernon Report (Committee of Economic Enquiry and Vernon, 1965), Rattigan championed a new approach. It involved an economy-wide systematic tariff review, rather than piecemeal product-by-product analyses of industries' protection demands, and the use of objective criteria, namely measures of effective rates of protection, to determine what was economic and efficient.

The new approach was opposed by the powerful minister of trade, who favored the status quo, with the support of industry. That the Tariff Board had statutory independence and its chairman could not be fired was crucial in enabling Rattigan to turn it around. In 1973, with the backing of incoming Prime Minister Whitlam, Rattigan transformed the Tariff Board into the Industries Assistance Commission (Rattigan, 1986).

The Commission could extend recommendations on all forms of industry assistance (not just tariffs), and had an explicit mandate to focus on the economy-wide impact of industry assistance. The new focus required new tools:

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BOX 5.2 AUSTRALIA'S PRODUCTIVITY COMMISSION *(continued)*

broader measures of effective rates of assistance, including subsidies and tax breaks; general equilibrium models, to understand the economy-wide impact of protection; and a broader inquiry process, including consultation with a wider set of stakeholders.

Coming in the midst of a recession, Australia's first liberalization effort—a sudden, across-the-board 25-percent tariff cut in 1973—provoked considerable backlash in the form of quotas, subsidies, and temporary assistance measures. The policy lesson was learned: subsequent efforts in the 1980s were gradual and preannounced, giving firms and workers time to adjust. The Commission played a central role, providing evidence-based recommendations, involving all stakeholders, and informing the public debate.

In 1989, the Industries Assistance Commission became the Industry Commission, and in 1998, the Productivity Commission. The focus became broader, overarching issues like energy, transportation, infrastructure, and, eventually, social and environmental issues. However, three key aspects of the Commission's work remained unchanged:

Independence

The Commission was established by an Act of Parliament. Its members, nominated by the Treasury and appointed for five-year periods, cannot be removed by the government. The government can tell the Commission what to work on, but not what to say (Banks, 2012). When conducting an inquiry, it may investigate any issue it deems relevant. It may also conduct and publish research on any subject of its choice, thus bringing into the public debate policy-relevant issues. The Commission has exercised this freedom judiciously. Getting into issues the government would prefer not to discuss would probably not be the best way to ensure the Commission's survival.^b

At the same time, the Commission issues its recommendations but leaves decisions to the government without heavy-handed attempts to have its recommendations implemented. This is part of the subtle game by which it retains its independence.

Transparency and participatory process

Every aspect of the Commission's work is open to public scrutiny, and the process of consultations surrounding an inquiry ensures that all stakeholders can voice their concerns. References received from the government are made public, and the Commission invites written submissions from all interested parties. Submissions are published and can be challenged by other stakeholders. A draft report is followed by a public hearing at which interested parties can provide feedback. The final report itself needs to be presented to Parliament within 25 "sitting days." The government need not adopt the Committee's recommendations, although it typically does. Other-

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BOX 5.2 AUSTRALIA'S PRODUCTIVITY COMMISSION *(continued)*

wise, it usually explains why it departs from them, although it is not formally required to do so.

This transparent and participatory process, together with the Commission's high-quality technical analysis, has been instrumental in getting rid of bad policy ideas. Interest groups are less likely to propose self-serving policies if they know their proposals will be subject to careful scrutiny and misleading claims will be challenged.

Economy-wide mandate

The Commission's mandate explicitly stipulates that inquiries must adopt an economy-wide focus. This mandate, strongly opposed by industry in the 1960s and 1970s, has since become a universally accepted feature of the Commission's work.

The Commission's Role in the Process of Liberalization

The Tariff Board and successive Commissions were advisory boards without executive responsibilities. So how did they affect trade liberalization? Although governments were not compelled to follow their recommendations, they usually did. Moreover, as the Commission gained credibility, it strongly influenced the public debate.

Perhaps the most important channel of influence was as a provider of information. In addition to the inquiries, the successive commissions published an annual *Trade and Assistance Review*, including measures of effective rates of assistance, broken down by industry. These measures were translated into simple figures that the public could easily understand. For example, the 1997 automotive industry inquiry reported that, due to industry assistance, consumers were paying an extra AU\$3,400 per year for their cars (see Industry Commission, 1997: 224–25). Another usual practice was to convert assistance measures into dollars per protected job. This information, picked up by the pro-trade press, helped change the narrative from “we need protection to save these jobs” to “why are we spending all this money?”

The Commission also helped bring into the debate interest groups from exporting sectors that would benefit from liberalization. Most prominent among them was the National Farmer's Federation (NFE), which relied on the Commission's analysis to argue its case. In the words of a former NFE economist, “the [Industry Assistance Commission] provided the bullets, and we fired them.”^c It also provided ammunition to Bert Kelly, a parliamentarian representing agrarian interests, who wrote a very influential column in *The Australian Financial Review* explaining in simple terms the costs of protection for exporters and consumers (Kelly, 1982).

The Commission helped build a coalition for trade reform, but it could not have done it alone. Together with exporters, politicians, academia, and the press,

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BOX 5.2 AUSTRALIA'S PRODUCTIVITY COMMISSION *(continued)*

it laid down the groundwork that, eventually, made possible the gradual but irrevocable liberalization process of the 1980s.

Productivity Commissions in Latin America?

More countries in Latin America and the Caribbean would do well to adopt institutions inspired by Australia's Productivity Commission, as Chile has done. But it will not be easy. As in Australia, they will face resistance within government and from industry. Building such institutions will take time and require careful strategies.

Today's Productivity Commission is the result of 100 years of history. Pretending to strictly replicate it in the different setting of Latin American countries would be unwise. But a lot can be learned from the Australian experience. The key question is how to start with a less ambitious, more feasible plan involving a modest but viable product that can then gain credibility and gather support as it produces results.

While statutory independence would make a new entity more likely to survive once it were up and running, it would also make it harder to launch, at least in some countries. One possibility would be to start with a temporary task force or administrative body with a strong leader and a small but competent staff, responsible for producing recommendations on a few key sectors or issues. Another option would be to broaden the mandate of an existing institution with a reputation for independence and analytical rigor.

Choosing the right leader is essential. Success would require someone with solid analytical skills, a stellar reputation of integrity and independence, and the skills necessary to manage the team and the process, navigating through often hazardous waters. Choosing the right home is important as well. The Australian experience suggests that a treasury ministry is a better choice for a group tasked with analyzing the economy-wide impact of policies than a ministry of production or industry, which is likely to be more closely aligned with the protected sectors.

^a Interview with Terrence O'Brien, November 2018.

^b While nowadays the Commission's role is unquestioned, in the past there have been calls for its abolishment.

^c Interview with David Trebeck, November 2018.

Both winners and losers, moreover, participate in the trade policymaking process, trying to steer outcomes in their favor. And, absent sufficient compensation, those who stand to lose will try to block reform.

Firms that compete with imports, in particular, will press for protection. Those that want access to cheaper imported inputs and exporters, who fear retaliation, favor a more open trade regime. This process takes

place within an institutional setup for the management of trade policy that may be more or less favorable to trade liberalization and under governments with differing ideologies, more or less supportive of open trade regimes.

As a result of all of these factors, after the liberalization of the late 1980s and early 1990s, countries in the region have had diverse trade policy experiences. Chile doubled down on its early unilateral liberalization through a wide range of trade agreements with most trading partners. Other countries progressed more slowly. Still others, such as Argentina, Brazil, or Venezuela, experienced different degrees of policy reversals. Through the detailed discussion of country cases, this chapter has attempted to show real trade policy in action. Several lessons can be drawn from the analysis:

Trade policy shapes the policymaking process, affecting the constellation of actors and their interests. By creating new economic realities, liberalization, particularly when deep enough and prolonged enough, can generate the conditions for its persistence. Uncompetitive producers adapt or go out of business, while new export producers arise, as the example of Chile shows clearly. The argument, however, cuts both ways. Protection does not just preserve those firms that benefit from it. Each wave also generates a new cadre of import competitors who will oppose future liberalization. Argentina, where the government is trying to move to a more open regime after a decade of increased protectionism, is a case in point.

Compensation can help move liberalization forward. But not all compensation is created equal. In the Chilean compensation package for agriculture during the Mercosur negotiations, losers were overrepresented in Congress and, absent sufficient compensation, would have become veto players. Compensation was generous—and fiscally costly—but much of it focused on providing the conditions for transforming Chilean agriculture, favoring exports through the provision of public goods. Thus, at the same time that it allowed liberalization to move forward, it created new actors that would support open markets thereafter. Usually, however, compensation takes the form of inefficient subsidies, price supports, or public purchases rather than public goods, and thus sometimes delays the reallocation of factors of production toward more competitive firms and sectors.

Interestingly, some countries engaged in what we call “compensation on its head.” Rather than liberalize and compensate

the losers, they kept markets protected and compensated special interest players who would have benefitted from liberalization. Ecuador is a good example. Instead of negotiating an FTA with the United States to extend market access provided by the Andean Trade Preference Act (a unilateral concession about to expire), an anti-trade government decided to compensate exporters that were about to lose access. So instead of redistributing a larger pie so that everyone would be better off, they reduced the size of the pie and compensated those that were powerful enough to block the move.

Gradual seems to be the way to go. Sudden liberalization does not provide private actors time to adapt and may generate significant backlash. The Australian across-the board tariff reduction in 1973, which led to important reversals, is a case in point. The 1980s liberalization, in contrast, was gradual and preannounced, and it stuck. Moreover, with the exception of a few sensitive sectors that obtained longer phaseout schedules, it did not discriminate across sectors. Even the Chilean liberalization of 1973 under the military was gradual, with most tariffs declining from about 90 percent to a uniform 10 percent over five years. Argentina's recent gradualism was different: varying speeds for different goods, depending on employment and impact on downstream products. A gradual, across-the board approach would have probably been more efficient and less prone to rent-seeking. It is not clear, however, whether it would have been consistent with electoral success.

Trade agreements can be a powerful tool for trade reform. Several examples from our studies support this conclusion. FTAs with the United States have been instrumental in opening up rice and sugar markets in Colombia and Costa Rica. While it will be a gradual process with long phaseout periods, the liberalization of these sectors with very powerful lobbies would have been unthinkable without the FTAs. International commitments associated with FTAs can also make it more costly for countries to renege on open regimes even if society is deeply divided, as the case of Costa Rica and CAFTA-DR clearly shows.

Public actors with an economy-wide perspective should be heavily involved in trade policy. The institutional architecture for managing trade policy matters. It is best to involve in the decision-making process actors whose incentives are more closely aligned with those of the economy as a whole. Executives tend to have broader purview than legislators, which care about protecting

industries in their districts; however, congressional oversight is essential to avoid sudden changes in policy when executives with different preferences alternate in power. Within the executive, finance ministries tend to have broader incentives than ministries of trade and industry, although the incentives and makeup of the latter vary from country to country. The specific institutional solution may vary across countries, but trade policy is too important to leave solely in the hands of actors aligned with special interests.

Credible institutions providing independent, high-quality analysis can play an important role in moving liberalization forward.

The case of Australia has important implications for Latin America. It shows that an institution like the Productivity Commission, by engaging in high-quality analysis of the costs and benefits of protection, providing advice to government, and disseminating the results, can be a powerful catalyst for reform. While Latin American countries may not be able to exactly replicate this institution, they may be able to adapt it to their local conditions, preserving its most important features: some level of independence; transparent, participatory processes; and an economy-wide focus. The early success of Chile's productivity commission suggests that it can be done.

While the political economy of trade policy is usually dominated by special interests, there are times when voters/consumers become deeply involved.

Episodes of import surges, negotiation of important trade agreements, or more broadly antiglobalization events tend to elicit this broader participation. At times like these, understanding the incentives of special interests and the way they play the policymaking game is not enough. It is important to understand the attitudes towards trade of the population as a whole. This is the topic of Chapter 6.

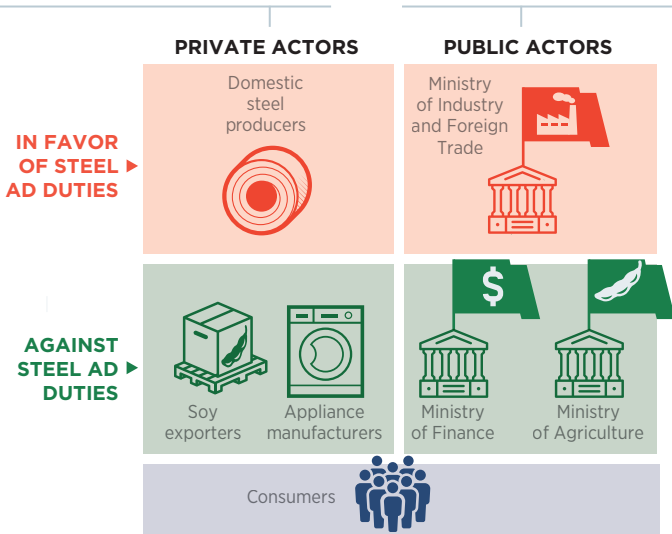
TAKING STOCK

A BALANCING ACT: THE POLITICAL ECONOMY OF TRADE POLICY



Trade policy is the outcome of a policymaking process in which different public and private actors participate actively, within a given set of institutions. The 2016 Brazilian steel anti-dumping (AD) case illustrates the actors at play.

- 1 In 2016, Brazil initiated an AD investigation of flat steel imports from China and Russia.
- 2 **Private actors**
 - a. Domestic steel producers lobbied for AD duties.
 - b. Appliance manufacturers and other intensive steel users lobbied against AD duties.
 - c. Soy exporters favored open markets to minimize risk of retaliation.
- 3 **Public sector actors**
 - a. Ministry of Industry and Foreign Trade recommended AD duties.
 - b. Ministry of Finance worried about impact on downstream sectors, consumers, and inflation.
 - c. Ministry of Agriculture worried about retaliation from China, Brazil's main destination for soy exports.



- 4 **Consumers** gain from liberalization but are no key players in this game.

THE BOTTOM LINE

Trade policy involves interest groups for whom the stakes are high, and even public sector actors may have different incentives. Public actors with an economy-wide perspective should carry more weight.

6 On Board with Trade, for Now: People's Attitudes and Support

Economic theory holds that international trade generates welfare gains for the economy as a whole. By allowing countries to specialize in what they produce most efficiently, trade raises aggregate production. At the same time, by giving individuals access to a greater variety of products at lower prices, purchasing power increases. However, trade also produces losers. In particular, individuals who work in sectors that compete with imported goods may have their wages cut or even lose their jobs.

Although society's gains from trade tend to outweigh the losses, opening up to trade creates losers who can lead the resistance to free trade. The question is, how do Latin Americans perceive these gains and losses?¹ Do they support international trade or oppose it? In spite of some unfulfilled promises of trade reform in the early 1990s (see Chapter 1), support for international trade in Latin America is high. For now, people are on board with the idea. To a large extent, this support is grounded in the belief that trade leads to greater employment. However, the public is often bombarded with negative opinions on trade in the media, on social networks, or in the public debate. Moreover, results from a recent large-scale survey show that support for trade is fragile and may be swayed by information emphasizing its negative consequences. The results also show that providing positive information can partially offset the impact of negative information.²

¹ Several studies analyze individuals' preferences for trade and how those preferences relate to their sociodemographic characteristics. See Mayda and Rodrik (2005), Hainmueller and Hiscox (2006), and Mayda (2008), among others. Related literature explores the effects of foreign trade on election outcomes. See Autor et al. (2017).

² An extensive economics and political science literature analyzes the effect of information on people's opinions. See, for example, Gaines, Kuklinski, and Quirk (2007) for a review of the literature and techniques.

What Do Latin Americans Think of International Trade?

This chapter uses data from Latinobarómetro, a public opinion survey conducted annually since 1995 at the national level in 18 Latin American countries. The survey includes questions on the demographics of the respondents and their opinions on a variety of social, political, and economic subjects. For this report, several trade-related questions were added to the 2018 survey, which involved personal interviews with 20,204 individuals in 18 countries. These questions evaluated citizens' support for increased trade as well as their beliefs about the consequences of trade on employment and consumption outcomes. It also includes a survey experiment in which respondents were randomly given one of four variants of the support-for-trade question: positive framing, negative framing, mixed framing, or no framing at all (control group).³ All figures in this chapter that use the 2018 Latinobarómetro survey, except for Figures 6.9 and 6.10, were prepared using data for the control group only.

Figure 6.1 plots support for trade in Latin American countries based on a simple survey question: *Are you for or against (your country) increasing trade with other countries?* Two important messages emerge. First, most Latin Americans support international trade. On average, 73 percent of the respondents in the region support increased trade with other countries. Second, support for trade varies across countries, ranging from 59 percent in Argentina and Peru to more than 85 percent in Venezuela, Honduras, Uruguay, and Nicaragua. Despite these differences, a majority of respondents in every country surveyed supports increased trade with other countries.⁴

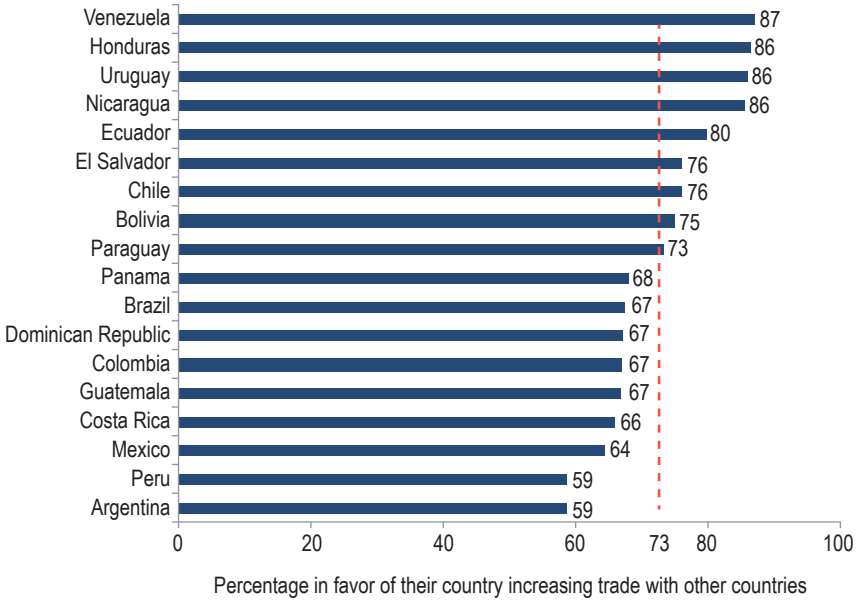
Box 6.1 presents similar data for 2010 from the Latin American Public Opinion Project (LAPOP) from Vanderbilt University. This survey, which includes countries in the Caribbean not included in the Latinobarómetro sample, focuses on a different, but related, question: support for free trade agreements (FTAs).

How does Latin America compare with other regions in terms of support for trade? To answer this question, Figure 6.2 reports attitudes toward trade in 2017 as reported in the Pew Global Attitudes Survey.⁵ As the figure

³ One-quarter of respondents were assigned to each framing group.

⁴ Trade preferences seem to be correlated with trade policy, suggesting either that policy responds to preferences or that preferences are influenced by the policy status quo. See Rodríguez Chatruc, Stein, and Vlaicu (2019).

⁵ This survey includes eight Latin American countries. Latinobarómetro and Pew survey results are not strictly comparable. They correspond to different years, they have different sampling methodologies, and the question on support for trade is phrased differently.

Figure 6.1 Support for Trade, Latinobarómetro 2018

Source: Authors' calculations based on Latinobarómetro (2018).

Note: The figure shows the percentage of respondents who support increasing trade with other countries. The dashed line shows the simple average across countries. Only respondents in the control group (see text) were included in the computations.

shows, trade is highly popular around the world. On average, 86 percent of respondents in 38 countries think that trade and business ties with other nations are good for their countries. Support for trade in Latin America is lower, but still substantial, at 80 percent, and broadly comparable to the average from the Latinobarómetro survey presented in Figure 6.1.

How has support for trade evolved over time? Is an antiglobalization backlash underway? Figure 6.3 shows the evolution of support for trade in Argentina, Brazil, and Mexico based on several iterations of the Pew Global Attitudes Survey. These are the only countries in Latin America with several years of information. The United States, China, India, Germany, and France are also included as reference points. Several patterns emerge. First, despite a slight decline in support in Brazil, there is no evidence of a significant backlash against globalization in the attitudes toward trade in Latin American countries, as reported by Pew. Thus, the disenchantment with the great liberalization discussed in Chapter 1 is either not that strong, or somehow is not captured by the surveyed responses. The only large—but short-lived—drop in support for trade took place in the United States during the financial crisis of 2008. In no other country has support

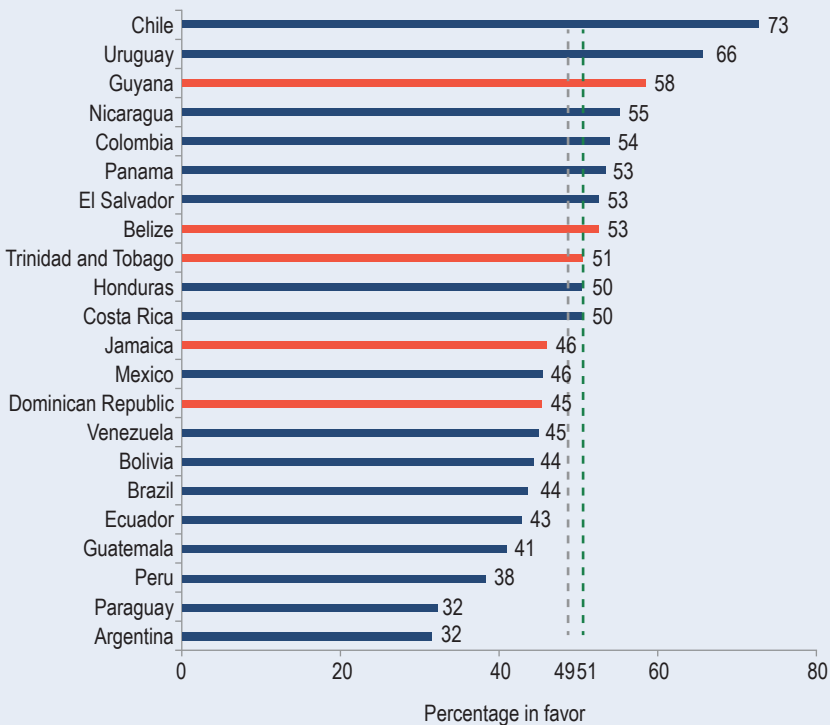
BOX 6.1 SUPPORT FOR FREE TRADE AGREEMENTS IN THE CARIBBEAN

How widespread is support for trade in the Caribbean? The question cannot be answered using Latinobarómetro or Pew, which exclude Caribbean countries other than the Dominican Republic. In contrast, the 2010 LAPOP survey, which asks respondents about their support for free trade agreements (FTAs), includes several Caribbean countries.

On average, support for FTAs was 49 percent in the region in 2010 (Figure 6.1.1), more than 20 percentage points below the numbers on support for trade in Figure 6.1. Some people may not be familiar with the concept of FTAs, which could drive support downward. Moreover, individuals could support increased trade with other nations without necessarily supporting FTAs, which in some cases are controversial.

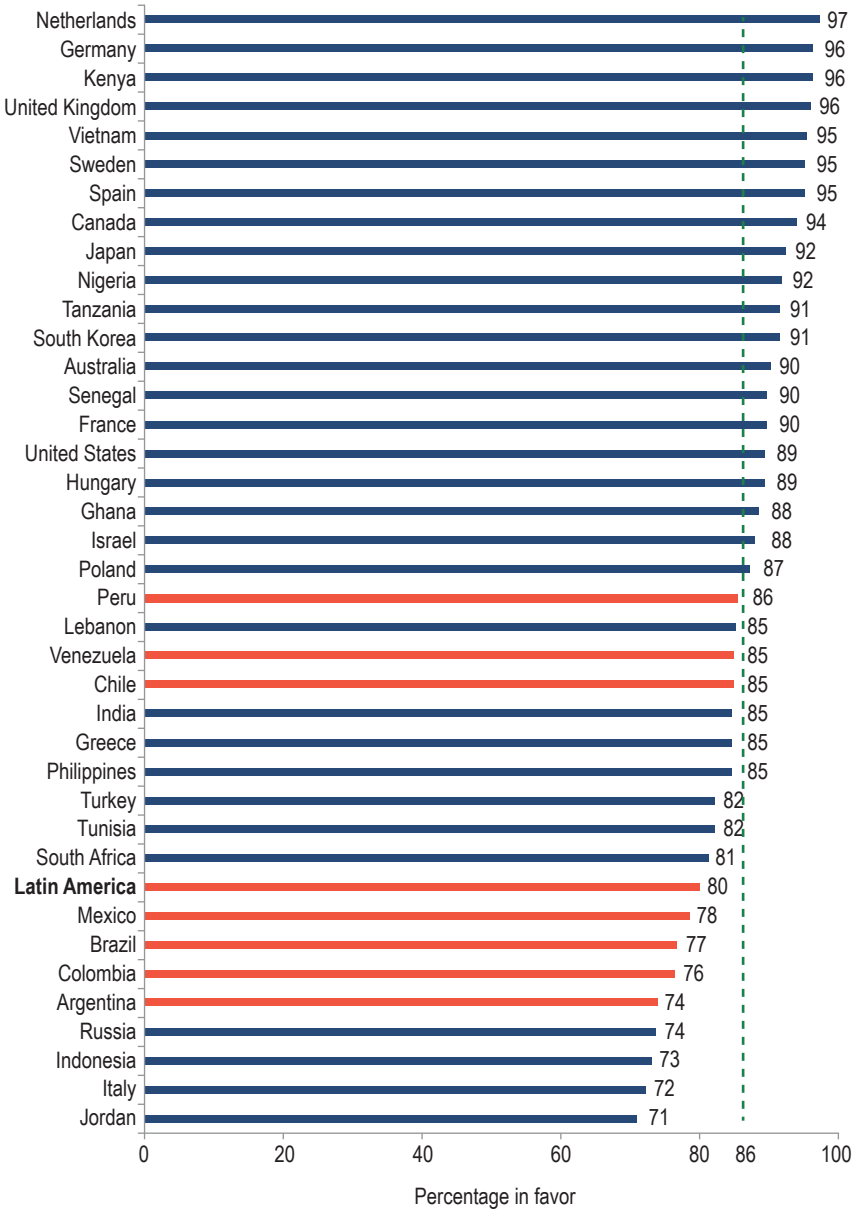
Support for FTAs in the five Caribbean countries surveyed (Belize, Dominican Republic, Guyana, Jamaica, and Trinidad and Tobago) ranges from 45 percent in the Dominican Republic to 58 percent in Guyana, which ranks third in support in the region after Chile and Uruguay. Support for FTAs in these five countries averages 51 percent, slightly above the regional average of 49 percent.

Figure 6.1.1 Support for Free Trade Agreements, LAPOP 2010



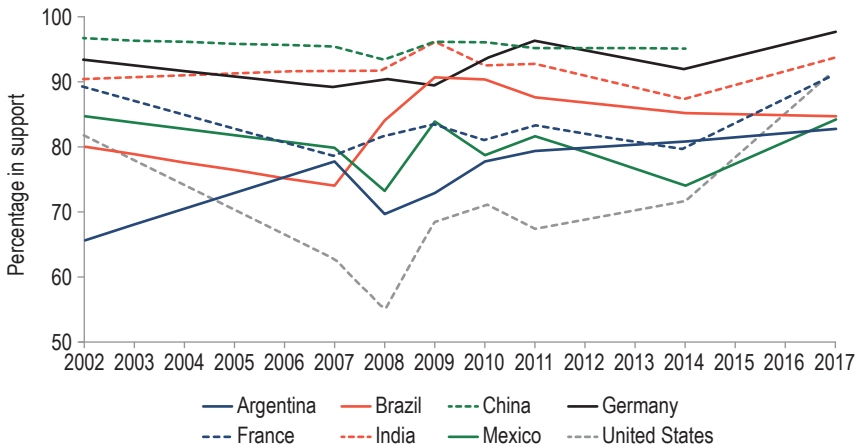
Source: Authors' calculations based on LAPOP (2010).

Note: The figure shows the percentage of respondents who said they believe that FTAs help improve the country. Red bars correspond to Caribbean countries. The dashed gray and green lines show the simple average across all countries and across Caribbean countries, respectively.

Figure 6.2 Support for Trade around the World, Pew 2017

Source: Authors' elaboration based on Pew Global Attitudes Survey for the year 2017 (spring).

Note: Figure shows the percentage of respondents that think trade and business ties with other nations are good for the country. Red bars correspond to Latin American countries. Blue bars represent countries from other regions. The dashed line shows average support for trade for the 38 countries surveyed for the year 2017. The total number of observations is 41,953, ranging from 852 in Greece to 2,464 in India.

Figure 6.3 Support for Trade, 2002–17

Source: Authors' elaboration based on Pew Global Attitudes Survey for several years.

Note: Percentage of respondents that think that growing trade and business ties are good for their countries. The years with information are 2002, 2007, 2008, 2009, 2010, 2011, 2014, and 2017. Sample sizes vary by country and year, ranging from 507 in France in 2002 to 3308 in China in 2011.

for trade fallen below 70 percent, except in Argentina in 2002, in the midst of a severe crisis. At first glance, it appears that support for trade is fairly resilient, except during periods of severe crisis.

How Beliefs Shape Preferences on Trade

The 2018 Latinobarómetro survey asked individuals about their beliefs regarding the consequences of increased trade on employment, wages, prices, product variety, access to technology, as well as their personal economic situation.⁶ While most of these questions were cast in terms of improved outcomes, in the case of employment and wages, respondents were also able to express their beliefs regarding detrimental effects.⁷ The results for the region as a whole are presented in the last row of Figure 6.4. Most Latin Americans surveyed (58 percent) believe that trade is associated

⁶ This section and the ones that follow are based in part on Rodríguez Chatruc, Stein, and Vlaicu (2019).

⁷ The exact question about the consequences was: “Which of the following do you think are consequences of increased trade with other countries? (Mention all the consequences you agree with).” The options were: Higher employment, higher wages, better product variety, lower prices, more and better access to technology, better personal economic situation, lower wages, lower employment, and no consequences.

Figure 6.4 Popular Beliefs about the Consequences of Trade in Latin America, 2018

	Higher employ.	Lower employ.	Higher wages	Lower wages	Product variety	Lower prices	Access tech.	Better pers. sit.
Argentina	44	23	23	18	27	24	23	19
Bolivia	51	10	26	8	28	18	17	19
Brazil	51	10	26	8	31	27	24	15
Chile	35	17	22	14	52	48	40	16
Colombia	57	21	34	18	45	36	28	26
Costa Rica	71	11	44	12	54	46	41	43
Dominican Rep.	69	6	57	7	42	43	34	32
Ecuador	52	10	28	10	42	31	30	27
Guatemala	53	9	38	10	33	33	19	26
Honduras	75	6	46	5	32	43	23	31
Mexico	52	11	39	12	29	27	17	19
Nicaragua	83	4	52	5	34	31	20	24
Panama	60	12	42	11	29	21	20	22
Peru	47	12	30	8	32	27	28	28
Paraguay	58	8	39	4	45	30	24	27
El Salvador	54	14	32	13	32	28	17	19
Uruguay	72	4	42	4	44	32	32	29
Venezuela	68	3	49	4	60	50	24	46
All countries	58	11	37	9	39	33	26	26

Source: Authors' calculations based on Latinobarómetro (2018).

Note: The figure shows the percentage of respondents holding various beliefs. Respondents were able to choose more than one option. "Access tech." means access to technology; "Better pers. sit." means better personal economic situation.

with higher employment. Only 11 percent believe that trade leads to fewer jobs. Likewise, 37 percent of Latin Americans surveyed believe that increased trade leads to higher wages, while only 9 percent believe that trade depresses wages. Moreover, 39 percent of individuals believe that trade is associated with greater product variety, 33 percent with lower prices, and 52 percent with at least one of these two consequences. Only 26 percent of respondents believe that trade increases their access to technology. Only 9 percent believe that it improves their personal economic situation.

Beliefs vary across countries. Except in Chile, the most widespread belief is that trade boosts employment. In countries such as Costa Rica, Honduras, Nicaragua, and Uruguay, more than 70 percent of respondents share this belief. Even in Chile, where this belief is weakest, twice as many people think trade leads to more jobs than fewer jobs. In most countries, fewer than 10 percent of the respondents believe that trade negatively

impacts employment. Beliefs regarding positive effects on wages, product variety, and prices are also widespread.

Latin Americans believe that trade creates jobs. But do they believe in the employment potential of trade more or less than other people around the world? How does Latin America compare internationally?

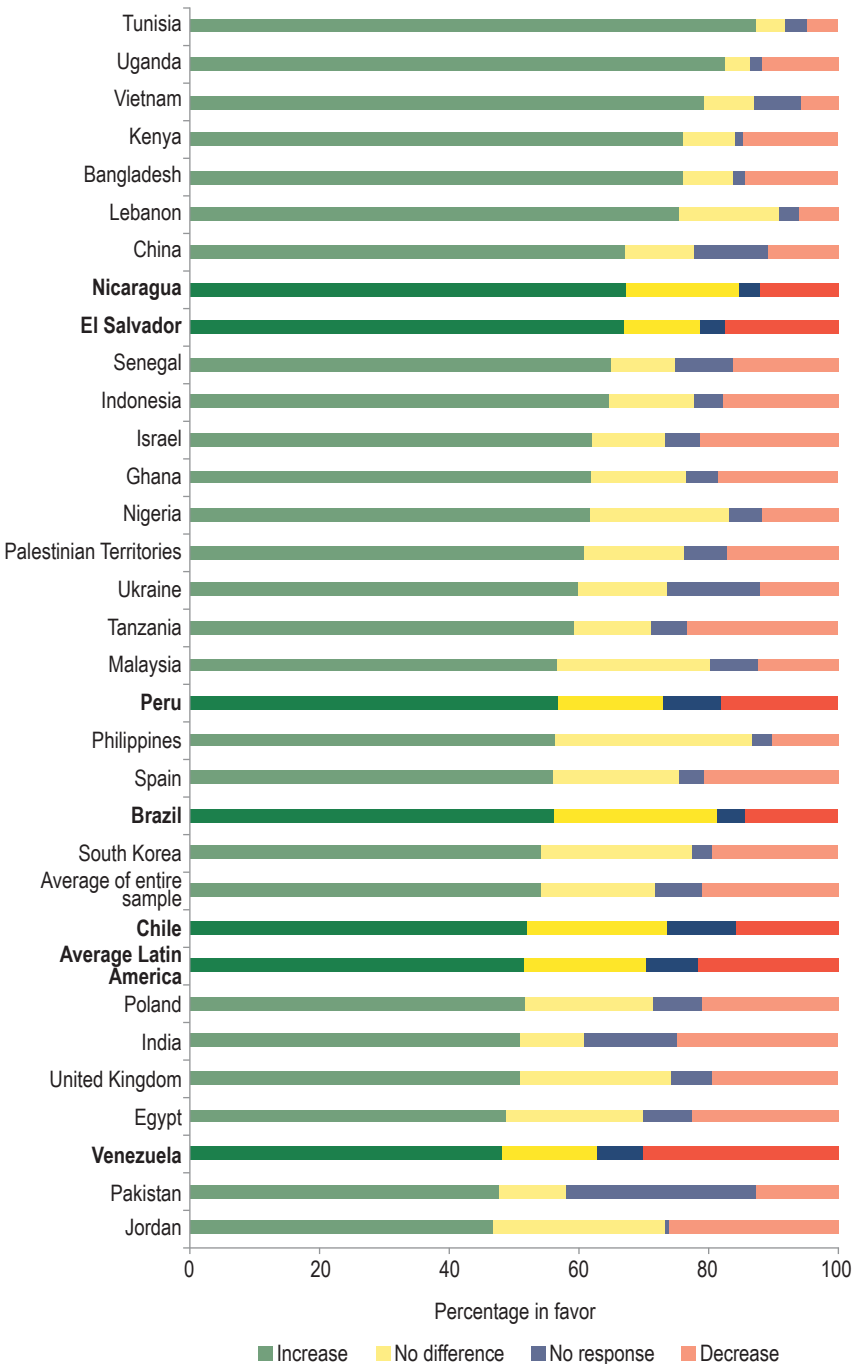
The belief that trade creates jobs is not a Latin American phenomenon. Rather, it is a widely held belief throughout the world. Figure 6.5, based on results from the 2014 Pew Global Attitudes Survey, shows the percentage of respondents who think trade leads to job creation, job destruction, or does not make a difference. Most Latin American countries are below the world average in this regard, although there is considerable variation across countries. In only a handful of countries (5 out of 44), more people believe trade leads to job destruction than job creation. Colombia is the only country in Latin America in this group. Interestingly, the others—France, the United States, Japan, and Italy—are developed economies, where trade theory would suggest that trade could negatively affect labor, or at least unskilled labor.⁸ Data from the 2018 iteration of the Pew survey, analyzed in Stokes (2018), suggest that the difference in beliefs regarding the impact of trade on employment between developed and emerging countries is systematic. While 56 percent of respondents in emerging economies believe that trade leads to higher employment, only 46 percent of individuals in developed countries share that belief.

Preferences for trade should be based on beliefs about its consequences. If respondents believe trade has positive effects, on balance, then they should be more likely to support it. Moreover, linking beliefs and preferences offers important insights into what respondents really care about when forming attitudes toward trade. So how do beliefs and preferences on trade correlate? For every specified outcome, Figure 6.6 shows the difference in support for trade between individuals who believe trade leads to that outcome, and those who do not share that belief.

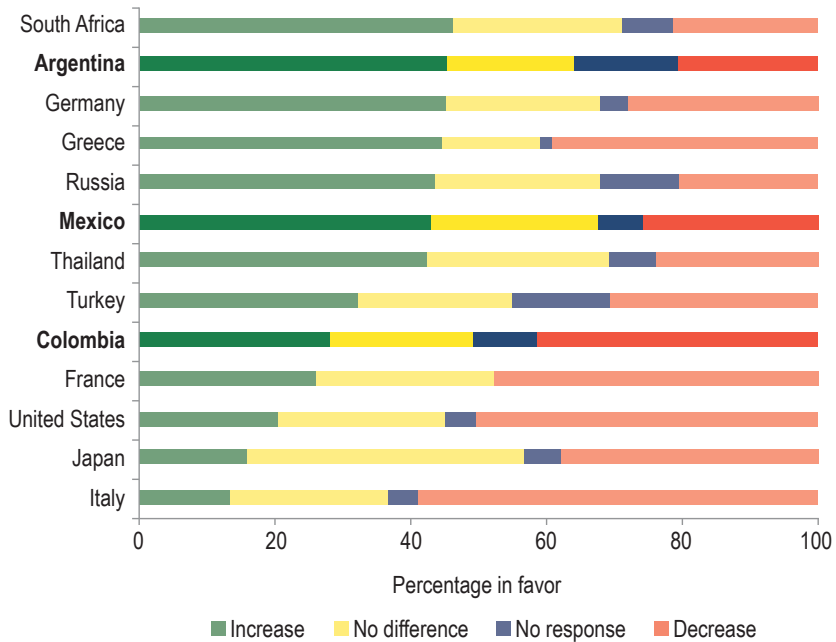
The results support the notion that preferences are grounded in beliefs. Positive beliefs are always associated with higher support for trade, although for some outcomes, such as wages and prices, the difference is not statistically significant. Negative beliefs (about lower wages and lower employment) are always strongly associated with lower support. The magnitudes of the differences are also informative, since they provide insights into the extent to which people actually care about the different

⁸ This follows from the Stolper-Samuelson theorem derived from the Heckscher-Ohlin (factor proportions) theory of trade. The abundant factor of production benefits from trade, while the scarce factor loses.

Figure 6.5 Popular Views of Effect of Trade on Job Creation, Pew 2014



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Figure 6.5 Popular Views of Effect of Trade on Job Creation, Pew 2014 (continued)

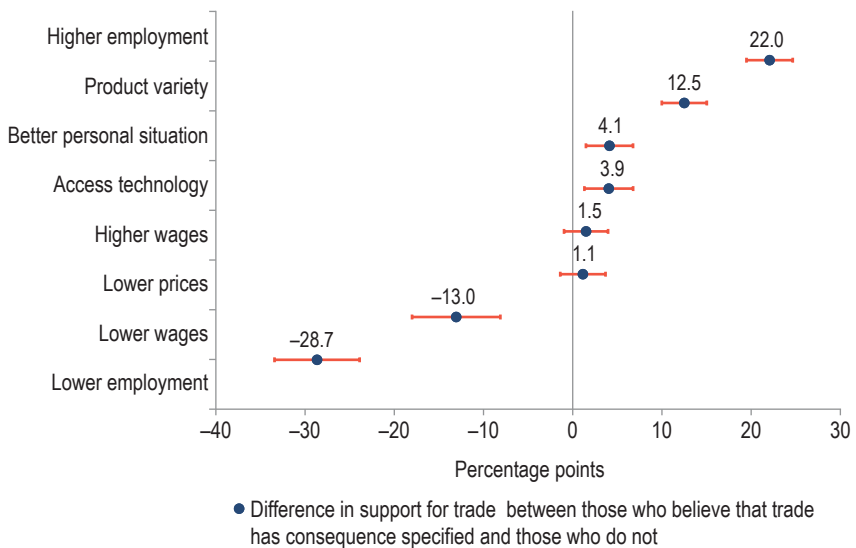
Source: Authors' elaboration based on Pew Global Attitudes Survey for the year 2014 (spring).

Note: Figure shows the percentage of respondents holding various beliefs regarding the impact of increased trade on jobs. The figure includes all countries with information for the year 2014. Latin American countries are in bold. The total number of observations is 48,643, ranging from 1,000 in most countries to 2,464 in China.

employment and consumption outcomes. People seem to care much more about employment than they do about any other outcome, including wages.⁹ For example, the belief that trade leads to higher employment is associated with a 22-percentage point increase in support for trade. Among consumption-related outcomes, respondents seem to care more about expanded product variety than they do about lower prices. Surprisingly, people's personal economic situation does not correlate strongly with preferences for trade. This suggests that self-interest is not the main driver, and that sociotropic motivations play a role in these preferences.

The asymmetric association of positive and negative beliefs regarding labor market outcomes on attitudes towards trade (illustrated in Figure 6.6) may reflect loss aversion. This phenomenon, first identified by Kahneman and

⁹ This contrasts with findings by Baker (2003) for an earlier period that pointed to the primacy of consumption considerations such as lower prices and wider product variety in shaping attitudes towards trade.

Figure 6.6 Effect of Beliefs on the Probability of Supporting Trade, 2018

Source: Authors' calculations based on Latinobarómetro (2018).

Note: The figure shows the difference in percentage points in the average support for trade between individuals who believe that trade has each of the consequences specified and those who do not share that belief. The values come from a regression that includes all beliefs, gender, age, and educational level of the respondent. The horizontal lines correspond to 95% confidence intervals.

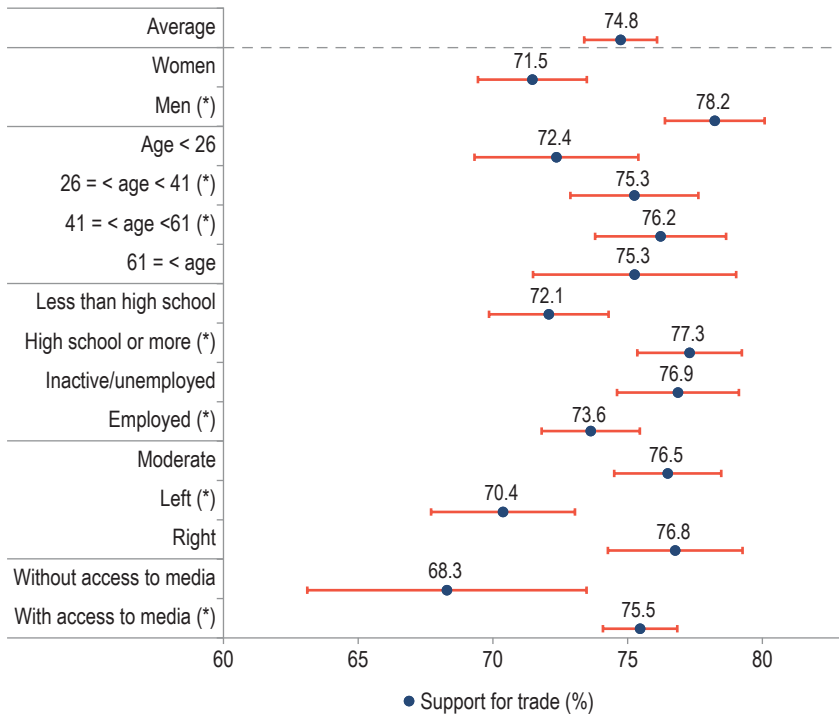
Tversky (1979), refers to people's preference to avoid losses over acquiring equivalent gains. People care more about potential employment losses than they do about potential employment gains. The coefficient for lower employment (-28.7 percent) is 30 percent greater in magnitude than that for higher employment. Loss aversion is even stronger when it comes to wages. Respondents do not seem to care much about wage increases, but they certainly care about potential wage losses.

Different People, Different Preferences for Trade

What characteristics of the respondents are associated with support for trade? Figure 6.7 shows the average support for trade among individuals with different characteristics, with their corresponding confidence intervals. For example, men are more supportive of trade than women.¹⁰

¹⁰ The fact that confidence intervals do not overlap implies that the difference across these groups is statistically significant at the 5 percent level. Part of the difference may be attributed to the fact that women are more likely to believe that trade leads to job losses.

Figure 6.7 Support for Trade by Sociodemographic Characteristic, 2018



Source: Authors' calculations based on Latinobarómetro (2018).
 Note: The figure shows the percentage of respondents in 18 Latin American countries who are in favor of increasing trade with other countries, broken down by gender, age, educational level, employment, ideology, and access to media. The values come from a regression that includes, in addition to these sociodemographic characteristics, the following regressors: fixed effects for country, wealth of the respondent, and a group of indicators equal to one if the respondent is married, has used social programs, trusts other people, or believes a country's income distribution is fair, respectively. The horizontal lines correspond to the confidence intervals at 95% of the estimated coefficients. The asterisk next to a category indicates that the difference between that category and the first category (or base category) is significant at 10%.

Differences in education are also highly significant, with more educated individuals exhibiting greater support for trade. This is consistent with the results of other studies for developing countries.¹¹

Ideology accounts for substantial differences in support for trade. Individuals on the left of the ideological spectrum are six percentage points less likely to support trade.¹² They are also more likely to believe

¹¹ See Burgoon and Hiscox (2008) and Guisinger (2016) on gender, and Beaulieu, Yatawara, and Wang (2005), Mayda and Rodrik (2005), and Ardanaz, Murillo, and Pinto (2013) on education.

¹² This contrasts with the United States, where in recent years the right has been more protectionist than the left, as discussed in Chapter 5. According to Gallup's data,

trade leads to job losses.¹³ Access to political information through the media also has a strong correlation with support for trade. Individuals who obtain their political news through the media are seven percentage points more likely to support trade than those who rely on other sources of political information, such as their family, friends, classmates, and coworkers. For the remaining sociodemographic characteristics, the differences—if any—are measured less precisely. Younger people and those who are employed voice less support for trade than older people and the unemployed.

Educational attainment plays an important role in shaping preferences about trade. Using data for a worldwide sample of countries, Mayda and Rodrik (2005) show that educated individuals are more supportive of trade and that this relationship is stronger in more-developed countries. They argue that this is consistent with a factor-endowments model of trade in which support depends both on individuals' skill levels and on countries' relative factor endowments. Figure 6.8 replicates Mayda and Rodrik's analysis with data from Latin American countries, using country-level educational attainment instead of their GDP per capita proxy.¹⁴ The vertical axis shows the effect of moving one step up in educational attainment on support for trade. Consistent with Mayda and Rodrik's findings and with the implications of the Stolper-Samuelson theorem, education has a stronger effect on support for trade in countries with higher skill abundance.

The Power of Negativity: Framing and Attitudes toward Trade

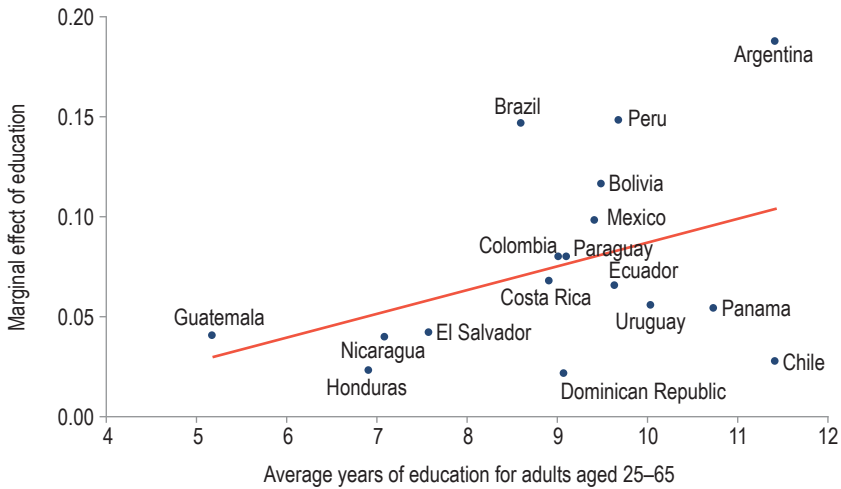
Although most people in the region support trade, they are frequently exposed—through traditional media, political discussions, and social networks—to opinions and information that criticize trade (sometimes in the same breath as globalization) by emphasizing its negative consequences.

Politicians who oppose trade naturally emphasize its potential negative consequences. A famous example of negative framing, on the closely related subject of offshoring, was provided by presidential candidate Ross Perot during the 1992 presidential election in the United States, in relation to NAFTA. He argued that,

Republicans were more supportive of trade than Democrats from 2001 to 2011. Since 2012, that tendency has been reversed. Pew data show similar results.

¹³ For evidence of this, as well as other correlations between sociodemographic characteristics and beliefs, see Rodríguez Chatruc, Stein, and Vlaicu (2019).

¹⁴ The association continues to be statistically significant when skill abundance is proxied with GDP per capita. See Rodríguez Chatruc, Stein, and Vlaicu (2019).

Figure 6.8 Education Gradient and Skill Abundance

Source: Authors' calculations based on Latinobarómetro (2018) and World Bank and CEDLAS' Socio-Economic Database for Latin America and the Caribbean (consulted on June 2019).

Note: The figure shows the relationship between country-level average education and the marginal effect of education estimated for each of the 18 Latin American countries in Latinobarómetro. The marginal effects of education come from a set of regressions, one for each country, in which the dependent variable is the support for trade and the independent variables are the respondent's education, age, and gender. A regression with the information for all the countries was run to test the significance of the relationship reported in the figure and included an interaction between the education variable and education national average. The interaction term is statistically significant at the 5 percent level.

"We have got to stop sending jobs overseas. It's pretty simple: If you're paying \$12, \$13, \$14 an hour for factory workers and you can move your factory south of the border, pay a dollar an hour for labor, ... have no health care... no environmental controls, no pollution controls and no retirement, and you don't care about anything but making money, there will be a **giant sucking sound** going south."

It is, therefore, worth asking how sensitive Latin Americans are to negative information on trade, and whether it is possible to counteract the effect of negative information with positive information.

To answer these questions, the 2018 Latinobarómetro survey included a large-scale experiment in which respondents in the 18 countries were randomly assigned to four different experimental groups. Each group was asked a different version of the question on support for trade.¹⁵ The four versions were:

¹⁵ The experiment is related to the work of Hiscox (2006) in the United States and Ardanaz, Murillo, and Pinto (2013) in Argentina. The experiment conducted for this report differs

- **Control group:** Are you for or against (your country) increasing trade with other countries?
- **Positive framing:** Are you for or against (your country) increasing trade with other countries so that prices fall and the variety of products you may buy increases?
- **Negative framing:** Are you for or against (your country) increasing trade with other countries, even if increased trade causes employment losses in import competing sectors?
- **Mixed framing:** Are you for or against (your country) increasing trade with other countries so that prices fall and the variety of products you may buy increases, even if increased trade causes employment losses in import competing sectors?¹⁶

The options were: “In favor” and “Against,” with the possibility of responding “I don’t know” or not responding at all. In the few cases where no response is given (5 percent of the total), this is recorded in the data with a “No response” code. The answers were converted into a “Support for Trade” variable equal to one if the response was in favor and zero otherwise.

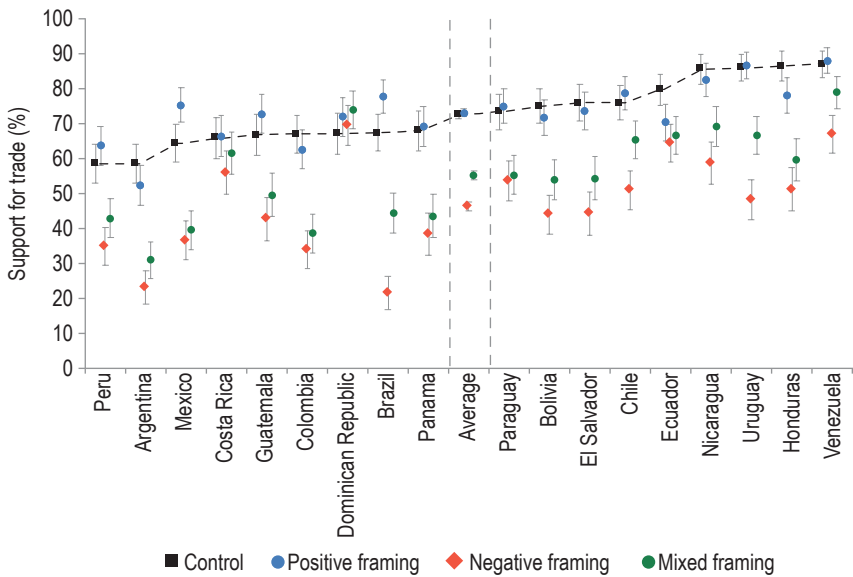
Figure 6.9 displays, for each country, the average support for trade for each of the different experimental groups. Additionally, the figure includes the results for the pool of countries (“Average” in the figure). The information is arranged in increasing order of mean support within the control group; for easier visualization the control group means are connected by a dotted line.

Several results emerge from the survey experiment. On average, negative framing decreases support for trade from 72.6 percent to 46.3 percent, that is, by 26.3 percentage points. This is an enormous impact, four times larger than the effect of different ideologies on support for trade, and five times larger than the difference in support associated with secondary school completion. To put things in perspective, looking back at the relationship between sociodemographic characteristics and support for trade in Figure 6.7, the impact of negative framing is similar in magnitude to the combined impact of gender, education, ideology, and

from those studies in that the framing is not placed before the question but introduced directly while asking the question. A pilot conducted in Chile suggested that respondents were having problems understanding the framing when it was placed before the question. A more recent paper by Di Tella and Rodrik (2019) explores the impact of framing on attitudes towards protection using an online survey experiment for the United States.

¹⁶ In almost all the countries the question was asked in Spanish. For the exact wording in Spanish, see Rodríguez Chatruc, Stein, and Vlaicu (2019).

Figure 6.9 Effects of Framing on Support for Trade



Source: Authors' calculations based on Latinobarómetro (2018).
 Note: The figure shows support for trade in each of the experiment's groups (control, positive framing, negative framing, and mixed framing). The markers within the box show support for trade in each of the experiment's groups for the entire sample of 18 Latin American countries. The lines around the symbols represent 95% confidence intervals.

access to media. Thus, while in all countries in Latin America a sizable majority of individuals favor trade liberalization, these opinions may be easily swayed toward protectionism when common anti-trade arguments frame the debate.

In contrast to the sizable impact of negative information, receiving purely positive information does not increase support for trade. Being in the mixed framing group leads to lower trade support by about 17 percentage points compared to the control group, which suggests that pro-trade information counteracts more than a third of the negative effect of the anti-trade framing.¹⁷

Several potential explanations may account for the weak effect of positive framing in the experiment as well as the strong effect of negative framing. First, as shown earlier, individuals care more about employment, which is the subject of the negative framing, than they do about

¹⁷ The results regarding negative framing are in line with the findings of Hiscox (2006) and Ardanaz, Murillo, and Pinto (2013). However, those studies also found negative impacts for the positive framing and did not find that positive information partially compensated for the negative information.

consumption outcomes such as product variety and lower prices.¹⁸ Second, individuals may react more strongly to losses than to gains in similar variables; in other words, they may display loss aversion, as predicted by prospect theory (Kahneman and Tversky, 1979). In fact, the findings linking preferences and beliefs on employment and wages are consistent with this pattern. Third, individuals may respond more strongly to framing when the information provided contradicts prior beliefs. Latin Americans believe that trade leads to higher employment. The negative framing challenges these prior beliefs. In contrast, the positive framing only confirms prior beliefs on the impact of trade on product variety and prices. Thus, this new positive information is less likely to change attitudes towards trade.

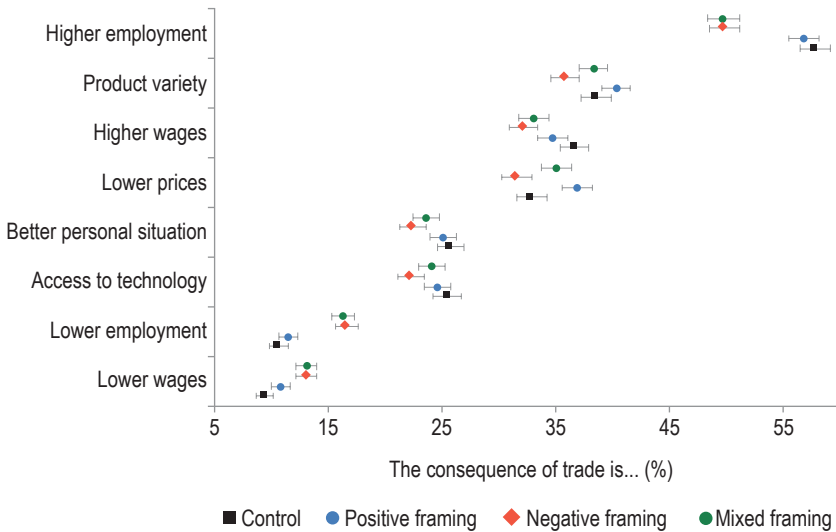
Interestingly, while positive framing by itself seems to have no discernible impact on attitudes towards trade, combining the good news with the bad news in the mixed framing significantly mitigates the negative effect of anti-trade arguments on preferences. Adding the pro-trade arguments reduces the salience of the anti-trade arguments that go against the average respondent's prior beliefs. This is also consistent with a reason-based model of choice where salience of a given reason declines with the number of opposing reasons (Shafir, Simonson, and Tversky, 1993).

Framing effects, particularly the negative and mixed framings, vary significantly across countries. They are low in Costa Rica and the Dominican Republic, and large in Brazil. While the lack of results in the Dominican Republic is puzzling, the case of Costa Rica is easier to understand. As discussed in Chapter 5, in 2007, this country had a referendum on CAFTA that dominated political life. The previous presidential election, which led to the Arias government, as well as the next few elections, hinged to a considerable extent on candidates' positions on trade. Because of the centrality of this issue in Costa Rica's political landscape, it appears that people in this country have firmer preferences and beliefs, and are, thus, less swayed by framing.

Does Framing Alter Beliefs?

Immediately after the question on support for trade featuring one of the four experimental conditions, respondents were asked about their beliefs regarding the consequences of trade with other countries, as discussed above. It is, therefore, possible to analyze whether the experiment also influenced the responses to that question. Results for this exercise are shown in Figure 6.10.

¹⁸ For a discussion on this, see Blinder (2019).

Figure 6.10 Effects of Framing on the Perceived Consequences of Trade

Source: Authors' calculations based on Latinobarómetro (2018).

Note: The figure shows the percentage of respondents who identify each consequence of trade in each of the experimental groups (control, positive framing, negative framing, and mixed framing). The lines around the symbols represent 95% confidence intervals.

As expected, for the individuals who received the negative framing, the perception that trade leads to higher employment decreased (by about 10 percentage points) and the perception that trade decreases employment increased (by about 6 percentage points) compared to the control group. Interestingly, while the magnitudes are smaller, the negative framing makes individuals more pessimistic about the consequences of trade on basically all outcome variables, even though they are not specifically mentioned in the framing. Individuals who received the positive framing tended to respond that trade is associated with lower prices and greater product variety, but only the difference in perception regarding variety is statistically significant.

Can mixed framing counteract the effect of negative information on beliefs about the consequences of trade? Only in the case of lower prices and higher product variety. For both employment variables, and to a lesser extent for wages, the impact of mixed framing is identical to that of negative framing.

Holding on to Support

In Latin America, as in most countries in the world, there is generalized support for trade: 73 percent of Latin Americans surveyed support trade, with all countries in the region exhibiting levels of support above 50 percent. Additionally,

with the exception of periods of severe crisis, there is no obvious backlash against globalization in the attitudes of the population, either in Latin American countries or in the rest of the world, at least through 2017. Latin Americans also tend to have positive beliefs about the consequences of trade. In particular, most people believe that trade brings with it higher employment, which is what they seem to care about the most. Many Latin Americans also associate trade with better product variety, higher wages, and lower prices.

However, pro-trade sentiments are easily swayed toward protectionism when common anti-trade arguments about the negative impacts on employment dominate the debate. The results of a survey experiment implemented in the Latinobarómetro survey for 2018 suggest that anti-trade information regarding job losses can severely erode support for trade in the region. Meanwhile, although pro-trade information about consumption-related outcomes does not have any direct impact on its own, it does help to partially counteract the negative effects of anti-trade information. Given the primacy of employment considerations, future research should examine the impact of alternative positive framings, such as the positive impact of trade on employment in export sectors, to identify whether alternative positive framings can directly impact attitudes towards trade.

Blinder (2019), writing on the political economy of trade policy in the United States, observed that support for trade was “a mile wide, but an inch deep.” Latin America seems to be no different. While the mile-wide support is reassuring, its inch-deep nature makes reform more susceptible to protectionist reversals in response to scare tactics by politicians concerning trade’s effect on employment. Countering such tactics with positive information on prices and product variety may not suffice. As this chapter has shown, people care first and foremost about employment when it comes to trade. Policymakers seeking to safeguard trade reform or to further liberalize their economies may need to counter with positive information about employment, pointing to the potential employment opportunities that can emerge thanks to access to foreign markets or the job losses that may result from losing such access. Moreover, they may want to set up programs such as the U.S. Trade Adjustment Assistance Program (see Chapter 8), which provides training and job-search assistance benefits to workers displaced by trade, or Argentina’s National Productive Transformation Program (see Chapter 9), which protects workers in uncompetitive sectors by expanding unemployment benefits and helping them transition to sectors and firms with competitive potential.

While trade advocates may take heart in the widespread support of the general population for trade, that support is tenuous at best. Policymakers must be vigilant and search for creative ways to hold on to support.

TAKING STOCK

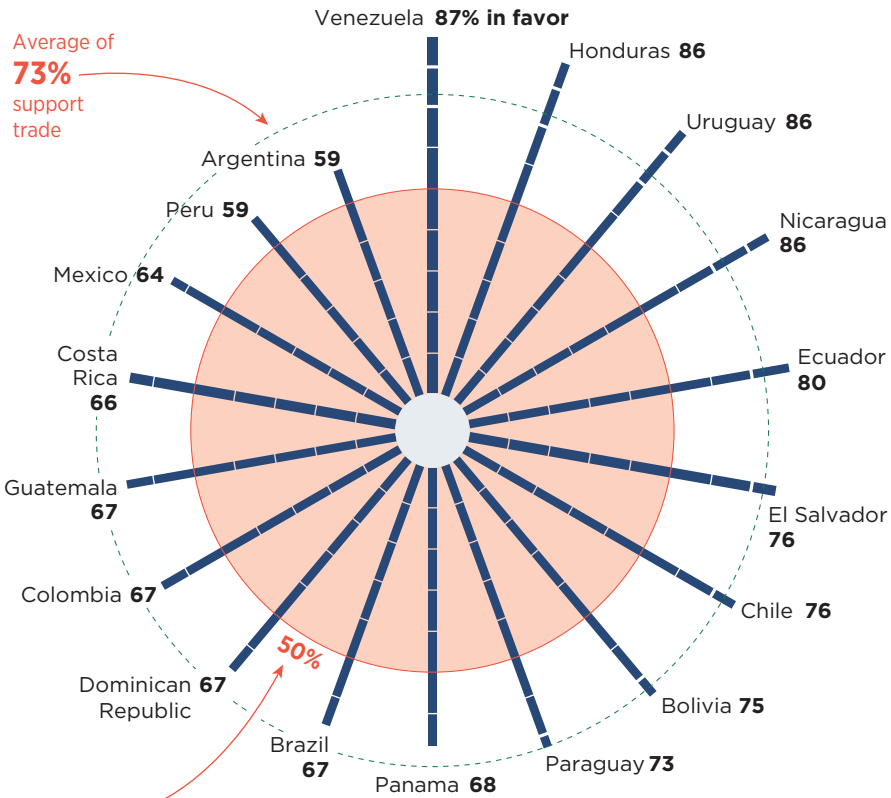
ON BOARD WITH TRADE, FOR NOW: THE BIG PICTURE



Support for international trade in Latin America is high, with no obvious backlash against globalization in the attitudes of the population.

Support for Trade

Percentage in favor in control group



Average of **73%** support trade

50%

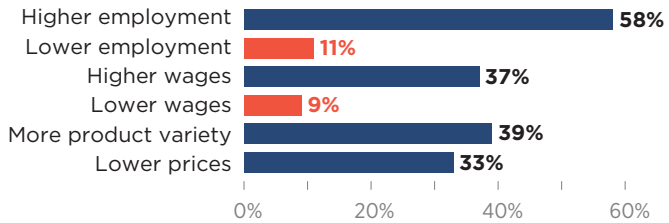
All countries in the region exhibit levels of support above 50 percent.

THE BOTTOM LINE

Policymakers seeking to safeguard trade reform must be vigilant of negative campaigns and may need to counter negative information with positive information about employment.

Most people believe that trade brings with it higher employment, which is what they seem to care about the most.

Beliefs about the Consequences of Trade in Latin America

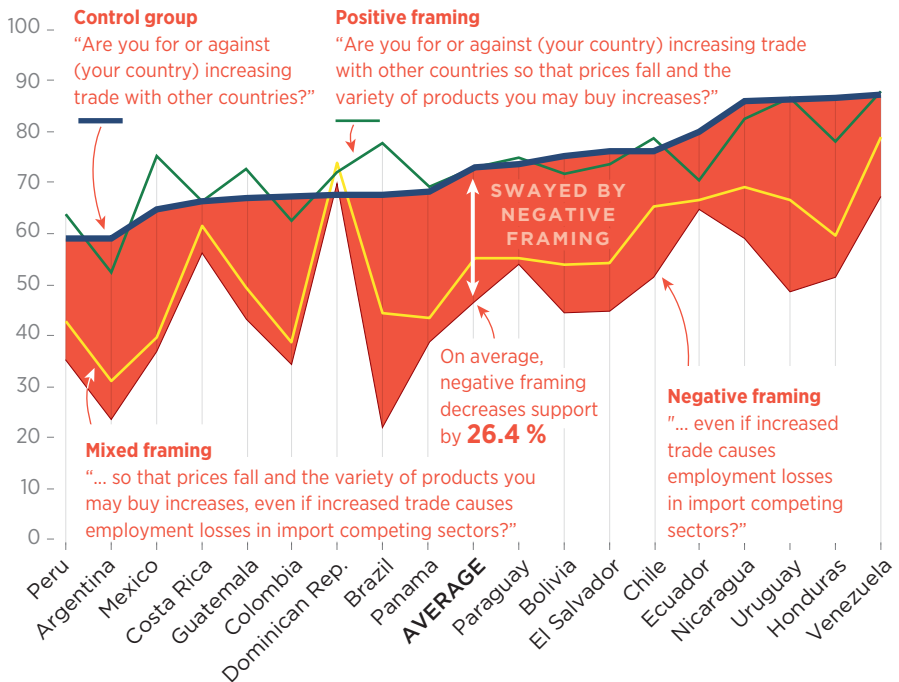


THE POWER OF NEGATIVITY: FRAMING AND ATTITUDES

Support for trade among Latin Americans is a mile wide, but only an inch deep. Pro-trade sentiments are easily swayed toward protectionism when common anti-trade arguments about the negative impacts on employment are used.

Effects of Framing on Support for Trade Mean - Support for trade

In a large survey, support for trade decreased sharply depending on how the question was framed.



7 Trade and Investment Policies: 30 Years Later

Thirty years have come and gone since the beginning of the Great Liberalization. What kind of trade and investment agenda should the region pursue now? More of the same? The macro and micro evidence reviewed in this report suggests that, at the very least, expectations should be better managed and more grounded in theory and evidence.

Liberal trade and investment policies can do, and actually have done, much good for countries' growth and welfare, yet they do not have superpowers. If, for instance, burdensome labor market regulations hurt labor mobility and workers lack opportunities for retraining and access to a safety net, trade can even make countries worse off (see Chapter 8). Similarly, if the political economy of trade policy is not managed by a well-balanced set of institutions to ensure that the common good prevails over special interests, things can get worse very quickly (see Chapter 5).

Acknowledging these lessons on the limits of trade and investment policies and the need for complementary action is important, but putting together an effective policy agenda for the future involves other challenges—some old, some new—brought on by geopolitical and technological changes. The technological challenges, for their specificity, are analyzed in a Chapter 11. What about the other ones?

One way of framing these challenges is to think of them as involving two types of trade barriers, or "frictions" in academic parlance. The first involves the proverbial tariff and nontariff barriers, the removal of which defines the Great Liberalization. The second covers other frictions such as transport, information, and border processing, not traditionally the stuff of trade policy, but whose relative importance has skyrocketed in inverse proportion to the decline in tariff and nontariff barriers.

Traditional Barriers: Wounded, But Not Dead

In 2016, two preeminent trade economists challenged the widespread perception among analysts and practitioners that traditional trade barriers, such as tariffs and nontariff barriers, had become irrelevant worldwide. They provocatively asked: “Does trade policy still matter?” (Goldberg and Pavcnik, 2016).

That perception was not without foundation. After eight rounds of multilateral negotiations, a boom in preferential trade agreements (PTAs), and a wave of unilateral liberalizations in the developing world, these barriers were at historical lows. However, what was true on average was not true in general, as pockets of high protection remained in agriculture and services, and some countries, including some of the largest in Latin America and the Caribbean, still maintained high and widespread levels of protection.

Since 2016, even the most solid foundations of that perception were shaken by developed economies that suffered a protectionist backlash of their own. According to the World Trade Organization (WTO, 2019), the coverage of import-restrictive measures among G-20 economies, mostly adopted on doubtful legal grounds, more than trebled between May 2012 and May 2019, impacting an estimated US\$335.9 billion worth of imports.

These growing trade frictions, which also spread to some of the most heralded PTAs, raised questions about early assumptions behind the region’s liberalization, such as an effective rules-based multilateral system and credible North-South agreements. These accords had been seen, ironically, not only as a fast-track to free trade, but also as a tool to lock in, or protect, trade and other badly needed reforms against special interests.

This scenario contrasts sharply with the one the region faced 30 years ago, when the Uruguay Round (1986–92), which was the most successful of the postwar negotiation rounds, had just been concluded, and Mexico was negotiating NAFTA, a groundbreaking North-South agreement. Changes of this magnitude suggest that, going forward, it will hardly be business as usual. To preserve and expand the gains from trade, the region will face enormous challenges at the multilateral, regional, and unilateral levels.

Shoring Up the Multilateral System: The Highest Priority

Over more than 30 years of liberalization, the region has focused its efforts on unilaterally opening up its economies and on signing preferential agreements. This strategy had its rationale, since protection was prohibitively

high and, following the Uruguay Round, the WTO entered a period of near paralysis; its most recent large-scale initiative—the Doha Round, launched nearly 20 years ago—has yet to bear fruit.

The unilateral/preferential strategy can be credited with most of the solid growth, welfare, and trade volume gains of liberalization. PTAs proved to be, at least from the region's point of view, more building than stumbling blocks (Estevadeordal, Freund, and Ornelas, 2008), often taking liberalization beyond goods and services into the harmonization of domestic regulations (goods, services, and investment) and the movement of people.

However, this strategy was not without costs and limitations, some of which were already clear early on, whereas others surfaced more recently, as trade frictions worsened. For instance, PTAs cannot deal with systemic, global issues, some of which are particularly important to the region, such as agricultural subsidies. These systemic issues will undoubtedly gain in importance as e-commerce and environmental issues rise to the top of governments' agendas.

Another original sin pertains to the discriminatory nature of these agreements, which fragments markets, creates trade diversions, and raises transaction costs as governments resort to cumbersome regulations such as rules of origins to enforce preferences and avoid triangulations.¹ These transaction costs increase exponentially with the number of PTAs signed—a predicament well known in the region.

A third, less discussed limitation that has become more evident recently, is the difficulty these agreements have in offering well-balanced deals and mediating disputes when there is a marked asymmetry in size among member countries. This has been the case with Mercosur, particularly when trade disputes heated up following the policy reversals of Brazil and Argentina (Campos and Gayá, 2016). Another example is NAFTA, whose abrupt renegotiation in 2017 was decided unilaterally by its largest member and eventually led to the United States-Mexico-Canada Agreement (USMCA).²

¹ Rules of origin in PTAs are the criteria that establish the degree to which materials or components imported from nonmember countries can be incorporated into a product and still have it qualify for duty-free treatment under the agreement. Such rules are necessary to prevent goods from nonmembers entering through the lowest-tariff member and then moving freely to higher-tariff members, thus circumventing their tariffs. See Mesquita Moreira (2018).

² The new agreement has some very controversial rules of origin and revision clauses. See Bown (2018) and Perezcano Díaz (2019). See also USITC (2019) for an official U.S. view of the agreement's impact on the U.S. economy.

Fixing the System

Latin American and Caribbean countries would be well-advised to make preserving and strengthening the rules-based multilateral trade system—and its principles of reciprocity and nondiscrimination—their utmost trade policy priority. This approach would not only overcome the limitations of the previous preferential strategy, but also ensure that the current trade frictions do not devolve into a balkanization of world trade—an outcome not unlike that of the dreaded interwar period—which could wreak havoc on the region’s trade.

The challenges of fixing the system, though, should not be underestimated. They are well known and mainly related to governance, the coverage of disciplines, and the effectiveness of the WTO dispute settlement mechanism.³ They are, to a great extent, a product of the system’s own success. The systematic removal of barriers, coupled with technological changes that dramatically cut transportation and communication costs, led to a period of unprecedented global integration that left the differences in domestic policies and regulation as the next hurdle to be cleared to level the trading field. The challenge was magnified by the accession of the so-called transition economies—notably China.

During this process, the system went from 23 members in 1947 to 164 today and expanded its jurisdiction from tariffs to a multitude of other trade and investment issues. This expansion made the principles of consensus decision making and single undertaking (“nothing is agreed, until all is agreed”)—two of the hallmarks of the system—very difficult to uphold and a significant drag on negotiations. Not surprisingly, the dispute settlement mechanism also became strained and a target of heavy criticism.⁴

None of these problems, though, is insoluble. On the negotiations side, solutions being discussed involve relaxing the single-undertaking principle, the consensus-decision-making principle, or both of them. That was the case in the WTO’s recent breakthroughs involving trade facilitation (2013 Bali Ministerial Conference) and agricultural export subsidies (2015 Nairobi Ministerial Conference), where members focused on a subset rather than all the pending issues.⁵

The Information Technology Agreement signed in 1996 and expanded in 2015 also offered a promising combination of fewer issues and a

³ See, for instance, Bagwell, Bown, and Staiger (2016) and IMF, World Bank, and WTO (2018).

⁴ See Payosova, Hufbauer, and Schott (2018) and Reinsch, Caporal, and Heering (2019) for a review.

⁵ For details of the Trade Facilitation Agreement and the decisions of the Nairobi Conference, see, respectively, https://www.wto.org/english/tratop_e/tradfa_e/tradfa_e.htm and https://www.wto.org/english/thewto_e/minist_e/mc10_e/mc10_e.htm.

plurilateral, “critical mass” approach that does not involve discrimination (the benefits are extended to all WTO members on a most-favored-nation basis).⁶ Aiming to eliminate tariffs on high-technology goods, the agreement covers a critical mass of 82 members (97 percent of the world trade in these goods), including 8 from the region.⁷

On dispute resolution, however, solutions have yet to take shape, despite the urgency created by a deadlock over the nomination of judges to the Appellate Body, which is the mechanism that allows members to appeal WTO rulings.⁸ On the bright side, a coalition of member countries has tried to find solutions to safeguard and strengthen the system. Some of the region’s largest economies—Brazil, Chile, and Mexico—are active participants in one of the strongest coalitions (the Ottawa Group, led by Canada), which puts them in a good position to influence outcomes.⁹

Aside from participating in the search for solutions, the region’s largest economies can help the multilateral system, as well as their own economies, by reconsidering their position over the WTO’s long-standing practice of allowing any country to self-declare as “developing” in order to assume fewer liberalization commitments or to delay their implementation—part of the so-called special and differential treatments. Although intended to minimize adjustment costs and promote infant industries, this practice has caused more harm than good (Ornelas, 2016; González, 2019). It weakened developing countries’ incentives to engage in multilateral negotiations, opened the door for countries of relatively high income to seek this treatment (WTO General Council, 2019), and provided cover to reverse trade policy under the relatively high WTO-bound tariffs, as has been all too common in the region (see Chapter 2).

By renouncing the right to self-declare and by engaging in proposals to restrict special and differential treatments to least-developed countries (a category defined in the WTO regulations), countries such as Brazil, Argentina, or Mexico would not only provide a boost to multilateral negotiations,

⁶ See WTO (2017a) for the ITA details. See Hoekman and Mavroidis (2015) for a discussion of plurilateral options for the WTO. As they put it: “Plurilateral agreements in the context of WTO allow subsets of countries to agree to commitments in specific policy areas that only apply to signatories and thus allow for ‘variable geometry’ in the WTO” (p. 319).

⁷ The region’s members are Colombia, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Panama, and Peru.

⁸ The United States, citing concerns over independence and judicial activism, has been blocking appointments to the Appellate Body, which could render the mechanism inoperable for lack of a quorum by the end of 2019. See Reinsch, Caporal, and Heering (2019).

⁹ See <https://www.canada.ca/en/global-affairs/news/2019/05/ottawa-group-and-wto-reform.html>.

but also help reduce the uncertainty over their trade policies. Brazil's recent move in this direction, as part of its bid to join the Organisation for Economic Co-operation and Development (OECD), clearly helps this cause.¹⁰

Preferential Liberalization: Not Quite Done

While rescuing and strengthening the multilateral system should be the top priority, other, less-consequential dimensions of the region's trade policy could still bring palpable gains, while being more under countries' control and acting as an insurance policy against dire multilateral scenarios.

The preferential arm of trade policy falls into this category. Despite the limits reviewed earlier and the substantial progress made in recent decades, a valid, actionable agenda could begin by trying to even out the progress across the region. The Pacific Alliance and Central American countries went much further than the rest of the region, with a stock of PTAs that cover most of the world economy (see Chapter 2 and Figure 7.1).

Some of these countries—Chile, Mexico, and Peru—have gone even further by signing, in March 2018, the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a deep mega-agreement among 11 countries (the Latin American three plus Australia, Brunei, Canada, Japan, Malaysia, New Zealand, Singapore, and Vietnam) covering approximately 13 percent of world GDP.¹¹ This type of agreement has lost momentum recently as trade frictions have risen but remains a second-best option to the multilateral approach, as it is less prone to trade diversion, high transaction costs, and asymmetric relationships.

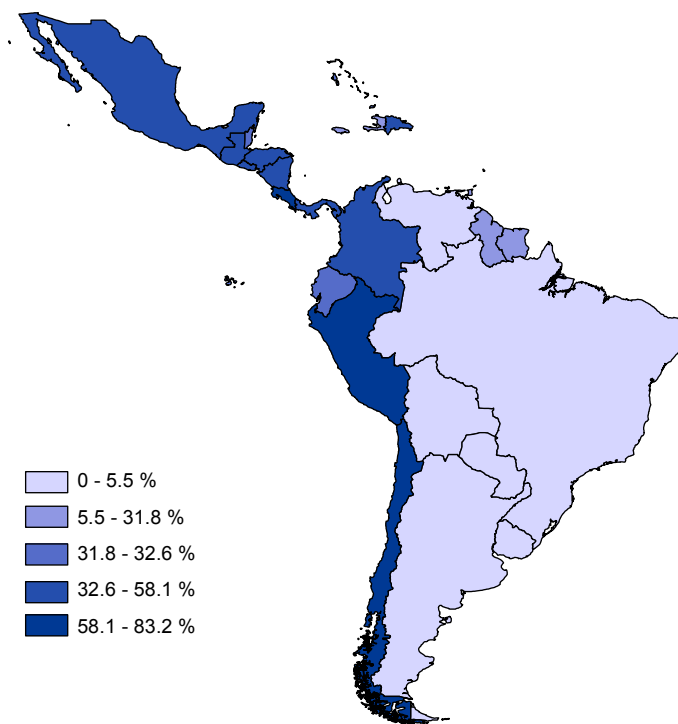
For the Pacific Alliance and Central American countries, the preferential agenda is more about maximizing the use of an already strong network of PTAs than pushing it further, although it can be argued that China—the world's second-largest economy—is still the missing link for most of these countries.¹²

¹⁰ <http://www.itamaraty.gov.br/en/press-releases/20270-special-and-differential-treatment-and-the-wto>.

¹¹ The CPTPP is a spin-off of the Trans-Pacific Partnership agreement (TPP), which also included the United States. The TPP was signed in 2016 but never implemented, as the United States withdrew in January 2017. The other 11 countries, though, decided to proceed with the agreement, renaming it and suspending only a few clauses of the previous negotiation. According to some estimates (Petri et al., 2017), the CPTPP is likely to increase the exports of Chile, Peru, and Mexico by 4.3, 3.5, and 9 percent, respectively, over a period of 14 years.

¹² The exceptions are Chile, Costa Rica, and Peru. A China-Panama PTA is under negotiation. See http://www.sice.oas.org/TPD/PAN_CHN/PAN_CHN_e.ASP.

Figure 7.1 Share of Trade Covered by Free Trade Agreements: Selected Latin America and Caribbean Countries, 2018 (%)



Source: IDB staff calculation based on IMF-DOTS (trade value) and Organization of American States (SICE) data.

Note: The figure shows the share of each country's imports covered by its 2018 network of in-force free trade agreement (FTAs) as defined by the WTO and compiled by the Organization of American States. Coverage is calculated as imports from countries with FTAs divided by world imports. Partial preferential agreements are not included.

Other countries in the region, though, have a lot of catching up to do, as they start from limited PTA networks. As preferences are now widespread, they are unlikely to see the same type of gains enjoyed by the region's pioneers, but, for the same reasons, they have a strong incentive to stop the bleeding, remove their exports from the receiving end of trade diversions, and insure themselves against future trade tensions.

The recently announced EU-Mercosur agreement is a welcome sign that at least some of these governments are already acting on this agenda. Negotiated for 20 years, the agreement, once ratified, will fully liberalize 95 percent of the EU tariff lines in up to 10 years and 91 percent of those of Mercosur in up to 15 years. The exceptions are "sensitive" goods, mainly agriculture, some of which are subject to tariff quotas. For Mercosur, the agreement will

significantly boost its preferential coverage of global trade, which will jump from 3.1 to 35.4 percent.¹³ The bloc's recent advances also include a recently signed agreement with the European Free Trade Area (EFTA) and ongoing negotiations with the Republic of Korea and Canada. Together, these agreements promise to significantly close the preferences gap.¹⁴

Ecuador has also made progress by finally acceding to the EU-Andean community agreement in 2017, which already included Colombia and Peru, but still relies heavily on the unilateral General System of Preferences, usually tied to trade and nontrade interests of the donors.¹⁵ Bolivia and Venezuela, on the other hand, show no signs of progress. Bolivia remains limited to intraregional agreements, often partial, within the Andean Community and Latin American Integration Association, while Venezuela has yet to reestablish even its intraregional ties (see Box 7.2).

Low-Hanging Fruit

The preferential agenda also has an intraregional component that offers an attractive low-hanging fruit. Regional integration has been a long-sought goal of Latin American and Caribbean governments, but the initiatives only took on meaning when countries started to open up their economies in the early 1990s. The most consequential subregional PTAs had a significant impact on intra-bloc trade but seem to have failed to boost exports to the rest of the world, which was one of their key purposes (see Chapter 3).¹⁶

This result reflects the way integration was pursued. Instead of aiming for a regionwide agreement, countries opted for smaller, more pragmatic

¹³ This excludes Uruguay's PTA with Mexico, which does not include the other members. See EC (2019) and de Azevedo et al. (2019) for details of the agreement. As the details have just been released, there not yet rigorous estimates of its impact. An early estimate (Burrell et al., 2011), based on a somewhat different version of the agreement, points to a moderate, average 3.5 percent increase in Mercosur exports to the EU, led by a 6.3 percent growth of agriculture exports, over a 16-year period. More recent, estimates, with more aggressive versions of the agreement and different model specifications, predict bigger impacts for some of the member countries. Martínez Licetti et al. (2018), for instance, estimate that Argentina's exports to the EU will increase by 80 percent and overall exports by 7 percent by 2030. Ferraz, Ornelas, and Pessoa (2018) predict an increase of 4.2 percent for Brazil's overall exports by 2030.

¹⁴ See <https://www.efta.int/free-trade/joint-declarations-on-co-operation/mercosur> and Rozemberg et al. (2019).

¹⁵ Under the General System of Preferences, developed countries grant preferential tariffs to imports from developing countries (see Ornelas, 2016). For a list of Ecuador's agreements, see <http://www.produccion.gob.ec/acuerdos-comerciales/>.

¹⁶ This section draws heavily on Mesquita Moreira (2018).

initiatives, which simplified and expedited negotiations, but paved the way for fragmentation and a mosaic of small PTAs, thereby limiting trade and productivity gains.

If governments want to further their regional integration objectives and strengthen their economic backbone, they need to start moving toward merging the existing subregional PTAs. This may sound like a daunting task, given the region's troubled history of regionwide initiatives and its 33 agreements with 47 sets of product-specific rules of origin.

However, today's policy environment is significantly more favorable than it was. Most governments turned to liberal trade policies, and the PTA initiatives created a strong base to build upon: nearly 90 percent of intraregional trade is already duty-free.¹⁷ There are also different routes to convergence, giving governments the option of picking the itinerary that is best suited to their circumstances and ambitions (see Figure 7.2).

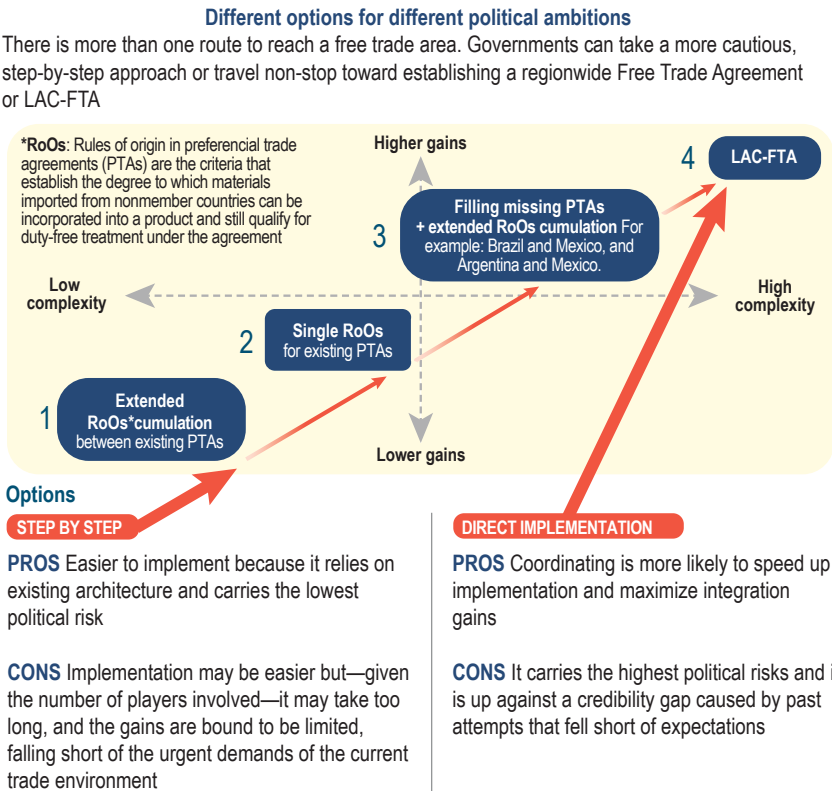
They could, for instance, take a cautious, step-by-step approach, beginning by extending the "cumulation" of rules of origin among existing agreements. This would allow inputs that are sourced from third countries and used in production in one of the member countries to be treated as originating there, making these inputs eligible for preferential treatment in intrabloc trade.¹⁸

They could, then, start filling the PTA network gaps, bringing the Caribbean into the fold with most of Latin America, Central America with South America, and Mercosur with Mexico. This last gap is the most economically relevant, as it includes the region's largest economies—Argentina, Brazil, and Mexico—which account for 70 percent of the region's GDP, but whose bilateral trade makes up only 6.7 percent of overall intraregional trade.

Alternatively, they could plot a nonstop course to a regionwide free trade area: a Latin American and Caribbean FTA. Given the region's troubled experience with customs unions, supranational institutions, and intricate disciplines, the recommendations point to a "plain vanilla" free trade zone, one based on intergovernmental architecture and focusing on goods—including those not usually considered tradable, such as electricity (see Box 7.1)—and services. In the spirit of a living agreement, other

¹⁷ See Figure 2.2 in Mesquita Moreira (2018).

¹⁸ PTAs do not generally provide for any cumulation of inputs from nonmember countries (so-called extended or diagonal cumulation), even if all members also have PTAs with a common third party. This is beginning to change, however, as mechanisms have been introduced in different forms in some recent agreements, such as those of Canada with Colombia and Peru, and in a limited way in the agreements between Mercosur and the Andean countries. See Mesquita Moreira (2018).

Figure 7.2 Convergence Options for Intra-regional PTAs

Source: IDB staff based on Mesquita Moreira (2018).

issues, such as intellectual property, labor, or the environment, could be considered once the foundations for a regional free trade area in goods and services were firmly in place.

The gains from filling the gaps and from convergence would not be a panacea, but they are a low-hanging fruit that the region can ill afford to ignore in this environment of growing trade frictions. Economy-wide impacts are estimated at an 11.6 percent increase in the region's intraregional trade (or US\$20 billion based on 2018 figures), but with a significant variance across countries (see Figure 7.3).¹⁹ The countries that would benefit the most are in

¹⁹ Partial equilibrium estimates, which do not take into account repercussions throughout the economy, point to an average gain of 9 percent for intraregional trade in intermediate goods used in the region's exports—a boost for the region's underdeveloped value chains (see Box 3.1 in Chapter 3)—and to an average increase of 3.5 percent for intraregional trade as a whole (Mesquita Moreira, 2018).

BOX 7.1 A BRIGHT IDEA: INTEGRATING THE REGIONAL ELECTRICITY MARKET

Most Latin American and Caribbean integration initiatives have focused on traditionally traded goods.^a However, significant potential also exists to increase trade in infrastructure-related goods such as electricity. Electricity's share of world trade is still tiny but has been growing steadily. Between 1998 and 2017, it doubled from 0.1 to 0.2 percent.^b

Even though electricity shares with other goods the same fundamental reasons to trade—"never attempt to do at home what will cost more to make than to buy"^c—it also has other motivations. Unlike other goods, electricity cannot be stored; countries must maintain spare capacity in generation and transmission to meet fluctuations in demand and use a variety of generation technologies. In addition to attenuating these requirements, trade offers opportunities for gains of scale and diversifies risks (Antweiler, 2016).

Those gains, however, do not come cheap. Trade in electricity requires the costly interconnection of national networks, which makes geography an even more important determinant of bilateral flows. It is also a sector which, for competition and security reasons, is heavily regulated and, therefore, requires extra effort for regulatory harmonization. Finally, it is a trade that carries security risks. Specialization might leave countries overly dependent on imports of a critical input, with little bargaining power in commercial or political disputes, discouraging investment and trade: a typical hold-up problem (Oseni and Pollitt, 2014).^d

Judging by the growing world trade in electricity, the benefits seem to have outweighed the costs; this pattern is echoed in the region. The share of trade in Latin America's total consumption of electricity seemed to reach a peak of 9.8 percent in 2005 (see Figure 7.1.1), accounting for 2.3 percent of total intraregional trade, much higher than in the rest of the world. In the last 20 years, driven mainly by regional and bilateral initiatives, installed interconnection capacity has increased tenfold, from 500 to 5,000 megawatts.

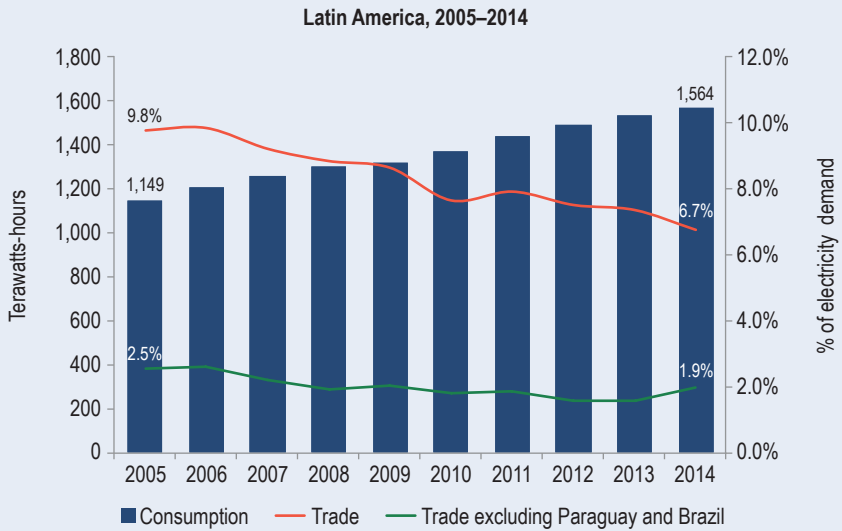
However, intraregional trade is still heavily concentrated in the southern cone, with Brazil and Paraguay accounting for 70 percent of the total, and has lost momentum since 2006 (see Figure 7.1.1), reflecting institutional weaknesses and underinvestment. Some initiatives are in better shape than others. Central America's SIEPAC initiative (Central American Electrical Interconnection System), for instance, has proved to be cost effective and has institutions that regulate and manage regional trade. Operational since 2014, it is still a scheme that sits on top of national markets, but it is moving toward deeper integration, with stronger dispute-resolution mechanisms, medium- to long-term regional transmission and generation contracts, and fewer restrictions on exports and local use of regional transmission lines.

In the Andean region, Bolivia, Chile, Colombia, Ecuador, and Peru launched in 2001 the Andean Electrical Interconnection System (SINEA). To date, SINEA's activity consists only of bilateral interconnections between Colombia and

(continued on next page)

BOX 7.1 A BRIGHT IDEA: INTEGRATING THE REGIONAL ELECTRICITY MARKET
(continued)

Figure 7.1.1 Domestic Consumption of Electricity and Electricity Trade



Source: IDB staff calculations based on data from OLADE Informe de Estadísticas Energéticas, 2015.

Ecuador to exchange surpluses, and with spot market rules and between Ecuador and Peru designed to operate in cases of emergency. The Southern Cone also has yet to develop a subregional market; the most successful initiatives are based on binational hydropower plants involving Argentina, Brazil, Paraguay, and Uruguay.

Other initiatives are still in the planning stage. Arco Norte seeks to interconnect Brazil, French Guyana, Guyana, and Suriname, but it faces important social, financial, environmental, and institutional challenges. The Colombia-Panama interconnection line could open the way for integrating the Central American and Andean markets; it shares some of the same challenges as ARCO. And an Eastern Caribbean initiative—Sustainable Energy Framework for the Eastern Caribbean Countries—has the double objective of reducing dependency on fossil fuels and trading electricity surpluses.

To maximize the benefits and economic viability of these initiatives, governments would be well advised to harmonize the regulation of their electricity markets, manage security risks without imposing crippling trade restrictions, and strengthen institutional frameworks—particularly on dispute resolution—to attract investments. As with integration in other areas, integrating electricity

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BOX 7.1 A BRIGHT IDEA: INTEGRATING THE REGIONAL ELECTRICITY MARKET
(continued)

markets should be a long-term goal. It is a goal that requires vision and political will, but whose efforts are likely to pay off.

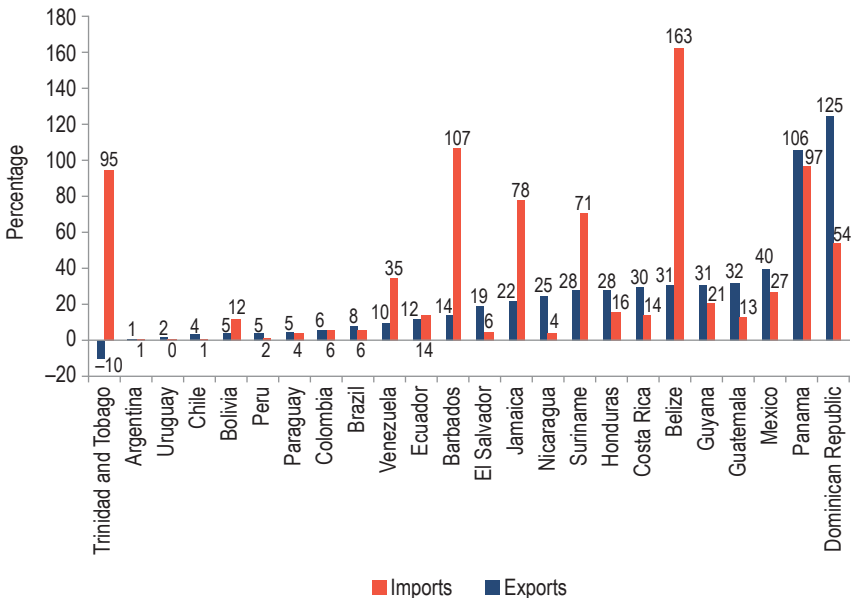
^a This box draws on Levy Ferre, Tejada, and Di Chiara (2019).

^b WITS data based on the Harmonized System 1988/92, product code 271600.

^c Smith (1776).

^d A hold-up problem in economics occurs when, for instance, one of the countries in a trade relationship needs to make a non recoverable investment (say, build a transmission line to a neighboring country or shut down its own power plants) that leaves it vulnerable to extortionary demands from its trade partner. This potential vulnerability can lead the country to “hold up” investment and trade, despite the promise of mutual gains.

Figure 7.3 Economywide Trade Impacts of a Latin American and Caribbean Free Trade Area



Source: IDB staff calculations.

Note: This figure shows the general equilibrium impact on exports and imports of eliminating import tariffs among 24 Latin American and Caribbean countries. The base year is 2015. See Cai and Li (2019) for details.

Central America and the Caribbean, since they have yet to connect to most of the region and their trade is relatively small compared to the regional market. Some of the largest countries, though, would also gain, particularly Mexico, which would benefit from better market access in Brazil and Argentina.

Unilateral Moves: Self-Help or Self-Inflicted Wound?

Economists have long insisted that the case for free trade is “essentially a unilateral case: a country serves its own interests by pursuing free trade regardless of what other countries may do” (Krugman, 1997: 113). While theoretically sound, this argument has been a hard sell to politicians and policymakers, who tend to stick to the die-hard, mercantilist way of thinking that exports are good, and imports, bad.

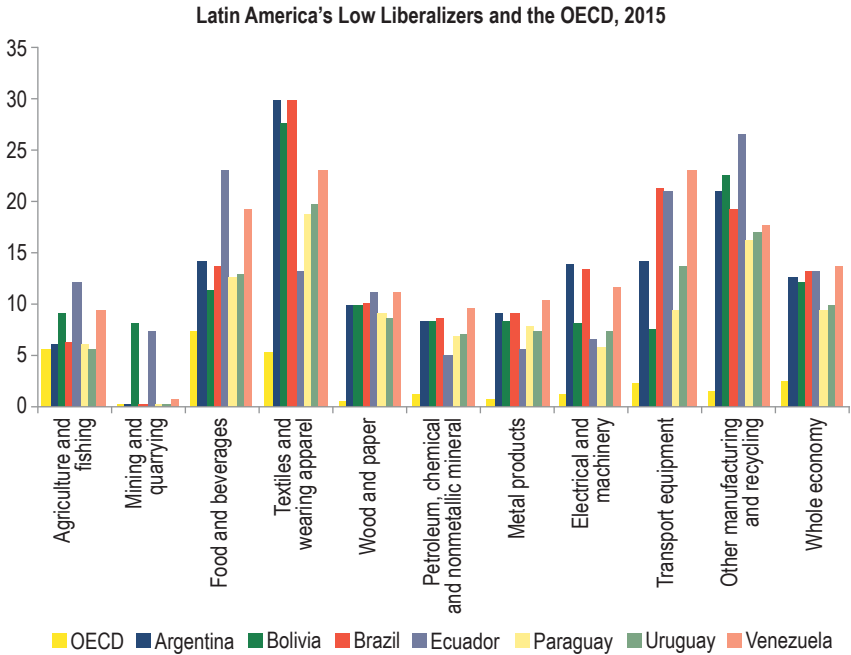
To be fair, even the best trade economists acknowledge that there may be good reasons for pursuing reciprocal, rather than unilateral, liberalization. For instance, larger countries have the incentive to raise tariffs to reduce (via demand) the price of their imports, improving their terms of trade. To avoid being on the receiving end of these types of terms-of-trade losses, countries may be better off pursuing reciprocal trade liberalization, either through preferential or multilateral agreements (Bagwell and Staiger, 2010). In the context of imperfect markets, tariffs can also be used to tilt the competition toward domestic firms, which may also call for a cooperative solution between trade partners to avoid potential welfare losses (Venables, 1987; Ossa, 2011).

There might also be good political economy reasons to pursue a reciprocal liberalization, either because governments want to enlist exporters as a countervailing political force against import-competing, protectionist sectors or because they want to reduce political uncertainty over the future of liberalization (Limão and Maggi, 2015).

None of these motives, though, are strong enough to rule out a unilateral component in the trade agenda of the region’s low liberalizers. The reason is simple: their level and dispersion of protection are way too high and costly to be addressed by reciprocal liberalizations alone, which are typically medium- to long-term propositions.

Figure 7.4 compares the level and dispersion of the low liberalizers’ applied tariffs with the OECD average—a group that includes some of the most successful economies in the world. This contrast would likely be even starker if nontariff barriers, whose data is spotty, were also considered.

Carrying such distortionary protection for another decade or more (a conservative estimate of the time needed to negotiate and implement new PTAs or multilateral agreements) means that these countries will continue

Figure 7.4 Level and Structure of Applied Import Tariffs

Source: IDB staff calculations based on the newly compiled tariff dataset by CESifo-World Bank, see Felbermayr, Teti, and Yalcin (2018).

Note: The figure shows the weighted average applied tariffs, computed in three stages. The first stage computes country-partner simple averages at the Harmonized System (HS) 4-digit level based on HS 6-digit product-level data. The second stage computes the country-partner weighted average at the broad sector level across HS 4-digit products, using the partners' share of world exports of each product as weights. The third stage calculates the countries' weighted average at the broad sector level across partners, using the partners' share of world exports of each broad sector. The OECD tariffs are simple averages.

to miss out on valuable opportunities to boost productivity, grow faster, and increase welfare.

However, the question remains whether a unilateral move is compatible with a reciprocal strategy. The good news is that the two strategies can be complementary. The level of protection in these countries is so high that they can drastically reduce their tariffs and still have room to make concessions at the negotiating table. Moreover, the low liberalizers do not have to worry about terms-of-trade losses since (i) they are relatively small economies, with little power to affect international prices, and (ii) most of their partners already practice significantly lower tariffs, except (notoriously) in agriculture.

A more relevant and pressing question is how to go about opening unilaterally. What level and dispersion of protection should be targeted?

What the canonical trade model suggests is to go for a uniform zero tariff across sectors, but this guidance ignores terms-of-trade externalities and other possible strategic interactions between countries. A second-best option would be to converge to the OECD levels of protection, which generally means a significantly lower deviation from free trade. This still leaves the question, though, of how to get there.

A Road Map to Convergence

After more than 30 years of liberalization—not only in the region but throughout the developing world—isn't there enough evidence to inform the best convergence strategy? Well, not really. The region's experiences and those of countries around the world are quite idiosyncratic and context-based, defying generalization.²⁰

However, it is still possible to draw useful guidelines, particularly considering the experiences of the seven low liberalizers. One way of thinking about the problem is to use Kydland and Prescott's (1977) Nobel-prize-winning framework of rules versus discretion. Policymakers, when developing public policies, usually face a tradeoff between defining clear rules that do not change over time (time consistent) and adopting a discretionary approach, in which policies change according to circumstances (time inconsistent).

The first approach is particularly useful for policies whose objectives can only be achieved in the mid- to long-term.²¹ The second gives governments greater flexibility to adjust policies to unforeseen circumstances but is particularly vulnerable to capture by special interests.

Trade liberalization is clearly a policy that requires long-term commitment, since its benefits, which hinge on long-term decisions by firms and workers on how and where to invest their resources, can only be maximized in the long run. In the case of the low liberalizers, this feature of trade policy gains even more importance, as their credibility is seriously undermined by policy reversals, and their trade institutions are particularly vulnerable to special interests.

²⁰ See Michaely, Papageorgiou, and Choksi (1991).

²¹ Kydland and Prescott use the compelling example of homes built in flood plains. If the socially desirable outcome is not to have houses built in flood plains, the government, as a deterrent, could commit not to build costly levees and dams in these areas. However, if people build houses anyway and the government eventually takes measures, the policy would lose its credibility and time consistency, leading to the opposite of the intended outcome.

Therefore, governments seeking to converge to OECD levels should opt for clearly defined rules, with the fewest number of exceptions. Firms will not strive to increase productivity, buy new equipment, or diversify to new activities and markets if policy commitments are not credible and leave plenty of room for discretion. Entrepreneurs will perhaps see lobbying for protection as a more profitable activity. Likewise, workers will have little incentive to retrain and build human capital to transition to expanding sectors.

Another important requisite to ensure the time consistency of the strategy is to minimize the political uncertainty of the reform by choosing a phase-in schedule that fits into a government mandate. This is particularly important in countries like Argentina and Brazil, where opposing parties hold distinct views about trade. If the government leading the reform proposes a convergence schedule that goes beyond its mandate, even if out of a legitimate concern over the social costs of the adjustment, then the credibility of the government and the benefits of the liberalization would be undermined.

A strategy consistent with all these guidelines would be to adopt the so-called Swiss formula, which would cut higher tariffs disproportionately, thereby reducing dispersion without governments having to arbitrate different tariff levels.²² Governmental discretion would be limited to defining the top tariff—for instance, no more than 15 percent, so as to remain below the WTO definition of peak tariffs—and the phase-in process, which should be between four and five years, in order to remain within its mandate.²³

A legitimate concern that may compromise the political viability of reform is how to compensate the losers and minimize the social costs of the reallocation. These concerns, usually linked to frictions in product and labor markets, are more efficiently addressed by taking direct action in these markets than by tampering with trade policy (see Chapters 8 and 9).²⁴ Political economy and budget constraints may justify deviations from these guidelines, but they should be exceptions, not the rule.

²² See https://www.wto.org/english/tratop_e/agric_e/agnegs_swissformula_e.htm.

²³ Argentina, Brazil, Paraguay, and Uruguay are members of the Mercosur customs union, which adds more complexity to this process but does not fundamentally alter its relevance. Brazil has recently made a proposal along these lines to reform the common external tariff. See <https://www.valor.com.br/brasil/6364309/brasil-quer-aprovar-em-dezembro-corte-pela-metade-da-tec-em-4-anos>

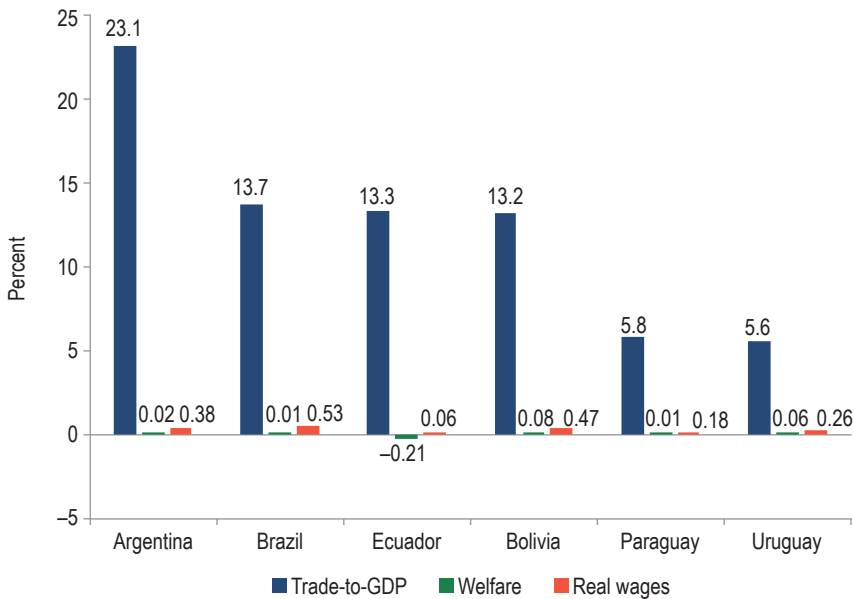
²⁴ See, for example, Corden (1984).

The Payoff

What can low liberalizers expect by converging to OECD levels of protection? Will they be better off? Theory suggests so, but a more precise answer depends on feeding the theoretical model with real-world data reflecting countries' specific conditions and context. This is done using the same general equilibrium framework applied in quantitative exercises in Chapters 2 and 3 (Caliendo et al., 2017). The difference is that the objective is to estimate the impact of future, rather than past, trade policies.

The exercise assumes that the low liberalizers' applied tariffs converge to the OECD sectoral averages whenever these averages are below their levels of protection, which is mostly the case, except for agriculture. The results are presented in Figure 7.5, except for Venezuela, which, because of its unparalleled level of economic disruption, is discussed separately in Box 7.2.

Figure 7.5 Economywide Impacts of Convergence of Latin America's Low Liberalizers to OECD Applied Tariff Levels



Source: IDB staff calculations.

Note: This figure shows the general equilibrium impacts of a convergence to OECD average tariff levels. The base year is 2015. Convergence is assumed only where a country's tariff exceeds that of the OECD. See Cai and Li (2019) for details.

BOX 7.2 BACK FROM THE ABYSS: WHAT TRADE COULD DO FOR VENEZUELA

Of all the region's trade policy backlashes, Venezuela's went the farthest in distorting trade flows and isolating its economy from the rest of the world. The arsenal of measures the country has deployed since 1999—from exchange-rate controls to nontariff barriers, prohibitive tariffs, and import and export licenses—would look extreme even to policymakers of the import-substitution era.^a The reversal affected all dimensions of trade policy, including preferential agreements, with Venezuela leaving the Andean Community in 2006, after 43 years, to join Mercosur but then failing to implement its provisions, causing it to be suspended from the bloc in 2016 (Ramos Martínez et al., 2017).

The reversals affected all areas of economic policy, which makes it difficult to identify specific effects of the trade policy. Yet, it seems reasonable to assume that these effects were part and parcel of the unprecedented economic crisis that has besieged the country since 2013 (GDP per capita dropped an estimated 47 percent between 2013 and 2018) and whose consequences are still unfolding.^b All this disruption deeply affected trade flows. According to one estimate, the trade share of Venezuela's GDP dropped to 18 percent in 2015, its lowest level since the 1950s.^c

How would reopening Venezuela's economy and lowering its protection to OECD levels affect trade and welfare in the country? As in the case of the region's other low liberalizers, a general equilibrium framework is used to answer this question, but since tariffs are probably the weakest tool in Venezuela's powerful protectionist arsenal, and data on nontariff barriers are virtually nonexistent, estimates of worldwide bilateral trade costs (ESCAPE-World Bank) are used as a proxy. These estimates point to Venezuela's trade costs being on average 30 percent higher than those of the OECD. The simulation, then, assumes that these costs, including applied tariffs, converge to OECD levels, using the economy's 2015 data as a benchmark.^d

The results point to a massive increase in trade flows after convergence, with the trade share of GDP soaring, on a purchasing power basis, from 18 to 46 percent. These higher trade flows are accompanied by increases of about 2 percent in real wages and welfare, which might seem modest but are significantly higher than those obtained for the other low liberalizers in similar exercises. The same caveats apply: these are lower bound estimates, which do not include knowledge gains and their impact on growth, which, as discussed in Chapter 2, can be far from negligible. Clearly, these gains are unlikely to materialize without major changes in other areas of economic policy, needed for the proper functioning of a market economy. Trade policy cannot do it alone.

^a See, for example, Baker McKenzie (2017)

^b IMF (2019). See de Azevedo et al. (2019) for details of the crisis.

^c IDB staff estimates using Penn World Table 9.1 purchasing power data.

^d See Cai and Li (2019) for details.

All countries show a significant boost in trade flows, measured as a percentage of GDP; the effect is particularly strong for Brazil and Argentina. There is also evidence that the convergence makes countries better off either by real wage or welfare measures, except for Ecuador, which shows a small loss in the welfare indicator.

As with the general equilibrium exercises in Chapter 2, the wage and welfare gains are embarrassingly small, but they should be seen as lower bound estimates because they include neither liberalization of nontariff barriers nor knowledge gains from trade. They also assume at most modest liberalization for agricultural goods—the protectionist Achilles' heel of most OCED countries and the feature that might explain Ecuador's mixed results: Ecuador has the highest applied tariff for agricultural goods in the group (12 percent).²⁵

Reducing Time and Costs at the Border: An Elusive Goal

As important as tariffs and nontariff barriers are, Latin America and the Caribbean can never be fully integrated into the world economy (or with itself) if critical activities such as transporting goods to and from borders, shipping them to other markets, clearing them through customs, and searching for business opportunities remain too time-consuming and costly.

This is hardly a groundbreaking insight. Yet, bringing such costs to internationally competitive levels—despite some localized progress here and there—has been an elusive goal for the region.

How bad is the situation? Finding an all-encompassing indicator to capture all these costs is challenging, but a gravity model—the trade economist's workhorse—can produce good approximations.²⁶ The intuition is that deviations in bilateral trade from what is predicted by the partners' size and geography are likely to be driven by these frictions.

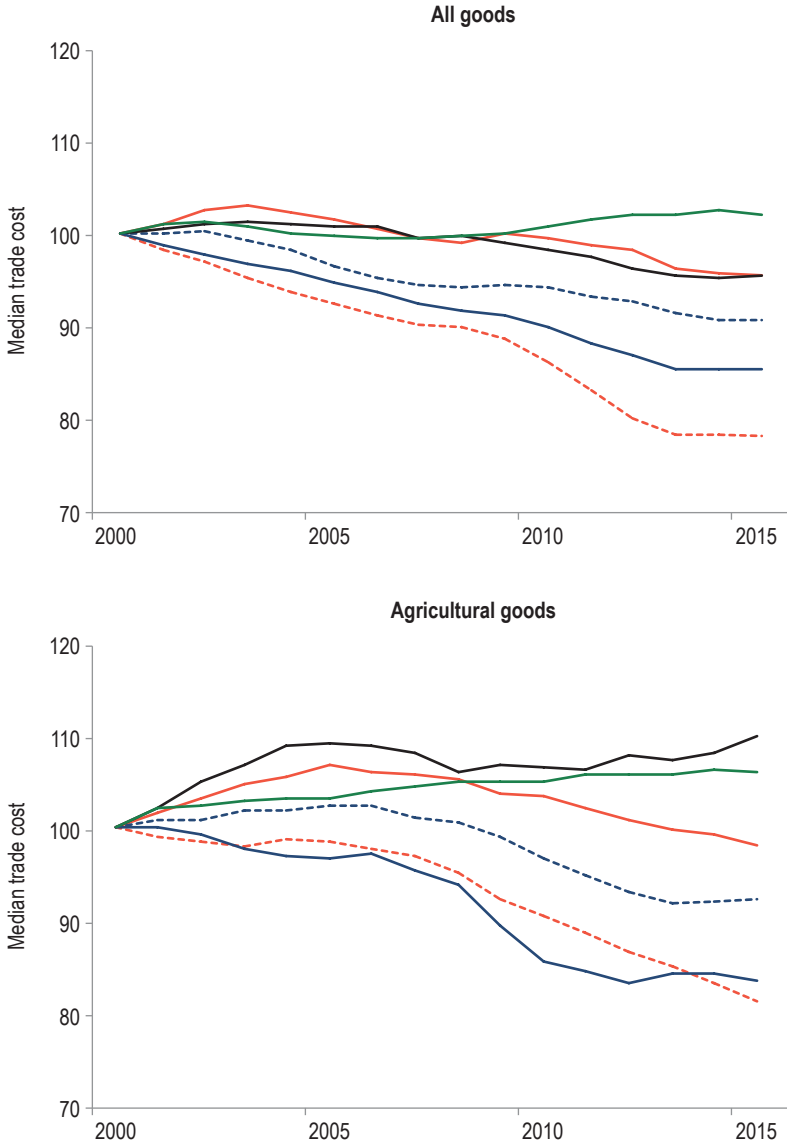
The estimates shown in Figure 7.6 focus on the cost of the region's exports to eight of the largest economies in the world (Canada, China, France, Germany, Italy, Japan, the United Kingdom, and the United States). They also capture traditional trade barriers at these destinations, but since these are generally low and barely changed in the period of analysis (2000–15), it is reasonable to assume that both trends and levels are driven largely by non-traditional barriers. The estimates show that these costs have been declining since the early 2000s, but at a significantly lower rate than in North America, Europe, and Asia, thereby widening an already significant competitive gap.

²⁵ See Cai and Li (2019) for a detailed discussion of the methodology and results.

²⁶ See, for example, Head and Mayer (2014).

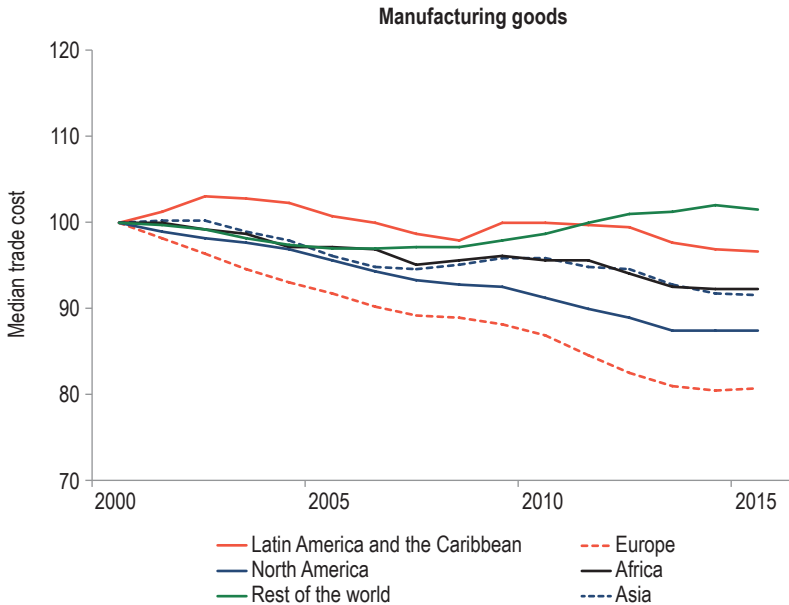
This competitive gap is illustrated in Figure 7.7. The region's trade costs are estimated today to be significantly higher than in Europe and North America, where they are the lowest, or in Asia, and lower only than trade costs elsewhere in the developing world.

Figure 7.6 Median Trade Costs, Overall and by Type of Goods, Latin America and the Caribbean and Other Regions, 2000–15



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Figure 7.6 Median Trade Costs, Overall and by Type of Goods, Latin America and the Caribbean and Other Regions, 2000–15 (continued)



Source: IDB staff calculations based on data from UNESCAP and World Bank.

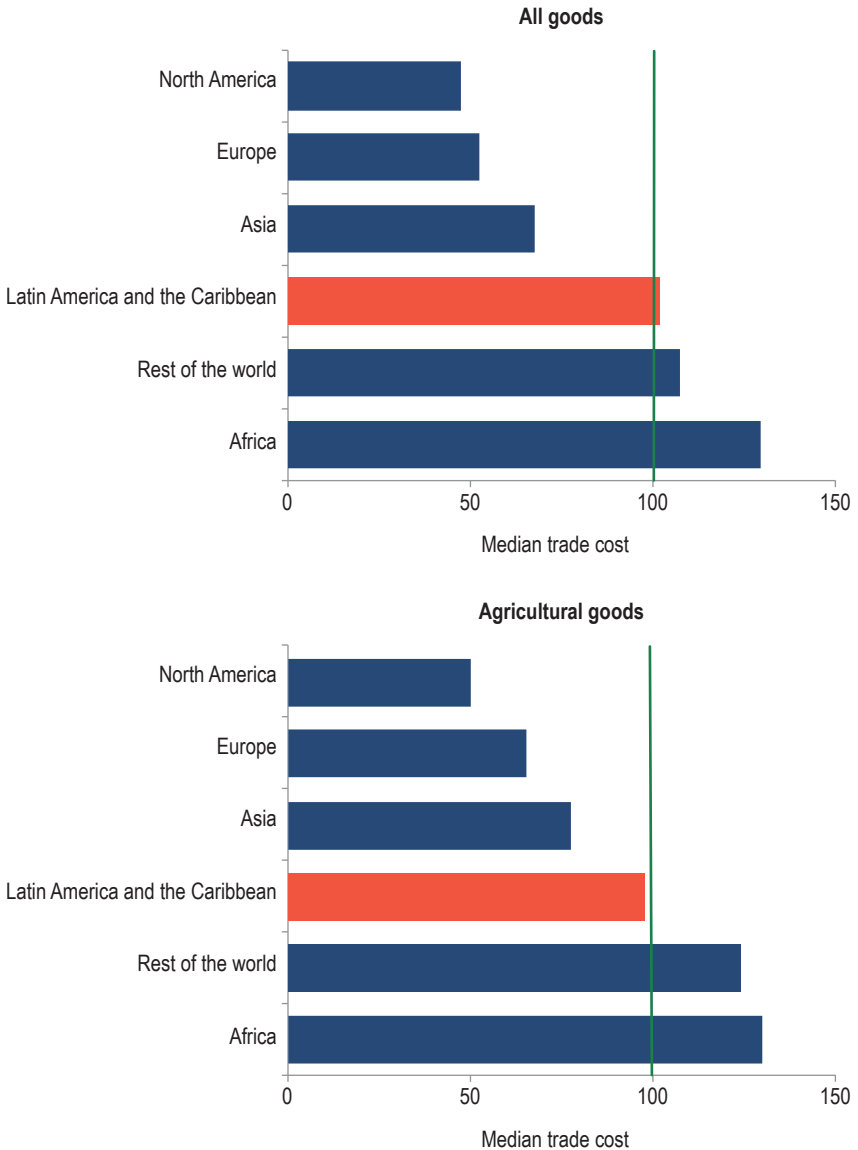
Note: The figures present the evolution of the median trade costs across partners relative to the median in 2000 (100) for different regions and types of goods (agricultural and manufacturing). Trade costs are computed by inverting a standard gravity equation estimated based on observed production and bilateral trade data; costs correspond to exports to Canada, China, France, Germany, Italy, Japan, United Kingdom, and United States. For these destination countries, trade is more likely to be positive, and data are much more complete. This prevents trade costs from increasing as a mere result of geographic diversification of trade. Additional detailed information on how trade costs are estimated can be found in Arvis et al. (2013). Regions are defined as in the World Bank's World Development Indicators.

There are, of course, differences across the region (see Figure 7.8). Some countries face relatively high trade costs in both agricultural and manufactured goods (e.g., landlocked Bolivia and Paraguay); others boast overall trade costs around, or slightly below, the world median (e.g., Argentina, Brazil, Chile, and Mexico); for others, costs are higher for manufactured goods and lower for agricultural goods (e.g., Costa Rica, Dominican Republic, and Ecuador).

Decomposing the determinants of these costs shows that policy-makers are constrained by geography and history, with factors such as distance and culture playing an important role (Figure 7.9, top panel). However, this does not mean that they are powerless. A substantial policy component (bottom panel) can magnify either the costs or benefits of this legacy, which was only partially addressed by the Great Liberalization.

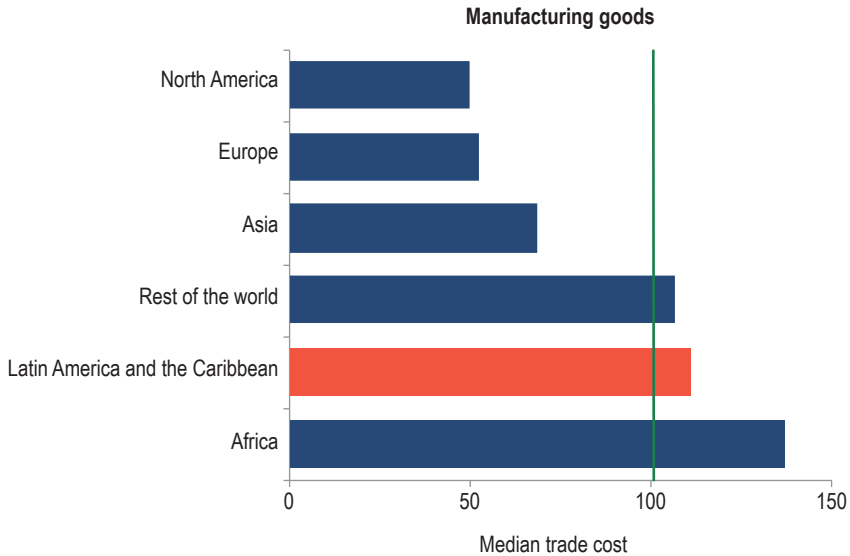
Much remains to be done to lower transport costs by, for instance, increasing road coverage and port containerization. Border processing time and costs can also be reduced by measures such as risk-management

Figure 7.7 Median Trade Costs, Overall and by Type of Goods, Latin America and the Caribbean and Other Regions, 2015



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Figure 7.7 Median Trade Costs, Overall and by Type of Goods, Latin America and the Caribbean and Other Regions, 2015 (continued)



Source: IDB staff calculations based on data from UNESCAP and World Bank.

Note: The figures present kernel density estimates of the distribution of trade costs relative to the world median (100) for different regions and types of goods (agricultural and manufacturing). Trade costs are computed by inverting a standard gravity equation estimated based on observed production and bilateral trade data. Detailed information on how trade costs are estimated can be found in Arvis et al. (2013).

techniques and electronic single windows. Likewise, the search for business abroad or for FDI opportunities at home can be made less costly by establishing commercial services within diplomatic posts and opening offices of trade and investment promotion organizations in partner countries.²⁷

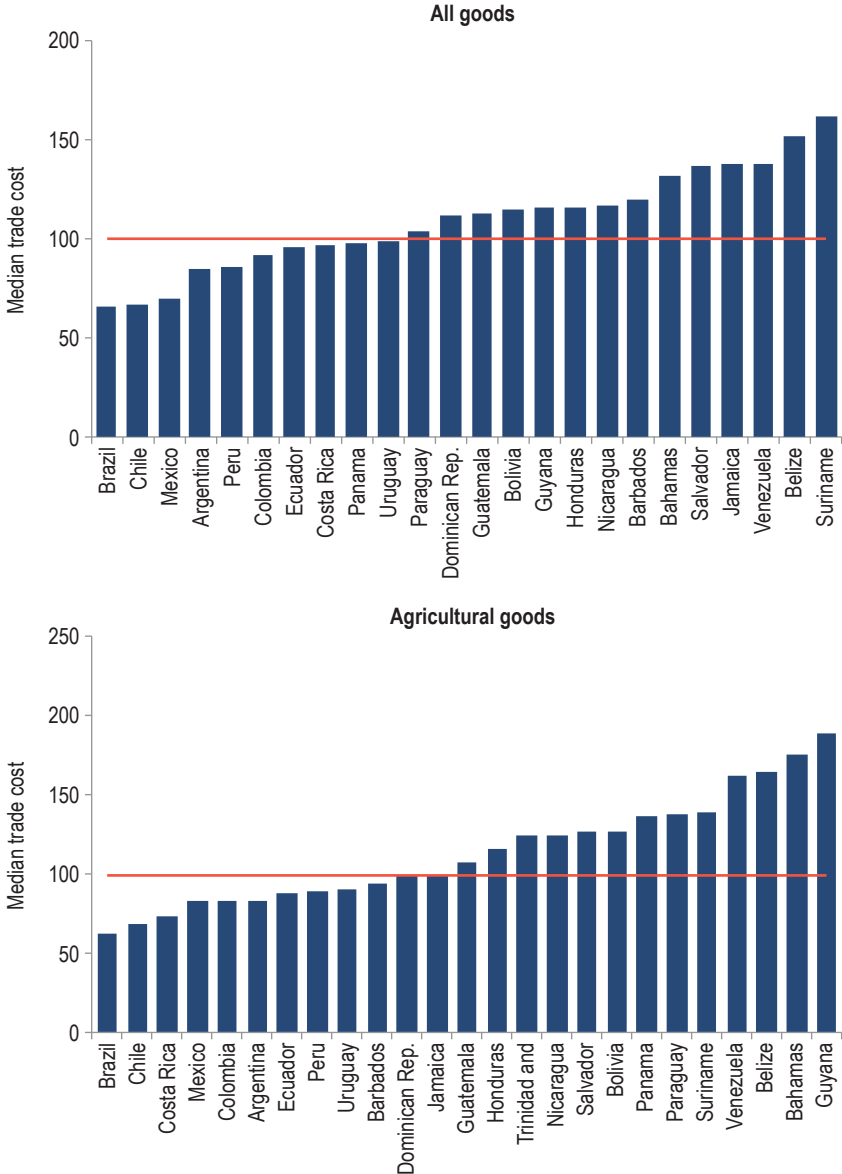
Unclogging the Arteries

Of all the neglected policy issues of the past 30 years, transport costs are arguably at the top of the list. The Great Liberalization, fast technological development, and falling communication and transport costs have reshaped countries' comparative advantages and imposed a much higher penalty on economies that are complacent about their transport services and infrastructure.

²⁷ This generally holds for both Latin America and the Caribbean and the rest of the world.

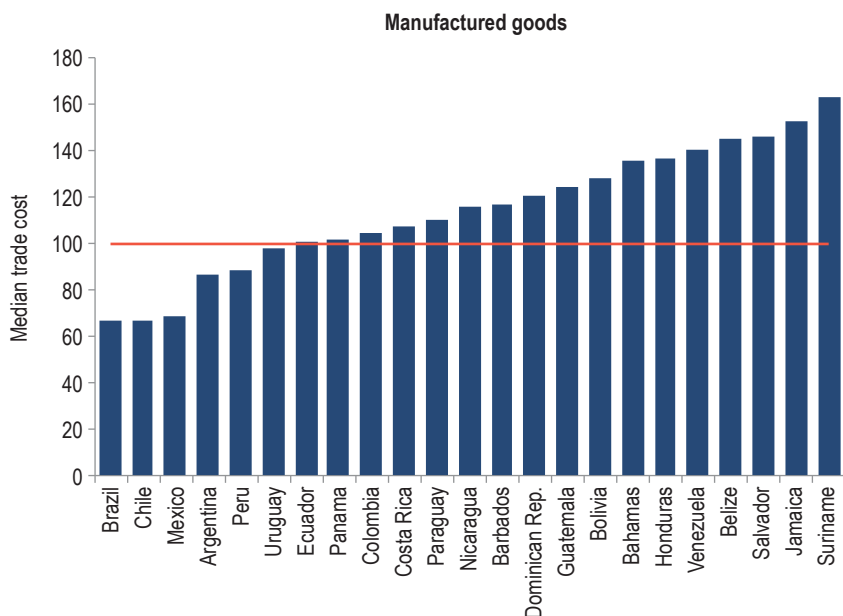
With much higher labor costs than Asia, a geographic advantage being eroded by rapidly falling air freight rates (Hummels, 2007), and economies of scale and oligopolies in ocean transport (Hummels, Lugovskyy, and

Figure 7.8 Median Trade Costs, Overall and by Type of Goods, Latin America and the Caribbean, by Country, 2015



(continued on next page)

Figure 7.8 Median Trade Costs, Overall and by Type of Goods, Latin America and the Caribbean, by Country, 2015 (continued)



Source: IDB staff calculations based on data from UNESCAP and World Bank.

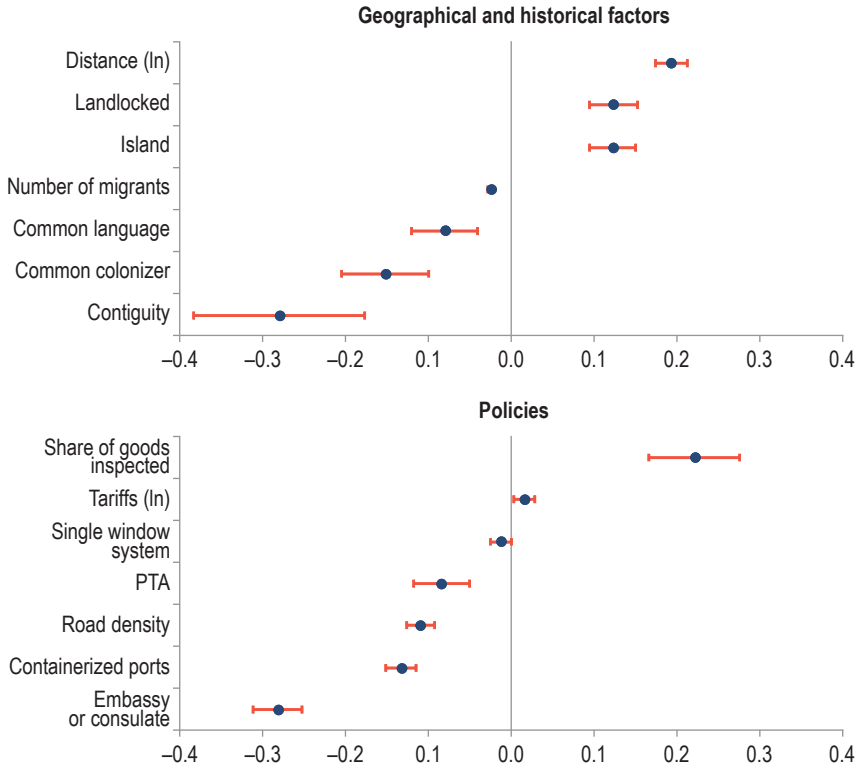
Note: The figures present median trade costs across partners for each LAC country relative to the world median (100), both overall and by types of goods (agricultural and manufactured). Trade costs are computed by inverting a standard gravity equation estimated based on observed production and bilateral trade data. Detailed information on how trade costs are estimated can be found in Arvis et al. (2013).

Skiba, 2009), the region can no longer afford to ignore the obvious. Unless it improves its transport infrastructure, the region is unlikely to meet its goals of expanding and diversifying exports, even if it succeeds in taking full advantage of the increasing fragmentation and time-sensitiveness of international trade or in reaping the scale gains that convergence of numerous intraregional PTAs would bring.

Countries will also find it difficult, if not impossible, to spread the gains of trade more widely across their territory, as high domestic transport costs tend to concentrate exports in a few well-connected, wealthy municipalities (Mesquita Moreira, 2013).

How high are the region's transport costs, and what are the potential trade gains of bringing them down? Comparing transport costs is notoriously difficult given the differences across countries in transport modes, products, and partners. The few estimates available are for the early 2000s and the picture they paint is not pretty. For instance, Latin American exports

Figure 7.9 Trade Costs Determinants, All Countries, 2015



Source: IDB staff calculations based on data from UNESCAP, World Bank, IFC, CEPII, Moons (2017), Broocks and Van Biesebroeck (2017), and Felbermayr, Teti, and Yalcin (2018).

Note: The figure reports ordinary least squares estimates of a gravity-type equation whose dependent variable is the natural logarithm of trade costs at the bilateral level in 2015 and where the explanatory variables include the natural logarithm of the countries' GDP, GDP per capita, the bilateral distance, a binary indicator that takes the value of one if the countries share a border and zero otherwise, the number of islands in the country pair (0, 1, 2), the number of landlocked countries in the country pair (0, 1, 2), a binary indicator that takes the value of one if the countries share a common language and zero otherwise, a binary indicator that takes the value of one if the countries share a common colonizer and zero otherwise, the natural logarithm of countries' bilateral migrant stock, the average share of shipments of goods subject to physical inspection, the natural logarithm of one plus bilateral tariffs, a binary indicator that takes the value of one if the countries have a preferential trade agreement and zero otherwise, the number of countries in the country pair with an active single window for trade (0, 1, 2), the natural logarithm of the average road density, the natural logarithm of the total number of containerized ports in the country pair, and a binary indicator that takes the value of one if the countries have diplomatic missions on each other's territory and zero otherwise. For each variable the dot corresponds to the point estimate and the span to their confidence interval. Standard errors are robust to heteroscedasticity.

to the United States were found to pay maritime freight rates on average 70 percent higher than the Netherlands, a result explained largely by heavier products, but also substantially influenced by port inefficiencies and lack of competition among shippers (Mesquita Moreira, Volpe, and Blyde, 2008).

Things have improved little since then, as investment in transport infrastructure remains relatively low (Serebrisky et al., 2018) and the only objective infrastructure quality indicator available (the World Bank's Logistic Performance Index) does not suggest any drastic improvement in the last decade.²⁸

This trend is confirmed by an econometric exercise with international ocean freight data for 2014 that controls for differences in partners (e.g., the distance between them) and product composition (e.g., trading light or heavy goods). According to the estimates, average freight rates in the region are 50 percent higher than in North America.²⁹

On the bright side, these figures reveal significant room for improvement, and the (few) empirical estimates available point to a significant impact on the level, diversification, and subnational distribution of countries' exports. One estimate suggests that a 10 percent reduction in international freight costs would boost export values by at least 30 percent and increase the number of products exported by 25 percent, both within the region and to the United States (Mesquita Moreira, Volpe, and Blyde, 2008).

Improvements in domestic transport costs would have a similarly powerful impact. In a study of five Latin American countries (Brazil, Chile, Colombia, Mexico, and Peru), a 1 percent cut in factory-to-port freight rates might increase municipal exports of agricultural, mining, and manufactured goods by an average of 4.5 percent (Mesquita Moreira, 2013).³⁰

Depending on how these cuts are spread over the territory, they could also have large distributional effects. Volpe Martincus, Cusolito, and Graziano (2013) simulate the trade effects of lower domestic transport costs in Peru brought about by investments to pave all existing routes and build all of the roads in the government's logistical portfolio. The results reveal that these investments would disproportionately benefit the poorest regions

²⁸ The region's average score increased from 2.6 to 2.7 on a scale of 0 to 5 between 2008 and 2018. <https://lpi.worldbank.org/international/global>.

²⁹ These are estimates of an equation whose dependent variable is the natural logarithm of ocean freight rates and whose main explanatory variables are binary indicators for each region (omitting North America), the natural log of the bilateral distance, a binary indicator that takes the value of one if countries share a border and zero otherwise, and fixed effects related to the partner country and product. Data are from the OECD's International Transport and Insurance Costs of Merchandise Trade (https://stats.oecd.org/Index.aspx?DataSetCode=CIF_FOB_ITIC).

³⁰ See Molina, Heuser, and Mesquita Moreira (2016) for a follow-up study focused on the Pacific Alliance countries.

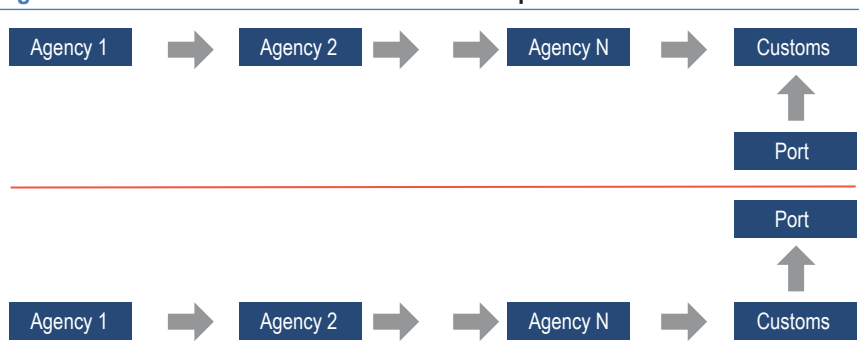
that have the least access to infrastructure, boost their exports by 12.8 percent on average, and increase the number of products exported in some cases by as much as 30 percent.³¹

How governments should go about improving their transport infrastructure is beyond the scope of this report, goes well beyond trade policy, and will be the focus of the 2020 edition of this flagship report. However, the major issue seems to be underinvestment, particularly in cheaper and alternative modes of transportation, such as rail and waterways. Unsurprisingly, budget constraints are not the only problem; public spending priorities and institutional and regulatory weaknesses also play a role. The challenge has more to do with political economy than with technical considerations, as does trade policy itself.

The Black Hole at the Border

Economists' models typically assume dimensionless, linear borders. Real borders, though, are thick.³² They are not merely a line, but a "region" whose crossing involves multiple activities (e.g., inspections) performed by multiple actors (e.g., border agencies such as customs). Border agencies develop and administer regulations and procedures to ensure security, safety, legitimacy, and compliance with fiscal rules in particular, which firms must observe when engaging in international trade (Figure 7.10).

Figure 7.10 A Two-Sided Border's Schematic Representation



Source: IDB staff elaboration.

³¹ Volpe Martincus and Blyde (2013), Volpe Martincus et al. (2014), and Volpe Martincus, Carballo, and Cusolito (2017) also find robust trade effects for infrastructure shocks in the region.

³² This section is primarily based on Volpe Martincus (2016).

Depending on how they are institutionally designed and run, borders can become a black hole that is difficult and time-consuming to escape. Available empirical evidence suggests that time spent at the border is indeed an important component of the total time between origin and destination. For example, Peruvian maritime import data for 2013 reveal that, on average, total border times and port and customs processing times, respectively, accounted for 37.3 percent and 21.9 percent of the total time between departure from the origin country's port and release from customs.

Time spent at the border depends on several factors, including: (i) coordination among agencies; (ii) the design of regulations and procedures, and specific aspects of their implementation such as the share of shipments subject to physical inspection, which end up experiencing longer processing times; (iii) the technology available to complete those procedures (e.g., paper versus electronic forms) and whether this technology is common to or interoperable across agencies; (iv) the existence of special schemes for firms, shipments, and trade flows such as those for authorized economic operators (AEOs) and international transit; and (v) the resources available to the agencies (e.g., personnel).

Progress at the Border

At the end of the 1990s, and particularly after the mid-2000s, countries started to introduce substantial organizational changes to their border agencies, to reengineer administrative processes using information and communication technologies to allow for digital completion of forms and procedures, and to implement initiatives to facilitate cross-border shipments, thereby reducing times and costs for trading firms.

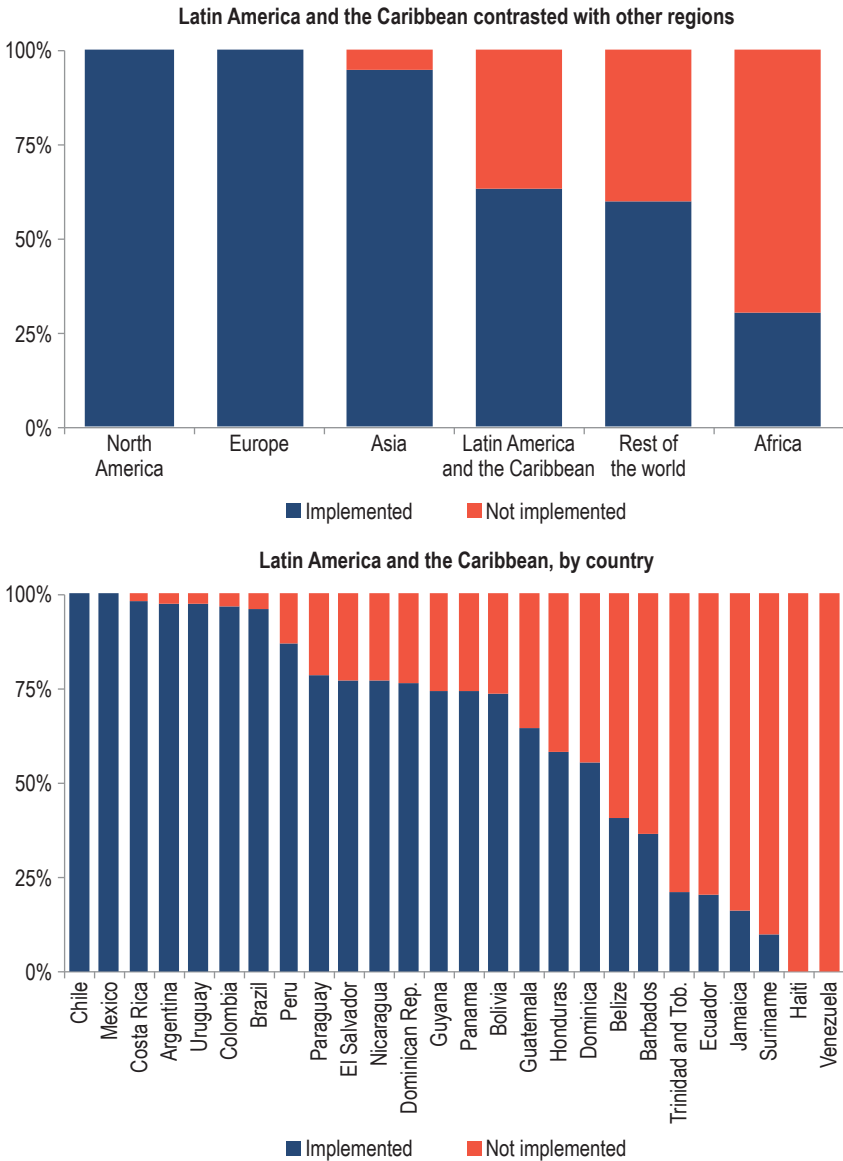
These initiatives include more sophisticated and effective risk-management systems, AEO programs (cooperative arrangements between customs agencies and firms, whereby the latter receive trade facilitation advantages), electronic single windows (arrangements that allow all trade-related transactions to be processed electronically at a single point), and streamlined international transit systems (provisions that simplify multiple border crossings), among others.³³

The degree of progress in implementing these initiatives, which are explicit commitments in the WTO Trade Facilitation Agreement, is relatively low in the region. Although countries vary considerably, Latin America and the Caribbean still lags far behind North America and Europe on many of

³³ See Volpe Martincus (2016) for a full description of these initiatives.

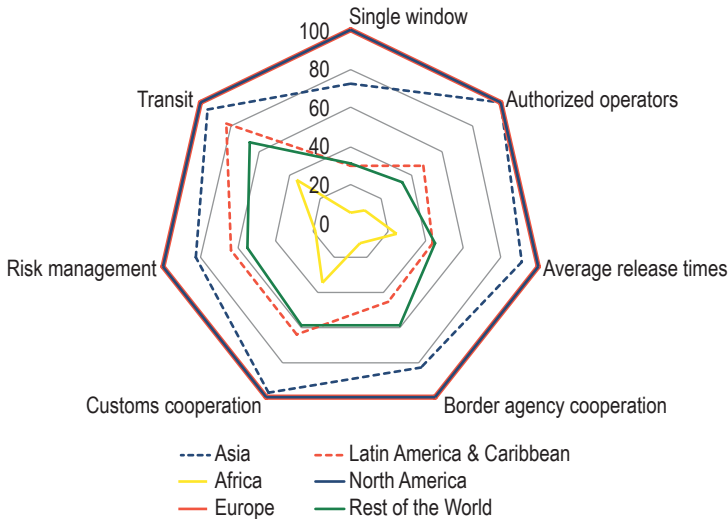
these important dimensions. In particular, the region struggles in key areas such as risk management, single windows, authorized operators, release times, and customs and border agency cooperation (Figure 7.11).

Figure 7.11 Implementation of the Commitments of the WTO Trade Facilitation Agreement, 2019



(continued on next page)

Figure 7.11 Implementation of the Commitments of the WTO Trade Facilitation Agreement, 2019 (continued)



Source: IDB staff calculation based on countries' self-reported data provided by WTO.

Note: The figure reports the simple average of the percentage share of the WTO TFA commitments implemented across countries in each region, the percentage share of those commitments implemented for each Latin American and Caribbean country, and the percentage share of countries in each region having implemented the respective commitment.

Why It Matters

The IDB has evaluated the many trade facilitation initiatives that involve several Latin America and Caribbean countries.³⁴ The results suggest that in most countries these measures have been effective in facilitating trade: exports and imports expanded significantly.³⁵ Importantly, the initiatives have been cost-effective. Additional exports and even the associated increase in revenues (or cost savings) far exceeded the implied costs.

The main channel through which this trade expansion has taken place is an increase in shipping frequency (marked in red in Figure 7.12). When

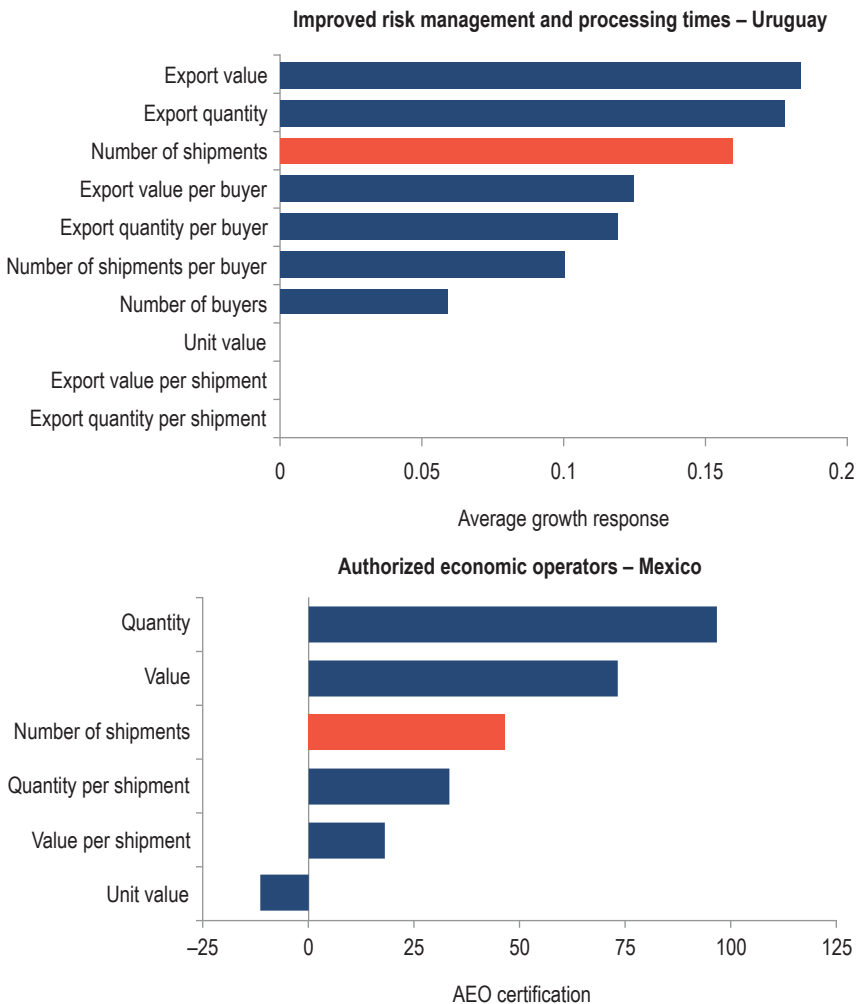
³⁴ There is a limited, but growing, literature on the impact of customs and other border agencies' reforms on trade and other economic outcomes (Fernandes, Hillberry, and Mendoza Alcántara, 2015 [for Albania]; Mendoza Alcántara, Fernandes, and Hillberry, 2015 [for Serbia]; Fernandes, Hillberry, and Mendoza Alcántara, 2017 [for Macedonia]; Laajaj, Eslava, and Kinda, 2019 [for Colombia]).

³⁵ Figure 7.12 reports the estimated export response to reduced customs processing times in Uruguay. These times have substantially decreased over time, thus helping firms expand their sales abroad.

crossing borders becomes easier and faster, firms can better respond to peers' and consumers' demands and match their preferred delivery times, as well as source inputs for use in their production processes or for sale in the domestic market. Interestingly, this has been associated with an enlargement of the buyer/supplier bases.

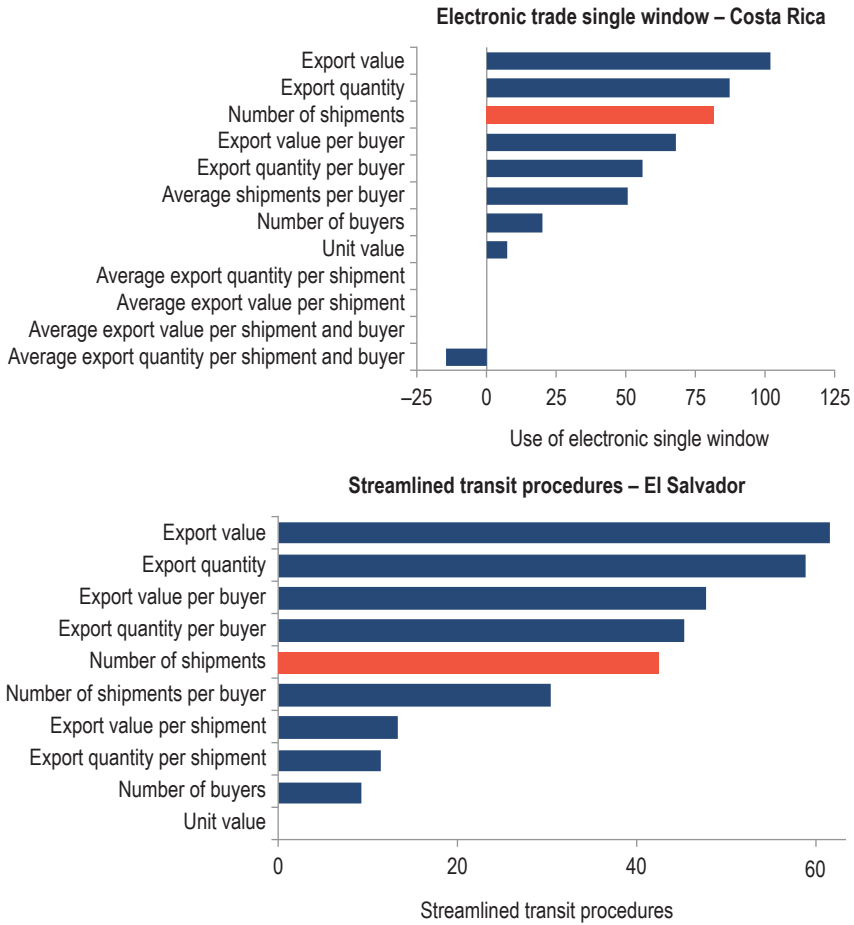
Facilitation appears to have generated trade gains that are asymmetric across firms and products and, hence, can affect specialization patterns. As expected, trade in time-sensitive products has grown the most.

Figure 7.12 The Impact of Trade Facilitation Measures on Firms' Exports, Selected Latin American and Caribbean Countries



(continued on next page)

Figure 7.12 The Impact of Trade Facilitation Measures on Firms' Exports, Selected Latin American and Caribbean Countries *(continued)*



Source: IDB staff calculation based on data from DNA-Uruguay (2002–11), SAT-Mexico (2011–14), DGA-Costa Rica (2007–13), and DGA-El Salvador (2010–13).

Note: The figures report the average growth response of different margins of firms' exports to customs processing times, AEO certification, use of an electronic trade single window, and adoption of a streamlined international transit system. A detailed explanation of the specific estimation strategies can be found in Volpe Martincus (2016).

Moreover, while both small and large firms have benefited from these initiatives by scaling up their existing trading relationships, small firms have also taken advantage of the procedural simplification to venture into new foreign markets.³⁶

³⁶ See Volpe Martincus (2016).

Toward a More Comprehensive and Internationally Consistent Framework

Despite this progress, there is significant room for improvement. Much remains to be done along both the intensive and extensive margins of trade facilitation. Thus, while the various specific initiatives are logically connected, in several cases they have developed over time as separate, dissociated modules that often use different information technology solutions. This situation actually limits facilitation, as firms have to deal with disparate systems, and hinders full systematic exploitation of the data produced by these systems.

Thus, the first challenge countries face in the quest to facilitate trade is to develop an overarching view and adopt a consistent operative approach to connect initiatives within and across countries. So-called smart process reengineering and adequate operating conditions should allow countries to take full advantage of the possibilities presented by emerging information technology and big data (see Chapter 11). This strategy involves three main pillars: process reshaping (getting the workflow right), improved operation (e.g., 24/7 activity), and more and better technology (e.g., interoperability of national single windows). These pillars translate into a series of specific principles:

- *Better border coordination for trade and transit:* Countries should collaborate to devise more-effective border procedures, moving toward virtual mechanisms that interconnect all relevant public agencies and private sector providers to process converging and common digitized trade documents. This would help create the conditions for integrated one-stop border controls that operate on a 24/7 basis.³⁷
- *Stronger risk management and expanded AEO programs:* Consistent with the framework defined above, countries should adopt an integrated risk approach involving all border agencies. Combined with more effective use of the growing wealth of data through more sophisticated econometric tools and emerging technologies such as artificial intelligence, this would allow countries to better analyze trade flows and actors and more successfully detect suspicious operations. In addition, agencies should work more closely

³⁷ Countries in the region are also increasingly implementing a single window for investments to streamline the relevant administrative procedures and thereby facilitate inward FDI (e.g., Costa Rica, Ecuador).

with the private sector to exchange real-time information and connect AEO programs across countries through mutual recognition agreements to speed up trade operations on both sides of borders.

- *Removal of specific barriers to e-commerce and services trade:* Latin American and Caribbean countries still have to seize the opportunities that these dynamic trade modalities can bring. Moving in this direction requires proper regulations and procedures for postal and express shipments, as well as for data flows, among other things (see Chapter 11).

These measures imply multilateral reductions in trade costs as opposed to the unilateral efforts that have typically been made to date. If pursued in this manner, they are likely to yield substantial trade gains.

Navigating Uncharted Territories Beyond Borders: Trade and Investment Promotion

Even though new technologies have substantially reduced search costs, lack of information still severely handicaps companies seeking to operate beyond national borders in different business environments.³⁸ Unlike tariffs and transport costs, there is no direct measure of the relative importance of information barriers. However, indirect means using econometric estimates of the trade effects of informal institutions (such as immigrant networks) and intermediating middlemen make it possible to arrive at some conclusions. Information costs estimated in this way range between 6 percent and 13 percent.³⁹

Publicly Financed "Global Positioning Systems"

Export promotion agencies (EPAs) and investment promotion agencies (IPAs) featuring diverse and innovative organizational designs have spread across countries in recent decades.⁴⁰ The number of Latin American and Caribbean and OECD countries with these new IPAs has quadrupled in the last 30 years. In fact, most IPAs in the countries of the region were created during this period. While significant differences exist across countries,

³⁸ This section is primarily based on Volpe Martincus (2010), Blyde (2014), and Volpe Martincus and Sztajerowska (2019).

³⁹ See Rauch and Trindade (2002), Feenstra and Hanson (2004), and Anderson and van Wincoop (2004), and Volpe Martincus (2010) on the details of these calculations.

⁴⁰ See Blyde (2014) on the evolution of Latin American and Caribbean countries' internationalization policies.

these agencies are typically small. The median IPA in a sample of 52 Latin American and Caribbean and OECD countries has a total annual budget of US\$7 million. The region's agencies are smaller: the median IPA in Latin America and the Caribbean has a total budget of US\$5 million, whereas the OECD median is almost three times higher (Figure 7.13).⁴¹

Agencies typically provide firms with information services that help them travel in the unknown dimensions of foreign trade and investment and, as such, can be seen as a publicly provided (or financed) global positioning system.⁴² More precisely, they perform activities that address information barriers faced by firms pursuing business opportunities beyond national borders.⁴³

In so doing, EPAs and IPAs can establish overseas offices to conduct commercial intelligence and identify business opportunities. Latin American and Caribbean agencies significantly differ from their counterparts in developed countries in this regard: whereas the median Latin American and Caribbean IPA does not have overseas offices, the median OECD IPA has more than ten such offices (Figure 7.14).

Does the GPS Work? A Policy Guide

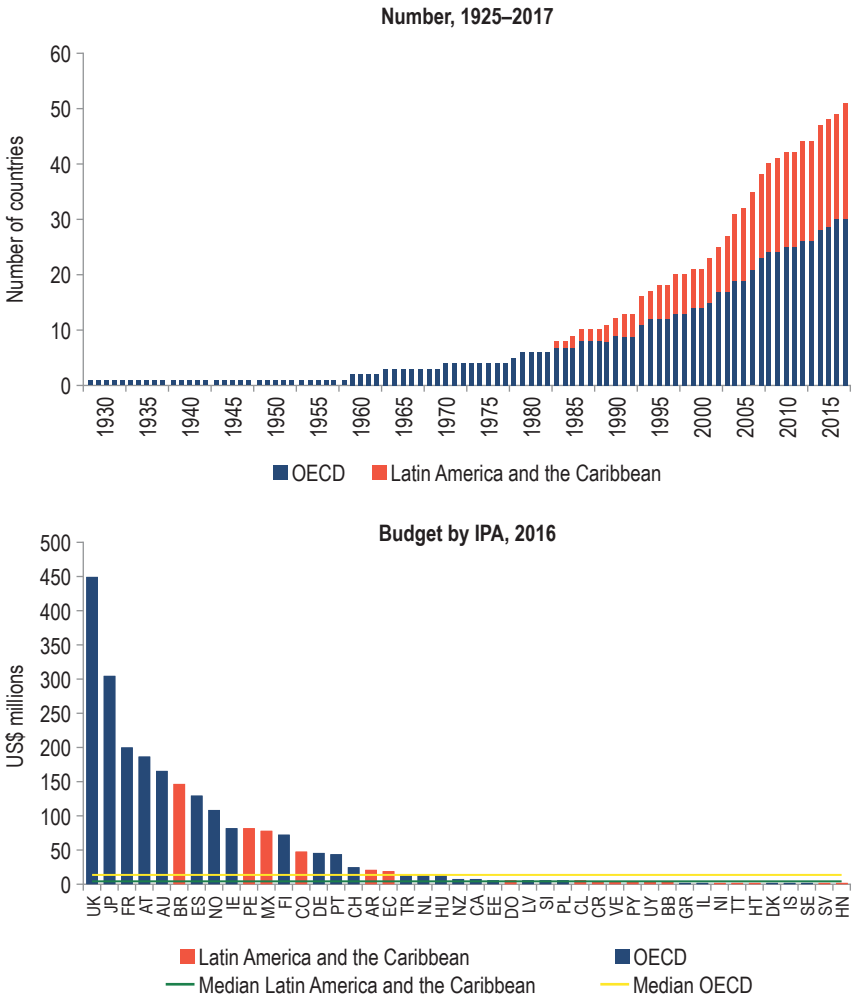
Trade assistance initiatives can lower the fixed costs that local firms incur when exporting for the first time and when entering new markets by reducing the costs associated with gathering information on prices, product standards, and potential buyers. As a result, support from EPAs can pave the way for domestic firms to venture abroad, expand, or enter new markets, thereby contributing to increase exports. Similarly, IPAs can lower the fixed costs that foreign firms incur when setting up in a new country

⁴¹ In order to carry out trade and investment promotion, an appropriate institutional arrangement must be established. This requires considering the institutional context and involves determining the proper role of the private sector, sound internal structures, and adequate staffing and compensation, among other things. The IDB has produced detailed institutional mappings of EPAs and IPAs (see Jordana, Volpe Martincus, and Gallo, 2010; Volpe Martincus and Sztajerowska, 2019).

⁴² Emerging technologies are also instrumental in reducing information costs. EPAs around the world are training firms to make effective use of these technologies (see Chapter 11).

⁴³ See Rauch (1996) and Hausmann and Rodrik (2003). Externalities may also stem from business, organizational, and managerial practices, training activities, production methods and technologies, and production linkages with exporters and multinational firms (e.g., Rodríguez-Clare, 1996; Mion and Opromolla, 2014). These information spillovers, however, are not included in firms' private assessment of the costs and benefits associated with doing business overseas and investing abroad. Consequently, investment in the development of these activities could be suboptimal, providing a rationale for public intervention.

Figure 7.13 Number and Budget of Investment Promotion Agencies, Latin America and the Caribbean and OECD Countries



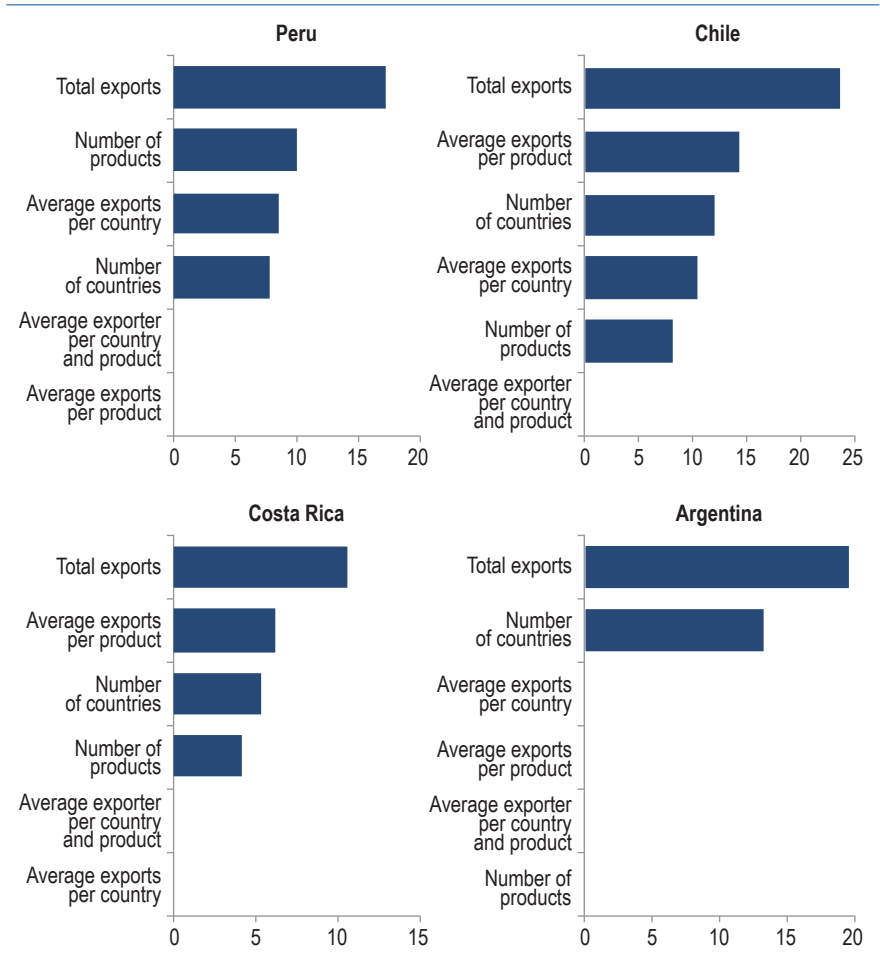
Source: Volpe Martincus and Sztajerowska (2019).

or expanding their presence there. In so doing, IPAs can foster inward FDI. But to what extent do they actually do so?

Available macro evidence generally points to a positive correlation between financial resources allocated to EPAs/IPAs and trade and investment outcomes.⁴⁴ The same holds for the presence of diplomatic missions

⁴⁴ See Lederman, Olarreaga, and Payton (2010) and Volpe Martincus and Sztajerowska (2019).

Figure 7.15 The Impact of Export Promotion on Firms' Exports, Various Years, Expressed as Growth Response (%)



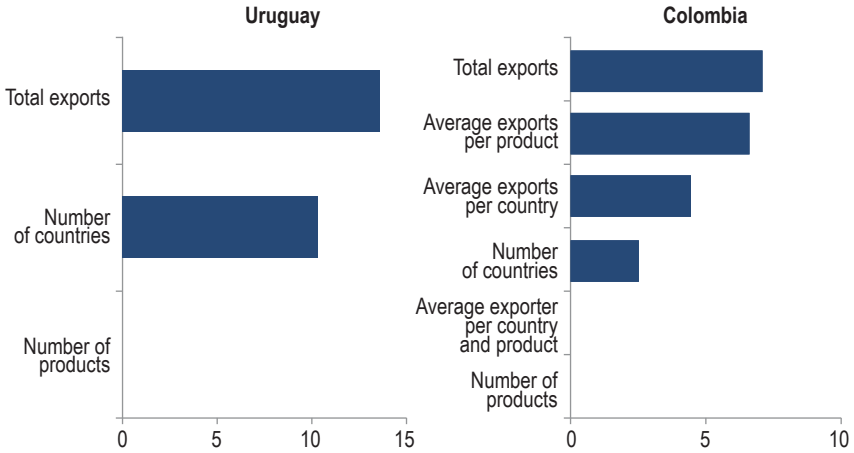
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face more severe information barriers, which suggests they will benefit more from export assistance.⁴⁹ Bundled support services provided throughout the exporting process are more effective than isolated actions.⁵⁰

⁴⁹ See Volpe Martincus and Carballo (2012) for Costa Rica; Volpe Martincus and Carballo (2010a) for Chile; Volpe Martincus, Carballo, and García (2012) for Argentina; and Munch and Schaur (2018) for Denmark.

⁵⁰ See Volpe Martincus and Carballo (2010c) for Colombia. A study suggests that export promotion effects may not be durable (Cadot et al., 2015). It should be noted, however, that this result is based on a single case, the Tunisian FAMEX initiative, which

Figure 7.15 The Impact of Export Promotion on Firms' Exports, Various Years, Expressed as Growth Response (%) (continued)



Source: Volpe Martincus (2010) based on data from PROMPEX/PROMPERU, PROCOMER, URUGUAY XXI, PROCHILE, EXPORTAR, and PROEXPORT/PROCOLOMBIA.

Note: The figures show the average growth response of different firms' export outcomes to trade promotion support. Estimated effects that are not statistically significant at the 10% level are reported as zero. A detailed methodological explanation can be found in Volpe Martincus (2010).

Supported firms exported relatively more than unsupported firms during the financial crisis. This is not surprising since EPAs helped firms find new clients to replace old ones affected by the crisis.⁵¹

Last but not least, by increasing foreign sales, trade promotion may improve firms' overall performance. Export promotion increases sales, employment, and worker productivity, particularly for smaller firms.⁵²

While multiple studies use micro data to assess the effectiveness of countries' export promotion programs, microeconomic evidence on the impact of investment promotion assistance on multinational firms' location decisions is virtually nonexistent.⁵³ A recent IDB study focusing on Costa Rica and Uruguay presents, for the first time, evidence that investment promotion has been effective in attracting affiliates of multinationals. In particular, firms supported by national IPAs are more likely to set up in

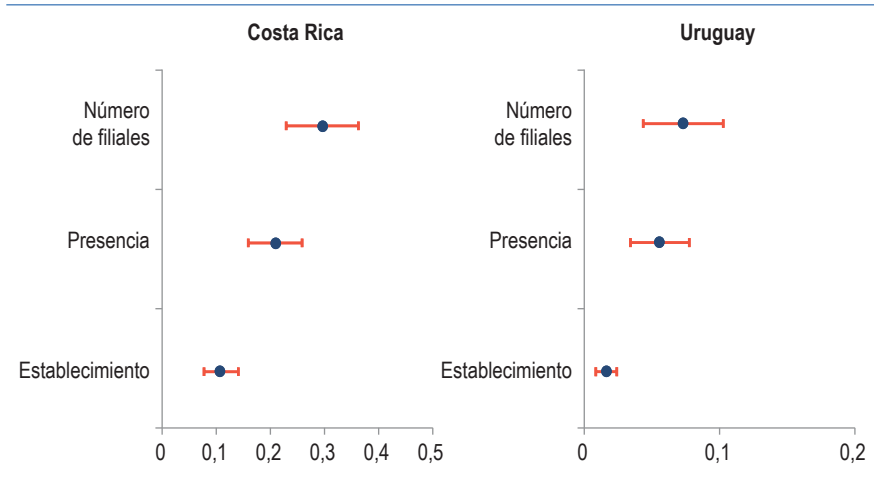
substantially differs from the operations of traditional EPAs (Van Biesebroeck, Konings, and Volpe Martincus, 2016).

⁵¹ See Van Biesebroeck, Konings, and Volpe Martincus (2016) for Belgium and Peru.

⁵² See Munch and Schaur (2018 [for Denmark]) and Rincón Aznar et al. (2015 [for the UK]), respectively.

⁵³ See Van Biesebroeck, Konings, and Volpe Martincus (2016).

Figure 7.16 The Impact of Investment Promotion on Firms' Location Decisions, Costa Rica and Uruguay, 2000–2016



Source: IDB staff calculation based on Volpe Martincus, Carballo, and Blyde (2019).

Note: The figures present the estimated impact of investment promotion assistance on the probability that a multinational firm establishes or is present in the country and on the number of its affiliates in the country. A detailed methodological explanation can be found in Volpe Martincus, Carballo, and Blyde (2019).

these countries and to expand their activities faster (Figure 7.16).⁵⁴ These effects are generally stronger on investments from developed home countries, which predictably face high information barriers when investing in the region.

Thirty Years Later: A Work in Progress

Thirty years after the region embarked on a large-scale liberalization, one might have expected trade policy to become all but irrelevant, the public policy equivalent of the geopolitical “end of history” declared by Fukuyama (1989) at the end of the Cold War. Well, not quite. Just as Western-style liberal democracy continued to face serious and unexpected challenges, trade and integration in Latin America and the Caribbean are still works in progress.

Despite remarkable advances, new challenges emerged, while some old ones proved to be elusive. Among the new ones, threats to the

⁵⁴ See Volpe Martincus, Carballo, and Blyde (2019) and Carballo, Marra de Artiñano, and Volpe Martincus (2019b) on how estimation issues such as potential endogeneity of investment promotion assistance are addressed.

rules-based international trade system are the most alarming. Trade can hardly be an instrument for prosperity if the world market breaks up into balkanized blocs ruled by power rather than law.

Among the old challenges, regional integration, which has gained even greater strategic relevance with the current trade frictions, begs for convergence and a gap-filling exercise to add rationality and weight to the regional market. At the national level, protectionism is still alive and well in some of the largest economies in the region—a challenge that cannot be fully addressed without unilateral action and must be informed by the political economy lessons of the last 30 years. Finally, the region still struggles with the high costs of logistics, information, and border processing. The remedies are well known. The substantial payoff for acting is also well-documented and understood. The reasons for inaction, however, are less clear.

TAKING STOCK

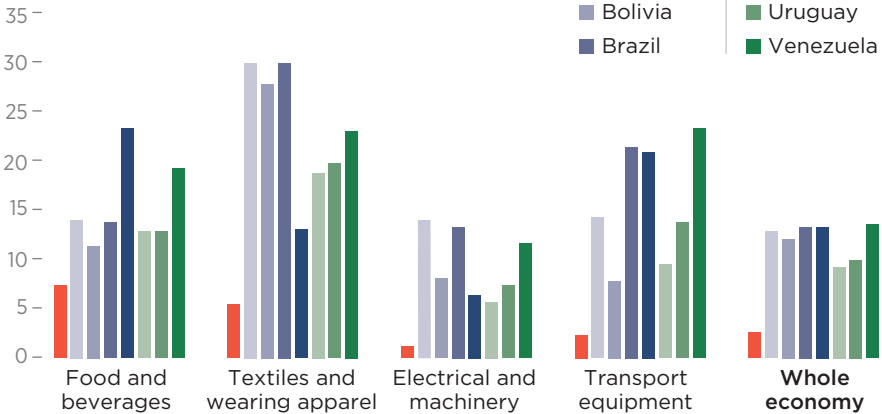
TRADE AND INVESTMENT POLICIES: 30 YEARS LATER



Protection is still much too high in some of the largest economies in the region.

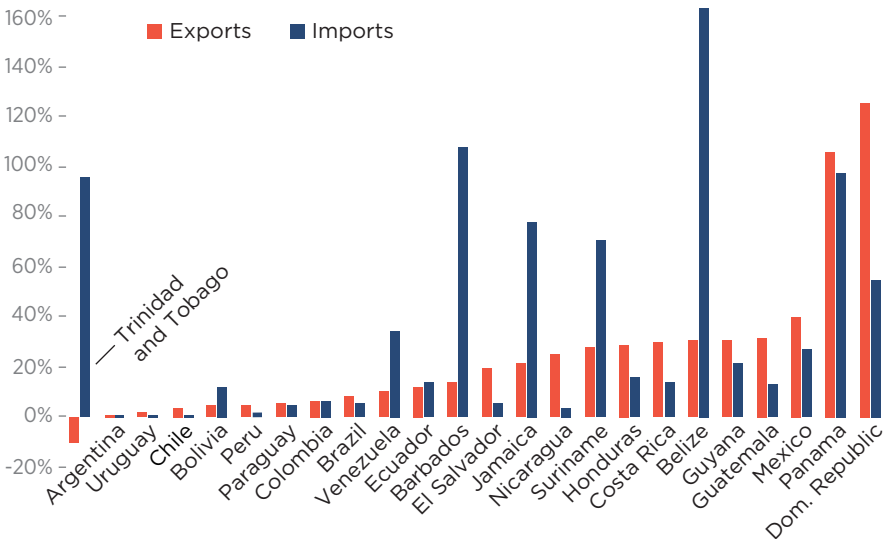
Level and Structure of Applied Import Tariff

Latin America's low liberalizers and the OECD, 2015



Convergence among the region's 33 agreements would increase intraregional trade by 12% on average.

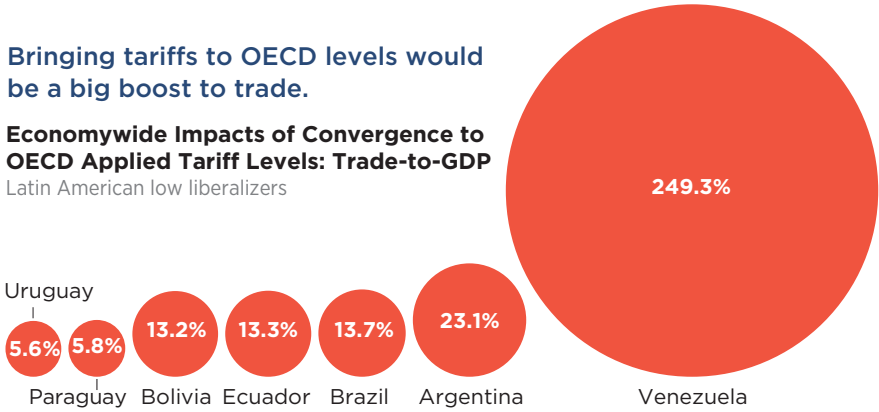
Economywide Trade Impacts of a Latin American and Caribbean Free Trade Area





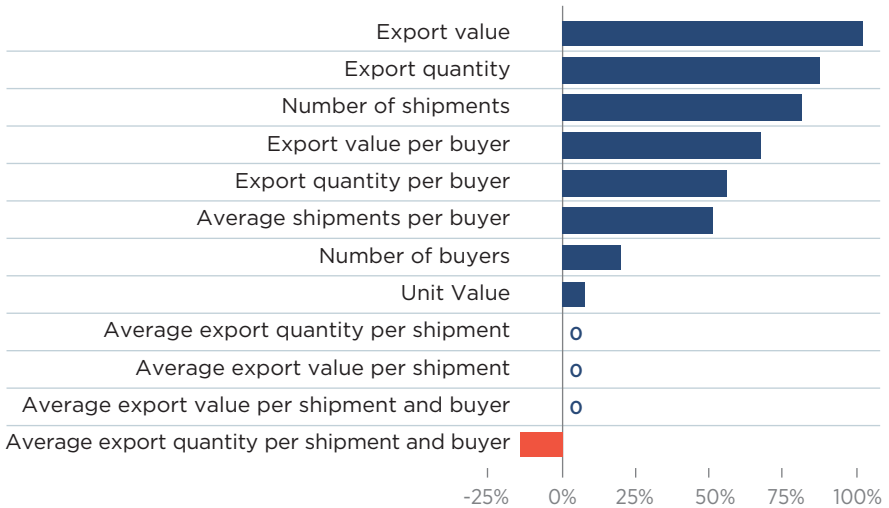
Bringing tariffs to OECD levels would be a big boost to trade.

Economywide Impacts of Convergence to OECD Applied Tariff Levels: Trade-to-GDP
Latin American low liberalizers



Reducing time and costs at the border can deliver significant gains.

Trade Impact of the Electronic Single Window in Costa Rica
Average growth response



THE BOTTOM LINE

Thirty years later, the region is still grappling with elusive issues: high tariffs in some of its largest economies, a full integration of its regional market, and high costs of logistics, information, and border processing.

Labor Adjustment Policies: What Works?

While international trade can benefit the economy as a whole, it can nonetheless generate both winners and losers. Nowhere is this more true than in the area of jobs. Adjustments from a trade-related reallocation of labor can be harsh for certain individuals and communities. Governments should be mindful of these changes and adjust their policies accordingly.

Labor adjustment policies can be justified on various grounds. From a social equity perspective, governments can seek to compensate workers who bear the costs of free trade. Adjustment policies can also be justified based on political economy. Negative perceptions of the distributional impact of trade can create a political backlash against globalization and threaten the future of trade liberalization. Adjustment policies can help guarantee the continuity of reforms.¹ Policies can also be enacted for reasons of efficiency. For example, in economies where job search and mobility are costly, individuals tend to underinvest in skills formation because their personal return on that investment is lower than the return to society as a whole (Acemoglu, 1997).² Policies that encourage workers to upgrade their skills can address the underinvestment problem. Workers have a greater incentive to enhance their skills if doing so improves their ability to switch sectors, occupations, or both. And a more skilled workforce benefits workers and society alike.

In order to design appropriate adjustment policies, it is important to identify the factors that affect the trade-related adjustment of labor. The

¹ Galiani, Torre, and Torrens (2015) provide an interesting theoretical model in which lasting reforms without compensation can be no more than partial, because a full-scale reform will likely trigger a costly reversal unless paired with a scheme to properly compensate losers.

² With market frictions, wages are determined by bargaining; thus, some rent-sharing will exist between employees and employers. This implies that employees do not appropriate all the marginal productivity gains from general training. Hence, there is underinvestment in skills formation (see Acemoglu, 1997).

human capital barrier is the first obvious factor restricting the reallocation of labor across sectors. Workers displaced from a declining sector may not have the necessary skills to switch occupations and enter a different sector. Search problems are another obstacle, associated with a lack of information. People do not necessarily know what job opportunities are available in other sectors and, particularly, in other locations. Even workers with the right skills may not find adequate jobs because they lack information about the job market. Problems related to moving are yet another barrier; these difficulties include the cost of moving itself, plus the potential differences in housing costs across regions. These costs can discourage individuals from looking for job opportunities in different regions. Clearly, labor reallocation can be hindered for a variety of reasons, thereby raising the costs of a trade-induced adjustment. These problems must be kept in mind when designing and implementing policies.

Adjustment Policies: A Trade-Specific Approach

Some countries have designed adjustment policies that are triggered by trade-related events. The most prominent examples are in the United States, with the Trade Adjustment Assistance (TAA) program, and in Europe, with the European Globalization Adjustment Fund (EGF). A brief overview of these programs provides useful insights for policy discussion.

The design of the trade-related assistance programs in the United States and Europe addresses the multiple factors hindering the reallocation of labor. The TAA program provides assistance through an array of instruments, including payment of training-related expenses, temporary unemployment insurance, wage insurance, as well as payment of some job search and relocation expenses. Similarly, the EGF assists workers by providing funds to cover the costs of various active labor market policies, including job search and training. The hallmark of these programs is that assistance is provided only when the labor adjustment occurs as a result of a trade-related event. Making the connection between a change in a labor outcome and a trade event, however, is not necessarily a straightforward process. Therefore, these programs have put in place a series of criteria and procedures to prove that a link exists (see Box 8.1).

The empirical evidence of the impact of trade-related assistance programs is mixed. While some studies of the TAA found that the program did little or nothing to improve earnings (Decker and Corson, 1995; D'Amico et al., 2007), others found that the training component had a positive impact (Park, 2012). Differing results may be due to different empirical approaches and to the possibility that average results

BOX 8.1 ELIGIBILITY FOR THE U.S. TRADE ADJUSTMENT ASSISTANCE PROGRAM AND THE EUROPEAN GLOBALIZATION ADJUSTMENT FUND

The U.S. Trade Adjustment Assistance (TAA) program

The TAA program, originally created in 1962, provides assistance for labor adjustments associated with trade events. Such events include surges in imports, layoffs by either an upstream or downstream producer in an industry facing a surge in imports, or a shift in production to another country. To obtain TAA benefits, a group of workers adversely affected by foreign trade must first file a petition with the U.S. Department of Labor. A petition may be filed by a group of three or more workers, an employer of a group of workers, a union, a state workforce official, an American Job Center operator/partner, or another duly authorized representative. Once a complete petition is filed, the Office of Trade Adjustment Assistance (OTAA) opens an investigation to determine whether the group of workers meets the eligibility requirements. This investigation may include contacting the workers' company, customers of the workers' company, the petitioners, unions, cooperating state agencies, or other relevant sources, as needed, to collect data. If the worker group meets the criteria, a certification will be issued, after which each worker in the group must apply individually for services and benefits through their local job center.

The European Globalization Adjustment Fund (EGF)

The EGF program, created in 2007, provides assistance if workers have been made redundant as a result of a globalization event, which is defined as a major structural change in world trade patterns—such as an increase in imports, a sudden shift in trade in goods or services, offshoring, or a decline in market share—or as result of a global financial crisis. An authority in the EU Member State (national, regional, or local) is responsible for defining the needs of the respective workers, designing the appropriate measures, filing the application with the EU, and implementing the measures once they are funded. Applications are accepted if one of two intervention criteria are fulfilled: (i) at least 500 workers have been made redundant at a single firm over a period of four months or (ii) at least 500 workers in the same sector, particularly in small or medium-sized enterprises, have been made redundant over a period of nine months.^a Applicants must submit a reasoned analysis of the link between the redundancies and the major structural changes in world trade patterns. This analysis must be based on statistics and other information to show that the intervention criteria have been met.

^a The second criterion is included to address labor displacements in small and medium-sized enterprises.

hide varying impacts across groups of individuals. For instance, Park (2012) finds higher earnings among TAA participants who found jobs in the occupations for which they were trained. TAA participants who

found jobs in occupations that did not match their training program did not enjoy higher earnings.

The TAA program's impacts might also differ depending on the time horizon. For instance, over the short and medium term, TAA participants enjoy higher earnings than nonparticipants—a result driven by both higher incomes and greater labor force participation—but the higher returns tend to disappear after about 10 years (Hyman, 2018). There has been no equivalent evaluation of impacts using microdata for the EGF program, mainly because of insufficient information to perform such an evaluation (Claeys and Sapir, 2018).

The general perception is, however, that both the TAA and EGF are very small programs, making it difficult for them to have a considerable impact. From 2007 to 2016, the EGF financed only 147 cases covering 140,000 dismissed workers. Autor, Dorn, and Hanson (2013) show that TAA-related income transfers offset only about 10 percent of the income loss from Asian income competition. The budgets of these programs are relatively small given the size of these economies. More specifically, the budgets for the TAA and EGF were US\$800 million (2015) and US\$150 million (2014), respectively. Additional evidence indicates that many workers in Europe are not even aware of the EGF program (Cernat and Mustilli, 2017).

Trade-Specific versus Labor Market Programs: Pros and Cons

Assistance for trade-related adjustments can be provided with either trade-specific programs—like the TAA and the EGF—or broader programs. Whether governments should rely on trade-specific assistance programs or more general labor market policies to address the effects of trade is a matter of debate. Table 8.1 presents arguments for and against relying on programs that only address specific trade episodes. The case for a broad approach typically rests on a number of arguments. To begin with, workers may be unaware of the existence of trade-specific programs because they tend to be small. Also, it may be hard to prove that a change in a labor outcome is the result of a trade-related event as opposed to other shocks, like those driven by technology. Finally, a program that singles out trade could send the wrong message by feeding the perception that international trade is the only cause of worker displacement. Trade-related programs, however, might require fewer resources, which could be important for fiscally constrained countries. Most important, however, is that the design of either a trade-related or broader adjustment program should take into account the multiple factors that could potentially hinder the reallocation of labor.

Table 8.1 Arguments For and Against Trade-Specific Assistance Programs

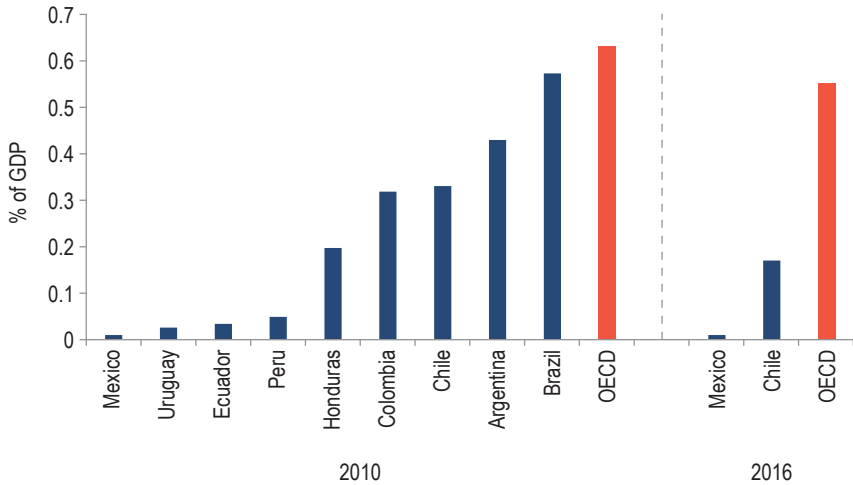
For	Against
Trade-specific programs can be cheaper than those covering all types of shocks.	Trade-specific programs tend to be small. Workers may be unaware that these programs are available
While the benefits of international trade tend to be spread across the entire economy (for instance, through lower prices), the costs of free trade are borne by a group of workers. These people require special assistance.	In practice, it is hard to distinguish a trade episode from other shocks, such as those from technology. It is better to use broad programs to address both types of shocks simultaneously.
Trade may be the most politically contentious reason for displacement related to globalization. Therefore, people disillusioned with globalization can see that there is a specific instrument to deal with the adverse effects of trade.	A program singling out trade creates the perception that trade is the only cause of worker displacement, feeding the backlash against international trade.

Different policies are designed to address different elements of the adjustment. Labor market policies are normally divided into active and passive policies. Active policies seek to increase people's chances of finding new jobs and typically include measures such as public labor intermediation (e.g., job search assistance and counseling), vocational training, or recruiting incentives. Passive policies, on the other hand, are designed to provide some type of support to unemployed individuals without necessarily helping them find new jobs. These policies, which include unemployment insurance, unemployment benefits, and redundancy compensations, are normally implemented for a limited time. Adjustment programs for individuals displaced for trade-related reasons may include elements of active and passive policies as well as complementary support, such as relocation allowances. The principle is to help workers transition rather than to preserve jobs that are no longer viable. By supporting workers rather than jobs, adjustment policies are likely to be more effective in reallocating labor.

Labor Market Policies in Latin America

Countries in Latin America do not have trade-related assistance programs similar to those in the United States (TAA) or Europe (EGF). Yet governments across the region implement labor market policies for various reasons, and, in principle, a combination of these policies could assist workers affected by trade shocks.³ But countries in Latin America typically spend less on active labor market policies than other regions. Figure 8.1 shows data from 2010 for nine Latin American countries, as well as data from 2016 for Chile and Mexico. Comparable data for OECD countries are also presented. The

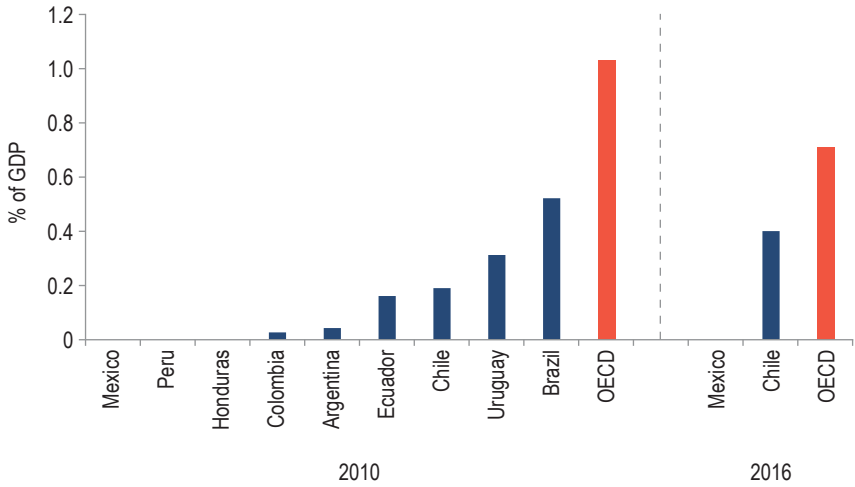
³ Rodrik (1998) uncovered a positive correlation between openness and government size, which he attributes to the need to provide social insurance to cushion the blow of trade shocks.

Figure 8.1 Public Spending on Active Labor Market Programs

Sources: Cerutti et al. (2014) and OECD Employment Database.

numbers indicate that the region's spending on active labor market policies lags behind the OECD region. In Latin America, the ministries of labor are generally responsible for offering short-term job training programs to unemployed people. Their services, however, frequently provide little coverage and tend to target a specific segment of the unemployed, such as youth, which is not the group most likely to be displaced by trade shocks (IDB, 2015). Limited targeting by, for instance, focusing on youth leaves other (middle-aged and older) workers without effective assistance in the face of a trade shock.

Passive labor market policies, like unemployment insurance, can help smooth consumption during the transition, but they too are used infrequently in Latin America. In principle, people with even a small cushion of income can spend more time looking for the right job and even enroll in training programs while unemployed. These instruments can, therefore, play an important role in returning the unemployed to the labor market with the right skills and a good job (Alaimo et al., 2015). However, unemployment insurance is not widely used in Latin America (see Table 8.2), and even where it does exist coverage is very low. For instance, in Brazil, the country with the highest coverage in the region, only 13 percent of unemployed people receive benefits, compared to 26 percent in the United States and 40 percent in Canada (Alaimo et al., 2015). As with active labor market policies, Latin American countries spend less on passive labor market policies than other regions (see Figure 8.2).

Figure 8.2 Public Spending on Passive Labor Market Programs

Sources: Cerutti et al. (2014) and OECD Employment Database.

Severance pay and temporary employment programs are additional policies that provide income support during unemployment, but they are limited tools when dealing with trade-related labor market adjustments. Columns 3 and 4 of Table 8.2 show the prevalence of severance pay regulations and temporary employment programs in Latin America. Severance pay can be a useful instrument for smoothing consumption during periods of unemployment (Maclsaac and Rama, 2001; Kugler, 2002), but it also serves as a mechanism for job protection by raising the cost to the firm of dismissing a worker. Accordingly, stringent severance pay regulations can inhibit turnover, particularly for certain groups of workers (see Montenegro and Pagés, 2004) and potentially limit the need for labor reallocation from a trade episode. The average dismissal cost (as a percentage of annual salary) for a firm in Latin America and the Caribbean is about 70 percent higher than for the average firm in the OECD (Alaimo et al., 2015).⁴ Temporary employment programs on the other hand, are commonly used in Latin America to guarantee a minimum income for poor, unskilled workers (see

⁴ Severance pay, which is the oldest form of social protection, has been popular in Latin America in part because the system relies on the employer and thus, does not strain public sector administrative capacities. But as states improve their management and administrative capabilities, additional instruments, such as unemployment insurance, should be considered (Alaimo et al., 2015).

Table 8.2 Income Support Instruments in Latin America

Country	Unemployment insurance	Unemployment insurance individual savings accounts (UISA)	Severance pay	Temporary employment programs
Argentina	Yes		Yes	Yes
Bahamas	Yes			
Barbados	Yes		Yes	Yes
Belize				
Bolivia			Yes	Yes
Brazil	Yes	Yes	Yes	
Chile	Yes	Yes	Yes	Yes
Colombia		Yes	Yes	
Costa Rica			Yes	Yes
Dominican Republic		Yes	Yes	
Ecuador				Yes
El Salvador			Yes	
Guatemala				
Guyana				
Haiti			Yes	Yes
Honduras				
Jamaica			Yes	Yes
Mexico			Yes	Yes
Nicaragua		Yes	Yes	Yes
Panama				Yes
Paraguay		Yes	Yes	Yes
Peru			Yes	
Suriname				
Trinidad and Tobago			Yes	Yes
Uruguay	Yes		Yes	Yes
Venezuela	Yes		Yes	

Source: Alaimo et al. (2015).

Table 8.2). The employment offered tends to last from three to six months, generally on labor-intensive projects such as repairing and maintaining roads, buildings, and public spaces. The evidence, however, indicates that such programs do not increase participants' chances of finding a new job at the end of the intervention, and the stigma of participating in these programs can have adverse effects (Alaimo et al., 2015). In their current form, they do not seem to be an appropriate tool for helping trade-affected workers reenter the labor market.

Despite a growing body of research on the effectiveness of labor market policies in Latin America and the Caribbean and other regions, mixed results from various evaluations make it difficult to extract a unified message regarding the impacts of these policies on employability and earnings. McKenzie (2017), for instance, presents a survey based on 24 randomized control trials that evaluate an array of different labor market programs and concludes that many of these policies are much less effective than policymakers normally assume. Card, Kluve, and Weber (2018), however, provide a more nuanced view. Based on more than 200 evaluations of active labor market policies around the world, they conclude that while average short-term impacts are close to zero, impacts become positive two to three years after completion of the program; programs emphasizing some form of human capital accumulation typically show the best outcomes.

Differences in results are related to the evaluations' methodologies, the quality of the interventions, and the context in which the interventions are carried out, among other factors. There could be multiple reasons why a policy might work in one context but not in another. If the main reason behind a slow reallocation of labor is reluctance to move due to high housing costs, policies designed to match people with employers in other locations (a policy targeting search problems) may have little impact. Even the right instrument could be ineffective. For example, if new skills are required, but there is a mismatch between the skills covered by training and those in demand, the impact on employability is likely to be low. Moreover, the same type of program may be more effective in some countries than in others because the skills level of the target population varies geographically (Kluve, 2016).

While opinions vary about what works, some common recommendations are emerging for particular areas of intervention. One of the most analyzed labor market policies in Latin America is training. Reviews of studies of the effectiveness of training programs in Latin America include Ibarrarán and Rosas Shady (2009), Urzúa and Puentes (2010), and Kluve (2016). Box 8.2 presents an IDB review of studies evaluating training programs around the world. Some of the most important recommendations from these studies are: (i) comprehensive programs that combine more than one component (e.g., classroom training with on-the-job training) tend to be more effective; (ii) programs provided by private sector institutions, or programs that receive inputs from the private sector have a greater impact because private sector participation reduces the mismatch between the skills developed through training and the skills that are in demand; (iii) programs providing technical skills leading to a craft

BOX 8.2 ADULT TRAINING: WHAT IS KNOWN?

This box presents a review by Busso and Messina (2019) of the effectiveness of active labor market policies. In order to approximate the population of interest (workers displaced because of trade), the analysis focuses on programs that aim to re-skill workers by providing them some form of training. Accordingly, job search programs, employment subsidies, and youth training programs that target first-time job seekers are excluded from the analysis.

This review is based on the IDB's SkillsBank,^a which systematically examines the effectiveness of programs that have been credibly evaluated. The analysis includes only studies in which proper counterfactuals are constructed and credible identification strategies are used. In this systematic review of the literature, the unit of analysis is the program. The evaluation covers a total of 40 programs that provide skills to unemployed workers. It focuses on two outcomes: the probability of finding a job and wages.

Figure 8.2.1 presents the results of the analysis on the probability of finding a job. The overall effect across all training programs examined is positive and statistically significant at the 5 percent level. Overall, program participants' probability of finding a job increases by 2.6 percentage points after the program. Similar results for wages (not shown) suggest that participating in a training program increases wages substantially, by 0.08 of a standard deviation.^b

Program estimates vary widely, suggesting that the characteristics of the program and the context in which it was implemented are likely to be important. To shed more light on the sources of heterogeneity, the interventions are separated by length (less and more than 480 hours of training), type of skills provided (technical skills, soft skills, or both), nature of training (classroom only vs. a combination of classroom training plus an internship), implementing agency (government vs. NGO or multinational), training provider (private vs. public), and region of implementation (Latin America and the Caribbean vs. other region). Figure 8.2.2 summarizes the results for employability. There is an equivalent set of results for wages (not shown).

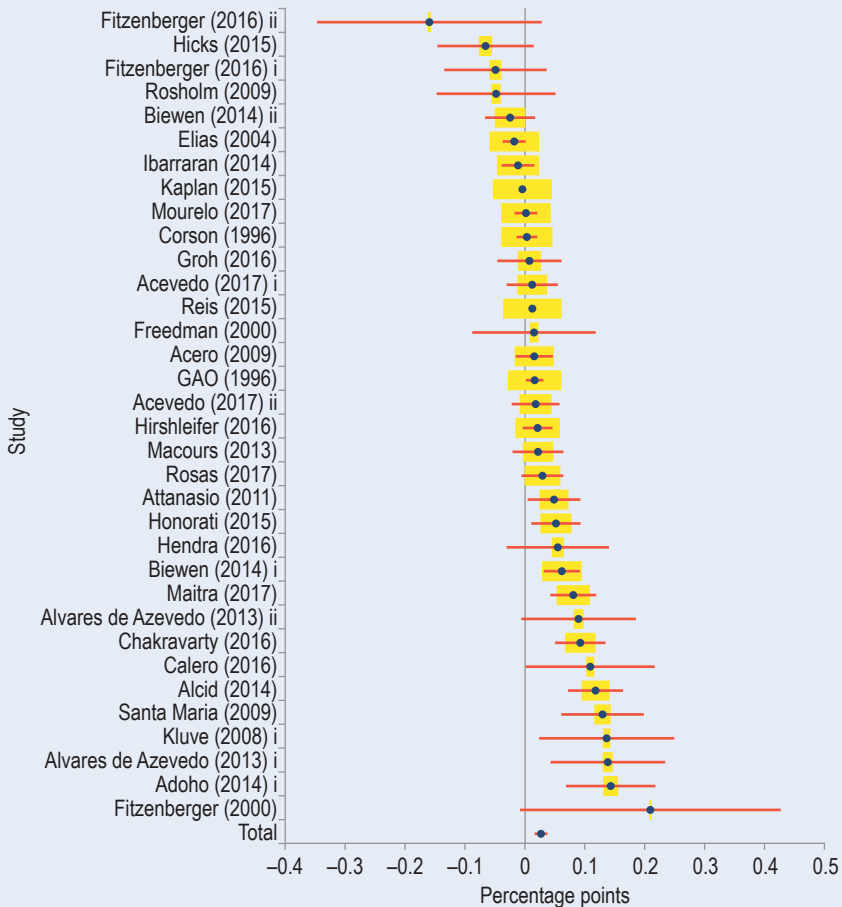
Programs that provide only technical skills are found to have a positive impact, while those that provide soft skills only are found not to be effective. The effect of combined programs (technical + soft skills) and those that provide just technical skills is virtually identical.

Programs that combine classroom teaching with on-the-job internships have slightly larger impacts on employment and wages than those that just offer training in the classroom, but the differences between the two groups are not statistically different. Programs provided by private sector institutions display a larger increase in the probability of employment than programs in which the training has been designed and provided by public agencies (which on average have no effect on employment). These differences are statistically significant only for the probability of employment.

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BOX 8.2 ADULT TRAINING: WHAT IS KNOWN? *(continued)*

Figure 8.2.1 Effect of Training Programs on Employment (Change in the Probability of Being Employed Due to Participation in the Training Program)



Source: Based on Busso and Messina (2019)

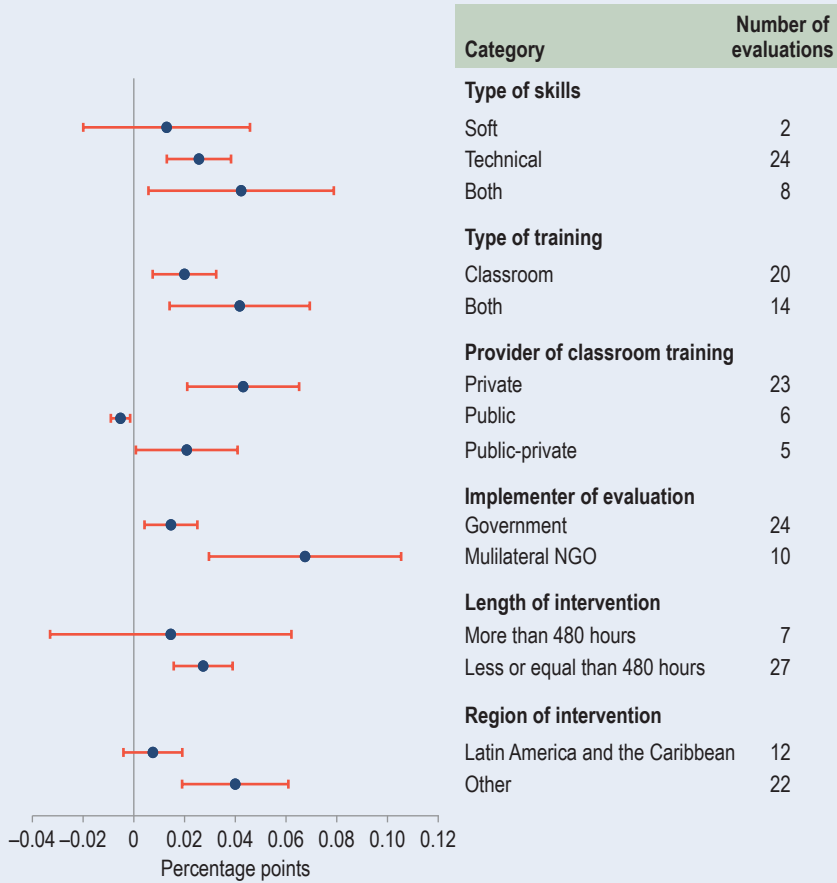
Note: Each bar represents the average effect size and its 95% confidence interval reported in each of the studies listed on the y-axis. For readability, only the first author of the study and the year of publication are reported. The “i” and “ii” refer to different evaluations presented in the same studies. Please see www.iadb.org/skillsbank for more details.

Small-scale interventions run by NGOs and multilaterals have a larger impact on employment than government interventions, which tend to be implemented on a larger scale. These differences do not translate to wages, though. The wage effects of government and NGO/multinational-run programs are positive and significant,

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BOX 8.2 ADULT TRAINING: WHAT IS KNOWN? *(continued)*

Figure 8.2.2 Types of Training Programs and Employability (Change in the Probability of Being Employed Due to Participation in the Training Program, By Program Characteristic)



Source: Based on Busso and Messina (2019).

and although their wage effects are slightly larger, the differences with government programs are not statistically significant.

While the estimated impacts of long programs vary more, their effect on employment and wages is virtually nil. On the other hand, most short programs tend to have positive effects. Programs implemented in Latin America and the Caribbean were also separated from those implemented in other regions. Treatment effects did not vary significantly in terms of either employment or wages. However, program effects on employment in Latin America and

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BOX 8.2 ADULT TRAINING: WHAT IS KNOWN? *(continued)*

the Caribbean are not statistically different from zero, whereas they are different from zero in the rest of the world, a feature that deserves further exploration.

To sum up, the evidence shows that providing training for displaced workers may work. On average, training programs have some effect on employment and wages and provide a potentially viable route for re-skilling workers who have suffered the negative consequences of trade. However, the evidence also shows that the effectiveness of training initiatives varies widely. Programs must be well-tuned to the needs of the labor market and the realities in place, and more systematic evaluations of programs are needed to begin to understand what works and what does not.

^a The SkillsBank, which can be found at <https://skillsbank.iadb.org>, is a web platform that provides a repository of rigorously evaluated programs designed to develop skills for people in different age groups (from early childhood to adulthood).

^b Some studies report the percentage change of wages due to the programs; others report differences in means, i.e. how many more (or less) additional dollars the program participants obtained due to program participation. Accordingly, the wage effects are standardized into a mean difference, which is the difference in means divided by the standard deviation of wages. Thus, the wage effects of programs are interpreted as a percentage of the standard deviation of wages.

or a trade that is currently demanded by employers are more effective than programs focusing solely on soft skills that are not specific to a job or a career.

Much has yet to be learned about the effectiveness of labor market policies, particularly in the context of trade-induced labor market disruptions. In this area, relevant questions remain unanswered. For instance, to what extent do the general training programs already available in the region facilitate the reallocation of workers specifically affected by trade shocks? To help inform this discussion, the IDB conducted an evaluation of training programs in Brazil, the country in Latin America that has made the greatest effort in terms of both active and passive labor market programs (see Box 8.3).

Training and Employment: A Case Study in Brazil

SENAI is a network of nonprofit training centers established by the Confederação Nacional da Indústria (CNI), Brazil's largest provider of training to the manufacturing sector. The programs are funded primarily by the public sector with resources from a payroll tax. Operating through a system of national and regional bodies with delegates from the ministries of education and labor, SENAI has training centers in every state in Brazil, and more than 800 centers in total (see

BOX 8.3 SENAI TRAINING AND LABOR ADJUSTMENTS TO TRADE

While assistance programs in Latin America do not specifically target the impacts of trade, many countries in the region use active labor market policies to assist the unemployed. Do these general labor market policies help workers displaced by trade shocks find new employment? This box addresses this question by evaluating training programs provided by the National Service for Industrial Training (SENAI) in Brazil. The material is based on Blyde, Pires, et al. (2019), a research project made possible by collaboration between the IDB, SENAI, and the Ministry of Labor and Employment in Brazil.

The study builds a dataset that allows for tracking a worker's employment history and training activities from 2009 to 2015 by merging a matched employer-employee dataset (*Relação Anual de Informações Sociais*, RAIS) that spans the universe of formal firms in Brazil with data at the individual level on training from SENAI. Using this data, the authors explore the extent to which training impacts the probability of reemployment and whether the impact varies with the exposure of the displacing sector to import competition.

The analysis is focused on SENAI qualification courses aimed at upgrading or broadening skills. These courses are open to the general public aged 16 years and above, regardless of educational achievement. The courses are usually offered for a fee that varies by location, type of course, and time. Some courses may be offered for free, and some vulnerable populations may obtain subsidized training through public programs.

Each year, the analysis observes workers who are not in the labor market but were employed in the manufacturing sector the year before. During this time out of the labor market, some individuals pursued training while others did not. Whether the individual reentered the formal labor market by the end of the following year is then examined. The sample consists of workers who have been involuntarily displaced, defined as workers who have been either dismissed or whose contracts have ended. This identification is based on a variable in RAIS that specifies the reason for separation (dismissal, quit, end of contract, retirement, death, etc.).

Table 8.3.1 presents some basic statistics on the (unconditional) transition probabilities of displaced workers according to their training status. Overall, trainees have a 13.4 percentage point higher probability of returning to the formal labor market (56.5 percent) than nontrainees (43.1 percent). The situation is

Table 8.3.1 Probability That Workers Displaced from Manufacturing Will Be Reemployed in a Year (Percent)

	Trainees	Nontrainees
All manufacturing sectors	56.5	43.1
High import penetration sectors	57.8	43.2

Source: Based on Blyde, Pires, et al. (2019).

Note: The table reports (unconditional) transition probabilities of displaced workers according to the status of their training by SENAI.

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BOX 8.3 SENAI TRAINING AND LABOR ADJUSTMENTS TO TRADE *(continued)*

similar for workers displaced from high import penetration sectors; those who underwent training have a 14.6 percentage point higher probability of returning to the labor market (57.8 percent) than nontrainees (43.2 percent).

The evaluation consists of an econometric model in which the main variable has a value of one if an individual displaced from a manufacturing sector is reemployed in the formal labor market a year later. The variable is assigned a value of zero if the individual does not return to the formal labor market. The main explanatory variable identifies whether the individual underwent training after the displacement. Additional explanatory variables include the individual's age, gender, education, and tenure, as well as the size (number of employees) of the displacing firm, and fixed effects by year, sector, and municipality.

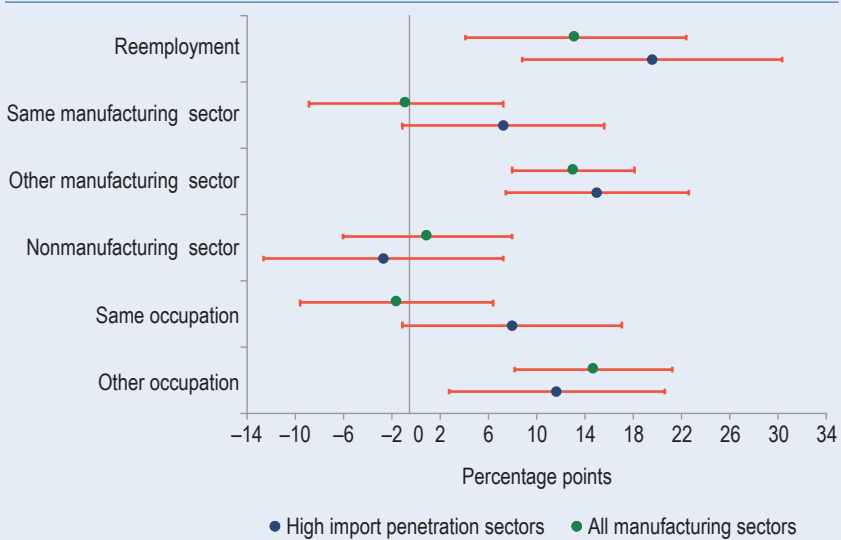
The main challenge in evaluating training programs is to control for selection into training. The decision to engage in training is likely driven by individual characteristics that are difficult to observe. For example, more-motivated individuals are more likely to pursue training but they are also more likely to be reemployed. Therefore, the estimated impact could be capturing these differences in motivation rather than just the effect of training. Thus, the empirical strategy needs to disentangle the impact of training from that of these unobservable characteristics. One way to do this is by using instrumental variables. The intuition is to use a factor that influences the chances of pursuing training but does not depend on individual characteristics. In this analysis, the instrument is the number of courses per one-thousand inhabitants that are available in the municipality where the worker was last employed and in its contiguous municipalities. Independent of their motivation, individuals with better access to training courses are more likely to engage in training.

The impacts of training on the probability of returning to the labor market are presented in Figure 8.3.2. Displaced workers who pursued training have a 13.2 percentage point higher probability of being employed in the period after displacement than workers who did not undergo training. The probability for all manufacturing sectors is similar for sectors with high import penetration (see the first row labeled "reemployment").

Next, the evaluation examines the extent to which trainees relocate to other sectors. For this purpose, the authors first decompose the overall probability of reemployment into the probability of reemployment in the same manufacturing sector of displacement, in a different manufacturing sector, and in nonmanufacturing. Second, they decompose it into the probability of entering the same occupation and a different occupation. The main message that arises from Figure 8.3.2 is that the overall impact of SENAI training is explained overwhelmingly by workers switching manufacturing sectors or occupations, independent of the import penetration of the displacing sector.

In summary, the estimates show that training facilitates the transition to new employment. Training does not ease reentry into the same sector or occupation, but it does help reentry into a different manufacturing sector or a different

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BOX 8.3 SENAI TRAINING AND LABOR ADJUSTMENTS TO TRADE (continued)**Figure 8.3.2 Impact of Training on the Probability of Labor Market Reentry (Percentage Points)**

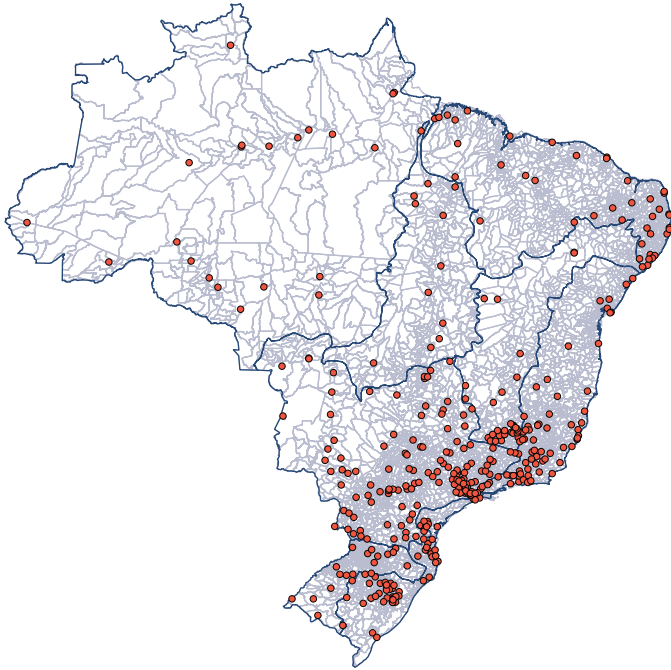
Source: Based on Blyde, Pires, et al. (2019).

Note: The figure shows the effects of training by SENAI on the probability of reemployment of displaced manufacturing workers. Each point estimate comes from a separate regression that includes as controls the individual's age in years, an indicator for female, years of education, years of tenure at the displacing firm, years of tenure squared, and the size (i.e., the logarithm of the total number of employees) of the displacing firm, in addition to sector-year and municipality fixed effects. Instrumental variable estimation is used to control for selection into training where the instrument is the number of courses per thousand inhabitants that are available in both the worker's own and contiguous municipalities.

occupation. The effects are similar in sectors that have a high degree of exposure to import competition. These results support the idea that training facilitates the reshuffling of labor across sectors.

Figure 8.3).⁵ SENAI offers a variety of training programs, including apprenticeship courses designed to support young workers, but it also has qualification courses for upgrading and broadening skills. The IDB evaluation described below focuses on the qualification courses.

⁵ SENAI is part of Sistema S in Brazil, a set of vocational training institutions managed by CNI. SENAI focuses on training for the manufacturing sectors, while similar institutions that are also managed by CNI provide training for agriculture and the service sector.

Figure 8.3 Location of SENAI Training Centers

Sources: IDB, with data from SENAI.

Box 8.3 details an analysis of the impact of SENAI's courses on employment. The study examines individuals who held formal jobs in the manufacturing sector but then exited that labor market. After exiting, some people pursued training while others did not; the analysis measures training's impact on the probability of returning to the labor market.⁶ The results indicate that training increases the probability of reentry into the formal labor market after displacement by about 13.2 percentage points and is effective for workers displaced from sectors that are highly exposed to import competition. Given that the overall probability of reentry into the formal labor market for non-trainees is 43.1 percent for nontrainees, the estimate of 13.2 percentage points implies an increase of 30.6 percent in this probability for trainees.

The estimated impact is almost exclusively explained by reentry into a different manufacturing sector or occupation than the one of displacement.

⁶ Identifying an individual as being out of the labor market or unemployed means that they are out of the formal labor market. Since RAIS only surveys formal firms, it is not possible to track individual trajectories in the informal labor market.

The sectoral nature of trade shocks implies that workers displaced from trade-exposed sectors are most likely expected to find jobs in a different sector, a process that can be slow and costly. By showing that SENAI courses improve the probability of finding jobs in different sectors, the results suggest that this type of course helps reduce the time it takes for workers to reallocate.

Importantly, these estimates should not be applied in a blanket manner to other contexts, especially because the quality of vocational training programs in other countries may not be the same as in Brazil. Nevertheless, the results support the idea that broad labor market policies could have an impact on trade-related adjustments, even if they are not specifically designed to deal with trade-related displacements.

More research is needed in the area of labor market policies and adjustment in Latin America, particularly with respect to disruptions related to trade and technology. There is still much to learn about both policy design and the contexts in which an intervention may or may not work. These topics call for high-quality information, meaning that government agencies in the region should partner with the academic community and think tanks in order to share their data and knowledge of the situation on the ground.

Finding, designing, implementing, and fine-tuning labor market and adjustment policies is an economic, social, and political priority. The workers displaced by the changes brought on by trade liberalization can be either big losers, if they remain unemployed, or big winners, if they are prepared for new and better jobs. In turn, whether they are losers or winners will determine whether they become an asset or liability to society in general and a political ally or enemy of trade reform.

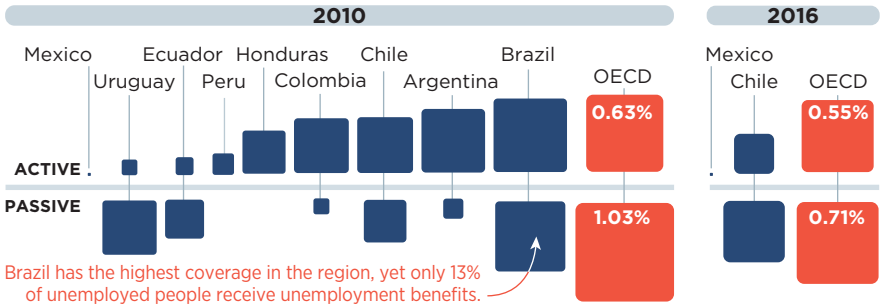
TAKING STOCK

LABOR ADJUSTMENT POLICIES: WHAT WORKS?



Latin American countries don't have trade-related assistance programs like the U.S. or Europe. They also spend less than other regions on labor market policies, active (e.g., training) or passive (e.g., unemployment benefits).

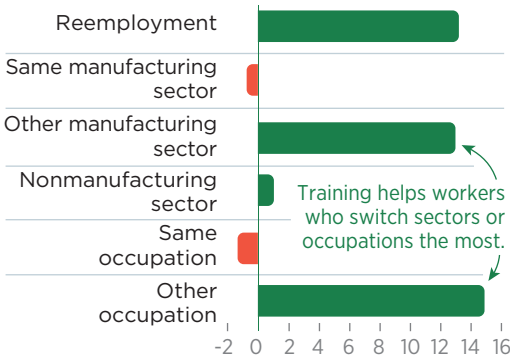
Public Spending on Active and Passive Labor Market Programs (% of GDP)



The human capital barrier is the first factor restricting labor reallocation. Training works, but it must be well-tuned to the needs of the labor market.

Impact of Training on the Probability of Labor Market Reentry in Brazil

High import penetration sectors (percentage points)



Training Programs Most Likely to Lead to a Job

- Classroom training combined with internships
- Training provided by the private sector
- Technical skills, rather than soft skills, provided
- Small-scale programs by NGOs and multilaterals
- 2.6% increase in trainees' probability of landing a job

THE BOTTOM LINE

While trying to maximize the benefits of trade, governments should alleviate the impacts on the losers. Initiatives are needed for social reasons and to prevent a backlash against globalization.

9 Productive Development Policies: From Protection to Global Integration

The history of industrial policies—or productive development policies (PDPs)—in Latin America and the Caribbean has been a checkered one. Unlike those in East Asian countries, which were largely aimed at taking advantage of opportunities afforded by globalization, industrial policies in the region took a more protectionist bent. Instead of supporting a global integration strategy, they were used to isolate the region's economies, protecting uncompetitive firms from the challenges of international competition. And rather than using them to address market failures, they were frequently enacted in response to rent-seeking activities by the private sector.

IDB's 2014 Development in the Americas report, *Rethinking Productive Development*, classified PDPs along two important dimensions. The first is their scope. Policies can focus on specific sectors (vertical policies) or be broad-based, with no specific attempt to benefit any industry in particular (horizontal policies). The second dimension relates to the type of intervention: Support can take the form of public inputs (or public goods) that seek to enhance productivity, or of market interventions such as subsidies, tax breaks, and protection. These two dimensions can be combined in a 2X2 matrix, dividing the universe of PDPs into four quadrants (Figure 9.1).

Why classify PDPs in this way? Because the type of policy considerations relevant in each of the quadrants differs significantly, as does the risk associated with interventions. In particular, the risk of rent-seeking behavior and capture is especially strong in the quadrant corresponding to vertical, market interventions. Subsidies and protection, particularly when specific to a sector, tend to generate large concentrated benefits

Figure 9.1 A Typology of PDPs

	Horizontal	Vertical
Public inputs		
Market interventions		

that directly affect firms' bottom lines. Beneficiaries have an incentive to organize and lobby for continued support. Those that do not benefit have incentive to lobby in order to receive benefits of their own.

For decades, the PDP landscape in Latin America was dominated by interventions in this quadrant. Examples abound. In Argentina, a 1972 industrial promotion law combined protection and tax breaks to favor production of electronics on the island of Tierra del Fuego. This policy is still a major part of Argentina's industrial policy (see Chapter 5). In Brazil, a 1984 law stipulated that only Brazilian firms would be allowed to sell computer hardware in the domestic market. In Costa Rica, rice is heavily protected, but rice processors are assigned tariff-free import quotas in proportion to their purchases of domestic rice (see Chapter 5 and Crespi et al., 2014).

Fortunately, the PDP landscape in Latin America and the Caribbean is slowly changing. While vertical market interventions probably still account for most PDP-related expenditures and top the list of private sector demands, other, more fruitful approaches are beginning to emerge. Rather than isolating the domestic economy from the world, these approaches are consistent with a global integration strategy.

In some cases, their goal is to enhance the productivity of sectors in which a country has (at least potential) comparative advantages, by identifying obstacles to their development—coordination problems, inadequate regulation, insufficient public goods—and engage in public-private collaboration to identify and implement the required solutions. These can be thought of as offensive policies, in the sense that they seek to take advantage of opportunities afforded by globalization. Notice that these policies are also vertical in that they seek solutions in specific sectors. But the solutions they seek for the most part take the form of public inputs, rather than the more risky vertical market interventions.

In other cases, the goal is to address the problems of those who lose from global integration. This second class of PDPs can be thought of as defensive policies. This class of policies relies largely on subsidies. But the novelty is that, rather than using subsidies to shore up uncompetitive sectors with no hope of acquiring comparative advantage, the new approach relies on subsidies to help transform firms and sectors, and to facilitate the transition of factors of production—most notably, workers—from uncompetitive firms in uncompetitive sectors to more promising firms in competitive sectors of the economy.

This chapter will illustrate these novel PDP approaches by presenting detailed accounts of two specific policies. On the offensive side, the focus will be on Peru's *mesas ejecutivas*. The *mesas*, which rely on strong public-private collaboration and a great deal of public-public coordination, have already sparked interest in other countries, including Argentina, which has implemented its own *Mesas Sectoriales* program influenced by the Peruvian experience. On the defensive side, the focus will be on Argentina's *Programa Nacional de Transformación Productiva*, which combines unemployment benefits for displaced workers, employment subsidies for competitive firms to absorb them, and credit subsidies to facilitate the productive transformation process.

Peruvian *Mesas Ejecutivas*

The Peruvian *mesas ejecutivas* are a public management tool developed in 2014 by Peru's former Minister of Production, Piero Ghezzi. They are fora for public-private interaction in which obstacles to a sector's development are identified and solutions quickly found and implemented. The focus on rapid implementation is a key component of the *mesas*, and the reason why they are called *ejecutivas*, in contrast to many other public-private fora where there is much dialogue but little action.

Within the taxonomy of PDPs discussed above, the *mesas* are vertical public inputs.¹ They address sector-specific problems and provide public input-type solutions: regulatory changes required for a sector to develop or thrive; specific public infrastructure; upgrading of public agencies that provide services to the sector; or resolution of various types of coordination problems. These obstacles and solutions tend to be highly sector-specific. So how can governments identify them? Doing so requires an important dose of public-private interaction.

¹ There are a few exceptions, like the logistics *mesa*, that dealt with a specific transversal issue, namely problems of access to the port of El Callao.

The Perils and Promise of Close Public-Private Interaction

Close public-private interaction in the management of vertical PDPs, however, is not without risks. In fact, depending on the way this interaction is structured and the nature of the policies involved, close public-private interaction may exacerbate the risk of capture and lead precisely to the inefficient policy outcomes that characterized industrial policies in the past. In this regard, the experience in Brazil in the late 1980s and early 1990s with *sectoral chambers*—sectoral fora bringing together bureaucrats and business associations which, coincidentally, were also called at times *grupos executivos de política sectorial*—is illustrative (Fritsch and Franco, 1993).

The policy instruments tackled by the sectoral chambers were predominantly market interventions, including agreements to contain prices in exchange for tax benefits (in the auto industry, for example), local content targets, and other fiscal and regulatory incentives. According to Fritsch and Franco (1993), these organizations were “corporatist arrangements through which active minorities exploited unorganized majorities,” seeking privileges and shifting the costs to other economic agents.

Problems of government capture such as those discussed by Fritsch and Franco led to much skepticism about public-private interaction and a dominant view, during the years of the Washington Consensus, that the public and private sectors should have completely separate roles. The government should provide an adequate business environment, set the rules of the game, and put in place certain instruments to address market failures. If the government has all the necessary information to choose the right rules, the search for profits by firms will lead to good outcomes, without the need for risky public-private interaction.

This view, however, is based on a false premise. Particularly when it comes to sector-specific regulations, coordination problems, and public inputs, governments *do not* possess all the information. Much of it resides within the private sector. Firms know better the obstacles they face, the impact that changes in regulations may have on their businesses, and the public inputs they need to compete on a global scale. Thus, when it comes to these issues, public-private collaboration is essential.

Of course, focusing on public inputs does not eliminate the risk of capture. For example, a sector may want environmental regulations to be relaxed beyond what is socially desirable or push for public inputs that benefit the sector disproportionately but are funded by all. In structuring these public-private interactions, the government should not abdicate its role or

delegate policymaking to the private sector.² And the decisions should be transparent and open to public scrutiny, even though the risk of capture and rent-seeking in vertical public inputs is significantly lower than in the case of vertical market interventions (see Fernández-Arias et al., 2016).

Identifying the right public inputs, however, is not enough; they must also be delivered. Effectively providing these inputs often requires coordination within the public sector. A labor training program for the mining sector may be of the utmost importance for the Ministry of Mining. But without the collaboration of the Ministry of Labor, in charge of labor training, the required solution may not be provided. And public-public coordination is difficult. Often, the public sector works with a silo mindset, with different agencies making autonomous, uncoordinated decisions and sharing little or no information.³

The Peruvian *mesas ejecutivas* address, at once, the problems of private-public collaboration and public-public coordination associated with the identification and provision of sectoral public inputs. While other programs in the region—such as the Cluster program in Chile during the first Bachelet government, or the Productive Transformation Program in Colombia during the Uribe and Santos administrations—have attempted to do just that, the *mesas ejecutivas* have some distinctive features that make them especially interesting and, to date, the most successful of this class of programs.

The *mesas* were born as part of a broader productive diversification plan launched by the Production Ministry in 2014. While there were other important components (most notably, a series of sector-specific technological centers called CITES), the *mesas* quickly became the linchpin of the plan.

The initial inspiration came from the minister's participation in the Olmos Project, a large-scale irrigation project led by the office of the chairman of the Council of Ministers involving several areas of the public sector (including the ministries of agriculture, transport, housing, and production). The project, which involved construction of roads, a port, electricity generation facilities, and even a new city, required substantial coordination

² In fact, the mining sector did ask to relax environmental regulations in the context of their *mesa* and were rebuffed by the core *mesa* team.

³ Ghezzi (2019) provides a good example of lack of coordination related to the aquaculture sector. The sector is supervised by several public agencies, including the *Superintendencia Nacional de Fiscalización Laboral* (SUNAFIL) and the *Organismo Nacional de Sanidad Pesquera* (SANIPES). For worker's safety considerations, SUNAFIL required the use of steel toe security footwear. But for food safety considerations, SANIPES banned the use of steel toe shoes. These coordination problems were resolved within the Aquaculture *mesa* through the development of joint intervention protocols involving these and other public institutions.

among the ministries, highlighting the value of public-public coordination in solving development problems. This experience prompted the minister to launch the *mesas*. There was a dose of serendipity involved.⁴ For reasons unrelated to the Olmos project, the chairman of the Council of Ministers stepped down, and Ghezzi enlisted the help of the small but capable support team coordinating the Olmos project. They became the core of the dedicated *mesa* team that will be discussed in more detail below.

How Do the Mesas Ejecutivas Work?

As in Chile's Cluster program (see Crespi, Fernández-Arias, and Stein, 2014), the original plan was to involve a consulting company in the selection of sectors and the definition of their action plans. However, with just two years remaining in the administration, the government decided to avoid the long process of identifying the ideal sectors, choosing instead to deploy the program quickly in a small number of sectors meeting reasonable criteria.⁵ And rather than establishing detailed roadmaps for each sector after a long diagnostic process, the need to produce quick wins led to rapid implementation of the *mesas* without such plans. Perhaps by accident, they engaged in a process in which planning and implementation were part and parcel of a single iterative, recursive process, rather than successive steps in a linear process of diagnostics followed by implementation. As it turns out, this was in line with the ideas of authors such as Sabel and Zeitlin (2012) and Andrews, Pritchett, and Woolcock (2013).⁶ This recursive process, which separates the Peruvian experience from related programs in the region, is a key feature of the *mesas ejecutivas*. In the words of Ghezzi (2019), "Experience shows that only during implementation are the problems understood

⁴ See Sabel's discussion of "the happy accident of Mesas Ejecutivas" in his prologue to Peruvian Ministry of Production (2016).

⁵ Sector selection was not seen as "picking winners." Rather, their limited bandwidth required the team to be selective, working with a few sectors first and moving sequentially to others as problems were addressed and the team gained experience in managing the program.

⁶ In Sabel and Zeitlin's (2012) "experimentalist governance," the tasks that need to be carried out in order to solve a problem are not known *ex ante*, but are discovered during implementation. It is in the process of implementation that learning takes place, capabilities are upgraded, and policy design adapts. Similarly, Andrews, Pritchett, and Woolcock (2013) argue for "problem-driven iterative adaptation," where different approaches to solve specific problems are tried iteratively until the problem is solved, generating a process of evaluation and learning that is used in the next iteration and leads to policy adaptation. Neither of the approaches involves a separation between the policy design stage and the implementation stage.

in depth and with sufficient granularity. The implementation improves the diagnosis, which is almost by definition preliminary. Therefore, the approach that works best is not linear, but recursive.”

Early on, the *mesas* team decided to work with a few sectors that had: competitive potential; a committed private sector with a good grasp of their challenges and opportunities, and; the potential to “move the needle.” The first sector chosen was forestry, quickly followed by textiles and aquaculture. By the end of Humala’s administration, the *mesas* program had expanded to 10 sectors.

Sector selection involves a process called “*pre-mesas*.” Once a sector expresses interest, the core team engages in a series of meetings with the main private and public actors to gauge whether it would be a good candidate. To move forward, the private counterpart must be committed to the process and open to the type of solutions the *mesas* can provide. Once selected, interaction continues before the first formal meeting, to be able to present some solutions soon after the *mesa* is inaugurated. This conveys a strong message to the private participants that the *mesas* mean business and are more than just cheap talk. And at the same time, it forces public participants to leave their silo mentality behind and engage in proactive collaboration to produce solutions (Ghezzi, 2019).

Who participates in a *mesa ejecutiva*? On the private side, in addition to business associations, an effort is made to involve the owners/general managers of the most-important firms. They tend to be more aware of the opportunities available and the obstacles to the sector’s development. In some cases, the *mesa* includes strong representation of well-organized small- and medium-sized producers, which, in the forestry case, came together as a result of the program. With very few exceptions, unions are not part of the *mesas* in Peru.⁷

On the public side, all public agencies involved in the sector participate actively. For example, in forestry, key players include SERFOR (regulatory agency, reporting to the Ministry of Agriculture) and OSINFOR (enforcement agency, reporting to the office of the chairman of the Council of Ministers). In addition to the more permanent participants, some public agencies participate in specific meetings when issues under their purview need to be resolved. Such is the case of the *Corporación Financiera de Desarrollo* (COFIDE), which may be invited to help resolve access to finance issues. In the agricultural exports *mesa*, SENASA (Peru’s phytosanitary agency, which has a strong role in opening specific product markets

⁷ They do play a more important role in the *mesas* in Argentina, where unions have traditionally been much stronger.

abroad) and INIA (National Institute of Agrarian Innovation) play an important role, as does the Ministry of Agriculture.

The *mesas* are managed by a dedicated core team, originally housed within the Ministry of Production, but currently within the Ministry of Economics and Finance. This small, dedicated team is probably the most important component of the *mesa* machine, the little gear that makes the whole system work. Composed of senior staff with deep knowledge of the workings of the public sector and a knack for getting things done, they convene and chair the meetings, document agreements, and monitor progress. They need not be sector experts. Rather, they are seen as honest brokers who do not have a dog in the fight, and thus can keep a balanced view, make sure the positions of different stakeholders are heard, and steer the process towards identifying obstacles and finding and implementing solutions. While they sometimes contribute to solutions (for example, putting their legal experts to work drafting regulations for other ministries or agencies), typically they let other public agencies take the credit, which helps bring them to the table in the first place and keeps them engaged through a sense of ownership. Managing the *mesas* process requires considerable soft skills.

Most of the time, the problems identified in the *mesas* can be resolved by the regular participants. Occasionally, decisions exceed the technical level of the *mesas* and are escalated to the relevant minister, who then engages with other ministers or agency chiefs to resolve critical issues or ensure compliance. During the early days, when the *mesas* were housed within the Production Ministry, the strong support of the Ministry of Economics and Finance (a very powerful ministry in Peru) was key in ensuring that other ministries and public agencies remained engaged and delivered what the *mesa* required. This high-level political commitment and support is essential for the proper functioning of this instrument.

What type of issues does the *mesa* address? The focus is on regulatory issues (either because key regulations are missing or because cumbersome regulations need to be removed or changed), on missing public goods, or on solving coordination problems within government that prevent the sector in question from achieving better outcomes. As important as what problems the *mesa* addresses is what problems it does not address. Requests for tax relief or subsidized credit are not dealt with, thereby limiting rent-seeking behavior. Staying away from subsidies and tax breaks was an important condition for support from the Ministry of Economics and Finance. See Box 9.1 for the type of problems the *mesas* address.

Typically, plenary sessions are held every two weeks. Frequent meetings help keep momentum going and everyone engaged. They also provide opportunities for rapid adjustment of the list of problems and solutions. But

BOX 9.1 THE MESAS, THE FOREST, AND THE TREES

The sector chosen to launch the *mesa* program was forestry, including native forests and plantations. Given the availability of native forests and the existence of fast-growing species suitable for plantations, Peru has clear comparative advantages. But the country exported only US\$150 million of wood per year (Chile, with less-favorable natural conditions, exports US\$5 billion) and imported a substantial share of the wood used in construction. The plantation sector is also labor-intensive, with the potential to generate formal work in the Peruvian Amazon, a region without many alternatives, where many people are engaged in drug trafficking or illegal mining. Despite its potential, the sector was beset by myriad problems and had never been a high priority for the Ministry of Agriculture. Through their business associations, forestry firms requested a *mesa*. A series of meetings with sector participants convinced the authorities that they had a good private counterpart. That is how the first *mesa* was born.

At the outset, the private sector participants identified the lack of tax incentives as one of the main obstacles to their development. They requested an income tax exemption and subsidized credit. These requests were denied by the *mesa* team, as they lie outside of the scope of policies the *mesas* tackle. After a few sessions, several other issues were identified: (i) inadequate regulation (plantations required harvest permits; other activities required cumbersome procedures); (ii) lack of coordination between SERFOR and OSINFOR; and (iii) lack of financing with adequate maturity terms (see Peruvian Ministry of Production, 2016).

Because forestry regulations lumped together plantations with native forests, procedures for wood extraction were as restrictive in plantations (where they make no sense) as they were in native forest concessions (where they make perfect sense). Thanks to the *mesa*, wood extraction in plantations no longer requires permits. In the native forest sector, concessions with certification from the Forest Stewardship Council and its very demanding standards no longer require regular audits by OSINFOR.

The native forest sector has widespread problems of informality and illegal logging. In this context, lack of adequate coordination between SERFOR and OSINFOR, coupled with the fact that OSINFOR conducted inspections after the fact, led to illegal wood being shipped to the United States. This generated severe problems, tainting the sector's reputation and restricting access to this crucial market. The participation of both agencies in the *mesa* forced them to coordinate and to respond to private sector needs. Now OSINFOR has added early inspections, and both SERFOR and OSINFOR are developing wood traceability capabilities that facilitate detection of illegal shipments and thus reduce transaction costs for legal exporters.

Regarding financing, the new forestry law allowed the use of concession contracts and trees as collateral. In addition, COFIDE established a Forestry Fund to provide credit to the sector with up to 30 years maturity, and 10 years of grace. The interest rate was not subsidized, and public funds were meant to leverage

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BOX 9.1 THE MESAS, THE FOREST, AND THE TREES (*continued*)

private participation, which was required to trigger the use of public funds. This fund has been vastly underutilized, as private banks have shown little interest in financing the sector under such conditions. In an effort to resolve this problem, the government is exploring the use of climate change/green funds to help address the sector's financing constraints. This illustrates the fact that, often, the first attempt to solve a problem is unsuccessful. Learning from failure and persistence are essential for eventual success.

plenary meetings are just the tip of the iceberg. Much of the action actually happens between sessions, usually involving a subset of participants working on solutions to specific problems or preparing their positions for the next plenary meeting. The fact that the private counterparts have been willing to commit so much time to this process is a testament to the fact that they think the *mesa* offers real solutions.

While not all the Peruvian mesas have been successful, the overall results thus far have been very encouraging. In sectors such as forestry, aquaculture, or agro-exports, they have led to significant changes in regulation, resolution of coordination problems, and upgrading of sector specific public agencies.⁸ They have also led to increased investment.⁹ They have the makings of a good offensive policy: they focus on public inputs, not subsidies, and they involve deep public-private collaboration, with explicit mechanisms to solve coordination problems within the public sector. They are an agile recursive mechanism dedicated to rapid implementation of solutions, rather than lengthy diagnostics. At their best, they work as problem-solving bodies and improve their problem-solving skills as they go along.

Like any policy, however, the *mesas ejecutivas* have room for improvement. Their focus to date has been mostly on solving regulatory and coordination issues, most of which do not require budget allocations. But, until their recent move to the Ministry of Economics and Finance no mechanism was in place to finance sector-specific public goods, thus diminishing their firepower. In contrast, Corfo's *programas estrategicos*, a successor

⁸ As an example, the creation of SANIPES, the fishing and aquaculture sanitary institution, was an outcome of the aquaculture *mesa*.

⁹ The forestry *mesa* has led to large-scale investment projects by companies such as Reforestadora Inca (from the Dyer-Coriat group, owners of Camposol), Campbell Global (one of the largest reforestation funds in the world), Bosques Amazónicos, and Reforesta Perú.

to the Chilean Cluster program mentioned above, is accompanied by the *Fondo de Inversión Estratégica*, a fund managed by the Ministry of Economy that competitively allocates resources to public inputs identified in the context of each sector's roadmaps. One of the criteria for FIE project selection is private co-financing, thus diminishing the risk of diverting onto others the cost of programs that benefit the sector exclusively. The Peruvian *mesas* would benefit from a similar complementary program.

Since their beginnings during the Humala administration, the *mesas ejecutivas* have survived two government transitions, but not without challenges. The commitment and enthusiasm of the private sector, which lobbied hard for their continuation, was vital in sustaining the *mesas* through the political transition. After a period of instability and uncertainty, they were ultimately adopted by the Ministry of Economics and Finance, where they continue to operate. The support of the IDB was also important during this political transition.

The success of the Peruvian *mesas* has generated much interest in the region. In Argentina, similar bodies are rapidly becoming a central part of the country's PDPs, not just at the national level, where they have been embraced by the president, but also in jurisdictions such as the city of Buenos Aires (see Box 9.2). Other countries, such as Costa Rica, are also considering their adoption. Naturally, in order to be effective, this instrument needs to take into account—and be adapted to—local conditions. Restricting the scope to public inputs rather than subsidies or protection, for example, may be more challenging in countries such as Argentina and Brazil, where there is a strong tradition of government intervention, and firms expect this type of government support. Governments will need to work hard to change those expectations, as well as develop the capabilities for the public sector to work collaboratively to solve its own coordination problems. Political commitment at the top is essential to make this happen. Yet, those in charge of the program need to be mindful of the risks, in order to prevent the type of problems that bedeviled PDPs—even those involving close public-private collaboration—in the past.

Argentina's National Productive Transformation Program

Argentina's *Programa Nacional para la Transformación Productiva* (PNTP) is a PDP that deals with sectors and industries with little competitive potential in a context of increasing global integration. It falls into the horizontal, market interventions quadrant that uses subsidies to help transform firms, and to reallocate workers from firms and industries in difficulty to other firms and industries with stronger competitive potential.

BOX 9.2 ARGENTINE *MESAS* SECTORIALES

The Peruvian *mesas ejecutivas* have generated much interest in other countries. In Argentina, they inspired the launch of their own *mesas sectoriales*, coordinated by the Ministry of Production and Labor. Today, Argentina has numerous *mesas*, not just within the Ministry of Production and Labor, but also within others, such as the Ministry of Agriculture, Livestock, and Fisheries, or the Ministry of Transportation. While the issues discussed at each *mesa* vary from sector to sector, common themes that surface in most *mesas* include labor issues, productive simplification, quality, and internationalization.

Among the most important *mesas* are forestry (including industrialization), Vaca Muerta (unconventional oil and gas), and meat. More recently, new types of *mesas* have emerged, including some focused on cross-cutting issues such as logistics (coordinated by the Ministry of Transportation) and exports (coordinated by the Undersecretary of International Integration of the Ministry of Production and Labor). Others have a regional focus, one on Tierra del Fuego, and another on the Gulf of San Jorge. In the regional *mesas*, the emphasis is on developing new sectors to replace the electronics and oil and gas sectors, respectively.

While there are many similarities between Peruvian and Argentine *mesas*—including the presence of a small dedicated team to coordinate them, and an iterative process to facilitate the rapid implementation of solutions—there are also important differences.

- **Direct involvement of the president.** In contrast to the Peruvian *mesas*, which flew under President Humala’s radar, in Argentina President Macri frequently participates in the plenary meetings of the *mesa*, listening to the private sector and demanding public-sector action. The president sees the *mesas* as a key public management tool, and refers to them frequently in his speeches. The presence of the president has been essential to align the rest of the players, and ensure that the public sector is coordinated and focused on providing solutions.
- **Participation of the unions.** Since its inception, the *mesas* have had an important labor component. In Vaca Muerta, for example, a very important precedent of the *mesa* was the “addendum” to the collective bargaining agreement, which included a series of commitments between the government, employers, and oil worker unions that led to lower labor costs and improved productivity, thereby attracting large investments. Changes to the agreement included productivity targets, the possibility of reallocating workers from one task to another, measures to deter absenteeism, changes in the number of workers per well, and the possibility of working with stronger winds. Although the labor issues at the *mesas* have generally been the most complex and the least resolved, they are an integral part of the Argentine variant of the *mesas*.
- **Dedicated productive simplification team.** The *mesas* have the active participation of officials of the Secretariat of Productive Simplification, who have played a fundamental role in many of the achievements of the *mesas*. The sec-

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retariat enjoys strong support from the president, has work teams in many of the public agencies charged with providing solutions to the obstacles identified at the *mesas* (the customs agency, the public revenue agency, the National Service of Health and Food Quality, the National Administration of Medicines, Food and Medical Technology) and helps identify and implement solutions. It also works closely with provinces and municipalities, for example, so that provincial road offices adhere to the new national regulations introduced in response to the forestry *mesa*. The new regulations allow for the transportation of timber in B-trains, thereby reducing logistical costs associated with this activity.^a

- **Quality and internationalization axis.** Many of the *mesas* include a core concept of quality and internationalization, managed by the Undersecretary of International Integration. Quality issues, which also involve the National Institute of Industrial Technology, include quality certification issues, kaizen methodology (continuous improvement) workshops, and provision or accreditation of laboratories. Internationalization issues include developing sectoral internationalization strategies agreed upon by the public and private sectors. These strategies involve identifying product segments with competitive potential and geographic markets to target in each segment, as well as taking the action needed to achieve success.
- **Market interventions.** Although the focus of the *mesas* has been on improving the regulatory environment, resolving coordination problems, and providing sectoral public goods, market interventions have played a larger role in the Argentine *mesas* than in the Peruvian ones. Examples include adding sectors such as textiles and footwear to the Ahora 12 program, which offers subsidized financing to consumers, or extending tax benefits to a broader range of activities at the knowledge economy *mesa*. In part, the difference between the *mesas* in Argentina and Peru reflects the difference in their respective countries. When the Argentine *mesas* were launched, subsidies were pervasive and the economy was recessive. The activities of the *mesa* entail the risk of encouraging rent-seeking behavior. However, as they move forward, the *mesas* are focusing less on market interventions and more on public goods.

In addition to the national level, *mesas ejecutivas* have recently been launched in the Autonomous City of Buenos Aires, where the city's head of government, Rodríguez Larreta, has adopted them enthusiastically. These too were inspired by the Peruvian *mesas* and have focused on gastronomy, clinical trials, and the audiovisual sector. In the gastronomic *mesa*, for example, the process for reopening establishments that were previously shut down has been expedited, fees for placing tables and chairs on public sidewalks (something the government wants to encourage) have been eliminated, and procedures for obtaining health permits have been simplified. In a recent meeting, a representative from the private sector expressed his satisfaction in these terms: "What we did not achieve in 20 years, with the *mesa* we have been able to resolve in two months."

^a B-trains are trucks with two trailers up to 26 meters in length.

Created in 2016 within the Ministry of Production's Secretariat for Productive Transformation—but with the active involvement of the former Ministry of Labor—the PNTP represents a turning point vis-à-vis a program adopted earlier: the Program for Productive Recovery (REPRO). REPRO sought to extend temporary (up to one year) relief to firms that suffered temporary slumps in demand by subsidizing labor costs to avoid layoffs. Beneficiaries were required to present a recovery plan and commit not to fire workers. But in practice these plans were not analyzed exhaustively or held to high standards, and REPROs were often extended to firms with permanent, rather than temporary, difficulties. Moreover, firms would often ask for—and obtain—extensions. As a result, REPRO ended up focusing on sectors and industries with little recovery potential. Thus, it contributed to preserve factors of production in uncompetitive firms and sectors, rather than prompting their reallocation toward more promising ones.

The PNTP puts REPRO on its head. It supports the transformation of uncompetitive firms, which the program refers to as “transformation firms,” and the reallocation of factors of production to “dynamic firms” with competitive potential. How does it work? Consider a firm assembling computers in a highly protected domestic market. Tariffs on components are low—but those for computers are high, and their imports highly restricted through nontariff barriers. In comes the new government pursuing what they call a “smart integration” strategy. It eliminates tariffs and nontariff barriers on computers. One option for the uncompetitive domestic firm is to shut down. Alternatively, it can apply to the PNTP with a transformation plan: rather than assembling computers, it will import and distribute them, and provide technical support. However, it will no longer need 700 workers. Now 300 will do, perhaps with a different set of skills.

If the plan passes the in-depth analysis of the PNTP, the firm and their workers become eligible for a broad bundle of benefits, which may aid the firm in its transformation and assist the displaced workers. This example is not hypothetical. It was precisely to deal with transformation firms in this sector that the plan was originally devised.

For displaced workers, the PNTP provides expanded unemployment insurance up to 2.5 times the minimum wage for up to six months—much more generous than the standard unemployment insurance.¹⁰ In addition to *transformation* firms, the program also admits *dynamic* firms that can absorb workers laid off from *transformation* firms. They receive a tailored list

¹⁰ Expanded unemployment insurance should not exceed 50 percent of previous salary. Currently, the standard unemployment insurance is topped at about 36 percent of the minimum wage.

of the program's displaced workers with detailed experience profiles. Moreover, to encourage the absorption of these workers, the program provides subsidies—a minimum wage per employee hired from this pool—to cover part of the labor costs for nine months. Beneficiaries commit to keep these workers on their payroll for one year after the subsidy period has ended.¹¹

Both transformation and dynamic firms may require investments, either to aid their transformation process—for example, a logistics center for distribution of computers—or to allow the absorption of workers—for example, new machinery to expand their product line. The PNTP provides subsidized lending for both types of companies, mostly in the form of a 5 to 6 percentage point interest rate subsidy for loans procured by the firm from their own lenders. In the case of transformation firms without access to credit, the program sometimes provides direct loans from the BICE (*Banco de Inversión y Comercio Exterior*). In transformation firms, the size of the loan that is eligible for the interest rate subsidy is tied to the firm's capacity to retain its workers: the larger the number of jobs preserved, the larger the financial benefits the company can obtain. In the case of dynamic firms, it is proportional to the number of PNTP workers absorbed.¹² The program also provides relocation benefits to displaced workers willing to move, which have been very rarely used. The program was supposed to include a worker training component, but this has been very weak.

The transformations supported by the program vary substantially from firm to firm. One transformation firm, Integral-K, used to produce athletic footwear. It imported soles (18 percent tariffs) and shoe uppers (22 percent), assembled the shoes (subject to 35 percent tariffs and protected through discretionary import licenses), and sold them to established shoe retailers. The elimination of nontariff barriers wiped out all their clients. Their transformation plan was to pivot into security footwear for the industrial and construction sectors. Because they are made of natural leather, which is cheaper in Argentina than in Asia, the country has some comparative advantage. Moreover, security footwear must comply with technical requirements that impose important costs on foreign suppliers and provide natural protection for domestic producers.

Ingredient, a multinational firm producing corn-based sweeteners, had plants in two small cities and a very conflictual relationship with the union.

¹¹ Dynamic firms are not allowed to fire other workers in order to absorb the PNTP workers. If absorbed workers are not a good match, dynamic firms can replace them with others from the same pool or lose the corresponding benefits.

¹² Dynamic firms receive interest rate subsidies for loans of up to ARS\$1 million (about US\$25,000) per absorbed employee.

There were frequent strikes, and the company tended to give in. As a result, wages were high, labor flexibility low, and the firm lost competitiveness. Headquarters threatened (credibly) to close one of the plants, but eventually agreed with the union to join the PNTP program and keep both open. Transformation involved cutting 150 jobs and overhauling the collective bargaining agreement. New conditions include performance evaluation of workers, flexible hours or shifts, and a new lower wage category for new hires.

Dynamic firms are also very diverse. Examples include a company manufacturing Samsung washing machines under license, launching a line of Samsung refrigerators; a textile company producing mops and cleaning cloths from recycled jeans; a provider of technical support for most computer brands; and a cutting-edge biotechnology company producing sterilization products. Multinationals like Toyota and Accenture also participate, hiring workers from the PNTP displaced pool but often declining the credit and employment subsidies.

Terragene, a rapidly growing biotechnology firm located in Rosario, is a particularly interesting case, showcasing the program's potential but also one of its main challenges. Founded as a startup by two biology students in 2006, it employs over 200 workers and exports more than 150 products worldwide. Its flagship product uses nonpathogenic spores—the most resistant living organism on Earth—to test sterilization processes: if the spores die, sterilization worked. Their product allows healthcare centers to conduct sterilization tests in minutes, rather than days, thereby reducing medical equipment stocks substantially.

Terragene saw the PNTP as an attractive policy tool that could support its aggressive expansion plan. The bundle of benefits combined interest rate subsidies to finance a new, high technology plant with employment subsidies to hire workers displaced from transformation firms. On paper, Terragene had great potential to absorb workers. Being vertically integrated, it designs, manufactures, and services its own machinery, produces its own plastic-injected incubator parts, and even has printing presses for its paper-based sterilization-testing products. Thus, it needs manufacturing-sector workers with experience in the metal-mechanic, plastic-injection, and printing industries. Despite Terragene's potential, success has been very limited for geographic reasons. Very few displaced PNTP workers are from Rosario, and others seem reluctant to relocate, even during a recession.

The PNTP at Work

This section discusses three key aspects of the PNTP: identifying potential beneficiaries, providing technical assistance during the approval process,

and providing assistance to match displaced workers with dynamic firms. These processes highlight the extent of public-public coordination involved in the program, as several agencies—and in some cases, levels of government—are involved in each step.

To identify transformation firms, the PNTP staff and the secretary of labor promoted the program with business associations and labor unions. Union leaders generally viewed the program favorably, as it aids conflict resolution, and unions often serve as a nexus between the PNTP and the private sector, encouraging firms to apply. To identify dynamic firms, the PNTP tracked down investment announcements across the country and contacted companies that had recently hired employees. Public-public coordination also worked across levels of government: provincial and municipal production and labor agencies helped identify transformation firms and dynamic firms in their respective jurisdictions.

During the approval process in which firms formulated their transformation or expansion strategies, the PNTP also provided a high-quality blend of evaluation and technical assistance, led by the Investment and Trade Promotion Agency. Nine officials, most with graduate training and ample corporate experience, assessed the viability of the projects—including the commercial and financial strategies and the quality of management teams—and proposed tailored, concrete solutions to improve them so as to maximize the probability of success and minimize the risk of investing public resources in ill-formulated projects. The Agency often worked with the National Institute of Industrial Technology (INTI), which provided advice on the technological and production aspects of the projects. Many projects pivoted during this iterative process of evaluation and assistance: by the time the PNTP executive committee approved them, the projects often differed significantly from the original proposals.

Another important process is the *operativos*, organized by the PNTP program's staff with participation from the National Social Security Administration (ANSES) and the Secretary of Labor's local agencies. During the *operativos*, PNTP staff conducts meetings with workers targeted for dismissal, informing them about the program's benefits and vocational training opportunities offered by government agencies. These *operativos* have been crucial to reduce conflict associated with firms' downsizing. In addition, the PNTP staff gathers data on each worker, including employment history, tools the worker has used in the past, and whether they are open to relocating. Profiles are then included in a dataset with thousands of cases. Following the *operativos*, a special unit within the PNTP analyzes the data and shares with dynamic firms those CVs that seem like a good fit with companies' needs.

Challenges and Opportunities for Improvement

During its first years of existence, the PNTP has faced several challenges, some associated with the program's design and implementation, others with the economic context in which the PNTP has operated. The PNTP is a small-scale boutique program. In order to have an impact at the aggregate level, the program would need to be significantly scaled up. Given the lack of scale, and the reluctance of workers to relocate, dynamic firms face difficulties finding workers that fit their needs within the PNTP database, particularly if few transformation firms are located in their vicinity, as the Terragene case illustrated. It is not clear whether increasing relocation benefits and publicizing them widely would be enough to deal with this challenge.

The PNTP also suffers from the weakness of its efforts to retrain laid-off workers. This contrasts with programs pursuing similar goals in other countries, such as the U.S. Trade Adjustment Assistance (TAA) program (see Chapter 8), which devotes significantly more resources to help workers (re) build their skills. While the original intention was for the PNTP to foster vocational training to support the reallocation of workers, in practice the PNTP shares information about a small number of existing vocational training courses offered by other public agencies. This is clearly insufficient.

Lack of resources for skill transformation has affected PNTP's firms. For instance, Maxion-Montich, a Córdoba-based auto parts manufacturer, recently started a profound transformation, from producing large truck chassis on a small scale to manufacturing chassis for Nissan pickups on a much larger scale. Becoming part of Nissan's global value chain required Maxion-Montich to adopt new quality standards and just-in-time production processes. Hence, the firm required workers with new skills. It needed technicians with highly specific welding training and people trained in robotics to design and implement the firm's automation project. However, after analyzing 240 profiles sent by the PNTP team, its human resources executives concluded that only six had the required skills to merit an interview. Eventually, the company was able to hire just two workers from the program.

Another problem that surfaced during company visits is that the expanded unemployment insurance benefits may be too generous. Although the benefits decline after four months to encourage workers to go back to work, some dynamic firms reported that, on occasion, workers would not show interest in being hired during the six-month expanded insurance period.

An area in need of improvement is the speed with which financial benefits are granted. The period between a company's application to the PNTP

and the disbursement of direct loans or credit subsidies can last well over six months, as several agencies need to sign off. Delays pose particular challenges given Argentina's volatile macroeconomic context. For instance, Tejidos Raquel, a small weaving company, sought to utilize PNTP financial benefits to purchase new machines. Yet, in a context marked by sudden and steep devaluation, when the firm finally obtained funding, it was no longer able to buy the machines it needed. More generally, the recessionary context has made it difficult for dynamic firms to plan investments and hire new workers, which reduces the program's capacity to reallocate workers.

The decision to provide direct credit to transformation firms has also brought about challenges. Originally, the program provided financial benefits only in the form of interest subsidies on loans procured by firms. This had the advantage that, on top of the analysis of the Investment Agency, banks needed to do their own due diligence to vet transformation and expansion projects. The fact that banks were often unwilling to finance transformation firms (which by definition are troubled firms) led to the decision to let them access direct lending from the BICE. This has drawbacks, as financial benefits become riskier and require considerably more fiscal resources, compared with interest rate subsidies. Moreover, due to sharp increases in interest rates, the direct credit benefit (at a prespecified low interest rate) became much more generous than the interest rate subsidy. In the midst of a severe fiscal adjustment, the government temporarily discontinued all financial benefits, reducing the firepower of the program substantially. It will be interesting to see whether at least the interest rate subsidies are reinstated once fiscal conditions improve.

Finally, additional challenges are related to institutional volatility, a problem that affects the Argentine public sector more generally but has been particularly severe in this case. The program was designed and initially implemented in 2016 by the Productive Transformation Secretariat of the Ministry of Production following a joint resolution with the Ministry of Labor. Two years later, the minister and the secretary were replaced, and a significant change in the ministry's organizational chart took place, shifting the responsibility for the PNTP to the Secretariat of Productive Integration. Some key PNTP staff members were reassigned to other tasks, affecting the accumulation of capabilities and policy expertise, and the new secretariat had to quickly get acquainted with the program. The revised organizational chart required a joint resolution, which took time to draft and approve, delaying critical PNTP procedures, including the admission of new firms. Following approval, a major redesign of the executive branch led the Ministry of Production to absorb the Labor Ministry, imposing additional administrative stress. Early in 2019 the secretary of

productive integration was appointed employment secretary and took the PNTP (but only part of the team) with him.

Balance and Early Results

Argentina's PNTP is an innovative PDP that helps reallocate factors of production toward firms and sectors with higher competitive potential. The program was rolled out rapidly, kicking off a process of policy learning, discovery, and fine-tuning. It exhibits considerable public-public coordination and is the first to articulate under a single window several different policy tools—for both firms and workers—that until recently were provided in uncoordinated fashion.

Conflict mitigation has been an unqualified success. By offering a new menu of options for firms and workers in declining sectors, the PNTP has preempted the escalation of labor conflict that, quite likely, would have grown in the absence of PNTP benefits. Until the creation of the program, firms needing to reduce their payrolls had few resources to initiate processes of transformation that would allow them to avoid the worst-case scenario—closing down operations and firing all their employees. The expanded unemployment benefits, coupled with support to help workers find new employment, have been instrumental in this regard. These benefits have also been key to getting the unions to buy in, sometimes playing a broker role by explaining to workers how the program operates, informing employers about its existence, and encouraging them to apply.

Despite its good features, the program has been only a partial success. For starters, it is too small, covering only 41 transformation firms and 48 dynamic firms (as of July 2018). Out of nearly 1,500 laid-off workers, nearly 600 were reabsorbed, one-third of them with employment subsidies in dynamic firms. Going forward, it will be interesting to follow progress closely to see whether financial benefits are reinstated and whether the program finally scales up, once the country emerges from the current recession and fiscal difficulties. In the context of the recently signed EU-Mercosur agreement, a program such as this one may be even more important. One thing is certain. By encouraging reallocation of workers toward more dynamic sectors and firms, rather than preserving them in uncompetitive industries, the PNTP is a much better option than its predecessor, the REPRO.

Towards a New Vision of PDPs

Countries in the region have engaged in PDPs intensively over the years. But traditionally, they have focused on policies that shielded domestic

producers from competition, in response to lobbying by the private sector. These PDPs, relying mostly on sector-specific subsidies and protection, run counter to the spirit of trade liberalization. Given this report's view that liberalization (accompanied by complementary policies) is a worthwhile pursuit, the relevant question is the following: what type of PDPs can allow countries to take full advantage of the opportunities afforded by globalization, while mitigating the costs?

In terms of taking advantage of foreign market opportunities, countries would benefit from setting up sector-specific public-private fora to identify and resolve bottlenecks and help firms become more productive. At the heart of these policies are efforts to simplify and optimize sector-specific regulations, to provide sector-specific public goods, and to solve coordination problems, not just within the private sector, but also within the public sector. The Peruvian *mesas ejecutivas*, versions of which are already being adopted in other countries, are a good example to follow in this regard.

But, as should be clear from this report, liberalization produces winners and losers, so the obvious question is, what to do about the losers? While defensive PDPs are an important component of a liberalization strategy, there is a right and a wrong way to do them. Subsidies that preserve employment in firms and sectors that lack competitive potential are not the way to go. The key is to put policies in place that facilitate reallocation of workers from uncompetitive firms and sectors to firms and sectors with competitive potential.

Some of these policies, such as the U.S. Trade Adjustment Assistance Program and policies to retrain categories of workers likely to be displaced by trade liberalization, were discussed in Chapter 8. Here, the contrast between the REPRO and the PNTP in Argentina illustrates both ill-conceived and sensible defensive policies. While in the midst of a recessionary context the success of the PNTP is only partial, it has been very successful in mitigating labor conflict, and less successful in achieving significant reallocation in large enough numbers. While its continuity is still in doubt, it is a good example of a policy that follows the key guiding principle for defensive policies: worker reallocation.

TAKING STOCK

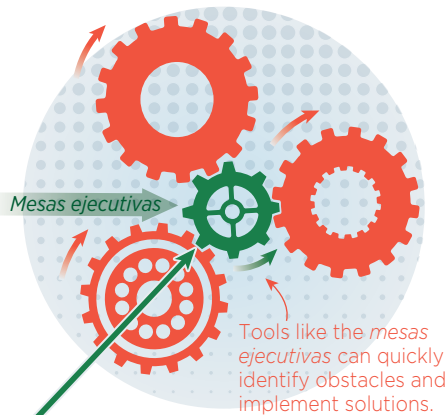
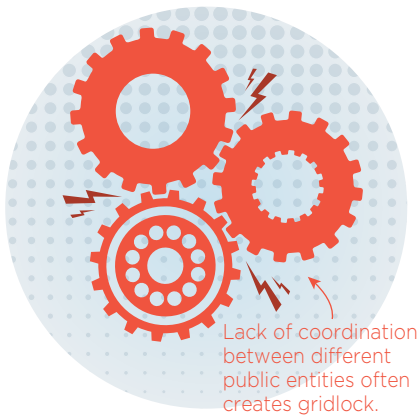
PRODUCTIVE DEVELOPMENT POLICIES: FROM PROTECTION TO GLOBAL INTEGRATION



To take advantage of foreign market opportunities, countries would benefit from setting up sector-specific public-private fora to identify and resolve bottlenecks and help firms become more productive.



The Peruvian *mesas ejecutivas* are a good example. They simplify and optimize sector-specific regulations, provide public goods, and improve coordination within private and public sectors.



Types of PDPs

Horizontal Broad-based Vertical Sector-specific

Public inputs Public goods		
Market interventions Subsidies, tax breaks, protection		

Programa Nacional para la Transformación Productiva (PNTP)

Not all PDPs are created equal

The *mesas ejecutivas* are productive development policies (PDPs) of the vertical (sector-specific), public input type. They provide public goods seeking to enhance productivity.

For decades, interventions in Latin America focused on inefficient sector-specific subsidies and protection of uncompetitive sectors, leading to rent-seeking behavior.

Novel PDPs use subsidies in a better way, facilitating the transition of factors of production from uncompetitive firms and sectors to more competitive ones. Argentina's PNTP is an example.

THE BOTTOM LINE

Subsidies to firms and sectors without competitive potential are not the way to go; the key is to put PDPs in place that maximize opportunities for competitive sectors (like the Peruvian *mesas ejecutivas*) or that facilitate reallocation of workers from uncompetitive firms and sectors to firms and sectors with competitive potential (like Argentina's PNTP).

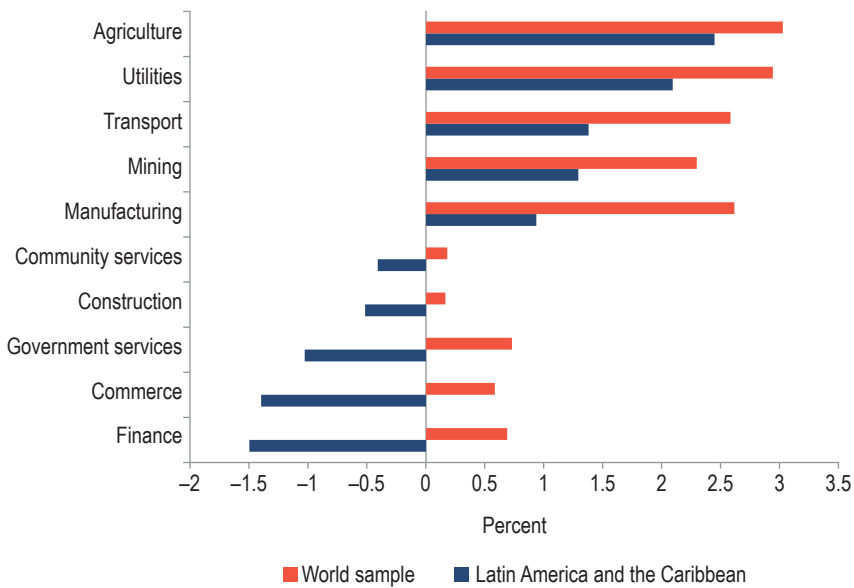
10 Modern Agri-Food Markets: Fertile Ground for Public-Private Cooperation

Trade leads to specialization. And specialization is precisely what allows countries to do what they do best and reap gains from trade. For some countries, comparative advantages lie in natural resource-intensive sectors, such as agriculture or mining. In these countries, trade liberalization may lead to a decline in the share of manufacturing in GDP. In the region, this has often raised concern. But should it?

Historically, the fastest road to development was thought to go through industrialization. Development occurred through structural transformation—that is, by moving workers from low-productivity sectors (mostly traditional agriculture) into high-productivity ones (particularly modern industry), generating substantial increases in economy-wide productivity.

Manufacturing was deemed desirable for its unique characteristics. It is productive, and its productivity can be readily multiplied. It makes use of unskilled labor abundant in developing countries. Its products are exportable and hence not limited by the size of the domestic market. And, crucially, unlike traditional agriculture, manufacturing generated “capabilities” that allowed countries to produce increasingly sophisticated goods in a wide variety of industries.

Recent experience, however, suggests that, except for a few Asian countries, manufacturing-based structural transformation may be a thing of the past. In fact, as countries develop, the share of manufacturing in GDP and employment now peaks at lower levels, and at lower income per capita (Rodrik, 2016). This process of premature deindustrialization, discussed in Chapter 3, implies that developing countries are running out of industrialization opportunities sooner. Development strategies based primarily on manufactures no longer seem viable.

Figure 10.1 Average Annual Growth Rate in Labor Productivity, 1971–2014

Source: IDB staff calculations based on Ahumada and Navajas (2019), using the 10-sector GGDC database.

Note: The figure shows the simple average of labor productivity across countries. The world sample excludes countries from Sub-Saharan Africa, which are part of the GGDC database but were excluded in the update by Ahumada and Navajas (2019).

Moreover, manufacturing is becoming less unique. On the one hand, global value chains and vertical disintegration of production can reduce opportunities for capability acquisition in late industrializers, which tend to specialize in manufacturing segments requiring repetitive tasks (Sabel, 2017). On the other hand, the features historically attributed to manufacturing have become increasingly commonplace in other sectors.

Few sectors have experienced more dramatic transformation—from technology adoption to changes in the organization of production—than agriculture. Advanced genetics, precision agriculture, and the use of sensors and big data suggest that, at the frontier, farming has become a technology industry. In fact, as shown in Figure 10.1, over the last half century, labor productivity growth in agriculture has outpaced that in any other sector, including manufacturing, particularly in Latin America.

Moreover, a large variety of products no longer face the historically low income elasticity that made the sector unappealing. As postulated by Bennett's Law, as people become wealthier and diversify their diets, products such as fruits, vegetables, meats, and feed grains are facing dynamic

demands.¹ Specializing in such products, when countries have comparative advantages in them, has become increasingly attractive.²

Yet, success in modern agriculture is far from automatic. Increasingly sophisticated buyers demand higher-quality food products, requiring new capabilities both at the firm and the country level. This chapter discusses several important transformations in world food markets, and the strategies that both firms and governments can follow to succeed in this changing environment. Two case studies—on fruits and vegetables in Peru and pork in Mexico—show how firms and governments can work together to achieve success.

Defining Modern Agriculture

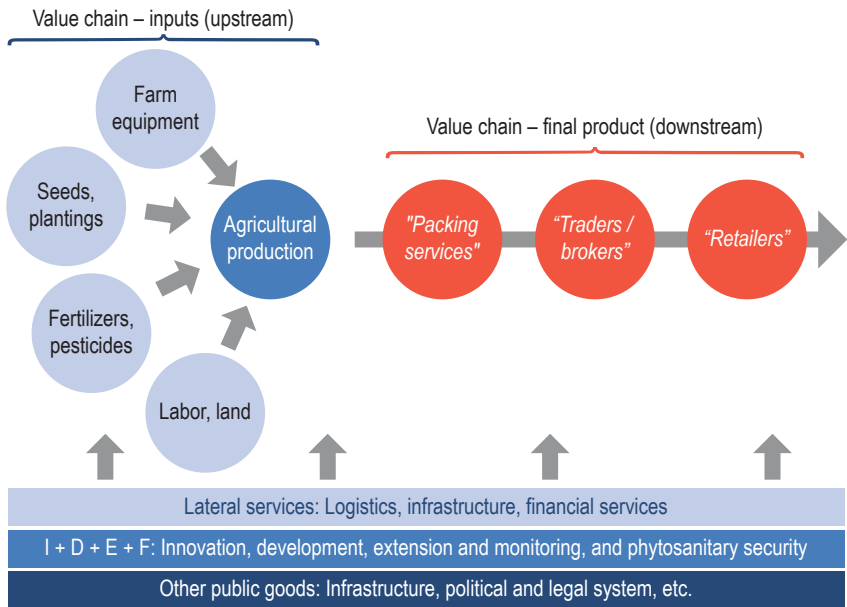
Agriculture can be thought of as a continuum between two extremes. At one extreme is subsistence/traditional agriculture: low-productivity farms employing simple production techniques and traditional genetic material, with weak connections with markets. At the other extreme are farms using advanced production methods: modern equipment, improved genetic material, effective links with international value chains, and good understanding of demand markets. Within those extremes is a continuum of producers with varying capabilities. Producers who can satisfy certain standards (food safety, physical properties, environmental, and labor regulations) and insert themselves into formal value chains are considered part of modern agriculture.

Regarding the most-advanced farms, *The Economist* (June 2016) put it fittingly: “Farms are becoming like factories: tightly controlled operations for turning out reliable products, immune as far as possible from the vagaries of nature.” The most-modern farms are indeed becoming like factories. Through satellite imagery and sensors, they optimize the amount of water, fertilizers, and pesticides required in each pixel of land at each moment in time to maximize productivity, as in just-in-time production processes in manufacturing.

But modern agriculture does not end on the farm. It requires a complex network of backward, forward, and lateral linkages with specialized

¹ This law is named after M.K. Bennett, who found an inverse relationship between per capita income and the share of calories derived from cereals in a 1941 paper on “Wheat in National Diets” (Bennett, 1941).

² Moreover, modern agriculture need not come at the expense of industry. Looking at the case of genetically engineered soybean seeds in Brazil, Bustos, Caprettini, and Ponticelli (2016) show how technological change in agriculture can lead to growth in industrial production.

Figure 10.2 Agri-Food Systems

Source: Authors' elaboration.

economic agents and institutions that enable producers to compete in national or international markets and respond to changing demands.

Modern agricultural systems encompass five elements: (i) agricultural production itself, taking place on the farm; (ii) the input value chain linking producers to agrochemical, farm equipment, seed, and biotechnology companies, as well as to land and labor markets; (iii) the output value chain (processors, exporters, wholesalers, supermarkets); (iv) lateral services (financial services, transportation, logistics, information technology); (v) public goods (research and extension, sanitary and phytosanitary services, infrastructure, land use, and labor regulations) (see Figure 10.2). Modern production requires modern practices in all five elements.

In the input supply chain, the development of sensors, satellite imagery, data analytic tools, and GPS-assisted agricultural machinery have enabled the precision agriculture revolution. Advances in biotechnology have led to better genetic material, yielding higher quality plants and animals more resistant to disease, and generating product traits demanded by consumers. Genome-editing tools such as CRISPR promise to further revolutionize the sector.

In the output value chain, processing plants have become increasingly sophisticated, with optimized layouts and sorting machines powered by

artificial-intelligence algorithms allowing differentiation of products for different markets. Modern logistics, in turn, help maintain products in optimal condition during shipment and reliably place them in target markets with the required shelf life.

Integration into modern value chains requires the support of key public goods such as appropriate infrastructure and phytosanitary institutions. The fruit and vegetable boom in Peru would not have been possible without massive public irrigation projects enabling farmers to produce in what was, essentially, a desert. Equally important was the capable support, at home and abroad, of Peru's phytosanitary agency. SENASA worked with local producers to mitigate phytosanitary problems and helped open export markets to a variety of Peruvian products.

Target Markets and Their Transformation

In this era of rapidly transforming agricultural markets, being cost-competitive is no longer sufficient. Exporters must be able to customize their product to the specific demands of target markets in terms of quality, safety, timing, traits, and compliance with public and private standards. This section discusses 10 key transformations that are relevant for regional strategies for customized competitiveness, as well as their implications for different product markets.³ The next section focuses on strategies—for firms and governments—to respond to those changing markets.

First, urban food markets in developing countries are growing fast—six-fold over three decades in Africa (Haggblade, 2011) and 10-fold in Southeast Asia (Reardon and Timmer, 2014)—due to rapid urbanization and increased urban income (Guinea and Islands, 2011; UNDP, 2014). Urbanization makes target markets more accessible to exporters, as agglomeration reduces transaction costs. It also fosters differentiation.

Second, diets are changing fast in emerging markets. Rising income, combined with Bennett's Law, stimulate demand for non-grain foods such as meat, fish, fruits, vegetables, and dairy (Reardon et al., 2019). Moreover, women entering the workforce increase demand for processed foods (Reardon et al., 2014).

Third, the region's food markets in the United States and Western Europe experienced profound transformations over time. Trade liberalization, the rise of supermarkets, and breakthroughs in cold transport

³ The term "customized competitiveness" was introduced by Reardon and Flores (2006).

transformed fruit and vegetable sales in the U.S. market, long dominated by commodity trade in bananas and pineapples, to a wide range of counterseasonal fruits and vegetables. The share of imports in U.S. fresh fruit sales increased from 23 percent in 1975 to 53 percent by 2016, with 90 percent sourced from Latin America. The share of imports of vegetables soared from 6 percent to 31 percent (USDA, 2018 and 2019).

Fourth, emerging/developing food markets are experiencing even faster transformations, from traditional food markets—fragmented, grain focused, dominated by small retailers and processors—to a transitional stage characterized by urbanization, longer supply chains, diet diversification, larger retailers and wholesalers, and the emergence of public standards.

Some markets are approaching or have entered a modern stage—dominated by large processors, supermarkets, and wholesalers, and by the rise of differentiated products and private-sector standards. A rapidly emerging middle class of one billion consumers is starting to demand product differentiation, quality, safety, and other attributes previously associated with consumers in high-income countries.

Fifth, the center of gravity of world food demand has changed. Today Asian/African food imports exceed those of the United States/Western Europe by 25 percent, and in a decade or so will double them.

Sixth, competition from emerging market suppliers is rising dramatically (Awokuse and Reardon, 2018). Products once considered firmly Latin American exports are now grown for export and domestic consumption in many emerging market countries. While Chile, Costa Rica, and Mexico dominated exports of off-season fruits and vegetables to the United States and Europe, now new exporters like China have entered the counterseasonal market. A successful newcomer is Peru, whose development as a horticultural exporter will be discussed below.

Seventh, large food retailers and processors have risen rapidly and now dominate modern food markets. With them come private standards and third-party certification of these standards. Both standards and certifications—including organic—translate into investment requirements along the supply chain (Reardon et al., 1999). Meeting public standards is necessary, but usually far from sufficient, to participate in a market.

Eighth, differentiated products have gained prominence. Agricultural markets are characterized by a product cycle. New products are typically introduced into local markets as niche products. As their production increases and they become commodities, prices are driven down. As profitability declines, competition drives innovation to create differentiated products from the commodity base. Innovations can relate to timing

(counter-seasonality), or quality traits like variety, color, taste, or size. Diffusion of innovation then again leads to commoditization.⁴

Ninth, modern agri-food systems demand much more than just food. They demand inputs, such as certified seeds and farming equipment, and services, such as logistics, farm data analysis, or consultancy services. Traditionally, these “beyond food” agricultural markets were dominated by developed countries such as the United States, Canada, the Netherlands, and Israel. In developing their own strong agricultural systems, they built up technological capabilities in key inputs and services (genetics in the United States, greenhouse technology in Canada, logistics in the Netherlands, drip irrigation in Israel) and became the go-to sources for these advanced technologies around the world.

However, Latin America is ripe for exploiting some of these market opportunities and, in fact, is already making inroads. For example, INTA in Argentina has developed new rice varieties that it commercializes worldwide, and has pioneered the use of silage bags for grain storage.

Tenth, the geography of foreign direct investment (FDI) is changing. In colonial times, European and later U.S. firms invested heavily in agriculture in emerging markets. But the latest round of FDI globalization since the 2000s features firms from emerging markets undertaking FDI in other developing countries and even in developed countries (Awokuse and Rardon, 2018). Examples include Argentina’s Los Grobo setting up their soy production model in Brazil, Paraguay, and Uruguay; Peru’s Camposol buying land to produce mandarin oranges in Uruguay and avocados in Colombia; and Brazil’s JBS acquiring meat production facilities in the United States. Whatever the rationale for these investments—supplying the host-country market through domestic sales rather than exports, taking advantage of acquired technological capabilities, or extending temporal production windows for certain products—these opportunities are expected to continue to grow rapidly.

Latin America is also benefitting from new waves of incoming FDI, often in the form of joint ventures. For example, in 2015 Mission Produce invested in the largest avocado packing plant in Peru as a joint venture with local investors. Likewise, Limoneira, a California based citrus company, recently established a joint venture with an Argentine lemon producer,

⁴ An example is the Chinese gooseberry, originally grown in China’s mountains. A green variety was renamed kiwi and marketed as an exotic, niche product by New Zealand companies. By the 1990s, it was grown extensively throughout the world as a bulk commodity. It was then bred by New Zealanders into the golden kiwi, a sweeter, differentiated variety with edible skin, currently being commoditized with mass production in Italy and California.

taking advantage of the opening of the United States market to Argentine lemons. These partnerships provide enhanced access to foreign markets.

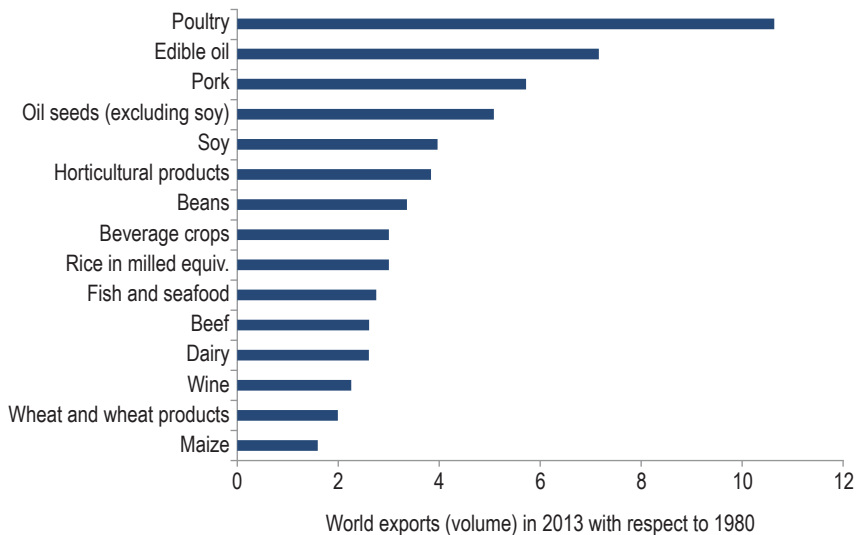
A New Menu for a New World

Not all food products hold similar promise. Pushed by increasing income, urbanization, and corresponding diet changes, the demand for some products has been growing faster than others (Figure 10.3).

Wheat experienced slow growth due to Bennett's Law and increasing production in wheat-consuming countries like India. While **maize** is used mainly for animal feed, the rise in meat consumption in emerging markets has not led to corresponding increases in exports, as Asian countries substituted rice for intensive maize production.⁵ In contrast, **soy** farming is extensive, so China, Japan, and Europe do not produce their own. Thus, soy exports, mostly to China for animal feed, have increased four-fold. Argentina, Paraguay, and especially Brazil have captured an increasing share of this market, previously dominated by the United States.

Fruit and vegetable exports grew four-fold as expected from Bennett's Law, but the market became increasingly contested. Latin America's

Figure 10.3 Growth in World Demand, Selected Products



Source: FAOSTAT.

⁵ China already produces more maize than rice for animal feed.

share has been declining as other emerging market suppliers emerge. Still, the sector offers ample opportunities for export growth and differentiation, as the Peruvian case study clearly shows.

The **poultry** export market is the most dynamic. Chicken is cheap, has a neutral taste, and is increasingly sold by supermarkets in cheap bulk. Brazil has become the leading exporter, narrowly surpassing the United States. **Pork**, a favorite in East and Southeast Asia (see case study), has also expanded rapidly. **Dairy** exports grew slowly because milk is bulky and expensive to ship, and imported milk powder, a staple in the past, is being supplanted by local dairies in large consuming countries like India and China.

Customized Competitiveness Strategies

To be competitive, firms need to customize their product and its supply chain to the specific demands of target markets. Governments, in turn, need to customize their own strategies to support them. For customized competitiveness, both firms and governments require strategies for innovation and its implementation (Zilberman, Lu, and Reardon, 2019).

Strategies for Innovation

Private firms must discover or create innovations for target markets. This may involve existing products such as Chilean grapes for the U.S. winter market in the 1980s, new niche products such as New Zealand green kiwi, or differentiated products such as the golden kiwi. Innovations may also lower the cost of existing products, such as containers that enable blueberry shipments by sea rather than air. Thus, the innovation need not be in the product itself; it can involve any segment of the supply chain. To innovate, firms must: (i) scan markets for innovation opportunities; (ii) invest in R&D, and (iii) test products with consumers in target markets.

Governments also generate innovations, or support innovating firms, by (i) funding basic research; (ii) supporting public R&D institutions like Brazil's EMBRAPA or Argentina's INTA, as well as institutions like HortResearch in New Zealand or Fundación Chile that introduce new products and work with the private sector to commercialize them⁶; (iii) funding innovation and ag-tech incubator programs; (iv) helping companies scan

⁶ HortResearch bred the golden kiwi, while Fundación Chile demonstrated the economic viability of the salmon and blueberry sectors.

foreign markets for latent demands, as do the USDA Global Agriculture Information Network and agricultural attaché offices in many countries.

Strategies for Implementation

Customized competitiveness implies choosing the technology and scale to provide products tailored to the buyer's requirements at a cost commensurate with the product's position in the product cycle. While cost-competitiveness dominates in basic commodities, for differentiated products, firms must meet beyond-cost requirements such as quality, variety, safety, timing, and environmental impact, especially for perishable products. Target market governments impose phytosanitary and food safety public standards; large retailers, wholesalers, and processors impose even more stringent private standards and demand quality, consistency, and scale of transactions. The innovating firm must make investments to meet these standards.

However, innovating firms also need their suppliers to meet the standards. Exporters may need to engage in provision contracts to induce the farmers who supply them to upgrade, and to allow them to access credit and input markets (Key and Runsten, 1999; Austin, 1981). Peruvian mango exporters do this for their small farmer suppliers, given the need to export from GLOBALGAP certified growers (Lemeilleur, 2013).

Moreover, innovating firms require downstream and lateral service firms to make requisite investments to meet market requirements. For example, berry exporters in Chile—like Hortifrut—need downstream logistics firms—like air transporters—to make needed investments to keep the fruit at the right temperature and monitored in shipment.

As target markets and products evolve and new commercial practices develop, firms must remain flexible and adaptable. Market requirements change. Buyers may suddenly require safer products, or seedless fruits, or may need firms to supply a bundle of related products, or provide the same products during wider temporal windows, to “stay on the list.”⁷

Governments can support firms in several ways. First, perishable products require adequate phytosanitary and animal health monitoring institutions, a minimal condition for exporters to reach their markets. Second, governments need to develop the necessary hard and soft infrastructure—irrigation projects, adequate roads, ports, and customs procedures—that affect production and transaction costs. Third, governments can facilitate broad

⁷ For example, avocado exporters in Peru expanded to Colombia to widen their supply window in response to buyers' requests. For similar reasons, Chile's Hortifrut doubled its berry production by purchasing berry farms in Peru.

access to markets through trade agreements that complement the actions of phytosanitary and animal health institutions, which are instrumental in obtaining access to specific markets for specific products. The importance of these factors is illustrated in the case studies that follow.

Governments in the most-successful countries go beyond the provision of these basic public goods. Some set public standards close to major buyers' private standards to ratchet up firm's readiness to meet demanding standards in target markets. Mexico's requirement that meat exporters use TIF (Tipo Inspección Federal) certified slaughterhouses is a case in point. Others, like Chile or Mexico, reduce firms' transaction costs by funding trade missions, trade shows, and foreign market information systems. Some have attracted inward FDI to upgrade innovation and export capacity.

Innovations and compliance with standards needed for customized competitiveness require complementary actions in different segments of the supply chain. There are obvious coordination problems, as many actions and investments must be simultaneous. Governments can help solve these coordination problems, as well as identify and deliver the supporting public goods required for firms to achieve success. Some countries have set up fora for public-private coordination to deal with these problems and take full advantage of market opportunities. The *mesas ejecutivas* in Peru are an excellent example (see Chapter 9 and Ghezzi, 2017).

Home-Grown Success Stories

This section discusses two successful cases of integration within modern agriculture and highlights some of the key public goods required to facilitate these processes.

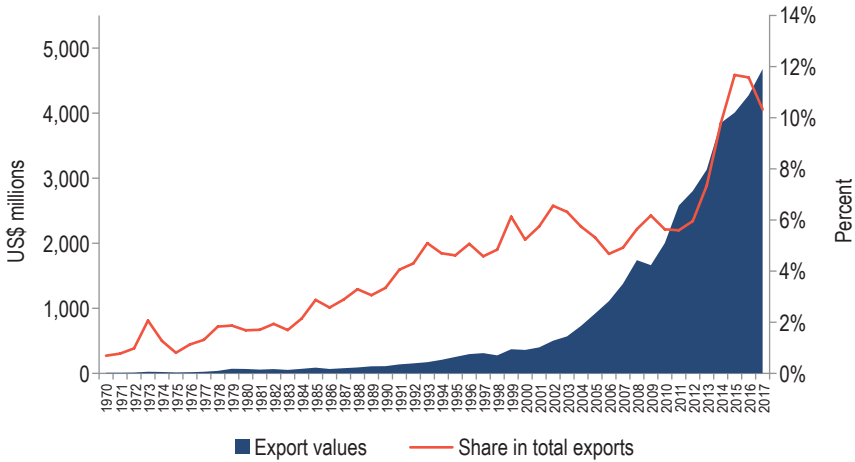
Fruits and Vegetables in Peru

Peruvian agro-exports increased dramatically in the last 25 years, from less than US\$200 million in the early 1990s to US\$5 billion today (Figure 10.4), rising from 3 percent to 12 percent of the country's total exports.

The boom started with asparagus in the early 1990s (by 2003, Peru had become the largest exporter worldwide), but rapidly diversified into grapes and then other fruits and vegetables, including mangoes, avocados, and quinoa (Figure 10.5). More recently, blueberries have become the most dynamic product, with exports increasing from essentially zero in 2013 to approximately US\$350 million in 2017, with expectations of continuous growth.⁸

⁸ Peru is expected to overtake Chile as the largest exporter by 2022.

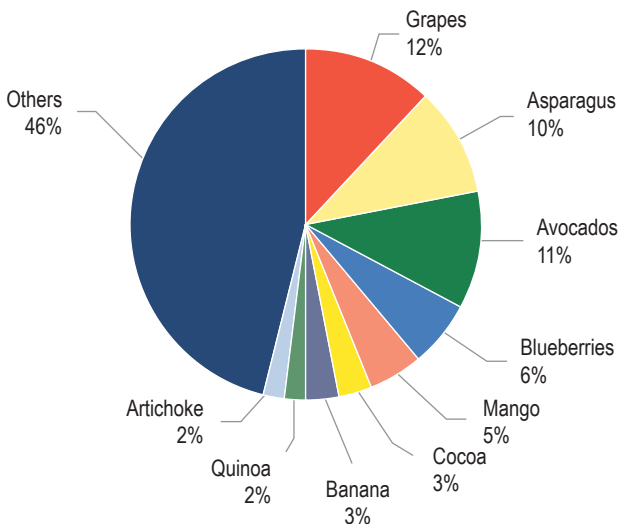
Figure 10.4 Peru: Nontraditional Agricultural Exports, 1970–2017



Source: Author’s elaboration from BCRP data.

The boom is not in Peruvian agriculture as a whole, but in modern Peruvian agriculture in the coastal regions. Traditional agriculture in the Andean regions, for all practical purposes an entirely different sector, has participated negligibly in the boom.

Figure 10.5 Peru’s Main Agricultural Exports, 2017



Source: Author’s elaboration from SUNAT-Aduanas data.

From a development perspective, there are two interesting characteristics of Peruvian agro-exports: they are labor-intensive and highly productive. Blueberries, for example, are extracted one by one, and require 1,000 workers per 1,000 hectares, while a similar area of modern soy production in Brazil requires just 17 workers.⁹ In aggregate terms, the sector has generated between 250,000 and 300,000 direct jobs and is the main source of formal employment in the Ica and Trujillo provinces, which have achieved zero unemployment.

In terms of productivity, the most-efficient firms operate at the frontier and compare favorably with similar firms in other countries, with high levels of sophistication across the value chain. This includes R&D investment to identify the varieties that best adapt to local conditions, the cloning of seedlings, sophisticated management practices in the field—dense plantings, optimized supply of water nutrients, and pesticides—and post-harvest management and logistics required to place high-quality products with long shelf life in demanding target markets.

Exceptional natural conditions favored the takeoff of Peruvian agro-exports. A clear advantage is that Peru can produce during the northern hemisphere's off season, resulting in high prices. Coastal climate conditions—ample sunshine, the cooling effect of the Humboldt Current, absence of droughts, hailstorms, and torrential rains—are important as well.

But favorable natural conditions have always existed. Other factors triggered the boom, starting with international cooperation. In the early 1990s, USAID funded visits to the United States to allow the Ica Producers Association to identify potential export products for the U.S. off-season. Asparagus was chosen, launching the boom. Ica subsequently developed a 500-hectare asparagus pilot project and a packing plant, reducing risks to pioneers. The University of California at Davis developed a new variety adapted to Ica conditions. USAID provided assistance for pre-harvest, packaging, and distribution.¹⁰

But key public policies played a role as well. One was the introduction in 2000 of an agriculture-specific labor market regime allowing for flexible

⁹ Moreover, according to Peru's 2014 social accounting matrix, the share of labor in value added in Peruvian agriculture (at 95 percent) is much higher than that in manufacturing (44 percent). Unfortunately, the matrix does not distinguish between traditional and modern agriculture.

¹⁰ Remarkably, the National Agrarian Innovation Institute played no role in the initial takeoff of the sector, or the subsequent boom.

contracts suited to the nature of agricultural activities demanding more labor during harvest periods.¹¹

Another important normative change involved land-use regulations. The agrarian reform of 1969 imposed important size constraints (150 hectares per farm). That ceiling was increased in 1988 and eliminated in 1995. The most-productive producers have land ownership well above previous limits, as the sector has important economies of scale. Camposol, the largest exporter, started in 1997 by acquiring 4,900 hectares in the Chavimochic irrigation project and 2,900 in the Piura Valley.

This leads to the role of irrigation projects. Almost all Peruvian agro-exports are grown along the coast on land that was previously deserts. As of 2017, approximately 250,000 hectares are dedicated to modern agriculture in these coastal regions, mostly as a result of key irrigation projects developed since the early 1980s (Vazquez, 2015).

Another factor was the 1992 creation and subsequent strengthening of the public phytosanitary authority (SENASA), which played a key role at two levels: domestically, working with local producers to reduce agricultural phytosanitary problems; and internationally, in negotiation with their counterparts in importing countries, opening new markets for Peruvian exports. Since its creation, SENASA has introduced 157 agricultural products in more than 20 countries.¹² Complementing the role of SENASA, a large network of free trade agreements (FTAs) implies that allowed products enter numerous importing countries with zero tariffs. New export markets counterbalance the potential negative impact that increased supply (due to productivity increases and incorporation of new land) could have on export prices.

For the agro-exports boom to continue, there are three obvious paths: (i) open more markets and improve market access for products that Peru already exports, (ii) find new products or generate differentiated varieties, and (iii) become a year-round exporting country.

The first path is the easiest, but to the extent that most markets for most relevant products are already open, the potential gains are limited. Finding new “blueberries” (Peru’s latest export discovery) is more demanding. An alternative is to develop new differentiated varieties from existing export products. This has not happened yet. Virtually all domestic

¹¹ By helping launch the export boom, Law 27630 became a conduit for formalization and structural transformation (toward modern agriculture). Favorable tax treatment in the law—including income tax breaks and accelerated depreciation—is considered of secondary importance.

¹² Recent new exports include avocados in Korea, blueberries and quinoa in China, and asparagus and avocados in India.

agricultural innovation efforts have been geared toward adapting varieties developed in the northern hemisphere. The next natural step would be to start with local breeding.

But for Peru's exports to increase several-fold the country may need to become a year-round exporter rather than a window-of-opportunity exporter. It obviously makes sense to prioritize exports during the counterseason, given the much higher prices. And, indeed, the "window" has become wider. But Peru needs to be prepared for the inevitable commoditization phase. Right now, it is not. It will require sizable investments to achieve productivity gains and become competitive during the northern hemisphere's high season. Logistics costs are a disadvantage.

Expanding windows, reducing costs, discovering new export products, and developing new varieties will require a redoubling of efforts in agricultural innovation. Innovation efforts to date have been only isolated attempts. Each company develops what is profitable for it, but does not internalize the benefits for the rest. As a result, very little is invested in innovation. What is invested is done so with very short horizons.¹³ Overcoming this will require greater involvement of the state, including revamping INIA, whose role in Peru's agro-exports boom has been nil, in stark contrast with the crucial role played by other research institutions in the region, such as EMBRAPA in Brasil and INTA in Argentina.

Lastly, the fruits and vegetables boom in Peru has certainly generated significant local capabilities, but not many exportable capabilities beyond food. There has been no development of agricultural machinery, knowledge-intensive business services, or a booming ecosystem of innovative firms that collaborate with each other. Developing these may also require public policy efforts to maximize potential across the entire value chain.

Pork Exports from Mexico to Japan

In line with Bennett's Law, world demand for pork is strong. Export volume grew six-fold between 1980 and 2013. Few agricultural products have matched that growth. Moreover, for few other products is the "farm as factory" metaphor more appropriate. The most-sophisticated pork producers are large-scale, vertically integrated, technologically advanced operations, acquiring new capabilities and seeking continuous improvement all along the value chain.

¹³ A program stimulating new export products by subsidizing pioneers in proportion to the exports of followers, as proposed by Stein (2014: 39-42), would help address this problem.

For a long time, Japan has been the world's largest pork importer, and no country in Latin America has been more successful in serving this demanding market than Mexico. In 2018, Mexican pork exports totaled US\$562 million, with 77 percent going to Japan. The boom was possible thanks to a complementary combination of private and public efforts.

Two public goods were instrumental in this story: (i) the negotiation of the Mexico-Japan Economic Association Agreement (AAEMJ), executed in 2005; and (ii) the development of an efficient sanitary and phytosanitary institution (SENASICA), which was able to resolve sanitary problems and negotiate the lifting of sanctions against Mexican agricultural products.

The AAEMJ

The industry's efforts to target Japan began in 1993, when a market study carried out by Sonora producers revealed substantial export potential. Exports grew strongly in the next eight years, peaking in 2001. Exports then stagnated as other countries began to promote pork aggressively, until the AAEMJ provided new impetus in 2005.

Through the AAEMJ, Japan granted preferential access via quotas for sensitive products of great interest to Mexico, including pork. Perhaps more importantly, it created an orderly way to deal with sanitary and phytosanitary issues at the bilateral level, allowing every state in Mexico to sequentially obtain access to the Japanese pork market.

Japan has generous policies to support farmers, and pork production is no exception. Pork imports are subject to 4.3 percent tariffs but confront a complex gate price system that imposes a minimum price on pork shipments. If import prices are below a critical threshold (currently 524 yen/kg), Japan applies a variable duty of up to 482 yen/kg, which declines as import prices increase. This gate price, not the tariff, is the main barrier to trade. Importers work around these restrictions by combining lower- and higher-priced cuts in the same shipment to reach the threshold. Thus, the gate price affects the mix of cuts imported, biasing them toward cuts of higher value.

With the AAEMJ, Mexico was granted quotas—increasing from 38,000 tons in 2005 to more than 90,000 currently—subject to reduced tariff levels (2.2 percent instead of 4.3 percent), but the agreement did not alter the gate price.¹⁴ The crucial element of the AAEMJ is related to sanitary

¹⁴ The recent TPP-11, of which Mexico is a member, does reduce the maximum variable duty to 125 yen/kg and then gradually to 50 yen/kg by Year 10. However, according to Mexican producers, the initial reduction is not large enough to affect exporters' strategies.

and phytosanitary issues (SPS). In particular, the AAEMJ created the Subcommittee on Sanitary and Phytosanitary Measures as a bilateral forum to discuss the implementation of the SPS measures, with the goal of promoting transparency in their application and facilitating trade.

SENASICA

SENASICA is the national authority responsible for food safety and the sanitary aspects of agricultural production. It has an annual budget of US\$30 million just for animal health services. Besides participating in international trade negotiations, SENASICA's activities related to animal health include: (i) running a network of specialized laboratories; (ii) controlling the quality of agricultural and food imports and certifying the quality of exports in accordance with importing-country requirements; (iii) managing national campaigns to eradicate animal diseases; (iv) running an animal health epidemiological surveillance system to identify risks and control movements of infected animals; (v) regulating the use of veterinary pharmaceutical products and monitoring the quality of animal feed; and (vi) creating a network of government certified slaughterhouses (Tipo Inspección Federal, TIF).¹⁵ No Mexican meat product can be exported without TIF certification.

In the specific case of pork exports to Japan, SENASICA was responsible for the long and costly process that allowed individual states to be recognized as free from classic swine fever starting in 2000 with Sonora, Chihuahua, and Yucatan, and ending in April 2015 with the official recognition of the whole country as free from the disease.¹⁶ The SPS Subcommittee of the AAEMJ was crucial for this achievement. More generally, thanks to SENASICA, Mexico is one of only five countries in the world that has been certified as free from the six most critical diseases affecting meat exports.

Private Sector Actions

At 1.3 million tons/year, Mexico is the world's 15th largest pork producer (SAGARPA, 2018). But it is an even larger consumer. In fact, while in 2016 Mexico exported 105,000 tons of pork, it imported seven times that

¹⁵ TIF certification involves strict control by specialized government veterinarians, as well as adoption of complex management systems to address food-safety issues.

¹⁶ The importance of SENASICA's work is underscored by the fact that Brazil, a much larger pork exporter, has been unable to crack the Japanese market in any significant way due to SPS issues.

Table 10.1 Kekén: Scale and Efficiency Measures

	2010	2017
Stock of sows	31,200	71,000
Pigs sold	813,000	2,035,000
Pigs weaned per mated sow/year	25.5	30.1 (23.6 average in US)
Feed efficiency in fattening stage (feed/weight gain, lb/lb, lower is better)	2.44	2.31 (2.54 average in US)
Number of retail stores in Mexico	140	446
Volume sold in Mexico (tons)	34,000	88,000
Volume exported	13,000	48,000 (65% to Japan)

Source: IDB staff elaboration based on Kekén data.

amount. Why would a country import the same product it exports? The answer is tastes, coupled with the fact that pork comes in a variety of cuts, with different characteristics. While Mexicans tend to consume leg meat (or ham), other cuts such as tenderloin, spareribs, and pork belly are valued more in export markets such as the United States and Japan. Thus, exports of pork complement domestic sales nicely. For this reason, most pork-exporting countries are also big-time consumers.

Mexican pork exports are carried out by large-scale, vertically integrated firms using advanced technologies. The entire process, from breeding to fattening and from processing to distribution is tightly controlled by these firms. Genetic material is imported from highly specialized producers in the United States and used in-house for artificial insemination. Production is separated into a breeding and a fattening stage. Breeding farms are enclosed and climate controlled, with very strict sanitary standards. While fattening farms are technologically less complex and tend to be independent, they provide only “care and handling” services, and all aspects of their work, including feed and medicines, are standardized and closely supervised by the integrated firms.¹⁷

Specific information for the largest exporter, Kekén, located in Yucatan, gives an idea of its rapid growth and productivity gains (Table 10.1). Technical efficiency measures for Kekén and other modern producers—such as feed efficiency, pigs/mated, sows/year, mortality rates, etc.—are on par with the best producers in the United States.

Fattening farms, some owned by *ejidos*, have long-term contracts with Kekén, which they use as guarantees to access credit. They operate

¹⁷ Feed relies on access to cheap grains from the United States in the context of NAFTA, which explains why Mexican pork producers were concerned about recent NAFTA renegotiations.

under strict supervision from the company, which provides feed and medicines, monitors weight gain, and pays according to productivity. Breeding farms, where piglets stay until they are 20 days old, are operated exclusively by Kekén.

Besides technical efficiency in production, exporting to international markets requires a good understanding of market demands in order to customize competitiveness. Producers sell different cuts to different markets depending on tastes. For example, Kekén exports tenderloins to Japan, but St. Louis ribs to the United States. Both in Mexico and abroad, Kekén avoids selling to supermarkets, where margins are slim. In Mexico, they sell through their own retail chain. In Japan, they sell mostly through distributors, which in turn sell to end-clients such as restaurants.

While most pork exports are commoditized, there are interesting cases of product differentiation. One poses vacuum-packaged fresh pork (instead of frozen), for which markets are willing to pay premium prices.¹⁸ Of course, selling fresh involves several challenges. Logistically, it requires an efficient, well-oiled transportation system to reach the market with 30 days of remaining shelf life, which is what Japan demands. That involves shipping through the port of Manzanillo (in the Pacific), which is faster, rather than Progreso in Yucatan, which is cheaper. On the production side, it requires new industrial vacuum packaging machinery and much stricter sanitary standards at the slaughterhouse to allow the product to reach the market with bromatological content within acceptable limits.

A second case involves special niche products for which Japanese customers are willing to pay higher prices, such as ready-to-cook pork belly skewers, sold to restaurants through distributors. Each piece is cut to precise specifications and carefully selected according to the fat/meat pattern. Moreover, the pieces are thin enough that the task of introducing the skewer is not easily mechanized. Thus, this product is very labor intensive, conferring an obvious advantage to Mexico over exporters such as the United States, Canada, or the European Union, with much higher labor costs.

An important development is the dramatic rise of China as a target market. As recently as 2010, China accounted for just 1 percent of world imports. By 2016, it had become the second pork importer, at 11 percent, and should quickly overtake Japan at the top. But China demands some of the same low-cost cuts—pig ears, feet, innards—that are valued in Mexico. Given the large local demand, Mexico never bothered to obtain access to the Chinese

¹⁸ According to Kekén's executives, the price of fresh pork is US\$1 higher per kg, increasing profit margins by US\$0.50. Since pork sells for about US\$4.5 per kg, this is a significant difference.

market for these specialty products. Its sanitary protocols only provide access to prime cuts such as shoulder, leg, or loin. As of today, China has not been a priority market for Kekén or other Mexican producers.

However, China is being affected by an outbreak of African swine fever, an incurable disease with high mortality in pigs. The disease is spreading rapidly throughout the country and may generate supply shortages and raise prices. Kekén is paying close attention, and, together with other producers, is pushing SENASICA to take action and renegotiate the sanitary protocols. Market opportunities change quickly, and the private and public sectors need to adapt and work together to take full advantage of those opportunities. That is what customized competitiveness requires.

Seeds of Success in Modern Agriculture

Natural resource-intensive sectors are not what they used to be. While in the past they were associated with backwardness and the periphery of knowledge, they are now more dynamic and more closely associated with the core. Modern agriculture, in particular, can require—and breed—sophisticated capabilities. It has the potential to spur productivity growth, generate employment, bring technology to small and medium producers, and link them to international value chains. Thus, modern agriculture can be an integral part of a country's successful development strategy.

But success in modern agriculture is unlikely to be the result of chance alone. It will hinge on the ability of firms to keep innovating, and to customize their products and their value chains to changing requirements in target markets. It will also hinge on the ability of countries to identify and deliver public goods that help drive innovation and increase productivity, not just on the farm, but in the entire agri-food system. These may include infrastructure (such as irrigation projects, roads, and ports); research and extension services; and capable SPS institutions that help open foreign markets for the country's products.

The set of specific public goods required, however, cannot be captured by a one-size-fits-all laundry list. Public goods needed to export soybeans to China are not the same as those required to export avocados to the United States or pork to Japan. Just as firms must customize their products to the specific requirements of their target markets, governments must customize the bundle of public goods they offer to the specific needs of the country's firms. Doing so requires close collaboration between the private and public sectors. While it does not guarantee results, the alignment of public and private strategies is, without a doubt, a necessary condition for success.

TAKING STOCK

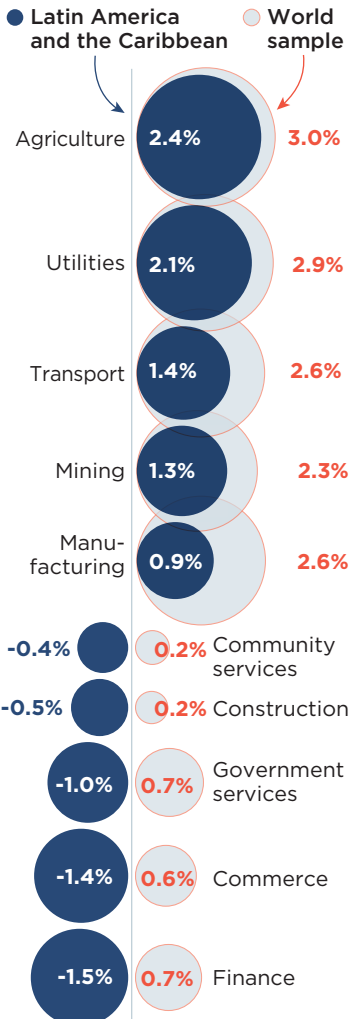
MODERN AGRI-FOOD MARKETS: FERTILE GROUND FOR PUBLIC-PRIVATE COOPERATION



Historically, development moved people from low-productivity agriculture to manufacturing. Over the last half century, technology-driven transformations in agriculture have led to faster productivity growth than in any other sector.

Average Labor Productivity Annual Growth Rate

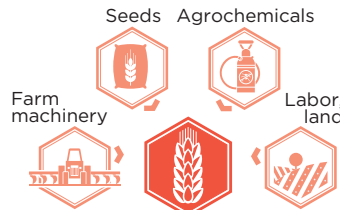
1971-2014



Modern agriculture does not end within the farm.

Modern agriculture can spur productivity growth and employment across a complex network of linkages and value chains.

INPUT VALUE CHAIN



Agricultural production

OUTPUT VALUE CHAIN



Lateral services
Logistics and transport
IT
Financial services

Public goods
Research and development
Extension
Sanitary-phytosanitary services
Infrastructure
Trade agreements
Other policies

THE BOTTOM LINE

To succeed in modern agriculture, firms need to innovate and customize products and value chains to changing market requirements. Governments, in turn, must customize the supply of public goods to match private sector needs.

11 New Technologies and Trade: New Challenges for a New World

Technology and international trade have been closely intertwined throughout history. By reducing transport and communication costs, improvements in transportation and information and communication technologies (ICTs) have enhanced trade between countries and changed the basket of goods that countries specialize in producing. The emergence of the steamship in the second half of the nineteenth century (Pascali, 2017), the advent of container shipping in the 1960s (Bernhofen, El-Sahli, and Kneller, 2016; Coşar and Demir, 2018), and the introduction of the telegraph (Steinwender, 2018) were all technological advances that had a profound impact on trade.¹

The world is currently in the midst of a new wave of technological changes that are substantially affecting the way people and businesses interact. These changes are commonly referred to as the digital transformation.² Concern in policy circles and among the general public is growing over the impact of this transformation on the economy. The discussion generally revolves around the effects on employment, wages, and inequality, leaving the implications for international trade relatively less explored. These implications are multifaceted, since new technologies can affect the type of goods that countries trade, the volumes and values traded, the way in which goods are traded, and the set of goods that countries specialize in producing.

Some of the effects of the digital era on trade parallel those of past technological revolutions. Others are completely novel, such as the emergence of new forms of trade (e.g., e-commerce) and the appearance of new trade barriers (e.g., regulation of cross-border data flows). These new aspects bring with them an array of dilemmas and challenges for policy design.

¹ Other examples are the telephone and the mobile phone services (Fink, Mattoo, and Neagu, 2005; Jensen, 2007, respectively).

² The set of economic relationships to which the technological changes give rise is known as the *digital economy*.

The Digital Transformation: Drivers and Implications

Drivers and New Technologies

Despite the lack of a widely accepted definition of the digital transformation, some of its drivers, the technologies associated with them, and the changes they bring about are well recognized. The digital transformation's main drivers are improvements in computing power and the plummeting costs of collecting, processing, storing, and transferring data. Among the technologies identified with the digital transformation (UNCTAD, 2017a) are high-speed broadband, advanced robotics, artificial intelligence (AI), the Internet of Things (IoT), cloud-computing, big-data analytics, and additive manufacturing (which includes 3D-printing).³ These technologies have the potential to increase efficiency in production processes and to change the nature of work. More generally, they alter the relations among people, businesses, and governments.

New Technologies and Trade: New (and Old) Determinants, New Modalities, and New Varieties

The digital transformation can influence international trade through different channels, the most obvious being a reduction in trade costs. This channel resembles the ones brought about by previous technological changes, such as the steamship or the telegraph. New technologies such as autonomous vehicles, robots, AI, Blockchain, and IoT can reduce transport and logistic costs, as well as those related to compliance with regulations and administrative procedure (see Chapter 7). In addition, online platforms and digital marketplaces, together with developments such as real-time translation or teleconferencing, can lower information and communication costs. These platforms can reduce frictions related to selling to new clients, making it easier for firms to enter foreign markets.

New technologies such as robots, AI, or 3D printing can also affect trade by reducing the cost of performing certain tasks in the production process, which in turn can affect the opportunity cost of offshoring tasks to other countries.⁴ With new technologies, the cost advantage of offshoring those tasks could vanish, leading to a decrease in global trade in intermediates (Box 11.1).

³ See also UNCTAD (2017a) and WTO (2018).

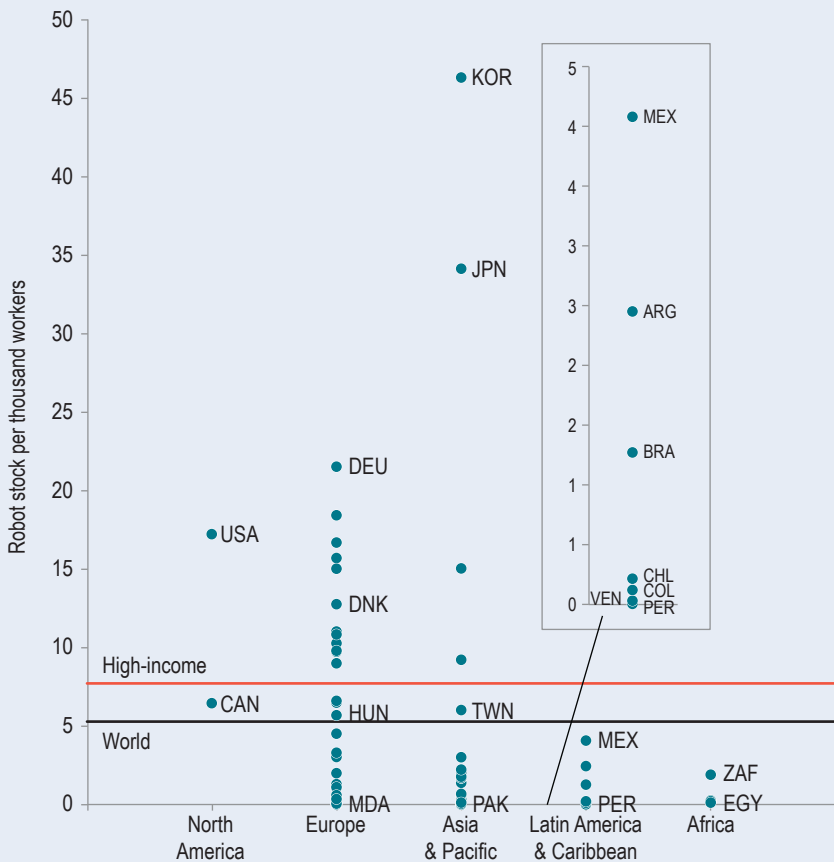
⁴ In the past two decades, global production has become increasingly fragmented, with some countries specializing in intermediate stages of production and others specializing in final stages, design, or research and development (Hummels, Ishii, and Yi, 2001; Johnson and Noguera, 2012; Fort, 2017).

BOX 11.1 ROBOTS AND INTERNATIONAL TRADE

The increasing use of robots for tasks previously performed by humans is transforming the manufacturing industry around the world. Robots have been widely employed in the OECD countries’ auto industry since the 1980s, but in recent years they have spread to other industries and to developing countries. Robot density (the number of robots per thousand workers) is highest in Korea, Japan, Germany, and the United States. Latin America and the Caribbean lags behind most regions in the world (Figure 11.1).^a

Robotization in manufacturing can affect productivity and employment (Acemoglu and Restrepo, 2018a, 2018b; Graetz and Michaels, 2018), but can it affect trade flows? On the supply side, an increase in robot density in an

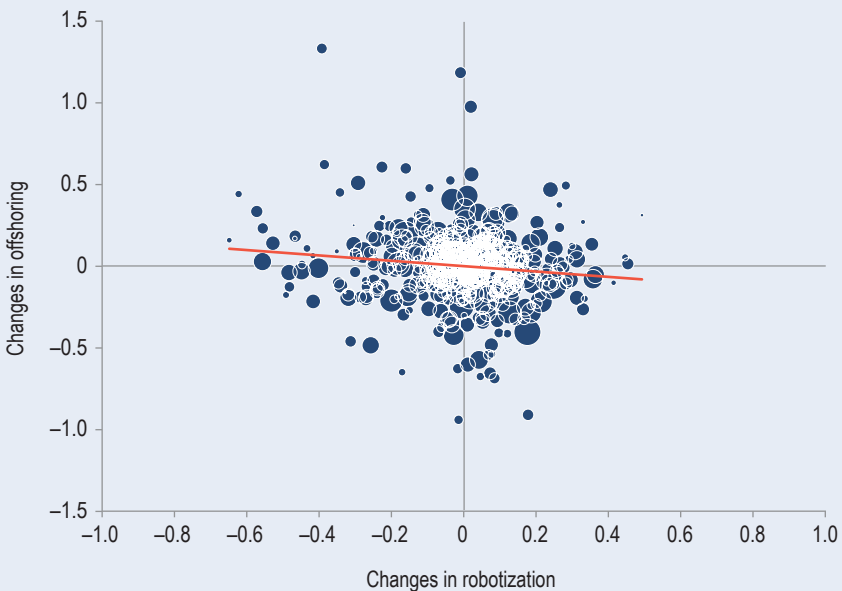
Figure 11.1.1 Robot Stock per Thousand Workers, by World Region, 2015



Source: IDB based on data from IFR and UNIDO.
 Note: Robot stock per thousand workers is the total stock of industrial robots in manufacturing divided by the total number of workers in manufacturing (in thousands). High-income and World are simple averages of countries in each group. High-income countries are based on the World Bank country group classification.

BOX 11.1 ROBOTS AND INTERNATIONAL TRADE *(continued)*

industry leads to greater productivity and lower output prices, thereby stimulating exports. On the demand side, increased automation reduces the cost of producing parts at home and can erode the cost advantage of offshoring production to other countries and, therefore, slow down international demand for intermediate goods. For example, by using more robots, a U.S. manufacturing industry can reduce the cost of producing parts domestically, decreasing the incentive to produce them abroad and import them from a lower-wage country (such as Mexico). Thus, robot adoption in a country can reduce its offshoring activity. This channel is particularly relevant for developing countries that export intermediate goods, including those in Latin America and the Caribbean. Moreover, it may be the main channel through which robotization will affect the region in the near future, given that manufacturing industries in the region—with the exception of the automotive industry in a few countries—have low levels of robot density.

Figure 11.2 Robotization and Changes in Offshoring

Source: IDB based on data from Eora, IFR, and UNIDO.

Notes: Bubbles correspond to country-industry combinations; their size is proportional to the industry employment share in each country's employment in 1993. Changes in offshoring and robot adoption correspond to the period 1993–2015. The variables on the axes are residuals net of country and sector trends. Offshoring is measured at the country and industry level as the share of (non-energy) imported intermediate inputs in total (domestic + imported) intermediate inputs; its changes are measured in log differences. Changes in robotization correspond to the percentile of change in robots/thousand workers. The estimated slope of the fitted regression line (in red) is -0.175 with a standard error (clustered by industry and country) of 0.0594 .

(continued on next page)

BOX 11.1 ROBOTS AND INTERNATIONAL TRADE *(continued)*

An IDB study estimates the impact of changes in robot density on the degree of offshoring of an industry, defined as the industry's share of imported intermediate inputs in total intermediate input demand (Rodríguez Chatruc and Nieves Offidani, 2019).^a Figure 11.1.2 shows that, as expected, increases in robot density are associated with declines in offshoring. The study estimates a reduction in offshoring over the 1993–2015 period of 16 percent when an industry moves from the bottom to the top of the ranking of changes in robotization.

These results highlight the importance of considering the impact of automation on the economy, not only through the automation of domestic industries, but also but through the automation of trade partners.

^a Robot densities shown in the figure can differ from those reported by IFR because of different sources for employment data. The ranking of countries in IDB calculations is nevertheless reasonably similar to that of IFR.

^b While this research was being conducted, two related studies became available. First, De Backer et al. (2018) estimate the impact of the growth of the robot stock on several outcomes such as offshoring, forward linkages, and backward linkages. The IDB study complements De Backer et al. because it examines a longer period (1993–2015 vs. 2000–15) and uses a more demanding specification along with an instrumental variable approach to address the potential endogeneity of the robot stock. Second, Artuc, Bastos, and Rijkers (2018) estimate the impact of an increase in robotization in the north on trade with the south. The IDB study is different in that it incorporates robotization in the south as well as north-north and south-south trade in the analysis and uses data on imports by the industry that is automating and not aggregate country-level imports as in Artuc et al. (2018).

More generally, digital technologies can also influence trade patterns by shaping comparative advantage, either intensifying previous advantages or creating new ones, particularly as they interact with endowments and pre-existing country characteristics.⁵ For example, in a context in which data is an asset for the development of AI, countries that accumulate more data or have a more favorable regulatory environment on data localization are more likely to develop a comparative advantage in data-intensive sectors.

Finally, digital technologies are also behind the emergence of new trade modalities and new trade varieties. Goods and services can now be ordered electronically, a practice known as e-commerce. Moreover, some goods that used to be traded in physical form such as movies, music, and books can now be digitally transmitted and have mutated, correspondingly, into video streaming, music downloading, and e-books.

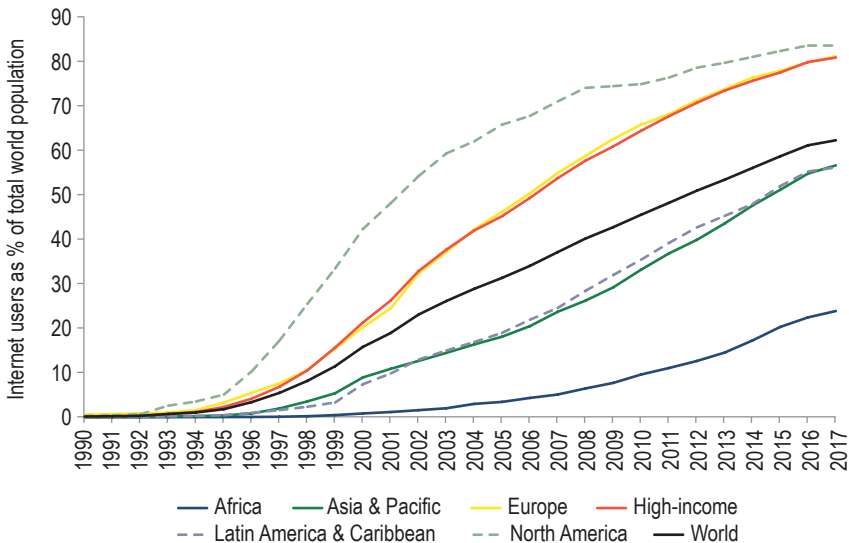
⁵ For instance, the increase in world trade due to the decline in communication costs at the end of the twentieth century did not occur while maintaining previous cross-country specialization patterns. In fact, the international division of labor changed dramatically, as the reduction in costs interacted with cross-country wage differentials (Baldwin and Martin, 1999; Baldwin and Venables, 2013; Fort, 2017).

Plugging into the Digital Transformation with (Fast) Internet Connectivity

Widespread and reliable internet connections are a prerequisite to reap the benefits of the digital transformation and to develop digital trade. Although improvements in internet infrastructure allowed the region to significantly increase its connectivity in recent decades (Figure 11.1), most countries still have penetration rates lower than those of high-income countries, and the rates of several countries in the region are below the world average (Figure 11.2). In addition, the speed at which those who have access can connect to the internet is, on average, lower. In particular, all Latin American and Caribbean countries have a slower average connection than the world average. Uruguay has the highest average speed (9.50 mps); Paraguay, the lowest (1.40 mps) (Figure 11.3). These lags in terms of both the level and the quality of connectivity severely limit the ability of the region to participate in global digital trade.

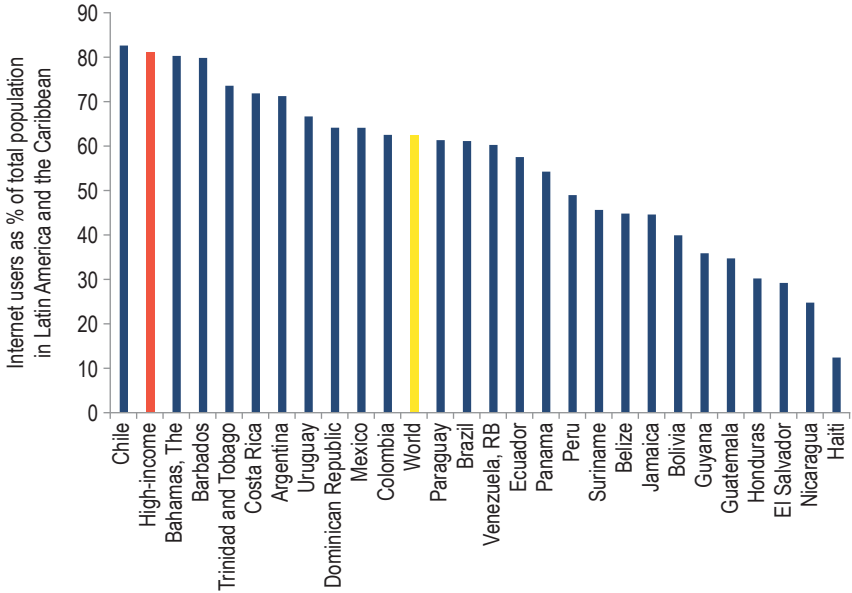
Available evidence reveals that both the quantity and the quality of internet connections matter for trade, albeit to varying degrees depending

Figure 11.1 Internet Users as a Percentage of Total Population in World Regions, 1990–2017



Source: Authors' calculations based on International Telecommunication Union and World Development Indicators.

Note: High-income and World are simple averages of countries in each group.

Figure 11.2 Internet Users as a Percentage of Total Population in Latin America and the Caribbean, 2017

Source: Authors' calculations based on International Telecommunication Union and World Development indicators.

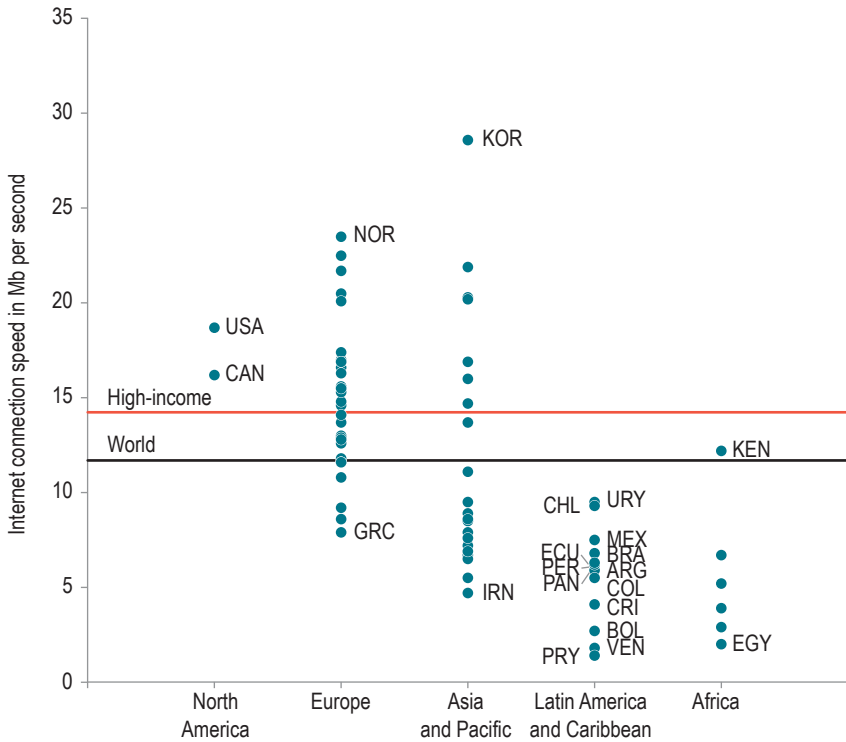
Note: High-income and World are simple averages of countries in each group.

on the countries' level of development.⁶ Higher growth in a country's web hosts and in the number and speed of internet subscriptions is correlated with higher export growth (Freund and Weinhold, 2004; Abeliansky and Hilbert, 2017). Interestingly, quality (as proxied by speed) seems to be more relevant for developing countries, whereas quantity (as proxied by coverage) is the key for developed countries. These findings are confirmed by several studies using firm-level data from different countries (Lincoln and McCallum, 2018; DeStefano, Kneller, and Timmis, 2018; Kneller and Timmis, 2016; Fernandes et al., 2018).

Empirical evidence consistently suggests that the internet has boosted international trade. What role does infrastructure play in this relationship? Internet infrastructure is like a long chain of links, the first of which is international connectivity, composed in its majority of fiber-optic submarine cables, through which most of the world's telecommunications and internet traffic

⁶ The growth in broadband internet users is also associated with an increase in a country's overall openness to trade (Riker, 2014).

Figure 11.3 Internet Connection Speed in Megabits per Second, 2017

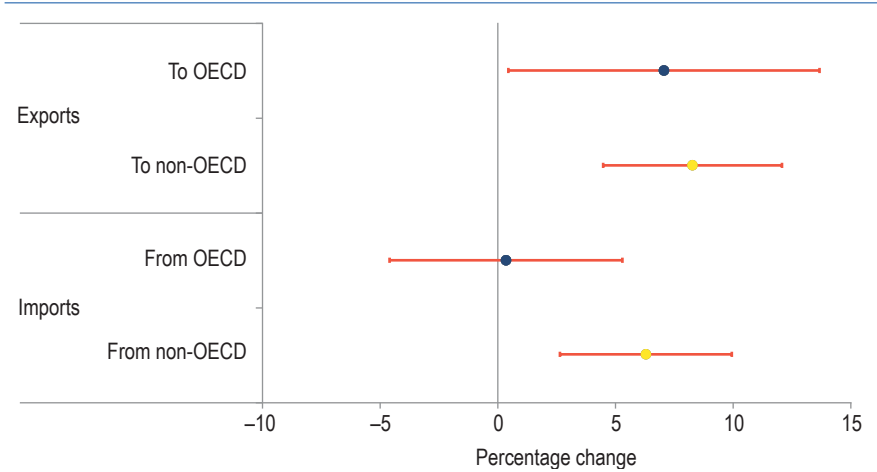


Source: Authors' calculations based on data from Akamai.
 Note: High-income and World are simple averages of countries in each group.

travels.⁷ Using data for more than 200 countries on bilateral trade flows and the year in which countries became connected to a fiber-optic submarine cable, an IDB study (Estevadeordal, Rodríguez Chatruc, and Volpe Martincus 2019) finds that when a developing (i.e., non-OECD) country deploys a cable for the first time, its exports to other developing countries and to developed (i.e., OECD) countries increase by similar magnitudes of 7.1 and 8.3 percent,

⁷ A few studies analyze the impact of this type of infrastructure on economic outcomes. Cariolle (2018) finds a significant increase in internet penetration rates in Sub-Saharan Africa after the deployment of submarine cables. Cariolle, Le Goff, and Santoni (2018) use variation in digital vulnerability as provided by cable outages to identify the effect of increased internet usage in developing countries on their labor productivity. Hjort and Paulsen (2019) exploit the gradual cable deployment and regional variation in development of the internet's terrestrial backbone in Africa to estimate the impact of fast internet availability on several outcomes, such as the probability of employment and firm exports.

Figure 11.4 Internet Infrastructure and International Trade Effect of Fiber-Optic Cable Deployment by Non-OECD Countries (% Change)



Source: Estevadeordal, Rodríguez Chatruc, and Volpe Martincus (2019) based on data from COM-TRADE, Telegeography, CEPII, and World Development Indicators.

Note: Bilateral trade flows between more than 200 countries in the period 1990–2017 are regressed on an indicator variable equal to one if either the exporter or the importer is connected to at least one submarine cable, and on the logarithm of the number of internet users. All regressions include controls for: country-pair fixed effects (to control for time-invariant factors such as distance, contiguity, common language, etc.), and free trade agreements. Regressions that evaluate the effect on exports (imports) include fixed effects for the importer (exporter) year and control for its GDP. The sample is split to consider the various origin and destination combinations (OECD and non-OECD). For each variable, the dot corresponds to the point estimate and the horizontal line to the confidence interval at 95%. Standard errors are clustered by country pair.

respectively. Interestingly, imports from developed countries do not significantly change, while imports from other developing countries increase by 6.3 percent (Figure 11.4).⁸ Hence, improvements in internet infrastructure seem to stimulate trade between developing countries and their exports to developed countries.

New Trade Modalities: Digital Trade and E-Commerce

What is E-Commerce?

Although there is no universally accepted definition of digital trade, it can be considered to encompass all electronic transactions of goods and services that can be delivered digitally or physically (López González and Jouanjean, 2017). E-commerce refers specifically to the sale or purchase of

⁸ The same study finds that the average effect for the whole sample of more than 200 countries is an increase of 5.4 percent in exports and 4.6 percent in imports.

goods and services over computer networks by methods designed for the purpose of receiving or placing orders; as such, it does not include orders made by phone calls or manually typed e-mails (OECD, 2011, 2013). Transactions can take place between consumers (C2C), between businesses and consumers (B2C), between businesses (B2B). They between businesses and governments (B2G). They are considered cross-border only when they involve deliveries in countries different from the origin. In particular, e-commerce takes place on online platforms such as Alibaba (B2B), Amazon (B2C and C2C), eBay (C2C and B2C), and Mercado Libre (C2C and B2C).

How Important Is E-Commerce?

Despite its increasing importance and enormous potential, measuring e-commerce worldwide remains elusive, given the lack of comprehensive official statistics on its value (UNCTAD, 2016). Existing global estimates are primarily made using projections of data from the few reporting countries (UNCTAD, 2017). Given the strong assumptions made when computing them, their accuracy is uncertain. This is reflected in the large dispersion in Figure 11.5. With few exceptions in developed countries, no consistent data are available at the national level, either.⁹ The challenges for measuring cross-border e-commerce are even larger, given that few countries measure it.¹⁰

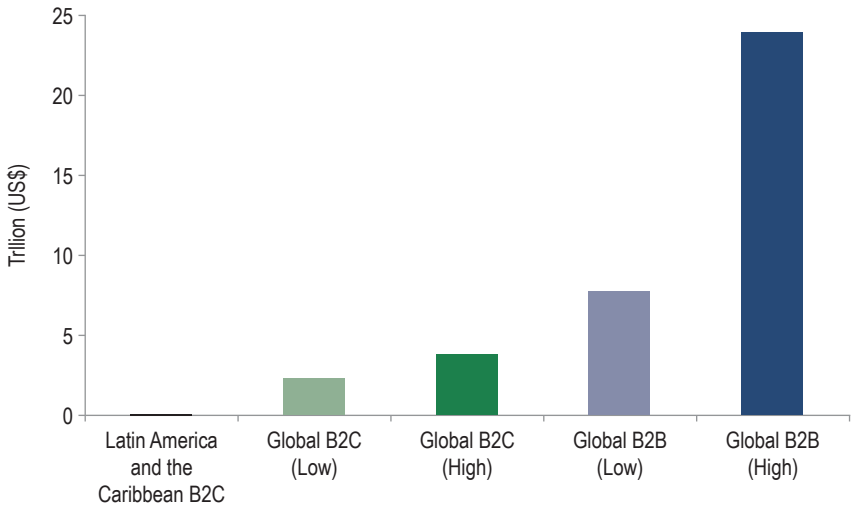
Keeping these important caveats in mind, available estimates indicate that digital forms of trade have been growing at spectacular rates. According to the upper estimates, global e-commerce (B2C plus B2B) sales amounted to US\$27.7 trillion in 2016, which represented a 44 percent increase relative to 2012 (Figure 11.5).¹¹ Most of this value (around 90 percent) corresponds to the B2B modality. Although most of it is domestic, cross-border e-commerce is increasingly important, representing 6.5 percent of global B2C sales in 2015.¹² E-commerce estimates for Latin America and the Caribbean are even more scarce and variable. Based on these estimates, the region accounted for almost 2 percent of global B2C trade and

⁹ Both the United States and the EU produce detailed statistics on e-commerce but do not distinguish between within and cross-border sales, at least in the public reports, except for the share of firms engaging in cross-border sales in the EU (U.S. Census Bureau, 2018; Eurostat, 2018).

¹⁰ Japan tracks the value of bilateral B2C trade for selected destinations.

¹¹ The figures were taken from USITC (2017) based on data from International Data Corporation. The value of global e-commerce sales reported in the text corresponds to the sum of global B2C sales (high) and global B2B sales (high).

¹² Estimates come from UNCTAD (2017).

Figure 11.5 E-Commerce by Segment, 2016–17

Source: Authors' calculations based on data USITC (2017, International Data Corporation) (high estimate, 2016), UNCTAD, and Statista (2017, low estimate).

Note: B2C=business to consumer; B2B=business to business. The lighter tones correspond to the low estimates, while the darker tones correspond to the high estimates.

3.2 percent of global cross-border e-commerce in recent years, less than its share in offline trade (5.6 percent).¹³

An accurate measure of cross-border e-commerce is a crucial input for policy decisions. Several international initiatives have been launched in this regard (López González and Jouanjean, 2017; WCO, 2018). Additional possible measurement strategies include the use of data on international credit card transactions (Volpe Martincus and Salas Santa, 2019a) and the inclusion of improved e-commerce modules in existing enterprise and household surveys (Estevadeordal, Rodríguez Chatruc, and Volpe Martincus, 2019).

Why E-Commerce and Underpinning Platforms Can Make a Difference

Online platforms through which e-commerce is conducted can help reduce search costs for both consumers and firms. Thus, these platforms can decrease the costs that consumers incur when searching for goods and widen the range of goods and varieties to which they have access. Similarly, they can lower firms' costs of looking for intermediate goods, reaching more customers, and penetrating foreign markets.

¹³ Estimates come from Statista and AliResearch and Accenture, respectively.

Since regular search costs tend to grow as distance increases, transactions carried out online through these platforms can be expected to be less sensitive to the deterring effect of distance than their offline counterparts. This is precisely what has been found for online C2C and B2C platforms (i.e., Hortaçsu, Martínez-Jerez, and Douglas, 2009; Lendle et al., 2016; Lendle and Vézina, 2015).¹⁴

Standard online platforms have built-in payment and logistics solutions. These solutions can have trade-creating effects, which, if not properly isolated, can be compounded with those associated with the reduction of information frictions.¹⁵ IDB's ConnectAmericas.com is a purely informational B2B online platform that neither allows for direct transactions among firms nor incorporates the respective logistic solution. As such, it provides an ideal setting to identify the trade effects these platforms generate by lowering information barriers.¹⁶ As highlighted in Box 11.2, these effects are positive and significant and can even translate into improved overall firm performance.

Harnessing the Benefits of E-Commerce: Old and New Policy Challenges

Latin America and the Caribbean accounts for a relatively small share of the world's digital trade. Several concurring factors, whose specific combination and relative importance vary across countries, explain this small share. In addition to generally limited and poor connectivity and, more broadly, inadequate ICT infrastructure and literacy, these factors include unreliable and costly power supply, underdeveloped financial systems, limited use of credit and debit cards, underperforming postal services, weak legal and regulatory frameworks that restrict the extent to which people trust online transactions, and, importantly, explicit barriers to digital trade (UNCTAD, 2018). Some of these barriers include: restrictions on cross-border data flows, data privacy, and data retention; restrictions on access to online content, such as filtering, blocking, censoring, and departures

¹⁴ Couture et al. (2018) explore the effects of a Chinese program to expand e-commerce to rural areas. Findings indicate that e-commerce led to sizable but heterogeneous gains in households' and villages' real incomes.

¹⁵ Hui (2016) shows that the trade-increasing effect of the eBay online platform is strengthened when intermediation services are integrated.

¹⁶ Because ConnectAmericas.com does not allow for electronic ordering, it cannot be strictly considered an e-commerce platform, but it still shares a crucial matching function with this kind of platform.

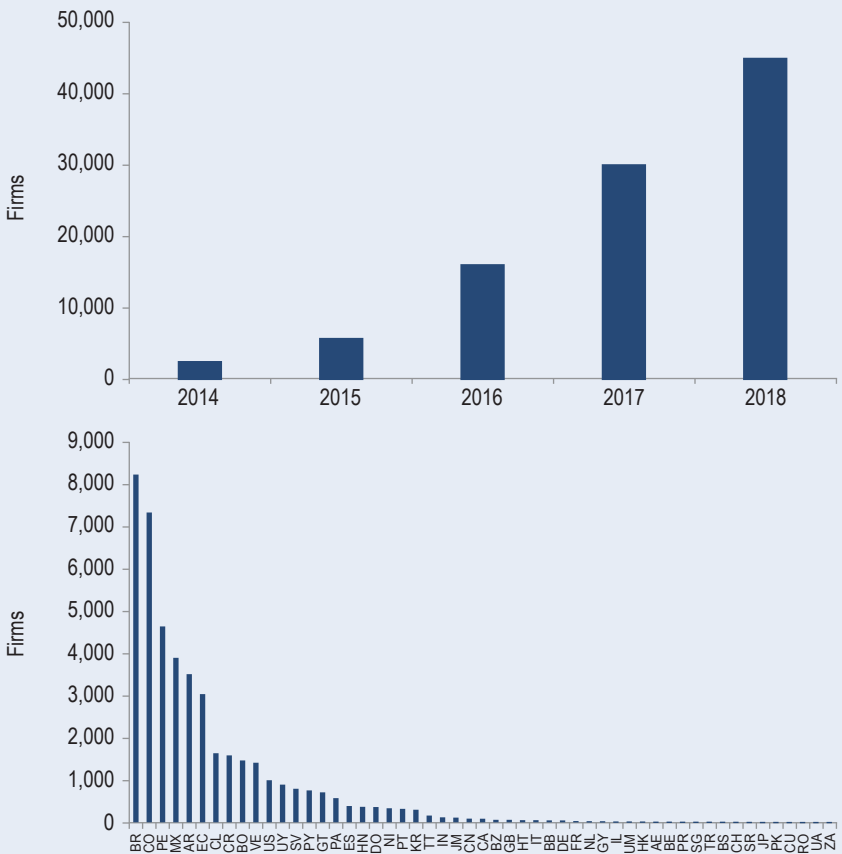
BOX 11.2 CONNECTAMERICAS.COM – REDUCING INFORMATION BARRIERS TO BOOST FIRMS’ INTERNATIONALIZATION

The IDB has developed an online B2B platform in partnership with Google, DHL, SeaLand (Maersk), MasterCard, and Facebook. The platform, called ConnectAmericas.com, was launched in 2014. As of 2018, it had more than 45,000 registered firms from more than 100 countries (Figure 11.2.1).

ConnectAmericas.com has two main functions, learning and connecting:

- The learning function provides firms with general trade information through a number of capacity-building services. These include online courses and webinars; access to trade datasets, business self-evaluation tools, video testimonials, and articles; and information about support available to firms in their countries.

Figure 11.2.1 Number of Firms in ConnectAmericas.com, over Time and Across Countries



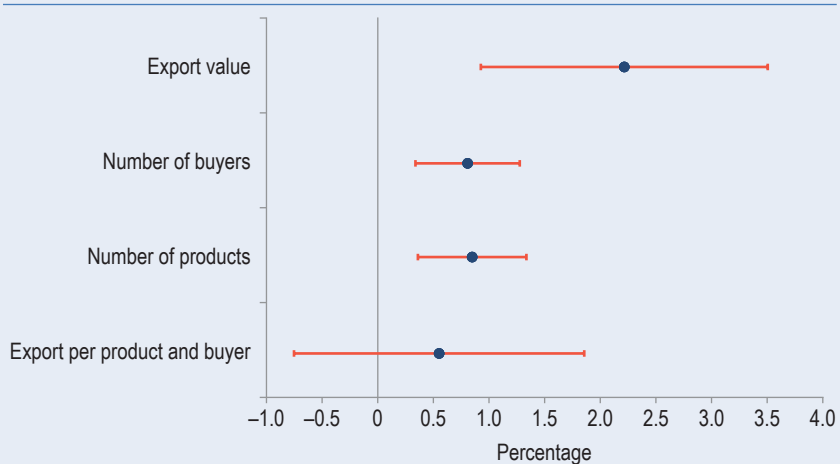
BOX 11.2 CONNECTAMERICAS.COM – REDUCING INFORMATION BARRIERS TO BOOST FIRMS’ INTERNATIONALIZATION *(continued)*

- The connection function provides firms with specific commercial information through a variety of means. Most importantly, it allows firms to participate in business communities: to announce goods or services they want to buy or sell; to be notified about business opportunities and apply to them; and to search company profiles.

An IDB study evaluates the impact of the platform on Peruvian firms’ exports using detailed records on firms’ activities in ConnectAmericas.com, along with transaction-level export data from the Peruvian customs authority (Carballo et al., 2019). The results suggest that the use of ConnectAmericas.com has increased firms’ exports. In particular, estimates indicate that an additional day using the platform is associated with a 2 percent increase in firms’ exports to a given destination. This export increase can be traced back to expansions along both the product and buyer extensive margins, which are aspects of exporting facing more severe information problems (Figure 11.2.2).

Empirical evidence from a follow-up study using additional firm-level data on imports and employment for the same country suggests that ConnectAmericas.com has also helped Peruvian firms increase their foreign purchases and grow in terms of their number of employees (Volpe Martincus and Salas Santa, 2019c).

Figure 11.2.2 The Effect of Using ConnectAmericas.com on Firms’ Exports, Peru, 2013–16



Source: Authors’ calculations based on Carballo et al. (2019).

Note: The figure shows the estimated effect of the number of days using ConnectAmericas.com on the export value, number of buyers, number of products, and average export per product and buyer at the firm-destination level. Control variables include firms’ age and export promotion assistance status, along with firm-destination fixed effects and destination-year fixed effects (not reported). Standard errors clustered by firm are used for inference purposes. For each variable, the dot corresponds to the point estimate and the horizontal line to the confidence interval at 95%.

from net neutrality; restrictions on trading, such as restrictions on online sales and payment methods, and burdensome practices on electronic signatures; establishment and technological barriers, such as requirements to surrender source codes; and traditional fiscal and market access barriers, such as tariffs and discriminatory tax regimes and customs duties on electronic transmissions (Ciuriak and Ptashkina, 2018; Ferracane, Lee-Makiyama, and van der Marel, 2018).

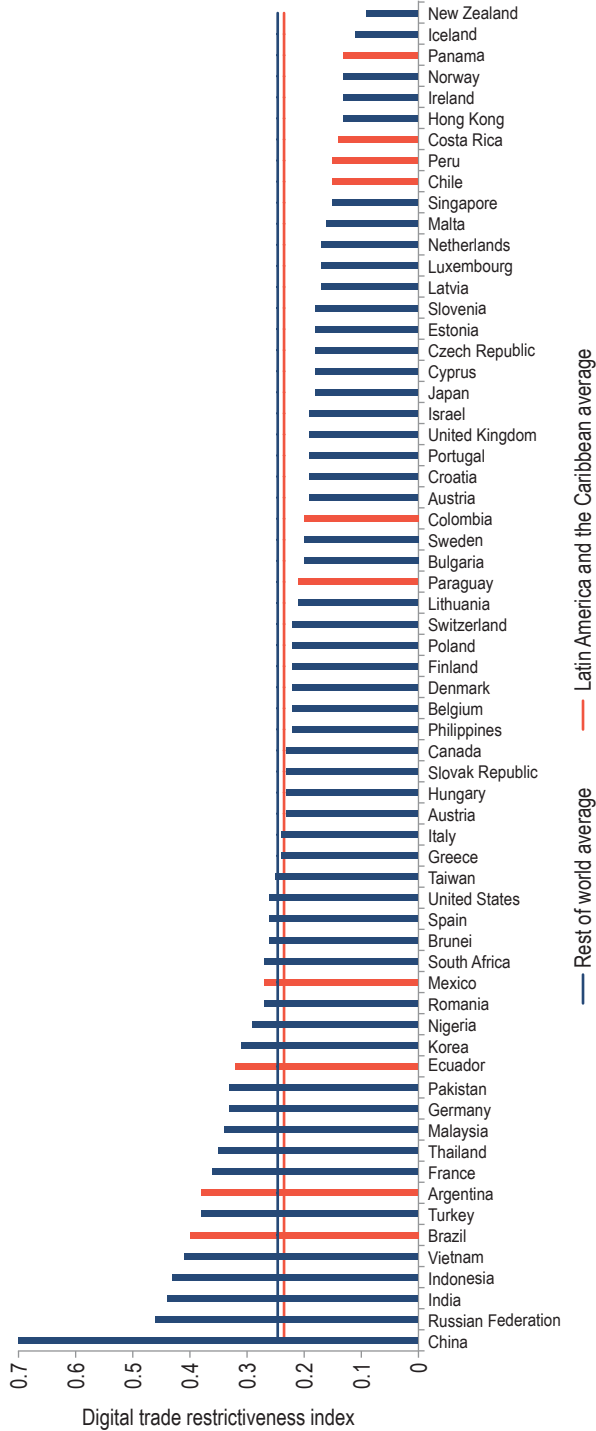
According to the Digital Trade Restrictiveness Index, which summarizes these different measures, large emerging economies generally have more-restrictive policies on digital trade (Figure 11.6). The region offers a varied picture. Four countries in the dataset (Brazil, Argentina, Ecuador, and Mexico) are above the world average in terms of restrictions on digital trade, two countries are below but close to the world average (Paraguay and Colombia), and the other four countries (Chile, Peru, Costa Rica, and Panama) are markedly below the world average.¹⁷

These barriers appear to matter. Stricter data policies negatively affect the total factor productivity of downstream firms in sectors that rely on electronic data. They also limit internet imports in data-intensive sectors, particularly in countries with more-developed digital markets (Ferracane, Kren, and van der Marel, 2018; Ferracane and van der Marel, 2018). Some of these policies may pursue worthy objectives at the domestic level, linked to cybersecurity or consumer privacy, whose benefits are hard to quantify. The digital era, therefore, confronts policymakers with the need to balance the free flow of information with security considerations and protection of consumer privacy.

The expansion of digital trade creates other policy challenges as well. The growth in cross-border e-commerce has implied an exponential increase in the number of international lower-value parcels that must clear customs. This puts pressure on customs' limited resources and their ability to conduct proper risk management on these flows, raising the likelihood of customs delays and errors. Evidence from Uruguay suggests that this indeed may be the case: a larger number of export and import shipments has been associated with longer customs processing times (Volpe Martincus and Salas Santa, 2019b). Thus, for instance, a 10% increase in the daily number of export shipments processed by customs results in a 0.5% increase in average processing times (Figure 11.7).

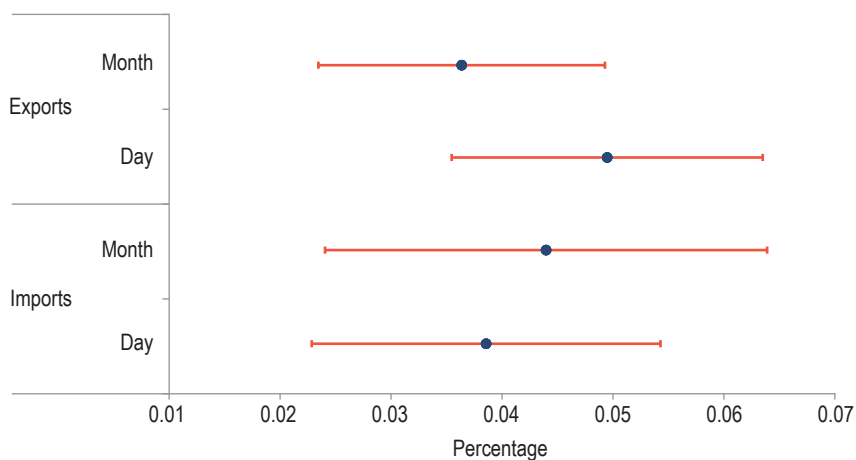
¹⁷ Estevadeordal et al. (2019) present a discussion of the regulations at the multilateral and regional levels.

Figure 11.6 Digital Trade Restrictiveness Index, 2018



Source: Authors' calculations based on European Centre for International Political Economy (ECIPE) (2018).

Figure 11.7 Number of Shipments and Customs Processing Times, Uruguay, 2003–16



Source: Authors' calculations based on data from Uruguay's customs authority (DNA).

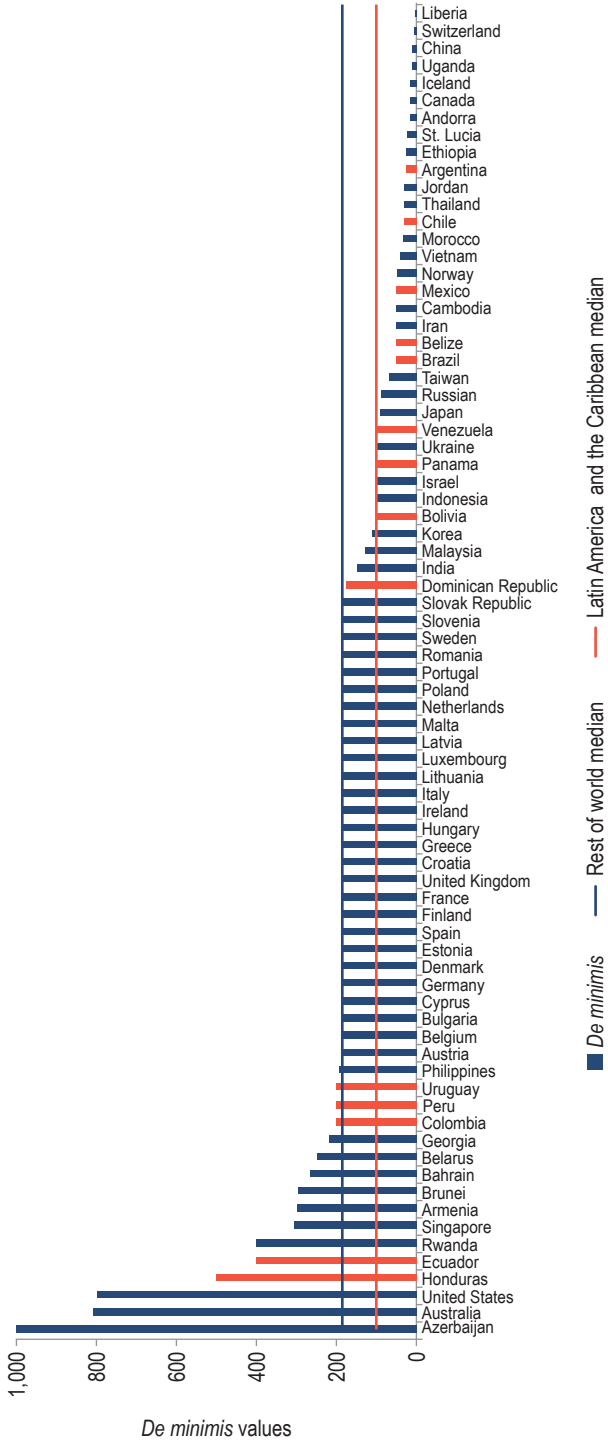
Note: The figure reports OLS estimates of the elasticity of the customs processing times to the volume of shipments based on an equation whose dependent variable is the natural logarithm of the mean customs processing times across shipments, and whose main explanatory variables are the natural logarithm of the total number of shipments and the mean assignment to physical inspection. Standard errors clustered by customs-product-country are used for inference purposes. For each variable, the dot corresponds to the point estimate and the horizontal line to the confidence interval at 95%.

Several measures are required to deal with this situation: standardization of procedures and forms; electronic interconnection between customs and postal (and logistic) operators to allow for advanced cargo information; and automation of risk management for the shipments in question.

Related to this issue is the setting of *de minimis* values of merchandise—that is, the threshold values below which no import duties or taxes are levied. Countries have different *de minimis* rules; some have a zero threshold so that all imports pay duties. With some exceptions, such as Honduras and Ecuador, Latin American and Caribbean countries tend to have relatively low *de minimis* values. In fact, their median *de minimis* value is higher than that of the rest of the world (Figure 11.8).

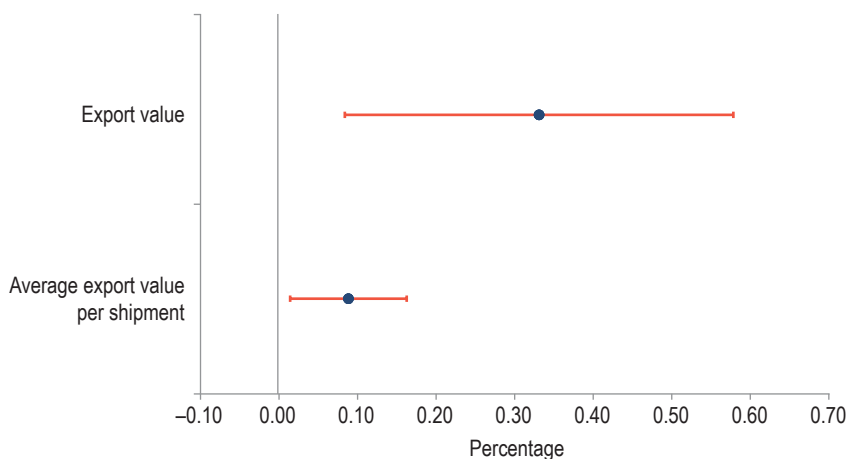
A low *de minimis* value forces customs to process a growing number of shipments, which, as seen above, can unnecessarily extend clearance times and, thereby, negatively affect trade (Volpe Martincus, Carballo, and Graziano, 2015). Firm-level evidence from Colombia indicates that average destination-specific exports would increase around 30 percent in

Figure 11.8 Distribution of *De Minimis* Values across Countries: Latin America and the Caribbean vs. Rest of the World, 2017



Source: Authors' calculations based on data from the Global Express Association (GEA).
 Note: The figure shows the *de minimis* values for each country along with the average values for Latin American and Caribbean countries (red bars) and the rest of the world (blue bars).

Figure 11.9 The Effect of *De Minimis* Values on Firm-Destination Exports, Colombia, 2017



Source: Authors' calculations based on data from Colombian tax and customs agency (DIAN) and the Global Express Association.

Note: The figure reports OLS estimates of the elasticity of firms' exports to given destinations to the respective *de minimis* value. These estimates are obtained based on a gravity-type equation at the firm-destination level for 2017. The dependent variable is either the natural logarithm of the export value or the average export value per shipment. The main explanatory variable is the natural logarithm of the destination *de minimis* value. Control variables, whose estimated coefficients are not reported, include the natural logarithm of the destination's GDP, GDP per capita, and distance to Colombia; a binary indicator that takes the value of one if Colombia and the destination share a common language and zero otherwise; and a binary indicator that takes the value of one if Colombia and the destination have a trade agreement and zero otherwise. Firm fixed effects are included. Standard errors are clustered by destination for inference purposes. For each variable the dot corresponds to the point estimate and the horizontal line to confidence interval at 95%.

response to a doubling of *de minimis* values across countries; this increase would come partially from larger shipment sizes (Figure 11.9). Admittedly, a high *de minimis* value can imply a loss in tariff revenue and lead to unlawful practices, such as smuggling. Hence, cross-border e-commerce poses a new policy dilemma between ensuring speed and efficiency in clearing an increasing number of small shipments versus identifying abuse or misuse of *de minimis* rules for illicit trade purposes.

To sum up, digital technologies are associated with the emergence of new trade frictions that add to the traditional ones examined in Chapter 7. These additional complexities call for a comprehensive policy approach that addresses both conventional and new barriers and their interactions at the national and international levels. Although some countries impose restrictions on digital trade, most governments are also actively trying to promote it. Moreover, they are turning to digital technologies to improve administrative procedures related to trade (see Box 11.3).

BOX 11.3 USING NEW TECHNOLOGIES TO FACILITATE AND PROMOTE TRADE

Promoting Exports through Technology: E-Commerce Programs

National export-promotion agencies have started to offer programs to help firms use e-commerce solutions to reach foreign buyers. Such is the case with Business Finland's "Ecom Growth" program, which has three main goals: (i) to develop e-commerce know-how; (ii) to increase the sales and exports of firms using digital technologies to reach customers around the world; and (iii) to expand the number of jobs in the sector. The initiative is primarily targeted at small and medium-sized enterprises trading online. These firms can be manufacturers of goods, smart retail companies, or online stores that are already selling consumer goods across the border. Firms must apply to the program and are selected according to a set of criteria based on the information gathered during the registration process. Once selected, they must pay a fee based on their size that covers the three-year program period and must commit to actively use its services. These services include activities aimed at developing e-commerce strategies; identifying market opportunities and preparing for market entry (e.g., market-specific coaching); succeeding in target markets (e.g., identifying and meeting potential customers and partners); and developing the e-commerce ecosystem (e.g., mobile payment solutions). About 100 firms are currently participating in this initiative. Their target markets are the United States, the United Kingdom, Germany, Russia, and Sweden.

Facilitating and Promoting Trade through Technology: A Networked Trade Platform

Singapore has always been a leader in trade facilitation. In 1989, it pioneered TradeNet, a digital business-to-government platform that enabled firms to submit a single digitized declaration to fulfill all trade-related regulatory requirements. In recent years, 99 percent of the associated permits were processed within 10 minutes (Leong, 2018). In 2007, the single window was expanded to support business-to-business services through TradeXchange, which integrated the electronic trade systems of government, firms, and logistic providers. This platform enables relevant parties to exchange documents and information on standardized formats, thereby improving efficiency and visibility (WCO, 2014).

In 2018, Singapore launched the Networked Trade Platform (NTP), which combines and builds upon TradeNet and TradeXchange. The NTP is a one-stop-interface that further streamlines and digitizes end-to-end processes and enables firms to connect and interact with all business partners, stakeholders, and regulators in Singapore and with their counterparts abroad. In addition to government services, the NTP offers so-called value added-services to help prepare customs declarations and permits, and to digitize, arrange, and track shipments, trade finance transactions, and market insights. It also includes a novel set of functions that allow firms to communicate, search for commercial

(continued on next page)

BOX 11.3 USING NEW TECHNOLOGIES TO FACILITATE AND PROMOTE TRADE (continued)

opportunities, and source business partners and customers. A developer portal makes it possible to design and introduce new services. By combining the functionalities of an electronic single window and a digital marketplace, the NTP facilitates trade by reducing costs associated with administrative processing, logistical handling, and information frictions. To date, approximately 800 firms have registered with the platform (Singapore Customs, 2018).

The Future Is Now: What to Do

New technologies are transforming all aspects of international trade: the why (e.g., evolving comparative advantage); the who (e.g., new firms participate in trade and new consumers are reached); the what (e.g., new goods and services are traded), and; the how (e.g., through online platforms that reduce trade costs). Given the networked nature of both trade and technologies, these complex developments are likely to accumulate and accelerate over time, leading to unpredictable changes in international trade patterns. Still, one thing is certain in this changing context: inaction would not be neutral and could mean exclusion.

More precisely, the digital transformation creates new opportunities for businesses and people to engage in and benefit from international trade, but this comes with a series of policy challenges. First, access to high-quality internet connections is a prerequisite to be part of this transformation. This calls for greater efforts to improve the internet connectivity of countries in the region and other relevant factors (e.g., the reliability and cost of power supply).

Second, no precise definitions or measures yet exist for some of the economic phenomena through which the digital transformation manifests itself. E-commerce is a salient case in point. Generating consistent data and using them to produce rigorous diagnosis is necessary for effective policymaking in this area.

Third, new technologies create a series of policy dilemmas that did not exist in the past. Again, consider the case of e-commerce. A balance must be struck between facilitating the data flows that underpin transactions and protecting consumers' rights to privacy. Similarly, when deciding on *de minimis* values for customs purposes, there is a trade-off between ensuring speed and efficiency in the clearance process for an increasing number of small shipments, detecting illicit trade, and maintaining customs revenues.

Policymakers should be aware of these and other dilemmas raised by the new technologies and, given their emerging character, proceed with caution using existing evidence and consulting with different actors; no roadmaps are available. Last but not least, the systematic and dynamic nature of these phenomena requires working at both the regional level, by incorporating or upgrading relevant provisions in trade agreements, and the multilateral level (within the framework of the WTO), by renewing the impulse to negotiate new rules that effectively address the challenges created by new technologies.

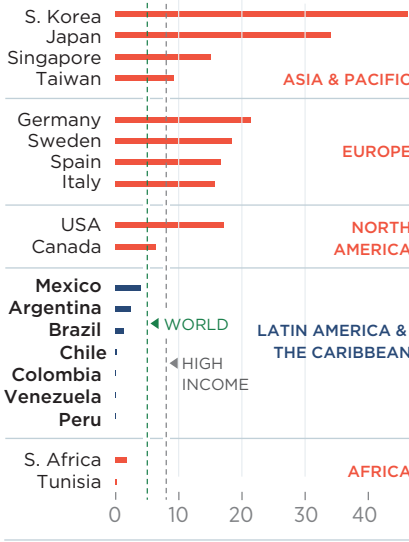
TAKING STOCK

NEW TECHNOLOGIES AND TRADE: CHALLENGES AND OPPORTUNITIES FOR A NEW WORLD



The increasing use of robots is transforming the manufacturing industry around the world.

Robot Stock per 1,000 Workers 2015



The Effect of Using ConnectAmericas.com on Firms' Exports Peru, 2013-16



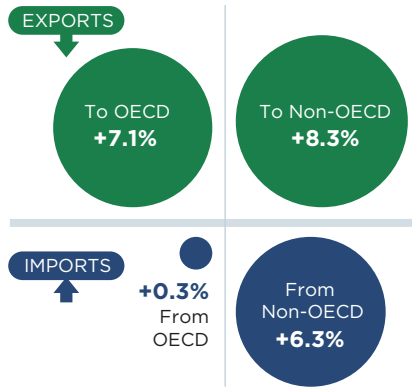
THE BOTTOM LINE

New technologies can disrupt cheap labor exports, but can create new opportunities, particularly for small firms. Latin American digital infrastructure, however, needs to catch up.

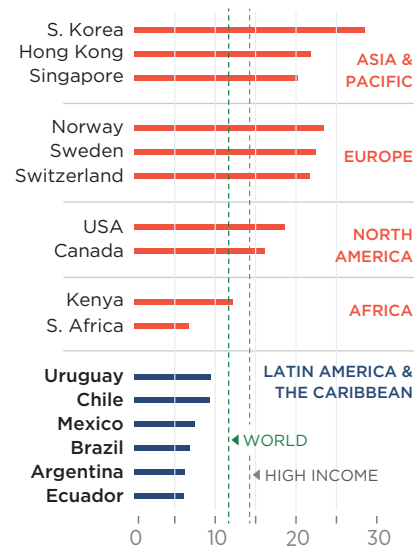


Improvements in internet infrastructure matter for trade.

Effect of Fiber-Optic Cable Deployment by non-OECD Countries on Trade (change)



Internet Connection Speed in Mb per Second 2017



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Misconceptions about trade and integration have become the weapon of choice for populists on the right and the left of the political spectrum both in Latin America and around the world. This book helps to set the record straight by offering a rigorous analysis of the facts. The message is clear. Trade and integration are neither panacea nor disaster. They have made the region better off but need to be complemented by other public policies to make sure the gains are preserved and shared more broadly.

Fernando Henrique Cardoso
Former President of Brazil

International trade is high on Latin America's agenda—and rightly so. Accompanied by the right policies, global and regional trade initiatives have proven to be key tools for growth and development, helping boost the region's competitiveness. As Latin America builds on these efforts, this book offers a valuable perspective for policymakers by looking at the region's integration strategies over the past 30 years. The volume also highlights how multilateral trade cooperation through the WTO is vital to help Latin America seize the many opportunities of international trade.

Roberto Azevêdo
Director-General of the World Trade Organization

This fascinating report pulls together what we know about the causes and consequences of trade reform in Latin America. Professionals, policymakers, and students alike will learn a great deal from the wide-ranging perspectives presented here.

Douglas Irwin
Dartmouth College

This book, and attention to the topic in general, are long overdue. Latin America's last wave of reform, while largely successful, was guilty of sins of omission: the issues we did not address, the tools we did not use, the processes we did not quite complete. In the current populist craziness, rather than completing the job, many countries are undoing it. But the craziness must stop eventually, if for no other reason than its inherent contradictions. This book begins the conversation that comes afterwards.

Alberto Trejos
INCAE Business School; Former Minister of Trade of Costa Rica

Thirty years after the region embarked on large-scale liberalization, trade policy could have been expected to become all but irrelevant. Instead, a mismatch between expectations and what could realistically be delivered set the stage for disappointment, skepticism, and trade policy fatigue. Liberalization made most countries better off, on the back of substantive productivity gains. The growth results are also impressive. On the other hand, employment and inequality outcomes fell short of expectations. Acknowledging the limits of trade and investment policies is important, but an effective policy agenda for the future must address other challenges—some old, some new—brought on by political economy considerations as well as geopolitical and technological changes. It must also include a complementary agenda that helps protect those who lose and take full advantage of the many opportunities afforded by globalization. Trade is a hot issue in today's world, and this book provides informed suggestions on how Latin America and the Caribbean can successfully confront this heat.

The Inter-American Development Bank (IDB) is an international institution created in 1959 to foster economic and social development in Latin America and the Caribbean.

